

# **PHARMACY EDUCATION AND ACCREDITATION REVIEWS (PEARs) PROJECT**

**Professor Keith A Wilson**

**Dr Christopher A Langley**

**June 2010**

**FINAL REPORT**

## Pharmacy Education and Accreditation Reviews (PEARs) Project

Professor Keith A Wilson

Dr. Christopher A. Langley

June 2010

Final Report

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## Foreword

The Pharmacy Act 2007 (the Act) conferred an unambiguous responsibility on the Pharmaceutical Society of Ireland (PSI), the pharmacy regulator, with respect to pharmacy education and training. Indeed three of the five principal functions of the PSI relate to education, training and lifelong learning in pharmacy. The Act also makes it a duty of the PSI to take suitable action to improve the profession of pharmacy in the interests of patient safety and public protection. The Act makes it an explicit responsibility of the PSI to advise the Minister for Health & Children on key aspects covered by the legislation.

The Act is a solid foundation on which to build for the future and to contribute to providing real public and patient value in the Irish healthcare system. Pharmacists must be fit for purpose. The new economic reality across the developed world means that governments, including the Irish Government, must now look for more but at a lower cost than heretofore. Ireland must have pharmacists who can provide services at a high level which will bring Ireland into line with the international evidence base for the delivery of pharmacy services. Up until this point, pharmacy services were not in a position to deliver to their full potential and to their optimum impact for the benefit of patients and the public who fund the healthcare system.

Government policy is explicit with respect to the contribution of education and training to its 'Smart Economy' policy. Pharmacists are in a position to make a significant contribution to enhancing the economic well-being of the State while at the same time contributing to societal improvements through improved patient care, patient outcomes and public health. There is also now an important opportunity for pharmacy graduates to contribute to the pharmaceutical industry in Ireland. That in 2009 there were only 88 pharmacists on the Registers of Pharmacists who had disclosed that they were practising in industry is a stark indicator of the under-developed resource that pharmacists represent in a workforce of over 100,000 and in an industry worth more than €40bn. The benefits to accrue to the next generation of pharmacists to come through the educational system are very considerable – it is vital that pharmacy can expand its horizons to meet the needs of society. Pharmacists can provide their specialist skills, knowledge and expertise to inform the best evidence base for therapeutic regimes. Pharmacists can directly contribute to the Government's plans for Ireland to be an innovative player in the 'smart economy'. The stimulus for the fourth level of university-level research and development through this highly skilled and educated nucleus of healthcare professionals should not be underestimated, either at national or at EU level.

This generation of policy and decision-makers must enable the appropriate innovations in our higher education sector to place the Irish third and fourth levels of education at a point where it can be placed with the highest internationally benchmarked systems. Improvements in the education and training of pharmacists will also allow for significant

enhancements to be made to the delivery of pharmacy services that may also be benchmarked against the best internationally.

The policy contained in this report is timely. The challenges for the healthcare system and for those providing services are considerable. Key issues for all healthcare professions is that they are fit for purpose and function and can contribute to the economic and social health and wellbeing of the nation. Key areas pharmacy education must look to are the new therapeutic regimes for patients and the quality of care for those in need of high quality evidence-based care and treatment. This report will no doubt challenge those involved in higher education. It will also challenge the practising profession. Change, however, is necessary to bring Ireland into line with international best practice.

The policy direction in this report has resource implications; however, these should not be significant. A reallocation of existing resources and conjoined working could achieve a great deal if addressed creatively. The National Forum on pharmacy education that is outlined in this report will ensure that Irish pharmacy will be at the cutting edge. This Forum will also exist to advise not only on the implementation of the policy contained in this report but also on its evaluation. As this report represents a new departure for pharmacy, it will require systematic evaluation of implementation and progress on a regular basis.

I would like to express my appreciation and thanks to the authors of this report, Professor Keith Wilson and Dr. Christopher A. Langley, of the Pharmacy Practice Research Group at Aston University, to the members of the PEARs Project Steering Group, whose expertise has been hugely important, and all those who contributed as research respondents. Thanks are also due to the members of the Professional Development & Learning Committee of the PSI Council and in particular to the Chair, Dr. Paul Gallagher and to the PSI's Head of Professional Development & Learning, Ms. Lorraine Horgan, who have been working on this project for a number of years and keeping abreast of the international evidence base.

I am also most grateful to the Department of Health & Children, the Department of Education & Skills and the Higher Education Authority for their support and contribution as key stakeholders to this Project. In particular, the PSI is most grateful to the following: Minister Batt O'Keeffe, TD, who, when serving as the Minister for Education & Science, was highly supportive of the introduction by the Council of the interim arrangement agreed with the Royal College of Surgeons in Ireland (RCSI) for the delivery on behalf of the PSI of the National Pharmacy Internship Programme; Minister Mary Coughlan, TD; Minister Mary Harney, TD, Michael Scanlan, Secretary General at the Department of Health & Children; Paul Barron, Assistant Secretary; Colm Desmond; Principal Officer; Tom Monks; Assistant Principal Officer; Marita Kinsella, Chief Pharmacist; and Tom McGuinn, former Chief Pharmacist at the Department of Health & Children and current Pharmaceutical Adviser to the Registrar of the PSI for his significant contribution to the groundwork set down in the Pharmacy Act of 2007.

Thanks must also be expressed to the higher education institutions including the heads of the schools of pharmacy: Prof. John Kelly of the School of Pharmacy in the RCSI; Prof. Anita Maguire of the School of Pharmacy in University College Cork (UCC) and her predecessor, Prof. Caitriona O’Driscoll; Prof. Marek Radomski, Head of the School of Pharmacy & Pharmaceutical Sciences in the University of Dublin, Trinity College. Thanks also to the former Chief Executive & Registrar of the RCSI, Michael Horgan, and to the current Chief Executive & Registrar, Prof. Cathal Kelly; to the Provost of Trinity College Dublin, Dr. John Hegarty; and to Dr. Michael Murphy, the President of UCC and to the Deans of the health science faculties in these institutions. The support of the higher education institutions has been gratefully welcomed as is their support in the implementation of the recommendations contained in this report, the findings of which will be presented at national and international events.

The PSI Council has now taken on one of the most important policy issues that any healthcare regulatory body has to deal with – the future-proofing of safe and competent pharmacists via a fit for purpose model of education and training.

Dr. Ambrose McLoughlin

Chief Executive Officer & Registrar, PSI

June 2010



## Biographies of authors

### Professor Keith Wilson

Keith graduated with First Class Honours in Pharmacy from Aston University in 1971. He is a fellow of the Royal Pharmaceutical Society and a former member of its Council and education committee. Keith is currently a registrant member of Council of the new General Pharmaceutical Council which will replace the Royal Pharmaceutical Society as the pharmacy regulator in Great Britain later in 2010. He has over 35 years experience in academic pharmacy and has three times been Head of School of Pharmacy at Aston University. He was a subject assessor in Pharmacy for Wales and for England and the lead assessor for Scotland in the national reviews of teaching in the late 1990s. He was a member of the Quality Assurance Agency (QAA) benchmark group which produced the national benchmark statement for pharmacy for England. Since then, he has been a member and for five years a team leader for the Royal Pharmaceutical Society accreditation process for GB Schools of Pharmacy. He was the founding chair of the Council of University Heads of Pharmacy Schools (CUHOPS) and is currently a member of the Modernising Pharmacy Careers (MPC) Programme Board which is the pharmacy arm of Medical Education England. He is the national joint lead for the MPC review of post-registration pharmacy education in England and was an external member of the visitation teams of the Pharmaceutical Society of Ireland between 2004 and 2007. He has published over a 100 papers and has current research interests in pharmacy education and policy and medicines management.

### Dr Christopher A Langley

Chris studied pharmacy at Aston University in the UK before undertaking his pre-registration training within hospital pharmacy, registering as a member of the Royal Pharmaceutical Society of Great Britain in 1997. Upon qualification, Chris returned to Aston to complete his PhD within the Medicinal Chemistry Research Group before moving over full-time to an academic position within the Pharmacy Practice group in 2000. Chris currently holds the post of Senior Lecturer in Pharmacy Practice and specialises in teaching the legal, ethical and practice components of the undergraduate degree course. His research interests surround pharmacy education and policy, and the role of the pharmacist in both primary and secondary care. Chris has co-authored four academic textbooks, and numerous professional reports and academic papers within the area of pharmacy practice. In addition, he is the current co-chair of the APPLET Network, an international teaching network for pharmacy law and ethics teaching, a member of the Royal Society of Chemistry and a Fellow of the Higher Education Academy.

## Acknowledgements

The authors would like to thank all the individuals who have provided input to this project and made it possible. Without such willing input and support for the PEARs Project, the project and resultant report would not have been possible.

In addition to the individuals discussed below (the study participants and PEARs Project Steering Group), the authors would like to thank a few individuals personally. Firstly, we would like to acknowledge the input and hard work of the Project Administrator at Aston University, *Alpa Patel*. Alpa's input and focus helped the project to stay on time and enabled this report to be completed within the timeframe of the project.

Secondly, the authors are grateful to *Lorraine Horgan* (Head of Professional Development and Learning) and *Ciara Dooley* (Education Projects Co-ordinator) from the Pharmaceutical Society of Ireland for all their input and guidance throughout the project. Specific thanks also go to *Dr Ambrose McLoughlin* (Registrar) for his contribution to the project.

## Study participants

The authors are indebted to all the study participants as without their input to the various stages of the project, this report would not have been possible. Owing to the anonymous nature of the data reporting within this report, it is not possible to name these individuals; however we offer our thanks and gratitude to the following groups of participants:

- The individuals interviewed for the stage of the project examining the accreditation of health professional courses. This includes individuals from the universities (both within the schools of pharmacy and those based in other parts of the universities), individuals from the PSI and those who formed part of the accreditation teams and external advisors to both the schools of pharmacy/universities and the PSI.
- The staff members from the three schools of pharmacy who collated the requested documentation for review for the stage of the project examining the undergraduate pharmacy degree in Ireland.
- The individuals from the three schools of pharmacy interviewed for the stage of the project examining the undergraduate pharmacy degree in Ireland.
- The students from all four years from the three schools of pharmacy who willingly completed the student questionnaire for the stage of the project examining the undergraduate pharmacy degree in Ireland.
- Staff members from the three schools of pharmacy who completed the staff questionnaire for the stage of the project examining the undergraduate pharmacy degree in Ireland.
- The pre-registration students who made up the focus group in Dublin or participated in the Cork telephone interview for the initial data collection for the stage of the project examining the pre-registration year in Ireland.

- The pre-registration students and qualified pharmacists who completed the pre-registration student questionnaire for the stage of the project examining the pre-registration year in Ireland.
- The pre-registration tutors who completed the pre-registration student questionnaire for the stage of the project examining the pre-registration year in Ireland.

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### **The PEARs Project Steering Group**

The authors would like to specifically thank the members of the PEARs Project Steering Group who have provided extensive input to the different stages of the project and always provided feedback and input in a timely manner. The steering group members are:

#### **Chair**

Dr Paul Gallagher                      Member of the Council of the Pharmaceutical Society of Ireland

#### **Members**

Ms Mary-Rose Burke                      Superintendent Pharmacist, Boots

Mr Shaun Flanagan                      Chief I Pharmacist, Corporate Pharmaceutical Unit, HSE

Dr Tamasine Grimes                      Research Pharmacist, Adelaide and Meath Hospital, Dublin incorporating the National Children's Hospital

Ms Noeleen Harvey<sup>a</sup>                      Community Pharmacist and Member of the the Council of the Pharmaceutical Society of Ireland

Dr Anne-Marie Healy,                      Senior Lecturer in Pharmaceutics, Director of Undergraduate Teaching & Learning, School of Pharmacy & Pharmaceutical Sciences, TCD

Ms Marita Kinsella<sup>b</sup>                      Former Head of Legal Affairs, PSI

Mr Niall O'Shea                      Head of Regulatory and External Affairs, GlaxoSmithKline

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<sup>a</sup> At the time of writing, Noeleen Harvey had resigned from the Project Steering Group upon her election as the President of the Council of the Pharmaceutical Society of Ireland in May 2009.

<sup>b</sup> At the time of writing, Marita Kinsella had moved to undertake the post of Chief Pharmacist at the Department of Health & Children in February 2009 and resigned from the Project Steering Group.

# Part one

## Chapter 1 Recommendations

This section has been presented in four parts. The first is a summary of the major recommendations from the PEARs Project, each with supporting comments. The subsequent three sections develop the major recommendations relating to the move to an integrated degree (Recommendation One), the development of new educational standards (Recommendation Five) and the development of a new accreditation methodology (Recommendation Six).

### 1.1 Major recommendations from the PEARs Project

#### **RECOMMENDATION ONE**

**The current 4+1 model of pharmacy education to first registration should be replaced by a five-year fully integrated programme of education, training and assessment as the basis for application for registration as a pharmacist.**

- For the vast majority of pharmacists (over 90%) who practice in hospital or in the community, pharmacy has changed from an absolute focus upon the preparation, formulation and supply of medicines to a clinical role involving advice on the use of medicines to patients and other health professionals, and the provision of an increasing range of clinical services to patients. This change has necessitated a review and re-balancing of the educational outcomes required of the pharmacist at first registration for entry to the register. In addition to knowledge of the basic and pharmaceutical science, to maximise their contribution to health care, the future pharmacist must also have a range of both clinical skills and other personal skills such as reflection, entrepreneurship and communication. There was general agreement of those contributing to the PEARs Project, supported by international trends in pharmacy education, that a fully integrated period of education and practice-based learning is the optimum way of ensuring the achievement of a clearly defined set of common educational outcomes at registration that will ensure patient and public safety (see Part one, section 1.2.2).
- The PEARs Project has shown that the overall student experience and educational outcomes in the pharmacy education model of four-year degree and one-year pre-registration period were highly variable as a consequence of differences in the curriculum and assessment strategies within the schools of pharmacy and considerable variability in the experience obtained within the pre-registration year.
- In the PEARs Project, the undergraduate students recognised an inadequacy in the provision of in-programme placements and where experienced, a lack of contextualisation of inter-professional learning. They also identified a heavy workload and a lack of contextualisation of the science with pharmacy. The amount of formal assessments was considered to be high and this was confirmed by data provided by schools.

- The PEARs project has demonstrated that the pre-registration process (to summer 2009) lacked clear educational objectives, was variable in nature, had poor central quality control and used assessments that focussed upon only one aspect of professional pharmacy practice (law and ethics).
- There is strong pedagogic evidence that experience in the workplace (placements) is essential both to contextualise learning and also to develop the skills, knowledge and values that determine competence as a professional. Work-based placements within the undergraduate programme need to be a formal part of the curriculum in each school of pharmacy and embedded in both the learning processes and their assessment. The optimum method of achieving this would be to integrate work-based placements within the academic programme.
- The PEARs Project found that the educational argument for an integrated model of education to first registration is recognised and supported by the Heads of the Schools of Pharmacy and by senior staff within schools. There was also support from academic staff and of the possible options available, continuation with the existing 4+1 model was the least favoured.
- For compliance with Bologna, each institution would need to have provision for the award of an exit Bachelors degree after four years study and the final award after five years of study would be at Masters level. This pattern of education would parallel with the emerging trend in pharmacy education in Europe.

#### **RECOMMENDATION TWO**

**To ensure success, the development and delivery of the new integrated programme of pharmacy education, training and assessment should be assisted by a National Forum that meets regularly. This Forum should be led by the pharmacy regulator (the PSI) and comprise all relevant stakeholders including representatives from each school of pharmacy and from all sectors of the profession where work-based training will take place.**

- To realise the educational value of an integrated five-year programme, learning in the workplace through a variety of experiences (short, shadowing, long placements) will be an essential part of the educational process rather than an experiential add-on and must involve assessment of relevant learning outcomes in the workplace.
- The PEARs Project found that senior staff members in the schools of pharmacy were concerned at the lack of an involvement of all schools in the development of a national educational strategy for pharmacy and the accreditation process was criticised for its failure to engage with the schools.
- The PEARs Project has found extensive evidence that current mechanisms for engagement of the workplace in education strategy and delivery are *ad hoc* and lack a national focus.

- The PEARs Project has shown considerable variations in the current provision of placements within the undergraduate degree by different employers and also differences in the support provided by employers to the pre-registration process. These differences impact directly upon the overall student experience and potentially upon the educational and professional outcomes at the point of registration.
- The PEARs project has demonstrated that there is little evidence of systematic formal workplace assessments although pre-registration tutors were keen to contribute to assessment.
- To ensure that all students can achieve equitable work experience, there will need to be national co-ordination of the work-based element of learning led by the pharmacy regulator (the PSI). This group would include representation from all stakeholders including schools of pharmacy, the major sectors for workplace learning (hospital, industry and community) and representatives from the student body. A national approach will ensure maximum efficiency in use of resources.
- An essential role of the National Forum would be to advise on the implementation plan for the new integrated degree, including resourcing, staffing and a method for placement allocation; and to recommend how the transition will be effected from the current pattern of education and training.

### **RECOMMENDATION THREE**

**The support for practice-based learning should be reviewed (i) to develop a robust national system for the delivery of practice-based learning and (ii) to define the role, training and support of the group of future “practice-educators” who will support the role of work-based tutor pharmacists and teacher practitioners.**

- In the PEARs Project, developing and maintaining a high quality academic workforce was considered by the Heads of Schools to be a major challenge with particular concerns around the competing demands of delivering a high-contact programme and the need for schools to develop their research base. Heads of Schools identified that the area of pharmacy practice and clinical practice was a particular challenge for the development of the future workforce.
- The PEARs Project has demonstrated that the schools of pharmacy have a small number of teacher practitioners with variable roles and responsibilities. Furthermore, student placements are varied with limited but again variable assessment within the workplace and in many cases left to the student’s own initiative.
- In the PEARs Project the pre-registration tutor system emerged as a critical success factor for future pharmacy work-based learning. However, the Project found considerable variability, with major differences between employers, little national organisation or support and a general lack of coherence.

- The delivery of an integrated programme will require specialised teaching staff on the interface between the learning within the schools and that within the workplace. The role of these “practice-educators” will be critical to success.

#### **RECOMMENDATION FOUR**

**The funding of pharmacy education and training to first registration must be reviewed and this must include all the current funding streams including those from Government, employers and student fees.**

- The PEARs Project has demonstrated that resources, both financial and staff, within schools was as an area of concern and thus potentially could be a critical success factor for movement to a five-year integrated programme.
- Although variable between sectors, the PEARs Project found evidence of funding streams within the workplace to support the current roles within the pre-registration year and to a lesser extent, to support some work-based learning within the degree (e.g. funded teacher practitioner posts). However, the extent to which any of this funding would be available in the new integrated model would need to be established, particularly in view of the current economic climate and the consequent changes in pharmacy remuneration.
- There are a number of ways in which the recommended fully integrated model of education could be implemented. The choice will influence staff salary costs, fee income from students and the contribution of students within the workplace and this offers options to achieve a cost-effective implementation of an improved educational scheme.

#### **RECOMMENDATION FIVE**

**New educational standards for entry to the pharmacy register must be developed and to ensure optimum standards of care and safety for patients, these should focus upon the educational and professional outcomes or competencies required at registration.**

- The current PSI accreditation requirements reflect the date of their origin and were designed primarily to quantify elements of the educational process rather than as comprehensive educational standards.
- Changes in the nature of the practice of pharmacy and its wider contribution to healthcare must be reflected in the educational standards whilst ensuring a supply of graduates for the pharmaceutical industry, research and other areas of pharmacy.
- The PEARs Project has demonstrated a widespread view in the schools of pharmacy that there needs to be clearly defined standards for the educational outcomes to be met by a student at the end of the degree and at point of registration.
- The PEARs Project has demonstrated that international best practice in health professional regulation is to develop educational standards for entry to the register that



are developed from a statement of the professional responsibilities or competencies of the registered professional. This provides a continuum of expectation from first entry to the profession at registration through to continued professional development and further education and training to support revalidation and the movement to advanced practice.

- To reflect international practice in standards development and to meet the views of staff and students in the schools of pharmacy and the profession, there should be widespread stakeholder engagement in the development of the new standards.

#### **RECOMMENDATION SIX**

**There should be development of the new accreditation process which maps to the new educational standards (Recommendation 5) in order to support the introduction of the recommended integrated programme (Recommendation 1).**

- There was an overwhelming view across the wide range of individuals interviewed in the PEARs Project (staff in schools, Heads of Schools, staff from the PSI and former members of their accreditation panels) that the accreditation process and the criteria on which it was based needed to more clearly reflect the educational and professional outcomes expected of a new registrant.
- The PEARs Project demonstrated a unanimous view of all involved in past accreditations that the process should be more collaborative and involve the schools of pharmacy and other stakeholders, particularly employers. This recommendation addresses this finding.
- The PEARs Project provided clear evidence of a widely recognised need to update the accreditation process and has also demonstrated the general international trends in pharmacy accreditation since 2002.

## **1.2 Implementation of an integrated five-year programme**

### **1.2.1 The rationale**

There is an overwhelming educational argument for integration of practice-based learning with academic learning within the school of pharmacy. Pharmacy is a vocational subject and therefore undergraduate education must combine learning about the pharmaceutical and basic sciences with learning about the knowledge and skills that will be required to be an effective healthcare practitioner. We suggest that there are now three broad areas of learning and development within a pharmacy programme:

- The **scientific basis of pharmacy** – pharmaceutical and basic sciences applied to drugs and medicines.
- The **clinical use of medicines** and the role of the pharmacist in supporting patients and other health professions to maximise the effective and economic use of medicines.

- The **personal knowledge and skills** required to operate as an independent professional, with other individuals and with and in organisations. These include the underpinning knowledge and theory and its application to communication, leadership, entrepreneurship, governance and organisational and individual behaviour.

The PEARs Project has shown that the schools of pharmacy in Ireland have, to differing extents, attempted to address all three areas. There has also been a real effort to graft on to the undergraduate programme some workplace experience. However, placements have emerged as an area of difficulty for schools and the time involved is modest with limited learning and assessment within the placement experience. The only formal period of contiguous time in work-placement has been the pre-registration year which follows the degree but which has been educationally distinct from it.

The move to an integrated programme will enable the implementation of a holistic period of preparation for first registration. Based upon a review of the educational literature and of international practice in health professional education we would make the argument that these periods of time will serve two purposes:

1. It will **contextualise theoretical and academic learning** and so develop understanding and the ability to apply knowledge within the workplace. To achieve this, there must be a number of placement opportunities throughout the programme that are integrated within the programme. Early placements might be observational, others might involve shadowing, but to achieve the maximum benefit there must be learning within the workplace. Part of what now occurs in the academic environment will move to the work place and by integration with ongoing academic studies there will be a “spiral” of continuous learning and reinforcement throughout the programme. This depends upon repeated movements between the work environment and the university so that learning in both arenas can be inter-related and progressively developed.
2. To **develop competence prior to registration** there must be a significant single period of work-based learning when the student is working closely under the supervision of a pharmacist. This would constitute a development of the old pre-registration process but would be within the degree programme and subject to final assessment by the academic institution. The EU Directive of the European Parliament and of the Council on the Recognition of Professional Qualifications (2005/36/EC) requires a total of six months work in hospital or community pharmacy within a total minimum five-year period for pharmacy education.

### 1.2.2 Possible future models for pharmacy education and training

There are a number of possible models for achieving greater integration of the undergraduate degree and work-based learning and training. All will form the basis of a five-year programme of study but they differ in the extent to which the work-based element is distributed within the programme. Any model would require a different way of working between the schools of pharmacy and employers. Whilst the school would assume

responsibility for the overall programme, the learning in the workplace and its assessment mean that the employers become partners in delivery of the programme. Three examples are outlined below:

1. **Linked Model**. A derivative of the current system where the work-based element remains as a single block at the end of a four-year degree programme. There would need to be additional short work-based sessions within the four-year block. The school of pharmacy would have an overall responsibility for the whole five-year programme with a final assessment at the end of the fifth year. This model is arguably the easiest to implement and provides the least disruption to the current pattern of training placements provided by employers. However, educationally it is the least effective in providing contextualisation and development throughout the period of study. To meet the requirements of the EU Directive of the European Parliament and of the Council on the Recognition of Professional Qualifications, at least six months of this final block would need to be in either hospital or community practice.
2. **Thick-Sandwich Model**. Named after the pattern of sandwich degrees that are found widely in higher education programmes linked to vocational employment. The current one-year period of work-based learning would be divided into two with one six-month block at the end of the programme and one six-month block earlier in the programme, probably in year three. This would leave year four as a block of academic study in which the research project could be located and the final year as heavily focussed upon the final competence element of work-based learning. Although this model is not the ideal educational one, it could provide a better opportunity to contextualise learning than model one and the experience and learning gained in the first six-month period of placement can be developed in subsequent academic study prior to the final placement in the final year. By removing much of the academic element from the final year of study it also avoids what has been termed “assessment backlash” where the final assessments dominate and so reduce the students focus upon professional issues. Although initially this model may appear more attractive in the pharmacy workplace, since it contains two six-month blocks of work-based activity, this is not the optimum model for the future development of the pharmacy workforce.
3. **Fully Integrated Model**. In this model there would be a six-month block of competence-based learning located in the fifth year and additional practice-based learning would be distributed throughout the degree programme. Pedagogically this is the strongest model (see Part one, section 3.3.9). Although this may be the most challenging to implement, it will provide the optimum education and training pattern for workforce development and therefore will best support the provision of quality pharmacy services for patients. The six-month block of placement in the final year in either community or hospital pharmacy provides the basis for competence development through repetition and learning in practice. It also meets the overall requirements of the EU Directive of the European Parliament and of the Council on the Recognition of Professional

Qualifications for “six-month traineeship in a pharmacy which is open to the public or in a hospital”. An important consideration in the implementation of this model would be tailoring to the pharmaceutical industry where a minimum training period may apply. This model is, however, extremely flexible and can be implemented in a number of ways. Since the whole period of five-years education and training would be part of the degree programme it would meet the EU requirement for “full-time theoretical and practical training at a university or at a higher institute of a level recognised as equivalent”, The amount of additional placement activity would not be subject to the EU directive and therefore can be planned and determined to meet the Educational Standards to be adopted in Ireland as can the phasing of placement activity over the five years of the programme. Although not essential, it would seem highly desirable that there was standardisation of the pattern of placements across the three schools to enable the process to be managed given the geographical distribution of the schools of pharmacy in Ireland and the population distribution. Implementation of this model would also require review of the number and distribution of hospitals involved in provision of placement education.

### 1.2.3 Critical considerations

We would suggest that, based on the findings from the PEARs Project, there are a number of mission critical issues that must be addressed in order to secure the educational and professional advantages of an integrated five-year programme. These are:

1. **Engagement of key stakeholders**. It will be crucial to engage all stakeholders and particularly all employers and all the schools of pharmacy (including both staff and students). Delivery of an integrated programme will fundamentally change the role of employers in the delivery of pharmacy education, not least in the fact that significantly more learning and assessment will take place in the workplace. We would argue that delivery of such a programme requires new partnership working between the schools of pharmacy and employers both to co-ordinate the delivery of work-based learning and to ensure that it meets the educational standards. This also has major implications for staffing both within schools of pharmacy and within practice. The implications for staffing are addressed in more detail in point three below.
2. **Standardisation with diversity**. Operationally, there is an overwhelming argument to standardise on one model for the pharmacy programme offered by all schools of pharmacy in Ireland. Although it would be theoretically possible for different educational providers to run with different models, it is difficult to see how this could work with employers. However, differences in the focus and mission of individual schools of pharmacy are healthy and therefore the model adopted should be implemented in such a way as to minimise constraints on individual schools. National co-ordination of the placement provision by a body that included all the major stakeholders would appear to be essential for successful implementation of all models and particularly for model 3. **Recommendation Two** is for the implementation of a new

National Forum to assist with placement education. However, this should not remove opportunities for variations in the programmes offered by individual schools and it would remain the responsibility of each school with their partner employers to demonstrate compliance with the educational standards for the programme.

3. **Teaching and learning workforce.** The changed balance between the workplace and the school of pharmacy as places of learning will provide a challenge to academic workforce. We suggest that consideration be given to the development of the teacher-practitioner role to a “practice-educator” with responsibility for facilitating the work-based learning, linking employers and the schools of pharmacy and working with employers to identify staff to undertake specific learning and or assessment roles. This type of role has been successfully implemented within nursing and non-medical NHS funded health professional education in England. Whether or not this approach is adopted, the PEARs Project has shown that both the academic workforce and the pre-registration tutor workforce are areas of critical concern and Recommendation Three is the need for a fundamental review of this workforce.
4. **Funding.** The PEARs Project has demonstrated that funding of the schools of pharmacy is critical. There is a need for Government recognition of the current and potential impact that pharmacy can make to healthcare and to the health economy. This case must be developed and articulated. However, we would argue funding for the implementation of an integrated programme would need a fundamental review of all the existing funding streams. The PEARs Project has demonstrated two additional funding streams which contribute to the existing pattern of pharmacy education and training. The most significant is employment costs during the pre-registration year where the majority of pre-registration students are salaried. Additionally, there was evidence of investment, particularly in the hospital service and in major multiple companies, to provide additional support and training for tutors and pre-registration students as part of pre-registration process. A number of employers already contribute to support teacher-practitioners within schools of pharmacy and support vocational placements and training. However, the extent to which any of this funding would be available in the new integrated model would need to be a priority for the National Forum to advise on. The third stream is the fee income from students undertaking pharmacy education. A critical decision on the implementation of the integrated programme will surround any payments to students undertaking work placement and the fee charges for the programme. Removal of all payments and a move to five-year fee charging could decrease the attractiveness of pharmacy as a subject of study and impact upon recruitment. Recommendation Four is the need for a review of all funding streams to support the programme.

#### 1.2.4 Implementation and timescale

We would propose that the following are the critical phases for development and implementation of the integrated pharmacy programme.

- **PHASE ONE: Formation of a new National Forum for the programme (Recommendation Two)** Delivery of an integrated five-year programme will require a new partnership between all the schools of pharmacy and all sectors of pharmacy where work-based learning takes place. These two groups must work with the statutory pharmacy regulator, the PSI, and with other stakeholders including Government, other health professions, patients and pharmacy students. There is evidence of a great willingness to work in this way. The PEARs Project demonstrated a widely held view, both within schools of pharmacy and the PSI, that in future there should be a more collegiate and collaborative method of working. Our recommendation recognises this but represents an extension of the concept since we propose that in order to meet the demands of a five-year programme, this collaboration should be formalised within a new national body. This must encompass all the key stakeholder groups and be led by an appropriately qualified and experienced pharmacist. The initial focus for the National Forum will be to advise on terms of reference for future collaborative working of the employer groups and the schools of pharmacy, to review funding and staffing of all components of the new integrated degree (Recommendation Three and Recommendation Four), and to advise on an implementation strategy for the programme including a plan for placement provision. There will also be an immediate need to plan a phasing of work-based learning provision in the period between the first intake to the new integrated programme and the current programme.
- **PHASE TWO: Development of New Educational Standards (Recommendation Five).** This work is essential but can take place alongside the planning activity for the programme.
- **PHASE THREE: Development of Accreditation Standards** based upon the new Educational Standards. These must be built upon the new educational standards and be ready for implementation prior to the first intake to the new programme (Recommendation Six).
- **PHASE FOUR: Stakeholder and Public Consultation** to follow the above.
- **PHASE FIVE: Development and Approval of Programmes within HEIs.** Implementation of the new programme within schools of pharmacy cannot take place until the above phases have completed. A new programme will require internal regulatory change and under normal circumstances this must begin at least one year prior to first entry. Given the HE planning and quality assurance cycle, changes and regulations for the implementation of the new integrated programme would need to start at least eighteen months prior to first entry.

The **Advertising and Promotion of the Programme will be a critical constraint.** Consideration must be given to the contract between the student and the programme offered at point of application. For example, for first entry October 2012 (the earliest possible implementation date), the programme must be advertised in prospectuses by early

2011 at the latest. Therefore, the date of advertising and promotion becomes a critical development date.

### 1.3 Development of educational standards

A review of educational standards for pharmacy is included in Part two, section 2.2 of this report. “Standard” has become the internationally used term to describe the educational requirements set by a profession for entry to the register and then for continuation on that register. The PEARs Project has been concerned only with the educational process to first registration but the development of new standards for registration is taking place alongside a review of the Continuing Professional Development and revalidation standards. The PSI therefore has an opportunity to take a holistic view of its educational standards to ensure a continuum from “day-one pharmacist” to continued registration and where appropriate, advanced and specialist practice. Based upon a review and analysis of the current and draft education and accreditation standards, the following eight broad areas emerge as ones that need to be addressed by standards.

1. The **essential place of patients and patient care** at the heart of the educational process. This would normally include a statement of the roles and responsibilities of the student in relation to patients which would be linked to the profession’s ethical standards.
2. A **statement of institutional character**, purpose and mission which may also include an institutional statement on its philosophy of education and its strategy on general issues such as equity of treatment, handling of diversity and equal opportunity.
3. The presence of a **functional, robust quality control mechanism** for the educational process that incorporates continuing review, analysis and change. Increasingly in measuring compliance with this standard, the approval or accreditation process will take account of the institution’s own quality processes and any reports of internal validations or quality reviews. In this area, governance arrangements both at the institutional and school level may be specified.
4. The **learning outcomes** of the educational/placement process normally linked to professional expectations of a registered professional. This may be the most detailed part of the standards document. There will be requirements relating to assessment of learning outcomes.
5. The **requirements relating to students** including academic and behavioural. These requirements would cover admission to the undergraduate programme and, in addition to academic standards, may specify additional personal qualities (for example, personal motivation, communication ability, etc). There may also be requirements in relation to behaviour, values and ethics, both prior to admission and during the programme. These standards should cover Fitness to Practise requirements.
6. The **delivery of the educational programme** which must link to the required learning outcomes. In this area there may be requirements relating to learning tactics (i.e.

choice of learning method – lecture, workshop etc) and learning strategies (the pedagogic approach to learning e.g. behavioural, constructivist etc).

7. The **resources for delivery** of the programme and the management of the programme. This will include staffing, infrastructure and ongoing funding.
8. **Support and development** of all those involved in the educational process – including students, staff and professional. There may be specification of compliance with diversity, equal opportunity and other legislation and also requirements relating to students support, both within the school of pharmacy and more widely within the institution. In addition, requirements for staff may relate to staff development, support and career development.

A recent development in the articulation of learning outcomes has been their grouping under broad sub-headings. For example, the latest version of the GMC's "Tomorrow's Doctors" groups learning outcomes under three broad headings of the doctor as a scientist and scholar, a practitioner and a professional. Based upon our review of international standards for pharmacy education, we would recommend consideration of the approach adopted by the RPSGB for its new educational standards. In these, not only are the learning outcomes grouped, the outcomes are placed in a competence and assessment hierarchy, first published by Miller (see Part two, section 2.2.5) as a conceptual model to describe medical education. This allows use of the same learning outcomes for different elements of the educational process through division of the outcomes into those about knowledge (*knows* and the higher level of *knows how*), about demonstration of performance in a simulated environment (*shows how*) and about consistent performance in practice (*does*). A student moving through the educational process from university into practice will move progressively up this hierarchy.

#### 1.4 Development of the accreditation process

The PEARs Project has elicited strong views about the old accreditation criteria and a consistent view across school staff that there should be a greater focus upon learning outcomes or competencies. This is in accord with the international movement in pharmacy education and is reflected in our recommendations about the development of educational standards in Part one, section 1.3 above. Based upon the findings of the PEARs Project and our review of international accreditation process, we would make the following recommendations about the development of a new accreditation method.

- a) It should be based upon the full range of educational standards listed in Part one, section 1.3 above. The educational outcomes should be judged against the stated learning outcomes but there should continue to be standards relating to process.
- b) It should begin with a self-assessment by the education providers against the educational standards. A thorough evaluation of this should be made by the accreditation panel prior to any site visit and any potential issues should be clarified



through correspondence and where appropriate a pre-visit by the panel chair and a PSI education lead.

- c) Wherever possible, the process should take account of existing quality monitoring procedures within schools of pharmacy and other organisations relevant to the accreditation process.
- d) There should be standards on resources but consideration should be given to the development of a method to monitor these on an annual basis if possible by electronic means.
- e) There should be visitations to schools on a periodic basis but it is recommended that such visits focus upon the learning experience and include contact with students, recent past students and employers and a range of staff (see also recommendation b above).
- f) There must be formal training for all members of visiting panels and all staff involved in the accreditation process.
- g) There should continue to be external (to Ireland) representatives of academic pharmacy and it is suggested that reciprocal arrangements might be sought with other pharmacy regulators for exchange of academic panel members. This would provide academic staff from Ireland with experience of accreditation in other jurisdictions and provide experienced external input for accreditation in Ireland.
- h) The precedent already established by the PSI for its last accreditation in 2007 to include a non-pharmacist representative on its panel should be continued and consideration should be given to inclusion of patients.

## Chapter 2 The PEARs Project

### 2.1 A background to the project

This project reports the findings from the Pharmacy Education and Accreditation Reviews (PEARs) project, commissioned by the Pharmaceutical Society of Ireland (PSI) to undertake the following reviews:

- A root and branch review of the five-year programme of education and training required to become a pharmacist within Ireland.
- A review of accreditation models and accreditation criteria.

This report has been commissioned by the PSI by virtue of section 9 of the Pharmacy Act 2007 under which the PSI is entitled to carry out or commission research into and evaluation of education and training (including the formulation and testing of experimental curricula) and examination and assessment processes in relation to pharmacy. For a copy of the Invitation to Tender, see Part three, Appendix 4.

The project was conducted in three major stages which covered the phases of the basic education and training of pharmacists within Ireland:

- A) A comprehensive review of the current programme of pharmacy education and training in Ireland.** This stage focussed upon undergraduate education and involved a review and analysis of the curriculum and teaching and assessment methods in the three Irish schools of pharmacy, plus an analysis of the views and experiences of the major stakeholders.
- B) A review of the processes used to accredit professional courses with a focus upon health professional courses.** This review took an international perspective through published studies and contact with key bodies. It was framed by key policy statements and legal requirements both within Ireland and within the EU area.
- C) A review of pharmacy pre-registration training within Ireland.** This stage completed the overall review of the five-year programme of education within Ireland and had two main components. Firstly, a review of the various models of practice based education for pharmacy internationally and secondly, a detailed study of the experiences and views of all stakeholders in the Irish pre-registration process.

### 2.2 The aims and objectives of the PEARs Project

#### 2.2.1 Aims

The PEARs Project had the following aims:

- To undertake a comprehensive review of the complete five-year education and training process for entry to the pharmacy profession in Ireland and to identify strengths and weaknesses of the current system.

- To identify potential models for future education and training and to explore the ways in which the Pharmaceutical Society of Ireland can regulate (accredit) the education and training programme.
- To draw upon the experiences and views of all the stakeholders informed by international experiences and to make recommendations on a future strategy for pharmacy education and training in Ireland.

### **2.2.2 Objectives: Stage A - A comprehensive review of the current five-year programme of pharmacy education and training in Ireland**

- Ai. To document the variations in approach to curriculum design and organisation across the three schools of pharmacy in Ireland.
- Aii. To document by sub-discipline the teaching, learning and assessment methods used to deliver the curriculum.
- Aiii. To determine the attitudes and views of key staff responsible for the learning environment on current and potential developments in curriculum and teaching, learning and assessment strategies.
- Aiv. To measure the extent of, and the methods for, multi-professional learning involving pharmacy undergraduate students.
- Av. To measure the extent of, and the variety of approaches to, placement education (formal education in the health professional workplace).
- Avi. To obtain an insight into students experience of key elements of the teaching, learning and assessment strategies identified in (Ai) to (Av) above.
- Avii. To document student views of the value of key elements of the teaching, learning and assessment strategies identified in (Ai) to (Av) above.
- Aviii. To document the views of the academic staff members of the value of the key elements of the teaching learning and assessment practices identified in (Ai) to (Av) above.
- Aix. To document the views of pre-registration students and recently qualified pharmacists on selected elements of teaching learning and assessment practices.
- Ax. To identify examples of good practice and methods to support their introduction for dissemination within the schools of pharmacy.
- Axi. To make recommendations for a set of principles for pharmacy education in Ireland for further consultation within the pharmacy profession and other key stakeholders.
- Axii. To make recommendations for a future strategy for primary pharmacy education and training in Ireland and for a framework to guide curriculum and assessment. This will be accompanied by a review of the funding implications.

### **2.2.3 Objectives: Stage B - A review of the processes used to accredit professional courses with a focus upon health professional courses**

- Bi. To undertake a literature review on methods of accreditation for health professional programmes internationally.

- Bii. To document and explore national (Ireland) and EU policy and law that impinges upon degree education and training and upon pharmacy education and training in particular.
- Biii. To document experiences and views of academic staff of the accreditation process for pharmacy in Ireland since 2000.
- Biv. To document and explore the experiences and views of institutional managers and senior staff of the accreditation process for pharmacy in Ireland since 2000.
- Bv. To document and explore the experiences and views of Pharmaceutical Society of Ireland staff and of accreditation team members of the accreditation process for pharmacy in Ireland since 2000.
- Bvi. To make recommendations on a method for the future regulation of pharmacy education by the Pharmaceutical Society of Ireland that maps to the recommendations for future pharmacy education (see Stage A of the study above).

#### **2.2.4 Objectives: Stage C - A review of pharmacy pre-registration training within Ireland**

- Ci. To document the experiences of students during their pre-registration year, including their interactions with their tutor and with employers.
- Cii. To document the personal experiences of pre-registration students including arrangements for accommodation and other lifestyle issues.
- Ciii. To document the education and training experienced by students and how this linked or related to their undergraduate education.
- Civ. To explore students' perceptions of the value of the pre-registration year as a basis for future work
- Cv. To explore the experiences of pre-registration tutors of supervising students and of their interactions with students.
- Cvi. To explore the motivations of pre-registration supervisors for this role and real or perceived barriers to active involvement in the process.
- Cvii. To explore pre-registration tutors' views and experiences of their training and support for the supervisory role.
- Cviii. To explore issues of workload for the supervisors and of reward in the workplace.
- Cix. To explore experiences of interacting with the PSI and with employers in support of the role.
- Cx. To identify good practice and make recommendations on how this may be best captured within a training year
- Cxi. To identify issues that need to be addressed to maximise the benefit to students and tutors including governance issues relevant to the PSI.
- Cxii. To identify training needs of pre-registration supervisors.
- Cxiii. To explore alternative models of implementing the pre-registration year that would maximise benefit.

## 2.3 Ethical approval

The PEARs Project was submitted for ethical approval from the Aston University Ethics Committee. A favourable response was received. No additional ethical approval was required from any of the study sites.

## 2.4 Regulation of pharmacy education in Ireland

### 2.4.1 Prior to the Pharmacy Act 2007

The Pharmaceutical Society of Ireland (PSI) was established by the Pharmacy Act 1875. The Society was given responsibility under the Act for the education, training and registration of pharmaceutical chemists who would have an exclusive entitlement in law to *“sell or keep open shop for the retailing, dispensing or compounding of poisons or medical prescriptions”*. The Pharmacy Act 1875 did not extend to statutory powers for the PSI as a regulator for the profession and neither did it cover registration of premises. At the time of the Act, pharmaceutical services, as they would now be termed, were provided by pharmaceutical chemists working within their own retail premises. Subsequently a test case between the Provincial Supply Company and the Pharmaceutical Society of Great Britain led to a House of Lords decision that companies could *“open shop”* under the GB Pharmacy Acts and this change was taken to also apply to the Irish Act. In GB, the regulatory powers of the RPSGB were clarified and extended by the Pharmacy and Poisons Act of 1933 but in Ireland it was not until the Pharmacy Act 1962 that the necessary clarification was provided that companies too could *“keep open shop”* under the Acts. The 1962 Act also provided clarification that where a company or any other person operated a pharmacy, it must be under the personal supervision and management of a pharmacist. While the 1962 Act did require the furnishing of certain statements and returns to the Society in respect of pharmacies, it did not require registration of premises and it was not until the passage of the Misuse of Drugs Act 1977 that regulatory powers were conferred directly on the Society in respect of poisons and medical preparations.

Pharmacy regulation in the UK and in Ireland differs significantly from that in the rest of Europe because of the nineteenth century UK view that pharmacy services were not central to public health needs. Pharmacy services therefore received no public funding and consequently the development of pharmacy services, including the education and training of pharmacists, were considered matters for private commerce and private investment. The position in the UK changed somewhat with the public funding of pharmacy education within technical colleges, introduced immediately after the First World War, but it was not until 1948 that the society’s own school became part of the University of London and the Pharmaceutical Society continued to operate, examine and award its own qualification until 1967. In Ireland, the position changed with the coming into force of section 4 of the Pharmacy Act 1962 which facilitated the transfer of education to University College Dublin (UCD) where pharmacy students were awarded the degree of BSc(Pharmacy) by the National University of Ireland. On the subsequent completion of the necessary pre-

registration year under the control of the Pharmaceutical Society and on passing the required Forensic Pharmacy Examination, these graduates were registered by the Society as pharmaceutical chemists. In 1977, pharmacy was transferred from UCD to Trinity College (TCD). This transfer was decided by the Council of the Society as part of the attempt by the Government to amalgamate the then two city Universities (UCD and TCD). A further reason for this change was the need to introduce a five year course of training for pharmacists in order that Irish pharmacist graduates would continue to conform with the new training and education requirements which had been laid down in Council Directive 75/319/EEC for the Qualified Person in the pharmaceutical industry, an objective that was also supported by TCD. With the transfer of responsibility for the delivery of pharmacy education to the University, the PSI had to adapt to a new role of quality assuring the educational provision within the single Irish school of pharmacy. While this did not present a significant problem in the early years as the education and training continued to be delivered using the Society's existing school and previous staff, it became more complex when in the early 1980s the University through its new School took over full responsibility for education, subject of course to the supervision of the Society as had been provided for under the 1962 Act via Regulations (1977) made by the Society with the approval of the Minister for Health.

By 1996, the position with regard to pharmacy education in Ireland became more complicated as a result mainly of the numbers of Irish students availing of the EU route to obtain registration as pharmacists in Ireland. In some years, the number of Irish students studying pharmacy abroad exceeded the number being trained in Ireland. This led to a demand for an increase in the number of training places at the one existing school where the numbers that may be accommodated for had already been raised from 50 to 70 places annually. Any further increase either in numbers or in terms of new schools would require Government funding which was not forthcoming. The position was further complicated by suggestions that the established school had an agreement that it should remain the sole source of pharmacy undergraduate education in Ireland. Given the ambiguous nature of the PSI's regulatory powers, resolution of the overall situation required Government agreement and this introduced delays.

Eventually, the Competition Authority intervened and the impasse was broken resulting in proposals being received from established third level educational institutions which included the setting up of new schools of pharmacy. Subsequently, applications were received from two institutions proposing to set up schools of pharmacy. The PSI Council set up a working group to devise a mechanism to approve (accredit) these new educational providers. A decision was made in 1998 to base the process upon the then accreditation process developed in the UK by the RPSGB<sup>1</sup> and this was customised to the Irish situation. The new criteria, which are still current<sup>2</sup>, were adopted by the PSI Council in 1998 but could not be implemented until 2002, when Government approval was received and necessary changes were made to the PSI regulations. The tensions that arose from this protracted and

disputed introduction of the criteria undoubtedly complicated the early stages of the accreditation process.

The new accreditation process, when finally implemented in 2002, applied only to the degree programme and not to the linked pre-registration programme. This continued under the control of the PSI but with limited definition of process. With an origin in the apprenticeship schemes operating in pharmacy in the UK in the nineteenth century, the pre-registration scheme in Ireland has been fairly criticised as “*neither an apprenticeship nor a period of intensive practice experience*” and for variability linked both to the premises and the tutor.<sup>3</sup>

#### **2.4.2 The Pharmacy Act and current situation**

The passing of the Pharmacy Act 2007 was a huge advance for pharmacy in Ireland since it gave the PSI clearly defined regulatory powers over the profession of pharmacy and an unambiguous authority over the educational standards appropriate to practise pharmacy. This major development in Ireland came at a time when across the world, the pharmacy profession itself was in the process of unprecedented change, as it moved from a profession focussed upon supply and products to one focussed upon clinical patient care. The Pharmacy Act was implemented progressively in three successive phases. The powers relating to education were included in phase 2, along with rules relating to the other key regulatory functions (Registration, Council, Training and Fees). In late 2007, the PSI announced a series of initiatives, the central one being the Pharmacy Ireland 2020 programme to lay out how the pharmacy profession could contribute to a more integrated approach to healthcare in order to enhance services to patients. The interim report was presented to the Minister for Health in April 2008 and provided a detailed programme of advanced services by which pharmacy could enhance patient care.<sup>4</sup> The 2020 interim report was followed by a Pharmacy Practice Guidance Manual developed by the PSI Standards and Practice Unit. This self-audit tool was distributed to pharmacists and pharmacy owners with background support. The intention was to set the tone for future standards on the practice of pharmacy and to facilitate compliance with these standards. As with the 2020 interim report, the focus of the manual was the patient and standards of patient care.<sup>5</sup>

The PEARs review was launched in 2008 as a major research project to develop an evidence base that could inform the development of a future strategy for the regulation of pharmacy education in Ireland. This review had three main themes – accreditation, the pharmacy programme and the pre-registration year with a report date of May 2010. However, before the project could reach completion, it became necessary for the PSI to act to address difficulties in the pre-registration year and a new interim National Pharmacy Internship Programme<sup>a</sup> was introduced. The Royal College of Surgeons in Ireland won the tender for this programme and it commenced in summer 2009, converting the pre-registration year to a competence based Masters qualification. A review of this programme is not part of the

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<sup>a</sup> Often referred to as the “intern programme”.

PEARs study but clearly the introduction of the National Pharmacy Internship Programme is a major change in the educational landscape in Ireland.

### 2.4.3 The influence of higher education policy on pharmacy education

Although subject to professional regulation, pharmacy education is provided within the wider context of higher education and so is subject both to national and EU-wide requirements. In Ireland, the pharmacy undergraduate programme has long been a four-year degree programme with a further one year pre-registration training period. It is therefore fully compliant with the EU directive on professional qualifications<sup>6</sup>. Pharmacy education in Ireland is also compliant with the educational standards of the European Higher Education Area (EHEA)<sup>7</sup> and therefore is also compliant with the requirements of the “Bologna” process. All three providing institutions (Royal College of Surgeons in Ireland, Trinity College Dublin and University College Cork) have moved to modular degree programmes that conform to the ECTS credit system.<sup>6</sup> At a national level, Ireland has a National Framework for Qualifications<sup>8</sup> which places honours degrees at level 8 and master degrees at level 9 and again this is compliant with the recently agreed European Qualifications Framework<sup>9</sup>. However, although the National Qualifications Authority of Ireland can recognise professional bodies as awarding authorities, there is no provision within the Pharmacy Act for the PSI to take up this role. Indeed, under governance terms, it would be questionable whether the statutory regulatory body responsible for setting standards for a programme of study or learning should then be the sole assessment and awarding body for the programme. One of the potential advantages, therefore, of the National Pharmacy Internship Programme which was implemented in 2009, was that it allowed movement of the final registered pharmacy qualification from Bachelors level to Masters level in line with many other EU jurisdictions.

The remainder of this report will focus upon the PEARs study and the purpose of this introduction is to place the review into context within the development of pharmacy education in Ireland.

## 2.5 The layout of this report

The final report from the PEARs Project has been set out in three parts.

- **Part one**

Part one of the PEARs Report has been designed as a standalone part containing the major recommendations from the PEARs Project along with an overview of the project and key findings. This part contains the following:

Chapter 1

- Chapter 1 is in four sections. The first section (Part one, section 1.1) contains a summary of the major recommendations from the PEARs Project, each with supporting comments. The subsequent three sections develop the major recommendations relating to the move to an integrated degree (Part one,



section 1.2), the development of new educational standards (Part one, section 1.3) and the development of a new accreditation methodology (Part one, section 1.4).

## Chapter 2

- A background to the project (Part one, section 2.1)
- The aim and objectives of the PEARs Project (Part one, section 2.2)
- Details of ethical approval (Part one, section 2.3)
- A summary of regulation of pharmacy education in Ireland (Part one, section 2.4)
- A description of the layout of the PEARs Project report (Part one, section 2.5)

## Chapter 3

- A summary of the data from the three main stages of the project:
  - The accreditation of pharmacy degree courses (Part one, section 3.1)
  - The undergraduate pharmacy degree (Part one, section 3.2)
  - The pre-registration year (Part one, section 3.3)
- An outline of areas for further work (Part one, section 3.4)
- **Part two**

Part two contains details of the methodology for the three main stages of the project along with a detailed analysis of the results. This part is divided as follows:

  - An Executive Summary of the key findings (Part two, Chapter 1)
  - The accreditation of pharmacy degree courses (Part two, Chapter 2)
  - The undergraduate degree in Ireland (Part two, Chapter 3)
  - The pre-registration year in Ireland (Part two, Chapter 4)
- **Part three**

Part three contains a collection of the data collection instruments designed and used within the project.

## Chapter 3 Overview of key findings and suggestions for further work

### 3.1 The accreditation of pharmacy degree courses

#### 3.1.1 Development of the PSI accreditation process 2002

Formal accreditation of pharmacy degree programmes in Ireland began in 2002 following applications by two Higher Education Institutions to start new undergraduate pharmacy programmes. Prior to these applications, the single school of pharmacy was reviewed on a four year cycle but there were no formal requirements or educational standards. The new accreditation process had therefore to be applied to an existing long established school and two new pharmacy providers that were developing their programmes from base level. This was to prove an enduring challenge once the accreditation process started. In addition, two significant problems that were clearly identified in the PEARs Project had their roots in the decisions surrounding the development of the accreditation process. The first was engagement with the development process and the second, the choice of the accreditation method.

#### 3.1.2 Development of the PSI accreditation guidelines

Four of the nineteen interviewees had been involved in the development of the accreditation guidelines or standards that operated from 2002 and all had been either employees of the PSI or Council members. All described the urgency of the need to start development of a formal degree approval process that was triggered by applications to open new schools. The PSI had few staff and very limited resources and so the development was undertaken by a subgroup of its Council, working with the Education Officer of the time. External input to this process was obtained, mainly from senior pharmacy academics from the UK and from the recently retired former Head of the established Irish school of pharmacy. However, none of the active staff in the existing school or the two new schools were directly involved. It can be argued that the criticism of the process that was reflected in the comments of the interviewees in the PEARs Project was at least partly a consequence of a lack of engagement of key stakeholders in the schools in the development of the criteria. Although not the case at the time of development of the Irish accreditation process, extensive stakeholder engagement and external consultation has now become standard practice in the development of degree approval criteria for both pharmacy<sup>10-13</sup> and medicine<sup>14 15</sup>.

The development process for the new accreditation guidelines or standards began in 1998 following the initial approach of potential new schools for approval. Understandably, given the time demands and the resources available, a decision was made in the PSI to base their development of the process upon the accreditation requirements then in operation in the UK and developed by the RPSGB and introduced in 1996.<sup>1</sup> However, these UK guidelines were the latest update of a series of accreditation requirements that dated back to the 1980s and although then current, they continued a focus upon process and procedures

within the school of pharmacy rather than the outcomes of the educational process. Indeed, arguably the greatest innovation in this set of accreditation requirements was the change of the status of the syllabus from a mandatory requirement to indicative. A serious attempt was made to customise the procedures for use within Ireland and a number of changes were made including a new requirement that there should be a pharmacist in each of the academic areas of the pharmacy curriculum. However, lack of certainty over the legal authority of the PSI to accredit and the need for Governmental approval for implementation of the new process meant that the accreditation requirements did not come into force until 2002. By then there had been a general move towards outcome-based standards for accreditation led initially by the ACPE guidelines in the US introduced in 1997<sup>10</sup> and then by a total revision of the UK guidelines introduced in 2002<sup>16</sup>. This was the basis for criticism of the guidelines by schools.

### **3.1.3 Views on the purpose of accreditation**

There was general agreement by all interviewees, both those linked to the PSI and those in schools of pharmacy that the purpose of accreditation was to assure standards of entry to the register. Most also considered that the process had at the least, partly achieved its purpose although academic staff in the schools were generally less convinced.

### **3.1.4 Experiences of the accreditation process**

Most respondents, whether from the PSI or from the schools, agreed that the early meetings were often difficult and frequently confrontational. In schools there was a view that there was a lack of collegial working and an inspectorial feel to the process. However, several of those who had been members of the accreditation panels spoke of early difficulties over resources within all the institutions, including the existing school. These problems were recognised in one of the new schools, where a perceived benefit of the accreditation process was an increased commitment from the parent institution, and in the established school of pharmacy. Overall it is clear that the early years were marked by difficult discussions about resourcing that resulted in some tense interactions. In general, staff members from the established school were more critical of the process than those in the new schools. A senior staff member from that institution attributed this partly to the difficulties of change in an organisation that had operated with almost total autonomy for several decades. Staff also spoke of the tension within that institution regarding the internal structures around pharmacy.

However, there was a general view that relationships improved as the process continued and members of the accreditation panels considered this to be at least partly due to improving confidence of the panel members and the development of relationships with staff in schools. On the accreditation panel side, perceived strengths of the process were that it was open and fair against published criteria, that it helped develop reflection on pharmacy education in Ireland and that it included external academic representatives from outside Ireland. On the schools side, there was also recognition of the value of external

representation and also of the positive influence of the process in leading to debate about pharmacy education. Other perceived strengths in the new schools were the positive impact upon staff due to successful accreditation performance and a positive effect upon team building within the school. There was also recognition of the value of an external accreditation system as factor to influence decisions within their institutions on matters such as resources or policy. Communication was recognised as a weakness by all interviewees but particularly by school respondents who spoke of the very long delays in receipt of reports, the length of reports and a perceived lack of focus within the reports.

### **3.1.5 Views on the accreditation standards**

The accreditation process adopted by the PSI was criteria referenced. There was a general recognition by all interviewees that many of the criteria measured process rather than the outcome qualities of graduates. Interviewees from the PSI side recognised the limitations but there was a general recognition that whilst inflexible, the criteria served a purpose at the time in that many of them were measurable and that they provided definitions of the resources required to deliver a pharmacy programme. In the new schools there was criticism of the nature of the criteria but fairly widespread recognition that they helped to provide a framework against which to devise, develop and implement their programmes. There was evidence of a general view that as time went by, the criteria became less acceptable. Staff members at the established school were generally more critical of the criteria and there was a perception that they were more harshly treated than the new schools. There was widespread recognition of the need to update the criteria and the need for a greater outcome focus. The indicative syllabus that was also part of the accreditation specification was viewed as far less useful although functioned as a check list in new schools during implementation of their programmes.

### **3.1.6 Views on the future of accreditation in Ireland**

All interviewees recognised the fact that the PSI as the national pharmacy regulator in Ireland must retain overall responsibility for accreditation of pharmacy degree programmes. There was universal agreement that the accreditation process and method needed to change and to conform to international norms. From the interviews, five possible changes were identified:

- the need to set outcome-based standards that reflect the qualities required of the newly registered pharmacist;
- the need for a much more collaborative approach to accreditation;
- the importance of maintaining an external input to the accreditation process;
- the importance of recognising internal quality mechanisms and processes within provider institutions;
- the need to alter the format of the accreditation visits with the inclusion of mini pre-visits, the observation of teaching during the visit and greater use of self-regulation and reporting of certain accreditation requirements.

Outcome standards should reflect the competencies of the newly registered pharmacist. As mentioned previously, there has been a progressive movement towards outcome standards for health professions. In pharmacy the first move was in North America<sup>10</sup> but recent standards in Australia<sup>11</sup> and New Zealand and the latest standards now under consultation in the UK<sup>12</sup> have continued and developed this trend. The importance of relevant outcome standards has also been emphasised in the position statement on good pharmacy education practice published by the International Pharmaceutical Federation (FIP).<sup>17</sup> Key to the development of such standards is a clear definition of the competencies required for practice. Examples from the UK are the GMC UK “Principles of Medical Practice”<sup>18</sup> which sits beneath the educational standards in “Tomorrow’s Doctor”<sup>14 15</sup> and the “Pharmacy Practice Framework”<sup>19</sup> developed by the RPSGB as part of the process of definition of the new educational standards<sup>12</sup>. There are a number of models of pharmacy accreditation standards that can inform the development of standards in Ireland but critical success factors will be definition of the particular circumstances of pharmacy practice in Ireland and extensive stakeholder engagement in the development of the standards. The latter becomes even more critical to ensure the practice-based component of learning maps to the overall educational objectives since this will inevitably involve a large number of practitioners.

Several interviewees mentioned the desirability of maintaining some standards about process including resources and staffing. This is an important perspective since methods to assess the achievement of learning outcomes in the clinical field are still being developed<sup>20-23</sup> and are more difficult to achieve when they are not linked to technical performance. The clinical role of pharmacists is an area where there is still a need to develop better methods of measurement of competence. There have been a number of cases where movement to a heavy focus upon outcomes has had subsequently to be re-balanced.<sup>10 15</sup>

Suggestions were made of ways to simplify the collection of data such as by annual returns that could involve electronic data collection methods. There was also the suggestion that the accreditation process could take account of the institutions internal quality control processes. This is likely to be best achieved by recognising the need for a robust quality assurance process within the PSI standards in which the focus of accreditation can be upon the educational standards associated with professional competence. Certainly the importance of quality assurance mechanisms have been identified both internationally by the WHO<sup>24</sup> and within the EU.<sup>25</sup>

The second major theme was the need for a more collaborative approach between the PSI as the regulator and the schools of pharmacy. Suggestions included extension of the current education committee of the PSI to include representation of all schools and more frequent meetings of the Heads of Schools with the PSI. In many countries, there are organisations to represent pharmacy schools. Examples are the UK Council of Heads of Pharmacy Schools (CUHOPS)<sup>26</sup>, the UK Academic Pharmacy Group which represents faculty staff, Council of Pharmacy Schools of Australia and New Zealand (CHPSANZ) and in the US the American Association of Faculties of Pharmacy.<sup>27</sup> Ireland is arguably too small to require a formal body

to represent schools but a national standing body to advise the PSI on educational issues could bring together schools and other stakeholders with key PSI office holders.

The widely expressed views on the confrontational nature of some of the interactions between accreditation teams and the schools will arguably be of less significance in the future. All those interviewed considered that the relationships had progressively improved and there was a clear view that the situation had stabilised with the advent of three fully accredited programmes at schools of pharmacy.

There was universal recognition of the importance of external input to the accreditation process. This was a theme that emerged several times during most of the interviews, both as a strength of the current process and as a key element that should be retained. This could continue to be through involvement of academics from outside Ireland but equally important, as recognised by one of the academic staff from the established school, was consideration of involvement of patients or non-pharmacist representatives. A major move in this direction was taken in September 2007, when the only accreditation visit by the PSI was completed following the passing of the Pharmacy Act 2007. The visitors committee for this visit included a non-pharmacist member of the new PSI Council. A further possibility would be the consideration of some reciprocal arrangement with a regulator outside Ireland. This could have the advantage of providing academic staff in the Irish Schools with direct experience of accreditation.

### **3.1.7 Integration of pharmacy education and the pre-registration year**

Views on the desirable model for future pharmacy education in Ireland were inevitably influenced by reflections on the background economic situation. There was a general view that greater integration of the degree and the pre-registration training periods was desirable and little support for retaining the pattern of a four-year academic degree followed by a separate one year training period. However, a number of academic staff, particularly senior staff and Heads of Schools, were concerned about the financial costs of a fully integrated five-year programme and about the consequent demands upon their organisations in a time of severe resource limitation. There was also a widespread concern about the pattern of a four-year degree followed by a one-year post-graduate qualification offered by a single provider<sup>a</sup>. While it was recognised that this was an interim arrangement, concerns were expressed that this might be difficult to change. Views on the linkage of a full five-year programme to a Masters level award were mixed. The issue of the integrated degree is discussed more fully elsewhere in this report.

Finally, interviewees were asked their views on fitness to practise requirements for undergraduate pharmacy students. There was a general recognition that it was reasonable to expect higher standards of behaviour, values and attitudes of a student studying for a health professional programme than for a student on another degree pathway. However, there was also a widespread recognition that consideration must also be made of the young

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<sup>a</sup> The current National Pharmacy Internship Programme.

age of most students and the fact that university is part of a developmental and learning process. There was a strong preference for a national code that was sufficiently flexible to be modified by individual providers whilst retaining a core set of values. This is clearly another area where consultation and engagement of all stakeholders is crucial.

## **3.2 The undergraduate pharmacy degree**

### **3.2.1 A review of the documentation from the pharmacy schools**

The pharmacy undergraduate degree in Ireland is taught within three schools of pharmacy; one established school and two which took their first intakes more recently (2002 and 2003). Analysis of the documentation supplied by the schools showed that the number of formal contact hours (excluding projects and placements) was similar and lay between 1600 and 2000 over the four years of the programmes. Further analysis by year of study showed that in all schools, the total contact was similar over the first three years of each programme with a fall in the final year mainly attributable to the project. Lectures were the most used formal contact method, followed by practical classes. Upon examination of the formal placement activity, variation was seen both between the schools in the number of formal hours devoted to placements and the phasing of the placements. Placements accounted for a relatively small proportion of formal curricular time (less than 5%) and in total amounted to less than 120 hours in four years.

Analysis of the supplied data by sub-discipline indicated some differences between the schools on the number of hours allocated to different areas. This was especially noticeable in the time devoted to pharmacy practice/clinical activity. In all schools the pharmacy practice and clinical curriculum is loaded towards the end of the programme and mainly in the third and final years. Although difficult to compare (owing to complications in classifying the activity) it is clear that all three pharmacy programmes have assessment methods that are heavily focussed upon written examinations and tests. However, the proportion of marks derived from other assessment types (for example from continuous assessment) increases in years three and four.

### **3.2.2 Interviews with key staff members**

Additional background data on the pharmacy degree at the three schools of pharmacy to inform the design of the undergraduate student and school of pharmacy staff questionnaires was obtained from a series of in-depth interviews with key schools staff. Each Head of School was interviewed along with a series of individuals who fitted the roles described as “programme director” and “head of pharmacy practice”.

#### **3.2.2.1 Resources**

Analysis of the interviews showed similarity between the structure of the schools and their resources. All three schools were located in an organisation unit (a faculty or college) with medicine and other health sciences. Although having a degree of independence and control of their own finances, none of the schools were totally autonomous and this was not seen

by the Heads of School as being a realistic option for pharmacy. All three Heads of School considered that pharmacy was underfunded and at the time of the PEARs study the inter-school working group had identified an HEA budget shortfall of around four-thousand Euros per student per year.

Staffing emerged as an area of concern for all the Heads of Schools although they also stated that they had managed in the end to recruit highly qualified and motivated staff. There were two major areas of concern with regard to staffing. Firstly, the difficulty of balancing the teaching needs of a diverse and complex programme with the need for staff to engage in research and compete with others in their institutions. Secondly, the Heads recognised particular difficulties in the area of pharmacy practice and clinical pharmacy where it was more difficult to recruit research active staff and where there was no real career path open to practitioner teachers. The need to work with other stakeholders such as the HEA and employers was recognised. Heads recognised the need to have pharmacists on the academic staff but there was a general view that the balance must be left to the individual school and to an extent, to market forces.

### ***3.2.2.2 Views on accreditation***

Although discussed in more detail in Part one, section 3.1 above, the interviewees thought that the accreditation process had focussed on process rather than graduate outcomes and been more interrogative than collegiate. However, there was also agreement that the accreditation process had developed over time and towards the end was much more collegiate.

### ***3.2.2.3 The degree programmes and curricula***

Discussion with the interviewees about the structure of their degree programmes supported the findings from the documentary analysis. All three degree programmes were modular and used the ECTS<sup>a</sup> credit system. The programme at each institution was overseen by a Curriculum Committee which had responsibility for curriculum development and for the balance between the pharmaceutical sciences and pharmacy practice. Clinical pharmacy was included as part of pharmacy practice in all three schools and views on the balance between the “practice” and the “science” parts of the programme varied between the schools, with only one school having a consensus view that the science was integrated within a practice focussed curriculum. All three schools stated that additional external influences on the curriculum (other than accreditation) were related to the economic climate in Ireland. Additionally for one school, there was an institutional requirement to offer a curriculum that extended beyond the traditional pharmacy subjects.

Programme directors and practice heads at all three schools considered that formal didactic teaching hours were high. Dispensing was taught in all four years across the three schools and all schools made extensive use of problem solving or “case based” teaching. Two

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<sup>a</sup> The European Credit Transfer and Accumulation System.



schools had one module based upon problem based learning (PBL) and all three schools had some provision for the development of self-learning as a basis for continuing professional development (CPD). Respondents reported that the use of inter-professional learning was minimal although joint teaching with students from other disciplines was undertaken, especially in the earlier years. Two schools had built professionalism and the development of professional attitudes and values into the learning outcomes of practice modules. Two schools reported the use of a Student Code of Conduct and one of these had a “Conduct Committee” to consider and issues that arose. The third school was planning a code of conduct for a new placement programme. Two schools had work-based placement provision within their degree programmes. The third school was planning to introduce this in 2009/2010. There was general concern about resources for this activity and in particular, in the capacity of the Irish hospital system to support clinical placement teaching.

A range of assessment techniques were used by the three schools, which included (in one school) the use of peer assessment and (in two schools) the use of video recording. The assessment of clinical and professional competence in two schools was primarily assessed by the use of OSCEs. The third school used practical dispensing assessments as the main method. Two schools stated that efforts had been made to reduce the total student assessment loading, with the third stating that they had tried to address the balance of assessments between the subject areas rather than the total load. In all three schools there was a view that assessments were adequate to measure the qualities necessary to enter pre-registration training but respondents were less clear that they were adequate for the day one pharmacist.

All schools offered a research project in the final year of study across the whole range of the disciplines; however, the provision of specialised options within the degree course across the schools was limited, although one school did have specialised options in the final year based around sectors of pharmacy practice (community, hospital, industry).

#### ***3.2.2.4 The future of pharmacy education in Ireland***

There was general agreement amongst the interviewees that the pre-registration year was the most critical issue within the current five-year programme of education and training. When asked about changes to the current curriculum, there was a divergence of opinion with the Heads of two schools who considered that the priority was to retain the broad science base and the ability of pharmacy graduates to enter a broad range of occupations, and the remaining Head focussing upon clinical skills and the need to develop an outcome focus for the curriculum. A similar split of opinions was seen with the other staff. All interviewees to one degree or another recognised a need for the school to become more involved in the practice-based portion of the five years; both the placement activity within the current four-year degree programme and the current pre-registration portion. Although opinions varied as to the level of involvement, the key role of the schools was seen to be with the quality control of the placement activity. Access to hospitals and the staffing capacity in relation to practice staff were seen as the main barriers to involvement. Heads of

Schools raised concerns about the resources to deliver a five-year integrated programme but were generally supportive of the concept and of the involvement of their school. However, the critical issues were considered to be the need for new educational standards that related to the point of registration and not just the degree, the availability and training of workplace tutors and the methods for assessment of professional competence to ensure fitness to enter the register.

All three Heads of School recognised that the Irish university admissions system gave little scope to consider anything other than academic achievements. All recognised the desirability with health professional programmes to consider personal qualities and attitudes but there was little confidence that this would be possible in the short term. All three Heads of School recognised the need for the pharmacy regulator to set standards for education and they wished to see a co-operative partnership between the schools and the regulator. The Head of one school emphasised the statutory role of the regulator for setting educational standards.

### **3.2.3 The views of the pharmacy students and school teaching staff**

The questionnaire to pharmacy undergraduate students in all three schools of pharmacy in Ireland achieved an overall response rate of 85%. A high response rate was obtained from all three schools of pharmacy and from all four years of study. A majority of respondents (73%) were female with one school having a statistically older age profile of students. Female students were more likely to have had prior pharmacy experience.

The questionnaire to school teaching staff members also achieved a good final response rate of 60%. As with the student questionnaire, a good representation of individuals from across the three schools was obtained. A majority of respondents classified their job title as “lecturer” and the greatest number of responses was from individuals who taught within the discipline of pharmacy practice; although responses were received from across the spectrum of pharmacy disciplines.

#### **3.2.3.1 Student workload**

A majority of student respondents (71%) considered the overall student workload to be too much or far too much and a similar proportion (68%) stated that they found coping with the amount of work required either difficult or very difficult. More female students (75%) than male students (63%) stated there was too much work and that coping with the workload was difficult (73% and 53% respectively). Differences were also seen by school of pharmacy. When asked about the balance of the degree course between the practice and scientific components, over half of student respondents (56%) thought that the balance was too far towards pure scientific knowledge and skills. Again, differences were seen between the schools of pharmacy.

When the same questions were put to the staff respondents, opinions differed from those of the student respondents; nearly three-quarters (71%) stated that they thought that student workload was about right and only 41% stated that they thought that the students

found it difficult to cope with the workload. Furthermore the majority of staff respondents (53%) thought that there were too few formal contact hours.

Although 59% of student respondents thought that the time devoted to material relating to the pharmaceutical sciences was about right and 36% of student respondents that the time devoted to material relating to the practice of pharmacy was about right, around one-third of respondents thought that there was too much or far too much time devoted to the pharmaceutical sciences and 60% of respondents thought that there was not enough or nowhere near enough time devoted to material relating to the practice of pharmacy. When the same questions were put to the staff respondents, only 14% thought that too much time was devoted to the pharmaceutical sciences and just over a quarter (29%) that there was not enough time devoted to the practice of pharmacy.

### ***3.2.3.2 Staff workload***

When asked to examine their own workload, a majority of staff respondents (55%) stated that they strongly agreed or agreed that they had enough time to develop teaching material although fewer (35%) strongly agreed or agreed that they had enough time to develop delivery and teaching methods. Two-fifths of staff respondents stated that they strongly agreed or agreed that they had sufficient time to provide student feedback but this figure dropped to 16% for conducting research and 20% for completing administrative responsibilities.

### ***3.2.3.3 Curriculum balance (practice/science)***

A sizable majority of student respondents (92%) agreed or strongly agreed that dispensing should be taught in all years of the degree course and a further majority agreed or strongly agreed that law and ethics (69%) and material relating to clinical pharmacy (90%) should be taught in all years of the degree course. When asked whether they considered the science content of the early part of the course to be necessary for the professional parts of the degree course, opinion was divided with just under a half of respondents (45%) strongly agreeing or agreeing. Fewer staff respondents (55%) than student respondents strongly agreed or agreed that material relating to clinical pharmacy should be taught in all years of the degree course and a greater percentage (87%) when compared to the students strongly agreed or agreed that the science content of the early part of the course to be necessary for the professional parts of the degree course.

### ***3.2.3.4 Learning and teaching***

When asked how important a range of teaching and learning methods were for their own learning, strong support was seen by student respondents for a wide range of methods. Differences were seen in how important some methods were rated by gender and in all cases where differences were seen, female students rated the methods more highly than male students. Similarly, staff respondents rated the importance of a range of teaching and learning methods, with all the methods being rated as very important or fairly important by a significant majority of respondents.

When the student respondents were asked about a range of practical classes, dispensing practicals were seen as the most useful with a greater number of female students than male students rating dispensing practical as very useful.

Students valued the use of information technology for access to teaching and learning material; however, although a variety of IT applications for more interactive learning were rated as very useful or fairly useful by large proportions of respondents, differences by school of pharmacy indicated a variability of uptake and implementation for some applications. Similar results were found within the staff cohort where a majority of respondents rated the different IT applications as very useful or fairly useful where they had experience of using them; although uptake was variable between schools, with some new IT approaches to learning and teaching (for example, the use of on-line lectures) showing very low levels of use.

Staff respondents were asked about the level of control they have over the choice to teaching and learning methods used. A majority of respondents had at least a fair amount of control on the modules they co-ordinate (80%) or teach but do not co-ordinate (75%). When asked about the balance of teaching styles, the majority of respondents would like to see about the same amount of formal teaching (65%) and directed learning (50%) and more student centred teaching (63%); although in each case where the majority of respondents wanted the amount to remain about the same, the remaining views were polarised in one direction (less formal teaching (31%) and more directed learning (42%)).

### ***3.2.3.5 Outcomes of the educational process***

Staff respondents were asked if the degree course develops a range of knowledge, skills and attributes. A majority of respondents were very confident or fairly confident that the degree course develops a student's pharmaceutical knowledge (96%), personal skills (65%), practical skills (75%), professional attitudes and behaviour (70%) and capacity for self-learning (63%). Only in the case of development of self reflection were a majority of respondents (53%) not very confident.

All schools operated a personal tutoring system and staff respondents viewed the systems in place as very effective or effective in providing pastoral support (68%) and academic support (68%).

### ***3.2.3.6 Support and student-staff relationships***

When asked about the relationship between staff and students on a scale of 1 to 5 (where 1 represents very good), a majority of the staff respondents (83%) rated the relationship as "1" or "2". Differences were seen between schools with respondents from only one school giving any ratings less than "2" (34%). Staff respondents were also asked if they felt that their institution rewards quality and innovation of teaching. Less than a quarter of respondents strongly agreed or agreed that it rewards quality of teaching (21%) or innovation of teaching (23%).

### **3.2.3.7 Assessment**

Overall, a majority of students (65%) considered the amount of formal assessment on their degree course as about right although around a quarter (27%) considered it to be too much. Significant differences were seen between the three schools of pharmacy and in two schools, one third of respondents considered assessment to be too much. Even higher numbers of staff respondents (85%) thought that the amount of formal assessment was about right.

When asked about the balance between examination and coursework assessments, the majority of student respondents (49%) considered there was too much of an emphasis on examination marks with most of the remainder (47%) considering that the balance was about right. A clear majority of student respondents (66%) considered that the focus on memorised knowledge was too much with a third of respondents (33%) stating that it was just about right. Differences in the responses to both questions were seen between schools of pharmacy. For the staff respondents, the majority (83%) thought the balance between examinations and coursework was about right and (51%) that the focus on memorised knowledge was about right with just under a half (47%) stating that there was too much of a focus on memorised knowledge.

When asked if a range of assessments could measure the skills necessary to become a pharmacist, practical assessments and coursework assessments were rated higher than formal examinations by student respondents although male respondents rated formal examinations as more likely to be able to measure the skills necessary to become a pharmacist than female respondents. Differences were also seen by school of pharmacy.

Ratings for the usefulness of feedback on examination performance and performance in coursework were variable with around one third (34%) of student respondents rating the feedback they received on examination performance as very useful or useful. This figure rose to 44% for feedback on coursework. Additionally, when asked about overall feedback, only 29% of student respondents stated they were happy with the amount they had received.

Staff respondents indicated that routinely, feedback was more likely to be given to all students on coursework assessments (53%) than examination (15%) and even upon request, less than three-quarters of staff respondents (64%) stated that feedback on examinations would be provided to all students. Over half of staff respondents (56%) strongly agreed or agreed that they were happy with the amount of feedback they were able to provide with a similar figure (54%) strongly agreeing or agreeing that lack of time prevented them from providing feedback to all students.

### **3.2.3.8 Options**

When asked about their preference for optional subjects within the programme, over three-quarters of students supported the inclusion of options in the degree programme. Student opinions were divided on the best format but the most popular choice (43%) was to have a

mixture of pharmacy and non-pharmacy options available. Similar responses were seen from the staff respondents with a mixture of pharmacy and non-pharmacy options also receiving the highest rating (49%). Comments from the student respondents highlighted the desire for a business option in addition to the pharmacy modules.

### **3.2.3.9 Inter-professional learning**

Only around a quarter of student respondents (24%) stated that they had experienced inter-professional learning in interactive sessions (for example, during workshops) with greater numbers (64%) experiencing inter-professional teaching within a didactic teaching environment (for example, during lectures). Differences were observed between the schools of pharmacy and the year of study the respondents were in, with one school having much more inter-professional learning than the other two. When asked about the values of inter-professional learning, those students who had experience of teaching and learning sessions with students from other healthcare courses were divided in their opinion, with just over a quarter (29%) stating it was very useful or moderately useful and 44% stating that it was not useful or not at all useful. Differences were again seen by school of pharmacy, with the school where more interactive inter-professional learning took place having higher ratings for usefulness of the experience than the other two schools. However, when all respondents were asked whether they thought that inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy, over half (54%) either strongly agreed or agreed that it should. Small differences were seen between the schools of pharmacy and the year of study.

Around one-third of staff respondents (31%) stated they had experience of inter-professional learning but only half of these had undertaken inter-professional learning within a small-group format. Differences were seen between the schools of pharmacy. Nevertheless, a majority of all staff respondents (67%) thought that inter-professional learning was useful with the latter years of the programme receiving more support than the earlier years for the inclusion of inter-professional learning. When asked whether they thought that inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy, similar responses to the student respondents were seen with over half (53%) either strongly agreed or agreed that it should.

### **3.2.3.10 Placements**

Nearly three-quarters of student respondents (72%) stated that they were required to undertake placement work during the vacation. Cross-tabulation with school of pharmacy indicated that all schools required vocational placement work and that students from the second and subsequent years were more likely to answer positively to this question. Again around three-quarters (72%) of those students who indicated that they were required to undertake placement within the vacation stated that this work was assessed and cross-tabulation with school of pharmacy indicated that this was the case in two of the three schools. When asked where term-time placements took place within the degree, the

majority of experience was in community pharmacy with less than 10% of students in any year of the programme having placement experience in a hospital setting.

When asked to what extent placement education was a good learning experience, over half of respondents (61%) stated that it was either very good or good. Small differences were seen between the schools of pharmacy but greater differences were seen between years of study with students in later years being more likely to rate the experience as very good than those in lower years. A considerable majority of respondents (96%) stated that placement education should be compulsory in at least one year of study and just under three-quarters (71%) stated that it should be compulsory in all years of study, with female respondents more likely to agree than male respondents. Differences were also seen by school of pharmacy.

High levels of support for placements was seen from the staff respondents with over three-quarters of respondents strongly agreeing or agreeing that placements provide a meaningful experience of the workplace (92%), provide an opportunity for the development of professional behaviour and values (92%) and provide an opportunity for the application of knowledge (79%). Variability was seen in how placement activity was organised and supervised between the schools. All staff respondents were asked their views on the inclusion of work placements within the degree and around two-thirds (66%) strongly agreed or agreed that work placements should be compulsory in at least one year of study. However, fewer respondents (20%) strongly agreed or agreed that work placements should be in all years.

### **3.2.3.11 Project**

Overall, only 17% of student respondents thought that it was very important to have a final year project within the degree course and this proportion rose to just under a third (30%) of final year students. Of those who had experience of choosing a project, just over a half (53%) stated that they thought that there was sufficient choice of topics. Three-fifths of those students who had experience of choosing a research project thought that the pharmacy degree course provided them with the necessary skills and knowledge to undertake the project (60%). Over two-thirds (69%) of staff respondents thought that it was very important or important to include a research project within the degree course. Slightly fewer staff respondents (60%) considered that the pharmacy degree course at their institution provided the necessary skills and knowledge to undertake the project, although differences were seen by school.

### **3.2.3.12 Motivation for pharmacy**

Less than half of student respondents (43%) stated that their desire to study pharmacy was very strong when they started their pharmacy course and even fewer (38%) stated that this was the case at the time of completing the questionnaire. Differences were seen for both questions by school of pharmacy. For around two-thirds of respondents (66%) pharmacy was their first and only choice for study at university and this was significantly higher for

females (69%) than for males (56%). Significant differences were also seen in the intake profile by school of pharmacy with one school taking a smaller proportion of students whose first and only choice was pharmacy. For those students whose first choice had not been pharmacy, a majority of them (41%) had wanted to study medicine when compared to other health and science options.

Similar responses to the desire to study pharmacy question were seen when respondents were asked how strong their desire to be a pharmacist was when they started pharmacy school and at the time of completing the questionnaire, with less than half of respondents in each case (45% and 41% respectively) stating their desire was very strong. Again, differences were seen by school of pharmacy. Possibly of greater concern was the finding that around one-fifth of respondents stated that their desire to be a pharmacist was either not very strong or not at all strong both when they started pharmacy school and at the time of completing the questionnaire. These findings show a lower level of motivation than was found in a similar national study of pharmacy students in the UK<sup>a</sup>.

Positive responses were provided by the students in answer to the questions regarding whether they were confident that their degree course to date had developed their knowledge, personal skills, practical skills and professional attitude and behaviour. In all four cases, over three-quarters of respondents stated they were very confident or confident. Some differences were seen by school of pharmacy.

Similar results were seen to those from the pre-registration student survey (see Part one, section 3.3.3) with regard to the information provided during the degree course from the PSI about the pharmacy profession or becoming a pharmacist. Less than a quarter of students (16%) received any information in a printed format and just over a half (56%) had received a visit from someone from the PSI. Of those students who had received information from the PSI, less than 10% (7%) had found it very useful and a quarter (25%) stated that it was not useful or not at all useful. When asked if students should have to register with the PSI, just over one-third of student respondents (38%) stated that they thought they should; although a greater number of staff respondents (47%) thought that students should be registered with the PSI.

### **3.2.3.13 Overall views**

Student respondents' level of agreement with a series of nine statements (developed from a previous study<sup>28</sup> of pharmacy education in the UK) regarding pharmacy education indicated that overall, they felt that there was a lot of material and assessments within the degree course, that there should be less science and the science that is in the programme should be taught more in a pharmacy context, and there should be more material relating to clinical pharmacy throughout the four years. For four of the nine statements, differences were

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<sup>a</sup> See Wilson K, Jesson J, Langley C, Clarke L, Hatfield K. Pharmacy undergraduate students: career choices and expectations across a four-year degree programme. Report commissioned by the Pharmacy Practice Research Trust. 2006.



observed by gender where more female respondents strongly agreed that there should be less generic science and more material relating to the practice of pharmacy in year one, that it was difficult to manage their time between timetabled sessions and directed study/coursework, that they believed that it was a very hard degree course because there was an enormous amount of it, and that pharmacy degree courses seem to have more assessments than other courses. Differences were also seen for eight of the nine statements by school of pharmacy. These findings were comparable with a similar national study of pharmacy students' views conducted within Great Britain.<sup>28</sup>

Just under a third (30%) of student respondents stated that they were aware of the requirements that they will have to meet in their pre-registration year, with slightly more (37%) stating that their degree course to date had provided them with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter their pre-registration year. However, for both questions, the figures increased to over a half (55% and 62% respectively) in the final year students. Differences were also observed between students of different gender and from different schools of pharmacy. Less than half of staff respondents (44%) strongly agreed or agreed that students were made aware of the criteria they would have to meet in their pre-registration year to successfully qualify as a pharmacist.

A considerable number of student respondents wished to undertake split-sector pre-registration positions with a split between community and hospital pharmacy (44%) being the most popular choice.

#### **3.2.3.14 *The staff views of a future structure***

The staff respondents were asked whether they considered their degree course provided students with the necessary knowledge and skills to enter the old style (i.e. before the introduction of the National Pharmacy Internship Programme) pre-registration year. Responses were positive with over three-quarters of respondents strongly agreeing or agreeing for community pre-registration positions (77%) and hospital pre-registration positions (77%) and over half (56%) for industry pre-registration positions. Differences were seen for hospital pharmacy between the schools of pharmacy.

Staff respondents were asked how well informed they felt they were about the new National Pharmacy Internship Programme. Only just over one-quarter (28%) either strongly agreed or agreed that they felt they were well informed and a greater percentage of these respondents were from the school where the National Pharmacy Internship Programme was hosted.

Staff respondents were asked for their views on different models for the five-year education and training of pharmacists. Opinions were divided, with the greatest level of support (strongly agreeing or agreeing that the model can provide effective education and training) was for the *4-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland* (65%), *full integration of the pre-*

*registration year into a five-year programme run by the individual universities (59%) and 4-year undergraduate BSc degree course and the pre-registration year run by a university under contract with the PSI (58%).* Greater percentages of respondents strongly agreed or agreed with the option *4-year undergraduate BSc degree course and the pre-registration year run by a university under contract with the PSI* from the school currently hosting the New Pharmacy Internship Programme than from the other two schools.

However, when asked about their single preference for a future model, 37% of staff respondents opted for *full integration of the pre-registration year into a five-year programme run by the individual universities* and 33% for *4-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland*. Additionally, less than one-fifth (14%) of respondents stated a preference for the “old” model of education (before the introduction of the National Pharmacy Internship Programme) of a *four year undergraduate BSc degree course and the pre-registration year run by the PSI*. Over half of respondents (53%) thought that the completion of the full five years should lead to a Masters qualification. Comments from teaching staff questionnaire respondents highlighted potential challenges to the implementation of a five-year programme which surrounded resources, national co-ordination and the development of suitable competencies.

Over half of the staff respondents (58%) were satisfied with the level of support they have received from their institution to enable their career to progress and similar numbers (54%) had a formal appraisal system. A considerable majority of staff respondents (93%) stated that demonstrating a commitment to research was very or fairly important and responses were much higher than for demonstrating a commitment to development of innovative teaching/learning methodologies (60%) or demonstrating leadership (74%); with only 17% and 36% respectively rating these last two factors as very important. Similar levels of high job satisfaction (“1” on a scale of “1” to “5”) were reported by staff respondents from teaching (45%) and research (52%).

### **3.3 The pre-registration year**

#### **3.3.1 Methods and scope of study**

The research for this study was completed prior to the introduction of the new National Pharmacy Internship Programme in the autumn of 2009. Therefore the data collected all relate to the pre-registration scheme that ran up until summer 2009 and no inferences or conclusions can be drawn about the intern programme. The study involved a pluralistic methodology – interviews with key staff at the PSI, a focus group and interview with pre-registration students then at the end of their training year (2007/2008) and self-completion questionnaires to all pre-registration students and tutors covering a five-year period up to 2007/2008.

The year 2007/8 was the first year when there were significant tensions in the pre-registration recruitment process in Ireland and it was also marked by changes in the

community pharmacy contract which raised concerns amongst the students about employment. These issues may well account for the relatively more critical views expressed in the focus group and interview than emerged from the questionnaire study. However, there was a high level of consistency in the results from the qualitative and quantitative student studies.

The distribution of respondents to both questionnaires (pre-registration students and tutors) over the sectors of pharmacy corresponded to the national employment pattern in pharmacy with around a quarter in hospital pharmacy and 70% in community. However, when considering the school in which respondents had studied, then over the time period of the study there was a not-surprising heavy majority from the long established school. In addition to information in this chapter, the interviews with the Heads of Schools of Pharmacy undertaken as part of the project examining the pharmacy degree, identified views of the pre-registration process. The findings from this part of the overall PEARs study have been cross-referenced in this overview.

### **3.3.2 Limitations on resource and capacity**

All the senior staff interviewed at the PSI independently raised the issue of resources for running the pre-registration period. Most of the period covered by the PEARs Project (2002-2007) was prior to the Pharmacy Act of 2007 and during this time the PSI had limited statutory authority and financial resources. As a consequence of these financial restrictions, the capacity of the PSI in terms of staffing was limited and this in turn led to restricted expertise within the PSI to administer and organise the pre-registration year. The major concerns of the PSI staff in relation to the running of the pre-registration year were that the learning outcomes had been insufficiently defined and that the focus of the assessments was too narrow and too dependent upon pharmacy law and ethics (forensic pharmacy). Looking to the future there was a view that the role of the PSI as the pharmacy regulator should be the setting of standards for the pre-registration year and that the organisation and assessment should be devolved but should include a strong academic input which would bring the relevant expertise in curriculum design and assessment.

### **3.3.3 Application system for pre-registration and information to students**

From the students' viewpoint, access to pre-registration information was an issue of real concern. Views expressed in the focus group were confirmed by the quantitative findings from the questionnaire. A large majority (80%) agreed that there was a need for better synchronisation of information about the process and 90% agreed that the process put pressures on students to accept an offer even if they later had to decline it. This was confirmed by findings from the tutor questionnaire where around 40% had experienced a student turning down a place even though the majority of tutors had only supervised one student in the relevant time period.

There was also widespread evidence of poor communication of information both at the beginning of the process and during the process. A respondent from the PSI called the

process *ad hoc* and raised concerns over the capacity and capability of the Society to manage the process. The findings from the questionnaires generally confirmed these concerns.

Less than half of the students considered they had sufficient information from either the PSI or their school about the application process for pre-registration training although the proportion that was satisfied had increased over the last three years of the scheme. Over a third of students considered that they did not receive the right amount of information from the PSI at the start of the process. There appeared to be a heavy reliance upon the PSI pre-registration manual to cover communication with both students and staff. This weakness was recognised by staff at the PSI who also expressed the concern that the manual was more a compendium of information than a guide to the pre-registration process. Over half the students across the total sample and nearly 80% in the 2008 year stated that they received the manual after the start of training although around two thirds considered it to be useful. Issues with communication, particularly with the PSI continued into pre-registration training and persisted up to the end of the process. When asked about sources of support during the course of the pre-registration year, the PSI had the lowest rating of seven stated resources with 8% considering support sufficient and 28% considering it insufficient.

There was evidence of major differences in relation to students' views of the information provided to them by their school of pharmacy. Both new schools rated better for information provision on community and hospital placements than the existing school. There were also differences according to sector with information about hospital placements better provided in all schools than about community placements.

### **3.3.4 Diversity of experience: the student viewpoint**

#### **3.3.4.1 Contact with the pre-registration tutor**

The picture that emerges from the data is that the pre-registration process was heavily dependent upon the tutor and upon the site and hence there could be considerable diversity in experience. This was clearly recognised by students. In the focus groups there was mention of some tutors who were not well prepared for the role and a clear view that resources could be very variable. The questionnaire data supported this. Although a majority (68%) considered that they had been supported by their tutor and that they had received useful feedback (63%), a significant proportion did not agree with a quarter of respondents stating that they did not receive useful feedback. A majority reported that they had the right level of contact with their tutor and that their experience met the PSI guidelines of three days tutor contact per week. Contact in hospital was less than community but this may simply reflect the team nature working in this environment. Also of note was that around half of student respondents from community pharmacy and a much higher proportion in split pre-registration positions, considered that they had too little

contact with other pre-registration students. Overall there was therefore a potential for a significant degree of isolation.

#### **3.3.4.2 Learning resources and support**

In relation to resources, students reported differences based on the nature of the pharmacy premises with hospitals and large multiples being best regarded in terms of support compared with small multiples, independent pharmacies or split positions. Overall the main concern on resources was availability of structured time during the day. Three-quarters of the student respondents had queries during the course of their pre-registration year. Again there was considerable variability in the source of support for students with clear differences in support from different employer types. Overall, pre-registration students placed considerable reliance upon other students for advice about the process but relied more upon the tutor or another pharmacist for advice about pharmacy issues. In the hospital sector there was a much greater reliance upon advice from a pharmacist than in the community sector, probably reflecting the team working nature of hospital practice. Support to the student by the pre-registration tutor, other staff and the employing organisation were considered to be better by students from the hospital sector compared with the community sector.

#### **3.3.4.3 Personal support**

It was of concern to find that only a half of the pre-registration students in community pharmacy had a formal contract and this fell to just over a third in split posts with community. Tutors reported rather better statistics with just over 70% stating their last student had a contract. Equally, it was of concern that a quarter of tutors reported that in the case of their last student, the student had experienced personal difficulties and as a tutor they had experienced questions they could not answer. Given that 44% of the students undertook their pre-registration training in independent pharmacies with less than five branches, the lack of any national backup scheme to the tutor for student support is of note.

#### **3.3.5 Diversity of experience: the tutor viewpoint**

The findings of variability in the student experience were consistent with results from the tutor survey which raised concerns about support, training and information supply to tutors. All three had the potential to directly affect the student experience.

As with the students, tutors were dissatisfied with the support they received from the PSI both before and during the year with over half considering that information about the process before the year was insufficient or non-existent and nearly three-quarters having this view of information supplied during the year. The views of tutors on the PSI manual, the only documentary material supplied to them by the PSI, were more critical than the views of students. Over a third received the manual after the start of pre-registration training and only just over a third found it useful. Although around two thirds of tutors reported that they found the PSI training course useful, nearly two thirds had last taken this course more

than 5 years ago and 18% had taken it more than 10 years prior to the study. When asked whether there should be a compulsory refresher course, just under two thirds agreed and stated that they would be prepared to attend. However, one third was not in favour or was not prepared to attend

Less than a half of tutors (45%) considered that they received the right amount of written information from their employer about their responsibilities during pre-registration training and about a third (36%) of tutors stating they had received no such information. There was also evidence of very considerable variations in the support for the tutor role from employers and therefore between sectors of the pharmacy profession in Ireland. About one-third of the total tutor respondents had received additional training for their role from their employer but this provision was variable. It was best in the case of the large multiples but a majority had not received additional training in either the hospital sector (59%) or in small chain community pharmacies (71%) or independent pharmacies (90%).

Given the heavy dependence of the whole process upon the pre-registration tutor, there must be some concern as to how robust the tutor structure is. Firstly, over a third of the tutors came from the small independent community pharmacy sector which has arguably been most affected by recent financial pressures and contract changes. Secondly it was notable that in the five-year time span investigated in the study, nearly half the tutors (44%) had only tutored once and thirdly when asked about the reason for supervising, a third had been approached by their employer. The views on training also raised the concerns that potentially the total numbers of tutors could be vulnerable to changes in the overall requirements for the role.

The variability in the pre-registration year reported both by students and by tutors was consistent with the views from schools of pharmacy (see Part one, section 3.2 above). The Heads of Schools of Pharmacy considered the pre-registration year to be the most variable part of the whole programme of education and training and pointed to the lack of clear educational standards or quality assurance of either the tutor network or the premises in which training took place.

### **3.3.6 Preparation for the pre-registration year**

Overall less than a half of students considered that their undergraduate degree had prepared them for pre-registration training with over a third stating that it had not prepared them. A similar proportion of tutors (55%) considered that the undergraduate degree provided the necessary skills and knowledge to complete the pre-registration year with a quarter in disagreement. Given that the data set covered a number of years (2003-2008), a majority of students came from the well established school and in recent years there were major differences in the responses to this question between the views of students from this school compared with the two new schools, where just under three-quarters considered themselves to be well prepared. Recent changes in curriculum and focus in the established school suggest that this difference may reduce. In view of the overall findings with regard to

preparation by the degree, it was interesting that nearly two-thirds of student respondents considered that the degree and pre-registration periods were a single learning experience. Here there was marked divergence from the views of tutors where a majority considered them to be two separate learning experiences and only 16% considered them two parts of the same learning experience.

### **3.3.7 Assessment of the pre-registration year and registration**

The only formal assessments of achievement in the pre-registration process were undertaken by the PSI. The first were the “BNF Tests”, open book assessments based primarily but not exclusively around the British National Formulary, and the second an end of year “Forensic Examination” preceded by a law course provided by the PSI. These assessments were considered useful by students but although a majority of tutors thought it a useful part of the pre-registration training, only a third considered that correlated with their own assessment of students. Of much greater concern were the delays associated with the end of year “Forensic Examination”. Around three-quarters of both students and tutors were in agreement that the delay in marking and transmission of results was too long and there was a similar, but slightly lower proportion, in both groups that agreed that the registration process after release of results was too long.

The judgement of the tutor upon the students’ achievements was an individual decision and not subject to any clear standards set by the PSI. However, the majority of tutors were confident that they could mentor a student in the development of appropriate attitudes and values to be a pharmacist. The tutors also overwhelmingly agreed that their students developed sufficient clinical and professional knowledge and skills. However, there was less certainty with regard to business and management skills and knowledge with the least confidence in the hospital sector.

### **3.3.8 The overall experience**

A very positive finding from the PEARs Project was that the vast majority (over 80%) of both students and tutors enjoyed their last pre-registration involvement and 90% or more considered that the total length was about right. In the focus group, students were also very positive about their own experience and explained this in terms of work engagement and contact with patients and the public.

Very small numbers of tutors or students considered the duration too long. When asked about their preferences with regard to format, the majority view of students was that it would be better to integrate the degree and pre-registration training. However, tutors had the opposite view with a half preferring the current structure. There was also clear support from tutors for the PSI to continue to control the pre-registration process.

The strongly positive views of the pre-registration experience by students clearly reflect a judgement on its value to them. To provide a pedagogic context for this view, the next section of this chapter provides a short overview of the background to the pre-registration

year and an overview of the pedagogic basis for work placements within the educational process.

### 3.3.9 Purpose and future structure of the pre-registration year

The pre-registration year is a period of work-based learning that should enable a student to apply the knowledge and skills they have developed in their degree. In a sense it dates back to the time when the main route of entry to skilled trades and professions was through a period of working with an experienced mentor – an apprenticeship. In such a situation, the prime responsibility for the development and learning of the apprentice would lie with their mentor and the process of learning may be defined less formally, often only in terms of time and some end achievement. The pre-registration process in Ireland up until 2009, like the scheme in the UK, developed from an apprenticeship entry to pharmacy which since the later nineteenth century became linked to short external courses. However, the growth of scientific and medical knowledge and the expansion of higher education to include pharmacy meant that since the move of the PSI school to Trinity College Dublin in 1977 the professional training became attached to a full four year university degree course.

In recent years it can be argued that pharmacy first stage education has been subject to two major drivers. First the pressures on the curriculum of the huge rate of growth of scientific knowledge has led to the concept of the “front loaded curriculum” where basic underpinning knowledge is placed early in the curriculum as a support for later professional application.<sup>29</sup> In the context of pharmacy, an extreme case would be the degree programme as a science programme with professional application left to the pre-registration period. To some extent this pattern can be seen in the established school of pharmacy in Ireland which for thirty years after its move to a prestigious academic institution, became more and more focussed upon pharmaceutical sciences. To state this is not to attribute blame; this school was the only one in the State and the statutory body, the PSI, had little authority. There was therefore a relative absence of the normal competitive and regulatory constraints.

The second major driver has been the increasing priority towards the end of the twentieth century and into the twenty-first century on the outcome of education. In a professional discipline like pharmacy this amounts to an increased emphasis upon professional skills, knowledge and values and their application in practice. The development of sandwich courses across a wide range of disciplines can be seen as a way of contextualising learning in a work environment. This moves away from the concept of the “front loaded curriculum” since the work-based elements become a way of providing context which is then developed in the subsequent period back in education.<sup>30</sup> There is a constructive interaction between the placements and the higher education learning. In the case of pharmacy, the pressures to include formal placements within the degree programme have been extremely challenging for higher education institutions since there is no tradition of funding or support for this activity. As a consequence a number of fairly *ad hoc* approaches have been made.



For pharmacy these pressures to professionalise the curriculum have also widened the curriculum away from its traditional focus upon the scientific disciplines such as pharmaceuticals, chemistry and pharmacology. The increasing focus upon patients and clinical care has introduced new disciplines such as behavioural science, social science and clinical management. This has presented great challenges within education since it is well known that different forms of theoretical knowledge are characterised by different knowledge structures.<sup>31</sup> Pharmacy is a highly multi-disciplinary degree programme and the widening scope of its disciplines has placed academic units under strain.

It is also important to recognise that health professional programmes have an added requirement related to the work environment – that is to ensure the competence of individuals who join the workforce. The overall placement programme in pharmacy must therefore serve two functions – provide a contextualisation to learning on the degree programme and provide a sufficient period of consistent practice to allow the student to develop competence through repetition and practice. Whilst a block of time at the end of the programme is useful to ensure competence, it is of less value to ensure contextualisation of learning during the academic programme.

A professional regulator must also be concerned to ensure that standards are consistently applied. In the educational context this means that standards must be capable of uniform application and for students this means some equity of experience and standardisation of learning outcomes. The pre-registration programme studied in this report is some way from this ideal since the process had no clearly defined outcomes and had considerable sources of variability including tutor, employer and sector. There is also strength in each educational provider being involved with the whole integrated programme since this enables a holistic assessment of individual students over the full provision. Whilst recognising the need for common standards, it is also important to recognise that where standards relate to learning outcomes, they may be achieved by different means. Thus a move from a focus on process in the accreditation of providers enables diversity but this will also require each programme to be planned and delivered as an integrated unit.

Crucial to the development of standards will be engagement with all stakeholders and particularly with employers from all sectors of the profession. To be capable of implementation, standards for work-based learning must be developed in partnership with employers and where these are Government funded, there must be buy-in by Government. For pharmacy in Ireland, this means explicit provision for teaching and learning with the hospital sector. A particular challenge will also be engagement with the large independent community sector.

### **3.4 Areas for further work**

The PEARs Project has been a comprehensive review of many elements of the education and training of pharmacists in Ireland to the point of first registration. At the time of writing this final report, we would recommend developmental work for the new integrated

programme should be informed by (a) an audit of the experiences gained in delivering the first year of the new National Pharmacy Internship Programme for pre-registration training and (b) immediate active engagement across all sectors of pharmacy, the wider pharmacy profession, policy makers and Government.

# Part two

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## Chapter 1 Summary of findings

### 1.1 The accreditation of pharmacy degree courses

#### 1.1.1 A review of the literature

- I. Traditionally, the term accreditation has been used to describe external professional quality control by a professional regulator of that period of education which is taken within a higher education institution. Increasingly it is being applied to the period of work-based learning that is associated with graduate study prior to registration.
- II. Internationally, there are broad similarities in the processes for accreditation of learning and training for first registration of pharmacists. Currently, accreditation in the US, Australia and New Zealand applies to both the initial degree in pharmacy and the pre-registration or intern year. The UK, Ireland, Canada, Malaysia and South Africa are countries where accreditation applies primarily to the first degree although new procedures in the UK will provide detailed requirements for both the degree and pre-registration periods.
- III. Although the pharmacy first qualification is the subject of an EU directive, there is currently no European organisation that acts to harmonise goals, methods, quality assurance or outcomes of pharmacy undergraduate education. This lack has been recognised by the European Association of Faculties of Pharmacy (EAFP).
- IV. Both the WHO and FIP have published international guidance on Pharmacy Education and the “*Global Framework for Quality Assurance of Pharmacy Education*” published under the auspices of FIP provides recommendations on the establishment of systems of quality assurance. Key issues relevant to accreditation are the need to articulate the competencies required to carry out professional roles through examination of those roles; the development of educational outcomes that match these competencies and the importance of multi-stakeholder involvement.
- V. Competence-based standards are widely used internationally for approval or accreditation of other health professional programmes. The approach used by the GMC for the standards in “*Tomorrow’s Doctors*” has influenced pharmacy accreditation standards in the UK, North America and Australia and New Zealand.
- VI. Internationally there is a progressive move to adoption of the terminology of standards to define pharmacy accreditation requirements. Five broad types of standards can be identified: curriculum or syllabus; provider institution and school; student including admissions and support; outcome abilities or competencies; and student behaviour and attitudes.
- VII. There is a general move to the adoption of outcome standards or competencies within accreditation requirements. These may define both competencies, the ability to undertake tasks or carry out prescribed functions (can do) and competency, a

higher level activity describing professional performance in a variety of settings on a repeating basis (does do). Together these concepts may be used to develop a hierarchy of outcomes across the undergraduate degree and subsequent work-based learning.

- VIII. It is essential that standards based on competence outcomes are measurable and so may be assessed. The major disadvantages of competence-based standards are in the development of validated and robust assessment techniques and in the risk of reductionism of professional activities to a series of tasks.
- IX. A crucial step in developing an outcome-based accreditation system is the identification and validation of the ability based outcomes or competencies that reflect the full range of knowledge, skills, attitudes and values that are needed for professional practice. This requires a clear definition of a practice framework that defines practice as a pharmacist that is agreed by the profession as a whole.
- X. Extensive stakeholder engagement and consultation is now an established part of professional standard development and this has been widely adopted in the development of current competence standards in the UK, US, Canada, Australia and New Zealand.
- XI. Based upon an analysis of current international educational/accreditation standards, eight broad areas are proposed which should be covered by standards:
1. The **essential place of patients and patient care** at the heart of the educational process.
  2. A **statement of institutional character**, purpose and mission which should also address issues relating to equity of treatment, handling of diversity and equal opportunity.
  3. The presence of a **functional, robust quality control mechanism** for the educational process that incorporates continuing review, analysis and change.
  4. The **learning outcomes** of the educational/placement process normally linked to professional expectations of a registered professional.
  5. The **requirements relating to students** including academic and behavioural (fitness to practice).
  6. The **delivery of the educational programme** which must link to the required learning outcomes.
  7. The **resources for delivery** of the programme and the management of the programme.
  8. **Support and development** of all those involved in the educational process – including students, staff and professionals.

### 1.1.2 The view from the pharmacy schools

- I. The organisation of the accreditation visits was considered to be professional although in some cases the notice given was considered to be short. There was a view that the process in the early years was confrontational but that this improved with time and became more collegial.
- II. Strengths of the visits were considered to be the inclusion of external academic representatives in new schools the influence of the process upon staff which increased internal reflection and discussion and provided a general encouragement following a successful visit and again in new schools the advantage of an external review process and report that could be valuable in influencing change within the institution.
- III. Weaknesses of the visit were a perceived narrow focus upon process issues that was considered to be a tick-box exercise, the slow return of reports and a style which was considered to be lacking in focus, a perceived failure to include patients or other healthcare representation on panels and a failure to take account of the quality processes within institutions.
- IV. There was general agreement that relationships between the school staff and the accreditation team staff improved over time, although the process itself did not evolve, and that the introduction of the new schools changed the process by broadening the view of pharmacy education and highlighting the potential to deliver high quality programmes in different ways.
- V. The purpose of accreditation was generally agreed in terms of ensuring education is appropriate and that graduates are fit for entry to the pharmacy profession. Most agreed that within the restricted definitions of the process, accreditation met this purpose.
- VI. Some of the criteria for accreditation were considered to be appropriate but there was considered to be too much focus upon operational aspects, particularly hours of study, and not enough focus on educational outcomes. There was a general sense that the criteria were dated and this became more obvious as time progressed. Because of this, it was evident that the accreditation process did not capture the need for the pharmacy programmes to change in line with the evolving roles of the future pharmacist. Views on the criteria were different in the new schools in comparison to the established school reflecting the different issues affecting these schools. Staff from new schools considered the criteria a useful guide as to what must be achieved whereas in the established school, the views reflected upon the difficulty of changing an existing organisation.
- VII. Staff in the new schools considered the indicative syllabus a useful guide whereas in the established school the main challenge was to demonstrate that the programme complied with the syllabus.

- VIII. In general, the accreditation process was not considered to have impeded curriculum development within the schools.
- IX. There was general agreement that the PSI should continue to have primary responsibility for accreditation but that in the future the hope was that the PSI would work more collaboratively with the schools of pharmacy. Other proposed changes to future accreditation procedures were that there should be a greater account of outcome measures or defined competencies, there should continue to be external involvement in the process, linkage with or at least recognition of the internal quality processes in the schools, more account of self-reporting and consideration of a change in the visit system with potentially more site visits but with a focus upon student learning.
- X. There was a general view that fitness to practice for pharmacy students was becoming an increasingly important issue and that there should be a student code of conduct. The preference was for the PSI to set national standards that had some flexibility for local interpretation and a concern that the whole process must be proportionate and take account of the age and life experience of students.
- XI. Greater integration of the degree and the pre-registration year was generally supported although concerns were raised about funding and about the general economic situation. There was a clear view that if integration was achieved, each school should operate a full five-year programme and that this allowed a more holistic approach to student development and support across the whole programme. There were concerns that the interim National Pharmacy Internship Programme and the move to a Masters qualification had limited future options and concerns were expressed that the PSI was still not fully engaged with the schools and that increased collaborative working was essential.

### **1.1.3 The view from the Pharmaceutical Society of Ireland**

- I. The accreditation method used in Ireland from 2002, was developed in response to applications to open new schools of pharmacy and consequent changes in the regulations relating to the powers of the PSI as the pharmacy regulator.
- II. The new criteria were based upon the UK guidelines of 1996 and the Irish version was developed largely by members of the PSI with limited academic input.
- III. PSI respondents considered that the early accreditation visits were difficult. The PSI had limited resources and there were perceived difficulties with resourcing and preparation for the visits within the new schools.
- IV. PSI respondents considered that the early visits were sometimes confrontational but the PSI respondents, along with the respondents from the schools, agreed that this improved with time and there developed a sense of collegiality and joint purpose.



- V. PSI respondents considered that the strengths of the accreditation process were the involvement of external academic members, that it was open, relatively inflexible (also considered a weakness) and that it encouraged a sense of reflection about the curriculum within schools of pharmacy.
- VI. PSI respondents considered that weaknesses of the accreditation process were the very limited resources at the PSI (staff and finance), the involvement of a relatively small number of individuals and therefore the risk of loss of expertise over time, an inflexible method more focussed on process than outcomes and a tendency for the process to become confrontational.
- VII. All respondents, both PSI and schools, agreed upon the purpose of accreditation in terms of setting standards and PSI respondents generally agreed that the process met the purpose and the main evidence was the successful outcome of the three high quality schools within Ireland
- VIII. There was general agreement from the PSI respondents that the criteria for accreditation were appropriate for the time and most were measurable. There was also a general agreement that they focussed upon process and resource and that applying them to new schools and a long established school was difficult. There was regret that the criteria were not developed but this was seen largely as a resource issue.
- IX. The indicative syllabus was considered by PSI respondents as a useful check, particularly with new schools.
- X. PSI respondents considered that the existing accreditation process should be re-balanced with a greater focus upon educational outcomes or competencies. Respondents thought that the process should be developed and operated in collaboration with the schools of pharmacy, should be more flexible, that is should involve some degree of self-assessment and take account of the internal quality processes within each HEI.
- XI. PSI respondents recognised the importance of fitness to practice (FTP) standards and procedures within schools of pharmacy. They considered these must be proportionate and recognised the age and responsibility of students and that they were best developed in collaboration between the PSI and schools.
- XII. No clear consensus emerged amongst PSI respondents on the issue of the future structure of pharmacy education in Ireland. There was some support for greater integration of the degree and pre-registration training but this fell short of full integration. The view was expressed that professionalism needs to be developed over the entire programme and that each programme should be a coherent unit rather than having the final year run by a single organisation. There was no consensus on whether the award should be at Masters level.

## 1.2 The undergraduate pharmacy degree

### 1.2.1 Documentary analysis

- I. Undergraduate pharmacy in Ireland takes place in three schools of pharmacy; one long-standing school and two schools which have been recently established.
- II. Analysis of the data supplied by the schools indicated similarities between the years of study and the schools of pharmacy in the number of formal contact hours, with a range (not including the project or placements) of 1600 to 2000 hours.
- III. Variations were seen between the schools in the number of hours devoted to placement activity and the phasing of the placements. In all three schools placements took place in more than one year.
- IV. Analysis of the time devoted to different sub-disciplines indicated similarity between the schools for many areas; however, marked differences were noted for the time devoted to pharmacy practice/clinical activity.
- V. In all schools the pharmacy practice and clinical curriculum is loaded towards the end of the programme and mainly in the third and final years.
- VI. All schools had a heavy dependence on formal lectures and practicals with relatively few workshops and tutorials.

### 1.2.2 Interviews with key school staff members

#### 1.2.2.1 *The structure of schools of pharmacy in Ireland and their resources*

- I. All three schools of pharmacy in Ireland are part of an organisational (Faculty/College) unit with medicine and other health sciences.
- II. All three schools of pharmacy had some degree of independence in the control of their financial resources although this varied between the schools. None were completely autonomous and the Heads of Schools did not consider this to be a realistic option for pharmacy.
- III. There was agreement amongst the Heads of School that pharmacy education in Ireland was under-funded and there had been joint action to tackle this issue. The funding pressures within schools varied with two reporting significant problems.
- IV. Although all three Heads of School reported difficulties in recruitment, they were unanimous in their view that the schools had in the end been able to recruit highly qualified and motivated staff.
- V. In all three schools, staffing was considered to be a critical resource and with relatively small staff bases, the Heads of Schools reported tensions between the teaching and research demands on staff. However, there were differences between

the Heads in their focus upon research with one Head stating that the primary function of a university is to teach.

- VI. In all three schools, the staffing in the area of pharmacy practice and clinical pharmacy was considered a particular challenge with a difficulty in recruiting research active staff and a lack of any defined career structure for practitioner-teachers. There was a view that this could only be addressed by working with other stakeholders and particularly with employers.
- VII. In all schools, there was a clear recognition of the need to have an appropriate representation of pharmacists on the teaching staff although there was no clear view as to what this constituted.

#### ***1.2.2.2 Experiences of accreditation by the former PSI (pre 2007)***

- I. Only one Head of School had been in post throughout the application process for a new school and the subsequent accreditation process. There was a view that the PSI had not been prepared for new schools and this had led to delays.
- II. There was a general agreement from respondents (Heads of Schools, programme directors and heads of pharmacy practice) that the accreditation process implemented by the former PSI (a) focussed upon process rather than graduate outcomes and (b) began in an interrogative style rather than a collegiate style.
- III. All respondents agreed that the interactions between the PSI and the schools improved with time and by the end of the accreditation cycle had become much more collegiate and constructive.

#### ***1.2.2.3 The structure of the current pharmacy degree in Ireland***

- I. In all three schools, the degree programme was modular and credit based using the EU ECTS credit system. Two schools were either semesterised or moving to a semester system.
- II. All three schools had a programme based Curriculum Committee with responsibility for curriculum development and for the balance between the pharmaceutical sciences and pharmacy practice.
- III. In all three schools, clinical pharmacy and therapeutics was viewed as part of pharmacy practice rather than as a separate subject area.
- IV. Views on the balance between the pharmaceutical sciences and practice varied between schools and in two schools, between individuals. In only one school was there a consensus view and this was that the science was integrated within a practice focussed curriculum. In the other two schools there were some differences in emphasis between the need to retain the science and the need to develop practice.

- V. The main factors outside the schools that affected curriculum were considered to be the economic situation within Ireland, pharmacy education in the United Kingdom and the PSI accreditation process. One school reported a strong international focus within the parent institution that influenced curriculum.
- VI. Only one school had an institutional requirement to offer a curriculum that extended beyond the traditional pharmacy subjects.

#### ***1.2.2.4 Teaching and learning in pharmacy education in Ireland***

- I. Programme directors and practice heads at all three schools considered that formal didactic teaching hours were high.
- II. Two schools had one module based upon problem based learning (PBL) and in one school it was recognised as a resource heavy module. All schools made extensive use of problem solving or “case based” teaching.
- III. In all three schools there was teaching of dispensing in all four years of the programme and in two schools this was strongly integrated with the clinical teaching.
- IV. All three schools had some provision for the development of self learning as a basis for continuing professional development. This appeared to be more developed in two schools where it had been embedded this in the curriculum through use of a problem solving approach. One school had made extensive use of a professional development portfolio.
- V. The provision of inter-professional learning was limited although there was some joint teaching, mainly in first year foundation modules.
- VI. Two schools had built professionalism and the development of professional attitudes and values into the learning outcomes of practice modules. Two schools reported the use of a Student Code of Conduct and one of these had a “Conduct Committee” to consider and issues that arose. The third school was planning a code of conduct for a new placement programme.
- VII. Two schools had work-based placement provision within their degree programmes. The third school was planning to introduce this in 2009/2010. There was general concern about resources for this activity and in particular, in the capacity of the Irish hospital system to support clinical placement teaching.

#### ***1.2.2.5 Assessment of pharmacy education in Ireland***

- I. All three schools employed a range of assessments in the pharmacy practice area and all three used OSCE assessments. One school used peer assessment and two used video recordings.

- II. OSCE assessments were regarded as the main method for assessing clinical and professional competence in two schools whereas the third considered that practical dispensing was the main method.
- III. Two schools reported that they had made a concerted effort to reduce the volume of assessments, the third considered the issue to be the balance between subject areas rather than overall volume.
- IV. In all three schools there was a view that assessments were adequate to measure the qualities necessary to enter pre-registration training but respondents were less clear that they were adequate for the day one pharmacist.

#### **1.2.2.6 *Optional studies and the research project***

- I. One school had specialised options in the final year based around sectors of pharmacy practice (community, hospital, industry). Options had been considered by another school but had not been implemented because of resource issues.
- II. All three schools offered a research project in the final year of the degree programme. These were available across the full range of disciplines.

#### **1.2.2.7 *The future of pharmacy education in Ireland***

- I. There was general agreement that the pre-registration year was the most critical issue within the current five-year programme of education and training.
- II. When asked what should be changed in the current curriculum, the Heads of two schools considered that the priority was to retain the broad science base and the ability of pharmacy graduates to enter a broad range of occupations. The Head of the third school focussed upon clinical skills and the need to develop an outcome focus for the curriculum. There was a similar divergence of opinion between the other staff interviewed.
- III. All three Heads agreed that there was a strong educational case for the schools to become more involved in the fifth year of the education and training process. However, there were general and serious concerns as to whether existing resources were sufficient to enable this extension of function. Prime concerns were both funding and staffing and the need for any change to be properly planned and timed. The Head of one recognised a need to become involved in the short term but considered that the major resource issue would be clinical teaching staff and access to hospitals. Other critical success factors identified were the availability and training of workplace tutors, new educational standards that addressed competence at the point of registration and the identification and development of assessment methodologies for professional competence.
- IV. The programme directors and heads of practice also considered that the schools of pharmacy should take a greater responsibility for the pre-registration year particularly in relation to quality control.

- V. All three Heads and the heads of practice and programme directors recognised the need for schools to become more involved with practice based teaching. Access to hospitals and the capacity in terms of practice staff were the main concerns.
- VI. All three Heads of School recognised that the Irish university admissions system gave little scope to consider anything other than academic achievements. All recognised the desirability with health professional programmes to consider personal qualities and attitudes but there was little confidence that this would be possible in the short term.
- VII. All three Heads of School recognised the need for the pharmacy regulator to set standards of education and they wished to see a co-operative partnership between the schools and the regulator. The Head of one school emphasised the statutory role of the regulator for setting educational standards.

### **1.2.3 The views of the pharmacy students and school teaching staff**

#### **1.2.3.1 Profile of respondents**

- I. The questionnaire to pharmacy undergraduate students in all three schools of pharmacy in Ireland achieved an overall response rate of 85%. A good representation of responses was obtained from all three schools of pharmacy and from all four years of study.
- II. The questionnaire to school teaching staff members in all three schools of pharmacy in Ireland achieved an overall response rate of 60%. A good representation of individuals from across the three schools and the different pharmacy disciplines was obtained.
- III. A majority of student respondents (73%) were female with one school having a statistically older age profile of students. Female students were more likely to have had pharmacy experience prior to studying pharmacy at university.

#### **1.2.3.2 Workload**

- I. A majority of undergraduate students stated that they considered there to be too much work (71%) and that they found coping with the amount of work difficult (68%). Female students were more likely to hold these views than male students and differences were also seen by school of pharmacy.
- II. The staff respondents' views on student workload differed from the students with nearly three-quarters (71%) stating that they thought that student workload was about right and only two-fifths of staff respondents (41%) stating that they thought that students found it difficult to cope with the amount of work. Furthermore, the majority of staff respondents thought that the amount of formal student contact hours was too little.

- III. Overall, over half of student respondents (56%) thought that the balance of the curriculum was too far towards pure scientific knowledge and skills, although differences were seen between the schools of pharmacy.
- IV. A majority of staff respondents (55%) stated that they strongly agreed or agreed that they had enough time to develop teaching material although only just over one-third (35%) strongly agreed or agreed that they had enough time to develop delivery and teaching methods.
- V. Around two-fifths (41%) of staff respondents stated that they strongly agreed or agreed that they had sufficient time to provide student feedback but this figure dropped to less than one-fifth (16%) for conducting research and a fifth (20%) for completing administrative responsibilities.

### **1.2.3.3 Teaching and learning**

- I. Around one-third of student respondents (35%) thought that there was too much or far too much time devoted to the pharmaceutical sciences and three-fifths of respondents (60%) thought that there was not enough or nowhere near enough time devoted to material relating to the practice of pharmacy. The views from the staff respondents were different where only 14% thought that too much time was devoted to the pharmaceutical sciences and just over a quarter (29%) that there was not enough time devoted to the practice of pharmacy.
- II. A majority of students thought that dispensing (92%), law and ethics (69%) and material relating to clinical pharmacy (90%) should be taught in all years of the degree course. Fewer respondents (45%) agreed or strongly agreed that the science content of the early part of the course to be necessary for the professional parts of the degree course.
- III. Fewer staff respondents than student respondents (55%) strongly agreed or agreed that material relating to clinical pharmacy should be taught in all years of the degree course and a greater percentage (87%) when compared to the students strongly agreed or agreed that the science content of the early part of the course to be necessary for the professional parts of the degree course.
- IV. Strong support was seen from the student respondents for a range of teaching and learning methods and their importance for the students' own learning. Similarly high levels of importance on all teaching methods were observed from the staff respondents.
- V. Dispensing practicals were seen by students as the most useful type of practical class with a greater number of female students than male students rating dispensing practicals as very useful.
- VI. The use of information technology (IT) was generally rated as useful by the students although uptake of more interactive learning on-line did show some variability in

uptake and usefulness between the schools of pharmacy. Similar results were found within the staff cohort where a majority of respondents rated the different IT applications as very useful or fairly useful where they had experience of using them; although uptake was variable between schools, with some new IT approaches to learning and teaching (for example, the use of on-line lectures) showing very low levels of use.

- VII. A majority of staff respondents were very confident or fairly confident that the degree course develops a student's pharmaceutical knowledge (96%), personal skills (65%), practical skills (75%), professional attitudes and behaviour (70%) and capacity for self-learning (63%). Only in the case of development of self reflection were a majority of respondents (53%) not very confident.
- VIII. The personal tutoring systems in place at all three schools were seen as effective by the staff respondents in providing pastoral and academic support.
- IX. A majority of staff respondents had at least a fair amount of control on the modules they co-ordinate (80%) or teach but do not co-ordinate (75%).
- X. The majority of staff respondents stated they would like to see the about the same amount of formal teaching (65%) and directed learning (50%) in the pharmacy degree, along with more student centred teaching (63%). Although in each case where the majority of respondents wanted the amount to remain about the same, the remaining views were polarised in one direction (less formal teaching (31%) and more directed learning (42%)).
- XI. When asked about the relationship between staff and students on a scale of 1 to 5, a majority of the staff respondents (83%) rated the relationship as "1" or "2". Differences were seen between schools with respondents from only one school giving any ratings less than "2" (34%).

#### **1.2.3.4 Assessment**

- I. A majority of students (65%) considered the amount of formal assessment on their degree course as about right although around a quarter (27%) considered it to be too much. Significant differences were seen between the three schools of pharmacy. An even higher proportion of staff respondents (85%) thought that the amount of formal assessment was about right.
- II. A half of all student respondents thought that there was too much emphasis on examination marks and two thirds considered that the focus of assessments on memorised knowledge was too great. Differences were observed between the schools of pharmacy.
- III. Differences were seen with the staff respondents when compared to the student respondents where the majority (83%) thought the balance between examinations and coursework was about right and (51%) that the focus on memorised knowledge



was about right with just under a half (47%) stating that there was too much of a focus on memorised knowledge.

- IV. Practical assessments and coursework assessments were rated higher than formal examinations by the student respondents as more likely to be able to measure the skills necessary to become a pharmacist although male respondents rated formal examinations higher than female respondents.
- V. Ratings for the usefulness of feedback on examination performance and performance in coursework were variable with around one third (34%) of student respondents rating the feedback they received on examination performance as very useful or useful. This figure rose to 44% for feedback on coursework. Additionally, only 29% of student respondents stated they were happy with the amount of overall feedback they had received.
- VI. Staff respondents indicated that routinely, feedback was more likely to be given to all students on coursework assessments (53%) than examination (15%) and even upon request, less than three-quarters of respondents (64%) stated that feedback on examinations would be provided to all students.
- VII. Over half of staff respondents (56%) strongly agreed or agreed that they were happy with the amount of feedback they were able to provide with a similar figure (54%) strongly agreeing or agreeing that lack of time prevents them from providing feedback to all students.

#### **1.2.3.5 Options**

- I. When asked about their preference for optional subjects within the programme, over three-quarters of students supported the inclusion of options in the degree programme. Student opinions were divided on the best format but the most popular choice was to have a mixture of pharmacy and non-pharmacy options available with material relating to business being given as a suggestion for a non-pharmacy option. Similar responses were seen from the staff respondents.

#### **1.2.3.6 Inter-professional learning**

- I. Only around a quarter of student respondents (24%) stated that they had experienced inter-professional learning in interactive sessions. Differences were observed between the schools of pharmacy and the year of study the respondents were in with one school having much more inter-professional learning than the other.
- II. Student opinions on the usefulness of inter-professional learning were divided with higher ratings for usefulness coming from the school where more interactive inter-professional-learning took place.

- III. Around one-third of staff respondents stated they had experience of inter-professional learning but only half of those had undertaken inter-professional learning within a small-group format. Differences were seen between the schools.
- IV. Even though the provision was low, a majority of all staff respondents (67%) thought that inter-professional learning was useful with the latter years of the programme receiving more support than the earlier years for the inclusion of inter-professional learning.
- V. When all student respondents were asked whether they thought that inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy, over half (54%) either strongly agreed or agreed that it should with similar levels of response (53%) from the staff respondents.

### **1.2.3.7 Placements**

- I. Nearly three-quarters of student respondents stated that they were required to undertake placement work during the vacation. Cross-tabulation with school of pharmacy indicated that all schools required vocational placement work and that students from the second and subsequent years were more likely to answer positively to this question.
- II. Around three-quarters (72%) of those students who indicated that they were required to undertake a placement during the vacation stated that this work was assessed and cross-tabulation with school of pharmacy indicated that this was the case in two of the three schools.
- III. A majority of placements within the degree during term-time took place in a community pharmacy setting with less than 10% of students in any year of the programme having placement experience in a hospital setting.
- IV. Over half of student respondents stated that placement education was a good learning experience with greater number of students in the latter years rating the experience as good.
- V. A considerable majority (over 90%) of student respondents stated that placement education should be compulsory in at least one year of study and nearly three-quarters stated that it should be compulsory in all years of study, with female respondents more likely to agree than male respondents.
- VI. High levels of support for placements was seen from the staff respondents with over three-quarters of respondents strongly agreeing or agreeing that placements provide a meaningful experience of the workplace (92%), provide an opportunity for the development of professional behaviour and values (92%) and provide an opportunity for the application of knowledge (79%).

- VII. Variability was seen in how placement activity was organised and supervised between the schools.
- VIII. Around two-thirds (66%) of staff respondents strongly agreed or agreed that work placements should be compulsory in at least one year of study. Fewer respondents (20%) strongly agreed or agreed that they should be in all years.

#### **1.2.3.8 Research projects**

- I. Overall, only 17% of student respondents thought that it was very important to have a final year project within the degree course and this proportion rose to just under a third (30%) of final year students. Of those who had experience of choosing a project, just over a half (53%) stated that they thought that there was sufficient choice of topics.
- II. Around 60% of those students who had experience of choosing a research project thought that the pharmacy degree course provided them with the necessary skills and knowledge to undertake the project.
- III. Over two-thirds (69%) of staff respondents thought that it was very important or important to include a research project within the degree course. Slightly fewer staff respondents (60%) considered that the pharmacy degree course at their institution provided the necessary skills and knowledge to undertake the project, although differences were seen by school.

#### **1.2.3.9 Influences on future career**

- I. Less than half of student respondents (43%) stated that their desire to study pharmacy was very strong when they started their pharmacy course and even fewer (38%) stated that this was the case at the time of completing the questionnaire. Differences were seen for both questions by school of pharmacy.
- II. For two-thirds of respondents (66%) pharmacy was their first and only choice for study at university and this was significantly higher for females than for males. Significant differences were also seen in the intake profile by school of pharmacy with one school taking a smaller proportion of students whose first and only choice was pharmacy.
- III. For those students whose first choice had not been pharmacy, a majority of them (41%) had wanted to study medicine when compared to other health and science options.
- IV. Similar responses to the desire to study pharmacy question were seen when respondents were asked how strong their desire to be a pharmacist was when they started pharmacy school and at the time of completing the questionnaire, with less than half of respondents in each case (45% and 41% respectively) stating their desire was very strong. Again, differences were seen by school of pharmacy.

- V. Over three-quarters of respondents stated they were very confident or confident that their degree course to date had developed their knowledge, personal skills, practical skills and professional attitude and behaviour.
- VI. Just over one-third of student respondents stated that they thought they should have to register as a student member with the PSI and this figure increased to nearly a half of staff respondents.

#### 1.2.3.10 *Student perceptions of the degree course*

- I. Respondents' level of agreement with a series of statements regarding pharmacy education indicated that overall, they felt that there was a lot of material and assessments within the degree course and that there should be less science and more clinical material throughout the four years.

#### 1.2.3.11 *The pre-registration year*

- I. Just under a third (30%) of student respondents stated that they were aware of the requirements that they will have to meet in their pre-registration year, with slightly more stating that their degree course to date had provided them with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter their pre-registration year. However, for both questions, the figures increased to over a half in the final year students. Less than half of staff respondents (44%) strongly agreed or agreed with this question.
- II. A considerable number of students wished to undertake split-sector pre-registration positions with a split between community and hospital pharmacy being the most popular choice (44%).
- III. Over three-quarters of staff respondents felt that the degree course provided students with the necessary knowledge and skills to enter the old style (i.e. before the introduction of the National Pharmacy Internship Programme) pre-registration year in community (77%) or hospital (77%). This figure fell to just over half (56%) for a pre-registration position in industry. Differences were seen for hospital pharmacy between the schools of pharmacy.
- IV. Only just over one-quarter of staff respondents (28%) either strongly agreed or agreed that they felt they were well informed about the new National Pharmacy Internship Programme a greater percentage of these respondents were from the school where the National Pharmacy Internship Programme was run.
- V. When asked for their views on different models for the five-year education and training of pharmacists, the greatest level of support (strongly agreeing or agreeing that the model can provide effective education and training) from staff respondents was for a *4-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland* (65%) followed by *full integration of the pre-registration year into a five-year programme run by the*

*individual universities (59%) and 4-year undergraduate BSc degree course and the pre-registration year run by a university under contract with the PSI (58%).*

- VI. Greater percentages of respondents strongly agreed or agreed with the option *4-year undergraduate BSc degree course and the pre-registration year run by a university under contract with the PSI* from the school currently hosting the New Pharmacy Internship Programme than from the other two schools.
- VII. When asked about their single preference for a future model, 37% of staff respondents opted for *full integration of the pre-registration year into a five-year programme run by the individual universities* and 33% for *four-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland*. Additionally, less than one-fifth (14%) of respondents stated a preference for the “old” model of education (before the introduction of the National Pharmacy Internship Programme) of a *four year undergraduate BSc degree course and the pre-registration year run by the PSI*.
- VIII. Over half of respondents (53%) thought that the completion of the full five years should lead to a Masters qualification.

#### **1.2.3.12 Staff career development**

- I. Just over half of the staff respondents (58%) were satisfied with the level of support they have received from their institution to enable their career to progress and similar numbers (54%) had a formal appraisal system.
- II. Demonstrating a commitment to research was seen as much more important by staff respondents to enable their career to progress than demonstrating a commitment to development of innovative teaching/learning methodologies or demonstrating leadership.
- III. Less than a quarter of staff respondents strongly agreed or agreed that their institution rewards quality of teaching (21%) or innovation of teaching (23%).
- IV. Similar levels of high job satisfaction (“1” on a scale of “1” to “5”) were reported by staff respondents from teaching (45%) and research (52%).

### **1.3 The pre-registration year**

- I. The study used a pluralistic methodology with interviews with senior staff at the PSI, a focus group and interview with pre-registration students at the end of their training in July 2008 and self-completion questionnaires to all students and pre-registration tutors covering the period 2002/2003 to 2007/2008.

#### **1.3.1 The views from the Pharmaceutical Society of Ireland (PSI)**

- I. A major concern of PSI staff was the resources, both financial and particularly staff, to operate the pre-registration year.

- II. There was recognition that in the past the learning outcomes had been insufficiently defined and that assessments had focussed upon knowledge and mainly that relating to pharmacy law (the end of training forensic examination).
- III. It was felt there was a need for involvement of the academic sector particularly in relation to assessment.

### 1.3.2 Exploring the student view

- I. In the focus group and telephone interview, students raised concerns about the difficulties in obtaining a pre-registration placement and the lack of any co-ordinated process for application.
- II. There were also concerns about poor communication from the PSI both at the start of the year and during the course of the year and a lot of reliance upon verbal communication between students to determine important information such as that about assessments.
- III. There was praise for tutors but comments that the whole tutor system was far too variable with large differences in student experience and no incentives for tutors.
- IV. Their most serious concerns were about the delay in obtaining results after the end of year and then the further delay to registration.
- V. Assessments were considered to be repetitive of the undergraduate programme year examination and there was support for integration of the pre-registration training within the degree.
- VI. The process of the pre-registration year was considered valuable and particularly the opportunity for contact with patients.

### 1.3.3 The pre-registration student experience

- I. A total of 288 responses were received to the pre-registration student self-completion questionnaire which amounted to a response rate of 53%. A quarter (25%) of respondents had completed pre-registration training in hospital and 70% in community pharmacy. A majority (79%) were female and just under three-quarters (74%) had studied at the first established school of pharmacy.
- II. The majority of students did have an initial preference for sector of training and the largest unfulfilled area was the joint placement in community and hospital pharmacy. There was also a geographical preference that was largely met.
- III. The vast majority of respondents (80%) considered that the process of application lacked co-ordination and 90% agreed that this placed pressure on students to accept positions when offered and later change their mind.
- IV. Provision of information about training prior to application was not good with only 39% receiving sufficient information from the PSI and 47% from the schools of pharmacy. The provision of information about hospital and community placements

by schools was very variable between schools and better in relation to hospitals than community pharmacy.

- V. Communications with the PSI during the placement were better than in the application period and 59% considered that they received the right amount of information about the process. A similar proportion considered the manual to be useful although 28% did not. Overall in the sample, about half received the manual after the start of training although this proportion was over three-quarters for the students undertaking training in 2007/2008.
- VI. Overall, 42% agreed that the degree course had prepared them for pre-registration training although there were significant differences by school with the new schools achieving much higher ratings.
- VII. Just over half of respondents (57%) agreed that the pre-registration year and the preceding degree had been two separate learning experiences, although the majority (90%) thought that the length of the training was about right. Only 2% considered it to be too long. Over half expressed a future preference for an integrated pre-registration and degree but 39% favoured continuation with two separate components.
- VIII. Over half of respondents considered that their interaction with other students was about right but this view was statistically linked to sector of placement with a smaller proportion satisfied in the split positions, particularly those linked to academia and industry.
- IX. Three-quarters of respondents had queries during the course of their placement and the most common places to seek advice were their tutor or another pre-registration student. Advice about the process of the year was most often obtained from other pre-registration students but about pharmacy matters from the tutor or another pharmacist. There were large differences between the various pre-registration sectors in access to advice and in hospital pharmacy another pharmacist was more often consulted than the tutor. The perceived value of advice was also different by sector with hospital tutors better at giving the right advice than community tutors.
- X. The majority of respondents considered that they had the right level of contact with their tutor (75%) and also (83%) that they had received the PSI recommended contact of 3 days per week. The same percentage of respondents (68%) agreed that their tutor had supported them in their placement and that they had received useful feedback although about a quarter considered the feedback was not useful.
- XI. Overall 63% of respondents had been issued with a contract of employment during their placement but there were major differences between sectors and only a half of respondents doing a year in community pharmacy had received a contract. Just over half of respondents considered the balance between being an employee and a student was about right but one-third considered they had been too much like an

employee with differences in sector and community placed respondents more likely to feel like an employee.

- XII. In relation to resources the main concerns related to insufficient structured time available in the day (57%) and lack of support from the PSI (59%) which also had the lowest rating for sufficiency (8%).
- XIII. A majority of respondents considered the wait for examination results at the end of the year was too long (74%). There was also dissatisfaction with the time between receipt of the examination outcome and registration and this was increasing year by year.
- XIV. The assessments run by the PSI were considered useful but there were differences expressed by sector with the licence examination considered less useful by those in hospital than those in community. Respondents considered that the schools of pharmacy had prepared them well for the project.
- XV. Overall, a clear majority (78%) considered that the pre-registration year had helped them develop skills, knowledge and competencies and 81% stated that they had enjoyed their year. The majority were satisfied with their employer: 20% would have preferred a different employer.
- XVI. Following pre-registration training the majority wanted to go into community pharmacy (68%) and almost all (93%) found a position in their preferred sector.

#### **1.3.4 The views of the pre-registration tutors**

- I. A total of 143 valid responses were received from the self-completion questionnaire sent to pre-registration tutors, which amounted to a response rate of 48%.
- II. The sector of employment of tutors was similar to that for students with 25% in hospital pharmacy when they last supervised a placement. Approaching a half (44%) of respondents had only supervised one student in the five-year period covered by the survey (2002/2003 to 2007/2008).
- III. When asked about their decision to be a tutor, two-thirds (66%) had wanted to undertake the role and a third became involved because an employer gave them the option. Half of the respondents had been in charge of selection of their student but just over a quarter (27%) had not been involved at all. The majority (93%) considered that the tutor should be involved in selection of their tutee. Over a third (40%) had direct experience of a student turning down an offer of placement that they had previously accepted.
- IV. There was evidence of considerable dissatisfaction with the information supplied by the PSI both before (38% not enough information and 14% no information) and during (47% not enough information and 25% no information) the pre-registration placement. Although a majority (88%) received a PSI manual, over a third (40%) of these received it after the start of the placement and only 40% found it useful.



Information from employers was better with 45% considering this to be about right but it was also variable with better information provision in the large multiples than in small independent pharmacy companies.

- V. All the respondents had taken the PSI training course for tutors but 58% had taken this course more than 5 years ago and 18% more than 10 years ago. Around two-thirds (63%) found it useful and two-thirds (65%) considered that there should be a compulsory refresher course although a small proportion of these (6%) were not prepared to attend it. Around one-third of respondents had received additional training from an employer and this was most likely within large multiple companies. A majority of respondents from hospital (59%) and small independent community companies (90%) stated that this training was not available.
- VI. Just over half (55%) of the respondents agreed that the undergraduate degree provided the “necessary skills and knowledge” to complete the pre-registration although one-quarter (27%) disagreed. Only 16% of respondents considered the degree and pre-registration training period to be a single learning experience and the majority (58%) considered them to be two separate learning experiences. The majority (92%) considered the length of pre-registration training to be about right with only 3% considering it too long. Opinion was divided on whether the current structure of a four-year degree followed by pre-registration was the best (48%) or whether it would be best to integrate the degree and pre-registration training (39%).
- VII. One-quarter (25%) of respondents agreed that they were asked questions when they last acted as a tutor that they could not answer and the same proportion said that their tutee had experienced personal difficulties. Half of the respondents (51%) stated that their organisation had in-house pre-registration support and training facilities but this varied, with employer being highest in the large multiples (61%) and lowest in the small independent multiples (36%).
- VIII. Overall 94% stated that they achieved the three-day contact with their tutee recommended by the PSI but there was evidence of differences in the contact between tutor and tutee according to type of employer. It was highest in the large multiples and lowest in hospital and industry where less than a quarter of tutees achieved the recommended contact (23% and 20% respectively).
- IX. Almost three-quarters of respondents stated that their tutee had a contract of employment but this varied with the type of employer. Virtually all tutors in hospital and large multiples stated their last student had a contract whereas only 49% from small multiples. The majority (69%) considered that the balance between being a student and an employee was about right.
- X. A majority (69%) considered that the wait for the results of the Forensic Examination at the end of the pre-registration period was too long and a similar majority (68%) considered the wait for registration after release of results was too long.

- XI. The proportion of respondents who stated that they had received research training varied significantly with type of employer from 91% in hospitals to 47% in large multiples, 40% in small chains and 36% in independents. Overall 58% of respondents considered they were equipped with the necessary skills to supervise a project. A similar proportion (61%) considered that the tutee was also sufficiently equipped but a larger proportion (76%) considered that a project should be part of the pre-registration year. This last view again varied with employment sector and was highest in hospitals.
- XII. A majority (70%) considered that the pre-registration year provided a sufficiently rounded foundation for future practice. Only 13% disagreed and there was no significant difference by sector of employment. There was also a majority view that the tutees developed sufficient clinical knowledge (78%) and skills (83%) and professional knowledge (88%) and skills (89%). A minority considered that tutees gained sufficient business knowledge (36%), business skills (30%), management knowledge (36%) and management skills (27%). In relation to business and management knowledge and skills, there were differences by employment sector and the lowest proportion agreeing was from hospital respondents.
- XIII. Almost two-thirds (62%) of respondents considered the Forensic Examination to be a useful part of the pre-registration experience but only a third considered it to correlate with their own assessment of the tutee's ability. Just under a half of respondents considered that the pre-registration year should be assessed by an equal combination of an assessment body and the tutor and a slightly smaller proportion that there should be joint assessment with the assessment body having a larger part. Less than a tenth (9%) overall considered that the tutor should play the major or only part in assessment. There were differences in views between employment sectors with a quarter of hospital respondents considering that the tutor should play the majority role in assessment.
- XIV. A majority (56%) considered that the PSI was the most appropriate organisation to supervise the pre-registration year with only 9% in disagreement.
- XV. The majority of respondents (87%) were at least fairly confident that they could mentor a student in the development of the right attitudes and values to be a pharmacist. A similar proportion was either fairly confident (54%) or very confident (23%) in the decision to sign off a student with no differences between sectors of employment.
- XVI. A majority either agreed (68%) or strongly agreed (21%) that they had enjoyed their last period as a pre-registration tutor.

## Chapter 2 The accreditation of health professional courses

### 2.1 Introduction

The aim of this part of the study was to undertake a review of the processes used to accredit professional courses, with a focus upon health professional courses, and to review the process of accreditation used by the PSI in Ireland from 2000 until 2008.

The specific objectives of this part of the study were:

- Bi. To undertake a literature review on methods of accreditation for health professional programmes internationally.
- Bii. To document and explore national (Ireland) and EU policy and law that impinges upon degree education and training and upon pharmacy education and training in particular.
- Biii. To document experiences and views of academic staff of the accreditation process for pharmacy in Ireland since 2000.
- Biv. To document and explore the experiences and views of institutional managers and senior staff of the accreditation process for pharmacy in Ireland since 2000.
- Bv. To document and explore the experiences and views of Pharmaceutical Society of Ireland staff and of accreditation team members of the accreditation process for pharmacy in Ireland since 2000.
- Bvi. To make recommendations on a method for the future regulation of pharmacy education by the Pharmaceutical Society of Ireland that maps to the recommendations for future pharmacy education.

### 2.2 A review of the literature

#### 2.2.1 Professional accreditation – definitions

The dictionary definition of “*accredit*” is “*to furnish or send with credentials or to certify as meeting official requirements*”.<sup>33</sup> In the area of professional qualifications the term accreditation is used to describe external professional quality control by the professional regulator of that period of education which is undertaken within a higher education institution. The first formal use of the term accreditation in relation to pharmacy education was probably within the United States of America (US) where accreditation of Higher Education has a long history going back over a hundred years. The US Council for Higher Education Accreditation has described accreditation of higher education as “*a process of external quality review created and used by Higher Education to scrutinize colleges, universities and programs for quality assurance and quality improvement*”.<sup>34</sup>

Internationally, the programme of education and training to first registration<sup>a</sup> as a pharmacist normally consists of two components: a period of study in higher education leading to the award of an academic qualification in pharmacy and a period of work-based

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<sup>a</sup> The point at which an individual first registers with their professional body.

learning in pharmacy practice. A number of descriptions are applied to the latter; the most common being pre-registration training or an internship. The requirements for the period of workplace learning are generally set, monitored and assessed by either the national registration body or by arrangement with a second party organisation. Within the UK and former colonies (Canada, Australia, New Zealand), the work-based learning developed from a formal apprenticeship founded on the principle of professional mentorship. Increasing numbers of graduates and the increasing complexity of modern pharmacy practice has led to a progressive formalisation of the requirements for the work-based learning and a move to delegation of organisational authority to a third party organisation. New accreditation processes adopted within Australia and New Zealand and in progress to adoption in the UK will therefore extend the concept of accreditation to the pre-registration work-based learning period.

### 2.2.2 Review of pharmacy accreditation

The **US Accreditation Council for Pharmacy Education (ACPE)** is the world's longest established accreditation organisation having been founded in 1932. ACPE is a national agency with the specific role of quality assuring professional degree programmes in pharmacy and their providers within the US. Since 1975, it has also undertaken the same role for providers of pharmacy continuing education courses. In the US, there is no national register for pharmacists and registration for practice is state-based. ACPE is recognised by all state regulators and by the Secretary of Education in the United States Department of Education as the national body for quality assurance of pharmacy education and training. Standards set by ACPE cover the complete period of pharmacy education and work-based learning that leads to the award of the PharmD qualification and thus to state registration.

In Great Britain, the accreditation of pharmacy undergraduate programmes is the responsibility of the national regulator for pharmacy, the **Royal Pharmaceutical Society of Great Britain (RPSGB)**. Accreditation of first level qualifications in pharmacy has a more recent origin than in the US because prior to 1966, the Society operated its own educational programme leading to the award of the Pharmaceutical Chemist qualification (PhC) by the Society's Board of Examiners. Prior to 1966, the Society approved the small number of degree level programmes in pharmacy in UK universities through a process of curriculum comparison with its own qualification. Formal accreditation only started with the move to all graduate entry to pharmacy in 1966 and initially the criteria for accreditation were derived from the specifications for the former PhC programme. Since then, the Society has introduced a series of statements on the requirements for accreditation of undergraduate degree programmes in pharmacy, the most recent and current version dating from 2003. A one-year period of pre-registration training in pharmacy is required following graduation and prior to registration and up until the present time, the requirement for this have been set and monitored by the Society. The current process is competence-based with a terminal examination at the end of pre-registration. In 2010, the RPSGB will be replaced as the national pharmacy regulator by the General Pharmaceutical Council<sup>35</sup> and consultations are

underway on new accreditation procedures for both the undergraduate degree and the pre-registration year. In 2008, a comprehensive review of pharmacy education in England was announced which was to be undertaken by the newly formed Modernising Pharmacy Careers (MPC) Programme Board.<sup>36</sup> Reporting to Medical Education England, the MPC Programme Board is reviewing the whole of pharmacy education, both pre-registration and post-registration.

In Northern Ireland, accreditation of pharmacy undergraduate education is technically the responsibility of the **Pharmaceutical Society of Northern Ireland (PSNI)**. However up until the present time, this role has been undertaken by the RPSGB on behalf of the PSNI using the RPSGB requirements. There is currently doubt as to the position following movement of the regulatory function in Great Britain from the RPSGB to the GPhC since Northern Ireland has not opted for inclusion within the remit of the new regulator. In the Republic of Ireland, the pharmacy regulator is the **Pharmaceutical Society of Ireland (PSI)**. As in Great Britain, the PSI ran its own pharmacy first qualification programme up until the transfer of responsibility for pharmacy undergraduate education to Trinity College Dublin in 1977. The development of formal accreditation requirements was delayed by the fact that Trinity College was the only pharmacy education provider and by the limited statutory powers of the PSI. However, the advent of new schools of pharmacy in Ireland led to the introduction of an accreditation process heavily based upon the RPSGB requirements of the time.

In the remainder of Europe, there is extreme diversity in pharmacy education and in national regulation of pharmacy registration and educational provision. Although the pharmacy first qualification is the subject of an EU directive<sup>37</sup>, the requirements of the directive in relation to the nature of the educational process are basic and insufficient to define an accreditation process. Presently, there is also no European organisation that acts to harmonise goals, methods, quality assurance or outcomes of pharmacy undergraduate education. This lack has been recognized by the European Association of Faculties of Pharmacy (EAFP). In the document summarising the outcomes of its meeting in Tartu in 2006, the EAFP stated that “*accreditation systems are important for the maintenance and improvement of the quality of pharmacy education*”.<sup>25</sup> A recent initiative from EAFP has been the PHARMINE (PHARMacy IN Europe) project which is based in Brussels. One of the objectives of this project is to introduce the principles and tools of quality assurance into the schools of pharmacy.<sup>38</sup>

Accreditation of pharmacy degree programmes in Canada is overseen by the **Canadian Council for the Accreditation of Pharmacy Programmes (CCAPP)** which was formed in 1996. CCAPP is made up of representatives of the Association of Deans of Pharmacy in Canada, the Association of Faculties of Pharmacy of Canada and a range of other pharmacy stakeholders including representatives of the hospital and community pharmacy sectors. It is formally recognised by the Canadian Government. Prior to the formation of CCAPP, there was a standard curriculum for degrees in pharmacy which was developed from the 1940s by the Association of Faculties of Pharmacy. This was a voluntary organisation with no

statutory powers. CCAPP is distinct from its American counterpart ACPE but does work very closely with ACPE. The current CCAPP standards<sup>39</sup> for baccalaureate pharmacy degree programmes are based closely upon the ACPE PharmD standards and many of the operating procedures followed by CCAPP are similar to those of ACPE. As in the US, there are a number of provincial and territorial pharmacy registration bodies within Canada but since 1996, there has been a voluntary organisation that represents these and the Canadian Forces Pharmacy Services: the National Association of Pharmacy Regulatory Bodies (NAPRA).<sup>40</sup>

The regulation of the pharmacy profession in Australia is currently undergoing change. Since 1998, there has been a single process for the accreditation of pharmacy degree programmes within Australia and New Zealand. An Accreditation Committee undertakes the detailed process of accreditation for schools in these countries working to a single set of standards. In Australia this committee has reported to the **Australian Pharmacy Council (APC)** and in New Zealand to the **Pharmacy Council of New Zealand (PCNZ)**. In July 2010, a new single national board, the Pharmacy Board of Australia (PBA), will replace the current state and territorial boards. Following formation of the PBA in 2010, it has been agreed that responsibility for accreditation of pharmacy schools in Australia will be delegated to the APC for an initial three year period. Responsibility within New Zealand remains with the PCNZ as the national pharmacy regulator.

There has recently been a major revision of the accreditation standards for Australia and New Zealand which has been undertaken by the APC and the PCNZ in collaboration with the accreditation committee and the Council of Pharmacy Schools of Australia and New Zealand (CHPSANZ)<sup>41</sup>. Up until now, the APC and the PCNZ have run their own intern programmes to follow graduation but from 2010, there will also be a single specification for the intern year that will run across both countries. A new set of standards for the accreditation of intern programmes in Australia and New Zealand was published in December 2009<sup>41</sup>.

Accreditation in other countries is generally similar to one of the models described above. For example, in Malaysia there is a single pharmacy regulator and registration body the **Malaysian Pharmacy Board**. The board undertakes accreditation of all pharmacy degree programmes offered within the country and publishes detailed criteria. There was a major review of the criteria in 2007, with publication of new standards. In South Africa, the **South African Pharmacy Council (SAPC)** undertakes an approval process for all education and training providers through its subsidiary Education and Training Quality Assurance (ETQA) body.

### 2.2.3 International influences on pharmacy education & training

Although in most countries the accreditation process for pharmacy undergraduate education remains under national regulation, there are increasing influences at a supra-national level. The coalescence of standards and processes for accreditation of both education and the intern year in Australian and New Zealand is one example of this effect.

Similarly, the PHARMINE initiative is an early indication that there may be a move to a single quality assurance system for pharmacy education within the European Union (EU).

On an international level, the World Health Organisation (WHO) report on “Preparing the Future Pharmacist”<sup>24</sup> has been influential in the development of thinking about accreditation standards. This report identified seven roles for pharmacists under the term “*the seven star pharmacist*”. These were care giver, decision maker, communicator, leader, manager, life-long learner and teacher. The report also emphasised the importance of education methods and called for a greater focus on student learning rather than faculty teaching where the student is an active participant in the learning process. The importance of quality control mechanisms were emphasised “*all pharmacy programmes should adhere to an identified set of minimum standards, self-study and external peer review*”.

The WHO report informed the later work by the International Pharmaceutical Federation (FIP) on the development of its position statement on good pharmacy education practice.<sup>17</sup> This made thirteen recommendations about pharmacy undergraduate education and emphasised both the importance of assessing learning outcomes and the quality assurance of this process. “*Educational programs and curricula should be designed to be consistent with and reflective of their respective required educational outcomes. Assessment and quality assurance should be employed to guarantee that intended educational outcomes have been achieved and the required competencies gained.*” Since 2001, the International Forum for Quality Assurance of Pharmacy Education has operated under the auspices of the Academic Pharmacy Section of FIP. In 2008, it published a “Global Framework for Quality Assurance of Pharmacy Education”<sup>42</sup> which was intended as a tool primarily for educators, to facilitate the establishment of systems of quality assurance in countries where no formal systems exist or where there may be an absence of continuous quality improvement of existing systems. Important themes in this document were the need to articulate the competencies needed to carry out professional roles and to develop educational outcomes that match these competencies. Furthermore, the importance of multi-stakeholder involvement in the quality assurance of pharmacy education was highlighted.

#### **2.2.4 Other health professions**

In all of the countries referred to above, the vast majority of the major health professions (medicine, dentistry, optometry, nursing and midwifery) have criteria or standards for approval or accreditation of the educational courses leading to first registration. In general, the profession with the least developed processes is nursing and midwifery. For example, in Australia there is currently no accreditation or approval process for nursing courses although there is a published series of recommendations on the education of nurses.

The General Medical Council (GMC) in the UK has been one of the most influential organisations in the development of standards for entry to its register. The GMC is the medical regulator in the UK and so is responsible for setting registration standards for the profession. It does not use the term accreditation but instead refers to approval of medical

degree programmes through its Quality Assurance of Basic Medical Education (QABME). The standards for first medical education are articulated in the Council's publication "Tomorrow's Doctors" which was first published in this format in 1993<sup>43</sup>. This signalled a fundamental change in the approach to the setting of standards for undergraduate medical education with a change in emphasis "*from gaining knowledge to a learning process that includes the ability to evaluate data as well as to develop skills to interact with patients and colleagues*"<sup>14</sup>. In the first revision of "Tomorrow's Doctors" published in 2003, curricular outcomes were expressed in terms of the GMC's principles of professional practice that applied to all doctors and that was later published as "Good Medical Practice". The current version of "Good Medical Practice" dates from 2006.<sup>18</sup> The second major innovation in "Tomorrow's Doctors" was a focus upon the principles of the educational process rather than upon the process itself and there was a strong emphasis upon assessment methods to ensure objective assessment of the educational outcomes. The third innovation was an emphasis not only upon traditional educational outcomes of knowledge, skill and understanding but also upon less easily defined outcomes of professional values and attitudes. Underpinning this was a clear identification of the different but overlapping responsibilities of the GMC itself, the educational establishment and its educators and the student.

"Tomorrow's Doctors" has influenced thinking across the health professions and is explicitly referenced as a major influence upon the development of educational standards in pharmacy within the US, Canada, Australia and New Zealand and the UK. The latest version of "Tomorrow's Doctors" was published in 2009.<sup>15</sup> While still closely aligned to the principles within "Good Medical Practice", the latest version places a major emphasis upon responsibility to the patient and the importance of co-working with patients and the public. The outcomes of medical education are expressed under three headings of the doctor as a scientist and scholar, a practitioner and as a professional. There is a much more explicit statement of the standards for delivery of teaching, which are grouped in nine domains and there is a list of thirty-two fundamental practical procedures in which a graduate must be competent. The thinking behind the latest version of "Tomorrow's Doctors" has heavily influenced the RPSGB process for revision of its accreditation standards which are currently under consultation.

### **2.2.5 Accreditation criteria or standards**

A number of terms have been used to describe the requirements of pharmacy accreditation including criteria, procedures, recommendations and standards. Up until 2009, in both Australia and the UK, accreditation was defined through "criteria". In the US and in Canada the term "standards" was used and there has been progressive movement to the use of this terminology throughout the world. The new APC and RPSGB accreditation systems, both currently in process of introduction, have moved to a definition of requirements through standards. In addition, other health professions, even by organisations like the GMC that do



not use the term accreditation, generally define educational requirements through competence standards.

In both North America, the UK and in Australia, pharmacy began as an apprentice profession. The development of college and later higher education courses resulted in the need for some definition of course requirements. As described above, until recently standards focussed upon the educational process rather than the practice based component of first registration training. In the early days of accreditation of pharmacy education, there was an emphasis upon the taught curriculum. The first Canadian standards were largely developed within the schools of pharmacy and defined a broad curriculum. Up until the late 1970s, the RPSGB controlled pharmacy education largely through a defined syllabus and until 1966, by its own examination process. There was then a progressive broadening of the approach to accreditation and current requirements can be considered to span five major domains.

1. **Curriculum or syllabus** – a specification of what a student should study and therefore the knowledge base for registration. Specifications may be in the form of outcomes (learning outcomes) or simply a statement of syllabus areas. Early accreditation systems tended to be the latter. Later there was an increasing focus upon learning outcomes but the current RPSGB requirements in the UK (2002)<sup>16</sup> and the Australian and New Zealand standards<sup>11</sup> combine both learning outcomes and an indicated syllabus. A difficulty of syllabus statements is that they rarely provide guidance on either the balance of the curricular elements or the required level of study.
2. **Provider requirements** – these generally refer to resources and facilities and spread across infrastructure, funding and staffing. These requirements may be referred to as “input standards” as opposed to “output standards” which reflect the educational attainments of the graduate or registrant. For example, the RPSGB accreditation requirements for pharmacy degree programmes of 2002, included 10 criteria under the heading of “structures” that related to the provider.<sup>16</sup> Three of the eight accreditation standards published by the APC in 2009, were about the provider (University Structure and Organisation, Resources and Staff), whilst a fourth was about the school of pharmacy mission<sup>11</sup>. The current US ACPE standards total twenty-six of which eight relate to the organisation, administration and the mission of the school and a further three to staff.<sup>10</sup>
3. **Student requirements** – these are effectively another set of “input standards” but they are generally articulated separately from those relating to resource and the provider organisation. The US ACPE requirements have eight of twenty-six standards grouped under the heading of students of which three concern admissions and the remainder cover complaints, services and behaviour.<sup>10</sup> The APC standards include one on students, which is mainly concerned with admissions, support and language.<sup>11</sup>

4. **Outcome achievements** – a statement of what the student will be capable of at the end of the period of study. Again terminology is very variable. In the latest version of “Tomorrow’s Doctors” in the UK, the outcomes are grouped under three major headings of the doctor as a scientist and scholar, as a practitioner and as a professional, with further detailed guidance under each heading.<sup>15</sup> However, in an appendix to “Tomorrow’s Doctors” there are also a series of thirty-two practical procedures that graduates must be capable of performing. Other regulators have developed broader standards. The APC 2009 standards for accreditation includes a single standard for graduates, which gives a broad definition of relatively high-level outcomes.<sup>11</sup> In the US ACPE guidelines, there is one standard on “Professional Competencies and Outcome Expectations” but a further two on the core curriculum.<sup>10</sup> The most comprehensive national outcomes statements for pharmacy are within the new UK educational standards currently under consultation by the Council for Healthcare Regulatory Excellence (CHRE) on behalf of the designate General Pharmaceutical Council (due to replace the RPSGB as the GB regulator within 2010).<sup>12</sup> This document includes nine standards covering all aspects of education and training of pharmacists of which one relates to outcomes. However, this outcome standard is supported by sixty learning outcomes grouped into five major sections. Each outcome is categorised according to a competence and assessment hierarchy, first published by Miller<sup>32</sup> as a conceptual model to describe medical education. The model divides outcomes into those about knowledge (*knows* and the higher level of *knows how*), about demonstration of performance in a simulated environment (*shows how*) and about consistent performance in practice (*does*). For each learning outcome there are two levels – one related to the expected performance at the end of the undergraduate MPharm degree and one related to the expected performance at the end of the pre-registration training period. A key issue about outcome standards is the method of assessment. This will be discussed in more detail in Part two, section 2.2.7.2.
5. **Personal characteristics** – those characteristics of an individual that are essential for effective practice as a health professional. This element is closely linked to “fitness to practice” and in the new UK standards<sup>12</sup> currently under consultation, the first standard is focussed upon public and patient safety whilst there are a series of learning outcomes related to the “expectations of a pharmacy professional”. In other standards the personal attributes related to “values attitudes and behaviour” are variously covered as outcome standards or under the heading of students.

### 2.2.6 Current education/accreditation standards

Although the terminology varies considerably between individual national pharmacy standards, there is considerable consistency in their intentions. The most recent international standards have a focus upon the outcomes of the educational process and link these to the definitions of competence or practice required of a full practitioner. In some guidelines, notably the draft GB ones<sup>12</sup>, learning outcomes are drawn together under one

standard. In others, they may appear under standards relating to “outcomes”, “students” or “curriculum”. Therefore, it is necessary to look beneath the titles of each standard.

All standards also continue to include requirements relating to the provider including resource, staffing, administration and management but there is also recognition of the internal quality processes within higher education institutions. This is perhaps most explicit in the GMC standards for UK medical education<sup>15</sup> but is clear in all the recent education and accreditation standards referenced above. In the UK, the GMC standards for medical education and the new draft pharmacy education standards both extend to patient care (with standards for patient care and patient safety) and to areas like equality, diversity and equal opportunity. Standards in the US<sup>10</sup>, Canada<sup>39</sup> and Australia<sup>11</sup> & New Zealand include the mission of the school of pharmacy which encapsulates school philosophy and the requirement to have a pharmacy context to learning.

Based upon a review and analysis of the current and draft education and accreditation standards, the following eight broad areas emerge as ones that need to be addressed by standards.

- The **essential place of patients and patient care** at the heart of the educational process
- A **statement of institutional character**, purpose and mission which should also address issues relating to equity of treatment, handling of diversity and equal opportunity.
- The presence of a **functional, robust quality control mechanism** for the educational process that incorporates continuing review, analysis and change.
- The **learning outcomes** of the educational/placement process normally linked to professional expectations of a registered professional.
- The **requirements relating to students** including academic and behavioural (fitness to practice).
- The **delivery of the educational programme** which must link to the required learning outcomes.
- The **resources for delivery** of the programme and the management of the programme.
- **Support and development** of all those involved in the educational process – including students, staff and professionals.

## 2.2.7 Outcomes and competence

### 2.2.7.1 Definitions

The terms “competence” and “competency” have been used with variable meaning and frequently are used interchangeably. In the health professional arena, competence is normally taken to describe the ability to undertake a task or carry out a prescribed function (can do) whereas competency is a higher level activity that really describes performance in a variety of settings on a repeated basis (does do).<sup>44</sup> In the UK, the National Health Service

(NHS) Knowledge and Skills Framework (NHS KSF) and Development Review Process<sup>45</sup> identified three models of competence. These were:

- What people need to achieve – an outcomes or standards model;
- What people need to possess – an educational competence model;
- What people are like – a personal competence model.

All current models of pharmacy accreditation are primarily competence-based, although most augment this with standards relating to the school of pharmacy (see above) and the provider institution. Although competence models are superficially persuasive, there is considerable educational debate about their validity. There are two primary arguments against wholesale adoption of outcome competence standards. The first is about the difficulty in measurement of competence (see Part two, section 2.2.7.2) and the second is the argument that wholesale adoption of a competence approach can lead to professional reductionism (see Part two, section 2.2.7.3).

#### **2.2.7.2 Measurement of competence**

It is essential that standards based on outcome competence are measurable and so may be assessed. Thus an ability-based outcome or competence has been described as *“a clear statement of what the student is expected to be able to do within a particular learning environment, describing a specific activity, behaviour or performance that involves the integration of knowledge, skills and attitudes and can be observed and measured”*.<sup>46</sup> However, it has been pointed out that there is a mismatch between the language of precision around competency and the imprecise, approximate and often arbitrary methods of assessment in use.<sup>23</sup> Theory examinations are widely used in medicine, particularly multiple-choice based papers. Although objective in nature these have been widely criticised for assessing knowledge and ability to recall rather than performance and recognition.<sup>47</sup>

The three methods most widely utilised in pharmacy education for measurement of competency are the objective structured clinical examinations (OSCEs), portfolio based learning and assessment and observer assessment. All are time consuming and therefore resource intensive. The OSCE is widely used both within degree programmes and in work-based learning such as the pre-registration year or internship. The focus is upon “doing” rather than “knowing” but the method suffers from being criterion referenced rather than norm-referenced. Therefore the pass level is an area that requires considerable consideration and must normally be set much higher than in the more normal higher education norm-referenced assessments.<sup>22</sup> Other concerns about OSCE-based assessments are that it is impossible to assess competency unless tasks are repeated and therefore validity requires large numbers of workstations and repeated assessments. This increases the resource demands of the method.<sup>20</sup> In addition, OSCEs have been criticised for the fact that the context or environment in which they take place generally bears little resemblance

to the context under which the assessed task would be undertaken in reality. This leads to the serious criticism that such assessments do not measure workplace performance.<sup>21</sup>

Portfolio assessments are being more widely used in pharmacy education and training and the RPSGB pre-registration training process has used workbook and portfolio assessment since the 1990s. There is some evidence in medical education that portfolio assessments may positively enhance learning<sup>48</sup> but to be valid, such assessments need the input of multiple assessors.<sup>48 49</sup>

Currently, most of the evidence on the validity and applicability of measures of competency derives from the medical educational literature and further research is required to determine whether this is applicable to the assessment of outcome competence and professional competency in pharmacy.

### **2.2.7.3 Professional reductionism**

The second major criticism of competence-based assessments, that they are reductionist, derives from the fact that they may become task based rather than formulated on “generic attributes”.<sup>50</sup> This in turn can lead to the reduction of a profession to a list of tasks which fails to describe the defining characteristics of specialist knowledge and skills. There is a wide literature base on the perceived erosion (in the focus of pharmacy education) of the underpinning science as a consequence of a focus upon outcome competencies, which do not fully describe the essential knowledge base.<sup>51-53</sup> Further evidence of reductionism can be found in a major project undertaken in the UK between 2002 and 2004<sup>54</sup> which aimed to identify the competencies that would be needed in a future pharmacy workforce. The project identified 118 core competencies of which 112 were generic and only twelve were specific to pharmacy. The whole of the knowledge base of pharmacy was covered by three competencies whereas in contrast, there were sixteen competencies in the domain of “leadership and management”.

There have been similar concerns in the UK about undergraduate medical education which have resulted in a much clearer statement of the importance of basic science in the latest edition of “Tomorrow’s Doctors” where one of three sets of educational outcomes are described under the general heading of the doctor as a scientist and scholar.<sup>15</sup>

### **2.2.8 Development of accreditation standards**

It has been stated above that internationally, there has been a move to the development of accreditation standards for training to first registration that are based upon outcomes or competencies. International guidance for standard development has been provided by FIP in its position statement on good pharmacy educational practice.<sup>17</sup> A key recommendation was that “*educational programs and curricula should be designed to be consistent with and reflective of their respective educational outcomes. Assessment and quality assurance should be employed to guarantee that intended educational outcomes have been achieved and the required competencies gained*”. In its Tartu Document of 2006, the EAAP noted six

characteristics of a high quality accreditation system, three of which related to outcomes. It should:

1. consider competencies for practice after graduation in the pharmaceutical spectrum;
2. encourage innovation and promote and share best practice; and
3. recognise the importance of defining and measuring outcomes.

Importantly, this document also recognised that a high quality pharmacy course will comprise material which attempts to prepare for unknown futures.

A crucial step in developing an outcome-based accreditation system is the identification and validation of the ability based outcomes or competencies. In the US, the academic centres of pharmacy education were instrumental in the move towards the current accreditation system. In 1989, the American Association of Colleges of Pharmacy (AACP) set up a commission to develop a series of recommendations to guide pharmacy education. In 1992, there was a decision to adopt pharmaceutical care as the philosophical basis of pharmacy practice and to move to a common standard of a six-year PharmD program. The AACP then set up a series of initiatives under the Centre for the Advancement of Pharmaceutical Education (CAPE)<sup>55</sup> which included the development of a framework of educational ability-based outcome statements that would represent the knowledge and skills that a pharmacist should possess. Originally there were 12 ability-based statements, made up of seven general abilities and five professional abilities. These were incorporated into the 1997 revision of the ACPE National Accreditation Standards and Guidelines for Pharmacy Programmes. In 2003, all the US pharmacy programmes were at PharmD level and the ACPE announced a consultation on revision of the 1997 guidelines and standards. Initially, written statements were sought from all stakeholders – pharmacy organisations, schools of pharmacy, AACP, pharmacy students and employers. A detailed survey was also undertaken of the views of pharmacy deans. A first draft of revised standards was then sent to stakeholders and subsequently there were a series of open stakeholder meetings. The revised second draft of the standards was distributed to stakeholders in 2005 with further open meetings and a web based survey. The new guidelines were implemented in 2006 and represented a major revision rather than a replacement of the previous guidelines. The major changes were to simplify but not change the standards, to introduce some absolute requirements (“must”) within the standard on quality assurance and to stress the importance of basic science within the curriculum.

The approach adopted by the ACPE in the development of standards of assembling a reference or stakeholder group and then undertaking consultations has been adopted worldwide when developing new standards. In the UK, development of the 2002 standards<sup>16</sup> involved an expert reference group and a wide ranging review of international literature. As with the ACPE 2006 standards the total development time was around three years with a one-year consultation phase commencing November 2001. Consultations covered education, employers, the NHS and other healthcare professional bodies. A virtually identical approach has just been taken by the APC and the PCNZ in the review and definition

of the new joint standards to be implemented in 2010.<sup>11 41</sup> As in the UK, these standards cover both the undergraduate degree and the following pre-registration or intern year.

The most recent set of pharmacy standards that have been developed are those currently under consultation in the UK by the Council for Healthcare Regulatory Excellence (CHRE) on behalf of the new regulator.<sup>12</sup> Originally developed by the RPSGB, the approach taken was adopted from that originally used by the GMC for the development of “Tomorrow’s Doctors”.<sup>43</sup> The initial work-stream was to define a set of general principles for pharmacy education and training.<sup>13</sup> Unusually, this document used the term “capability” rather than competence but laid down eight general principles. A partly overlapping work-stream also defined a “Pharmacy Practice Framework”.<sup>19</sup> This “*describes the elements that will make up the very earliest years of a pharmacist’s career, the time when core scientific knowledge and basic skills, taught and learned during a five-year education, are embedded and refined*”. To ensure this was an authoritative statement, it was again developed over a three-year period by a reference group drawn from across the professions and from outside. There were multiple consultations covering a very wide range of stakeholders from education, all areas of pharmacy practice, employers and the NHS. In the way that the GMC’s “Principles of Medical Practice” was a definition of good medical practice, the aim of the RPSGB Practice Framework was to codify and make transparent the key elements of the profession’s work and so set out a definition of pharmacy practice at the point of registration (the “Year One” Pharmacist).

*“The Pharmacy Practice Framework sets out the breadth and complexity of the patient-centred and medicines-focussed profession of pharmacy. It sets the profession’s unique combination of expertise in the science of medicines and patient centred values into the wider context of clinical care by laying out the role and functions for which pharmacists are responsible and accountable in their daily lives”.*

The “Education and training standards for pharmacists” now under consultation,<sup>12</sup> is closely referenced to the Practice Framework and itself went through a three-year development phase involving a drafting group, stakeholder reference and nationwide public consultation. There are nine standards and for each technical criteria detailing how higher education providers will be judged. As has been mentioned above, the ninth standard on outcomes also defines sixty specific learning outcomes expected of students at registration with an intermediate definition of the expected attainment at the end of the initial MPharm.

## 2.3 The view from the pharmacy schools

### 2.3.1 Methodology

Each school of pharmacy was asked to identify a minimum of three staff members who were involved with the accreditation of their pharmacy degree programme by the PSI between 2000 and 2007. The request was sent to the school representative for the PEARs Project and common guidance was given that two of the nominees should be academic staff

from within the school of pharmacy, and one should be a member of staff of the institution who was involved with the process but who was not a member of pharmacy staff.

In-depth semi-structured interviews with the identified staff were undertaken between January 2010 and February 2010. The interview schedule (see Part three, section A1.1) was developed based upon the literature review and the research team's experience of accreditation within schools of pharmacy. A total of eleven school nominees were interviewed (interviews R10 to R20).

The digital recordings of the interviews were transferred to a computer and transcribed by an experienced audio typist. Thematic analysis of the transcripts was undertaken using NVivo (QSR International).

## 2.3.2 Findings

### 2.3.2.1 *The accreditation process from 2002*

#### **Experiences of the process**

The majority of the representatives of the schools of pharmacy had been involved in the process of accreditation from its inception. None had been involved in the development of the accreditation method and its associated criteria although one had been linked to a potential new school at that time.

There was a general view that the organisation of the accreditation visits had been satisfactory and in the main professionally organised and conducted. The main concern raised was about timing and more particularly that in some cases there was a lack of advance warning. This view was mainly expressed at one of the new schools of pharmacy.

*"I suppose the organisation of the visits themselves were fine, they usually took place over two day." (R10)*

*"It [arrangement of visits] seemed to go fine, I suppose we could have probably have done with a bit more notice maybe about the dates and things like that as I recall but apart from that and once they notified us about when it was coming we would set up a schedule here so I don't recall that there was any difficulties about the actual arrangements." (R11)*

*"I thought they were very professional, I thought maybe they were very professional, yes there was adequate time given, adequate notice." (R12)*

*"No in fairness to the PSI I think that it was done very professionally, they were obviously following a particular road map or guidelines so no I don't think we'd have any serious reservations about the way it was done." (R18)*

There was a general view across most individuals and in all schools that the main problem with the organisation of the accreditation process was delays in communication from the PSI to the schools and in particular, extensive delays in return of written reports.



*“Where the process fell down a little bit is that we had the visit, we had to respond to a report but there was always a huge delay between the visit and the initial report and then the decision of Council on that report.” (R10)*

*“Everybody would have to say that the process of the production of the report was hardly ever well done because it was extraordinary long to the extent that over a year after finishing an accreditation we still had not got a report.” (R13)*

### **Perceived strengths and weaknesses of the accreditation process**

There was general agreement from respondents at the new schools of pharmacy that one of the strengths of the accreditation process was that it served as a catalyst for internal discussion and debate on the pharmacy programme.

*“It forced, if I can use that word, you to sit down and think about what you’re putting into the documentation and sometimes that can highlight issues that may need to be addressed or that kind of thing so it’s an opportunity to reflect and see if you can improve things or if you need.” (R11)*

All the respondents at one of the new schools spoke of positive outcomes that arose as a consequence of the accreditation process. Examples were an increased focus upon quality mechanisms and upon student feedback and evaluation as a consequence of the accreditation criteria relating to these elements of provision. An example is provided below:

*“It focused and ensured that we actually took on board student evaluation and, now that has become a requirement now from a quality review point of view and we’ve undergone research quality review and also an overall quality review at the school and we’ve done very well in those.” (R14)*

In the new schools the process was also seen as a positive influence upon staff in that it facilitated communication between staff and the PSI and once the accreditation process was engaged, the feedback from visits and success in moving to the next stage served as encouragement for the staff group.

*“The accreditation process provided an opportunity for academic staff to interact with the Pharmaceutical Society and to maintain contact with the Society.” (R11)*

*“They actually said lots of things that I wouldn’t have considered myself probably because sometimes I’m immersed in the process. I thought the summing up was very good, they were very complementary and then they also tactfully pointed out where there were deficits and the report which was issued subsequently sort of reinforced that so it also boosted the morale of the staff of the college that we were actually doing a good job.” (R15)*

A number of senior staff within the schools considered that the accreditation reports were valuable tools within their institutions which gave them increased opportunities to effect change or to obtain resources.

*“I think the fact that you have somebody from outside coming in and looking at you gives you great credibility within the university, when we go to the university and we say we need extra resources or whatever or our programme is such that to be able to point to an external period of accreditation is a huge advantage internally.” (R17)*

*“The other strength was that having an accreditation process and having the requirements laid out was often a very good lever for change within college.” (R16)*

A final strength that was mentioned by at least one respondent from each school of pharmacy was the inclusion of external members of the accreditation panel who were academic pharmacists and not part of the PSI. This was considered to add balance to the accreditation teams and also brought a more realistic understanding of the issues within higher education. A senior administrator at one of colleges observed that several panel members *“would if I’m honest have a rather limited interest in the academic side of what people were doing”*. But that this:

*“...was counter balanced in fairness generally by the UK professors of pharmacy, very senior academics in pharmacy so they did a good job in trying to translate what we were doing.” (R18)*

There was a general view that a major weakness of the process was the slow return of reports after visits which often meant that institutions received a report long after the visit. This has been referred to above under organisation of the process but it was a strongly viewed weakness. The frustration that this engendered is captured in this comment from a member of staff of the long established Dublin school.

*“There was some visits where we were waiting nearly a year to hear anything back, hugely frustrating because we are supposed to produce everything bang on time and we’re supposed to produce a response to the initial recommendations within a very short period of time and then you’re just left hanging waiting for months; months to get a formal response.” (R10)*

This concern was compounded by criticisms of the nature of the reports which were considered to be too long and lacking in focus. Respondents commented that a large amount of the material was re-circulated from their submissions and that a shorter report delivered rapidly would have been beneficial. The following comment from a senior administrator illustrates these concerns: *“they often gave the impression that they didn’t differentiate between what was really important and what was just something that they could write another note on”*. (R18)

Another weakness mentioned by at least one respondent at each school of pharmacy was the nature of the accreditation process which was considered to be narrow and of limited range. Criticisms included the view that this amounted to a “tick-box” approach and that there was too much focus upon the process and little upon educational outcomes.

*“It was often seen to be a very mechanical method that the weakness was seen to be that they were most interested in the number of hours taught and requirements laid down in the EU directive without maybe giving us the credit for being academics and knowing our responsibilities in that regard.” (R16)*

*“We always found it rather narrow in terms of the procedure and the processes that were there.” (R18)*

The style of visits, most particularly the early visits, was criticised as a weakness. The main concern was about what was perceived as the adversarial nature of some of the interactions. Another was (R20) about a general lack of professionalism. *“The accreditation process was actually in its infancy and actually, apart from the academic externals from the UK, was quite amateurish.”* However, there was a general view that this diminished as the process developed and the later visits were considered to be much more collegial and collaborative.

*“It was probably a bit too kind of big bad stick approach, especially in the earlier years, you felt that you were being scrutinised.” (R11)*

Respondents at the long established Dublin school raised the weakness that the accreditation process took insufficient account of the internal quality procedures within their institution. This led to increased workload for staff who had to meet two different styles of document. Of greater significance was that the accreditation process did not take significant account of the timing and outcomes on the internal reviews.

*“When you have an academic review after an accreditation you once again have much less time then subsequent to the academic review to alter the things that you felt needed to be altered after the accreditation and in actual fact you’ve now got two sets of things to do and two sets of criteria to answer to and occasionally you will find that some, at different levels within the university different people are picking different reviews and telling you that you should be doing.” (R13)*

A final weakness identified by the head of practice at one of the schools was that the accreditation process did not include non-pharmacist members – either as patients or as representatives of the wider health services.

*“Well the obvious one compared to medicine is that there’s nobody there who speaks on behalf of the patient and there would seem to be, at times I suspect there is no plans for there to be someone there. I also did not think that the Department of Health and Children was adequately represented.” (R13)*

### **Changes in the accreditation process**

The general view of respondents was that the process itself did not change. Some considered that to be a problem and the view was expressed that the process was outdated from the start.

*“I felt probably the physical process was probably the same, I think the response we had from the PSI and the confidence of the people across the table, the confidence may be in us as a team that we were doing a good job.” (R17)*

*“I wouldn’t have thought that they changed, in terms of the accreditation document I don’t think that they changed hugely, that was what we were working toward, now they may have tweaked it a bit, they were still very much relating back to EU requirements.” (R11)*

There was general agreement in all three schools that the process changed in terms of the relationship between the school teams and the accreditation teams. The schools gained in confidence as time went on and had a greater self-belief that they were providing a good standard of education. Consequently, mutual respect developed fostering collaborative working relationships. The terms “adversarial” and “confrontational” were used to describe some of the early encounters but as the process continued the descriptions changed to collegiate and collaborative.

*“It became more a collaborative collegial approach.” (R14)*

*“Mutual respect did come, I think more when we got to the end of the first year of teaching, it happened when we started to deliver and when it was obvious that yes this mixture worked.” (R15)*

Another change that was identified by a respondent in the long standing school was a greater engagement of the institution with the accreditation process and an increasing recognition that the institution had to respond to issues raised around infrastructure and resources.

*“I think the college’s attitude to it has changed as well and that they now take it more seriously, that’s partly because the college has come to realise that there are issues and it does need to address them and partly because the when we moved into the faculty of health sciences, the faculty can understand what accreditation is.” (R13)*

Most respondents considered that the introduction of two new schools of pharmacy in Ireland had also changed the accreditation process and the way in which the PSI worked. One view was that this had led to a more formalised approach and to generally higher standards.

*“I think it actually introduced higher standards, when there was only one there was no competition and I think with three schools of pharmacy competing for the same pool of students I think it has increased standards.” (R12)*

Another view was that the involvement of the PSI with three schools widened perceptions of the Irish members of the accrediting team, many of whom had come through the single original school. This in turn led to a broadening view of pharmacy education and to the potential to deliver high quality programmes in different ways.

*“Their approach may have changed also because they would have been able to see the different approaches that were being taken by the different schools.” (R11)*

An interestingly different view was expressed by a senior member of staff from the original school. This was that the process was easier for the new schools and more difficult for the existing school.

*“There was no doubt that there were two standards being operated... half the people in the other schools are our graduates so we know them and whilst we may not always get on brilliantly with them there is enough contacts there to mean that we do know what’s going on.” (R13)*

### **2.3.2.2 The purpose of accreditation**

There was a general similarity in respondents views on the purpose of accreditation regardless of their school and regardless of whether they were a pharmacist or not. The primary purpose, of accrediting schools was seen in terms of ensuring that there were sufficient resources and an appropriate curriculum to deliver a high quality standard of education in order to produce graduates who were who were fit at some stage to enter the register.

*“To make sure that the standards were satisfactory, reasonable level, that the courses catered for pharmacy students and that they were of a sufficiently high standard and that they were designed so that we would have a satisfactory pharmacy graduate.” R12*

*“I thought the purpose of the accreditation really as an external quality assurance that the PSI rightfully had an interest in knowing that we were producing graduates who were fit at some stage to enter the register.” (R15)*

There was also a common theme when respondents were asked whether they considered that the process of accreditation had met its purpose. Five respondents considered that the process had met its purpose and these included two senior staff in colleges who were not part of the school of pharmacy.

*“I do actually; I thought it was a very thorough demanding, difficult to respond to very quickly to their requirements. I thought it was very satisfactory, I thought it was demanding.” (R12)*

*“Yes it did, we always found it rather narrow in terms of the procedure and the processes that were there, inevitably when you’re doing an accreditation process you have to do it with engineers and other professions as well. There is an element of box ticking.” (R18)*

Three academic staff considered it had met its purpose including one Head of School of pharmacy.

*“Yes I did I thought in so far as they were very methodical and in going through the actual requirements and the documentation that they requested in advance was pretty detailed so I would have thought that it achieved that.” (R11)*

The remaining respondents had some reservations but considered it had met its purpose within the somewhat restricted limits of the process.

*“I don’t think it achieved that purpose fully to be fair... I think that the information that was asked for was not really searching enough in terms of what they wanted to achieve.”*  
(R16)

### **2.3.2.3 The accreditation criteria**

When asked whether they considered the accreditation criteria to be appropriate, most respondents considered that some were but that the whole set of criteria did not capture fully what was needed to define a pharmacy programme. There was a general sense that the criteria were fairly dated even when introduced and had become more so with the passing of time.

*“Well put it this way I thought some of them were appropriate and some weren’t and as our course has evolved some have become less appropriate than they once were.”* (R10)

There was a general view that many of the criteria were measurable, indeed a common criticism was that they led to a “tick-box” approach where some of the measurable criteria were of arguable validity in assessing an undergraduate pharmacy programme.

*“A lot of the criteria were modelled on things that you could easily enough measure, it was all sort of an input based model; whether they were the most suitable criteria I’m not entirely sure. Lots of physical things, lots of tangible things, lots of hours, lots of number of staff, the core that were pharmacists, number of hours of contact time, whether the lectures were obligatory or not, physical facilities that we had at our disposal, how we related within the college, organisational structure.”* (R15)

Respondents were less certain whether the criteria measured fitness for purpose of the pharmacy education. The general sense was that the process was not equipped to assess fitness to practice nor did it take into consideration what would be required of the pharmacist in the future or whether the schools were equipped to meet the needs of the future pharmacist. Significant omissions in the process were methods to assess intangible aspects, such as the development of soft skills, professionalism, students’ attitudes and behaviour and a focus upon taught hours rather than upon learning. The focus upon contact hours was mentioned by all the academic staff interviewed.

*“I don’t think the criteria were appropriate in that there was no competency base or no assessment of the actual students in the workplace... what skills are they learning.”* (R14)

*“There was a lot of focus on hours as I recall, a lot of focus on the number of academic staff, a lot of focus on the number of facilities and so on, I suppose you could reasonably assume that’s a surrogate marker maybe for the quality but it may not necessarily be so there might have more regard to the outcomes to the process and the type of student that were actually producing for practice.”* (R15)

One difficulty in the interpretation of the interviews was the fact that the accreditation process ran over six years against a changing background within the schools. Therefore some criticisms while valid at the time of the interview, would not have been applicable at the time the accreditation visits took place. An example was the following comment about learning outcomes which really relates to the course that came into place at least partially as a consequence of accreditation.

*“We have learning outcomes for all our modules and learning outcomes for all our programmes including the pharmacy programme so if you really want to measure the outcome of a course you really have to measure it against those learning outcomes and the criteria don’t do that.”* (R10)

Staff in the new schools of pharmacy considered the criteria to have been very influential in the development of their programmes. There was a general view that they set the level that must be achieved and therefore in both the design and presentation of the curriculum to the PSI, the criteria assumed a very high level of importance.

*“They were important certainly in all of our development of curriculum we sat back and looked at what was required from the Society.”* (R17)

*“It was the yardstick, that’s what we said we were going to do, are we doing it. It was actually the essential document, make sure that you take, it set the standard, it set the content and how that content was to be delivered.”* (R14)

There was more variability in views as to whether the criteria restricted the development of the programme within the new schools and this was at an individual basis rather than a school one. However, in general, respondents from the new schools considered the criteria did provide scope for variation in approach to curriculum development. The main area of concern was in delivery and particularly in the development of new learning methods.

*“I would say that we didn’t develop our curriculum just on what was required but we made sure that it met what was required from the Society... like within those criteria there’s a lot of latitude for how you interpret that in terms of curriculum design.”* (R17)

*“I wanted to bring in lots of new teaching there but maybe was a bit restricted or felt I was restricted.”* (R15)

In general, the academic staff members from the established school of pharmacy were more critical of the accreditation process than staff from the new schools. Reference has been made above to the concern that the process was more strictly applied to the established school. A senior college administrator had a different perspective. He considered that because the school was long established and the only one in Ireland, the process of accreditation came up against a conservative culture within the school.

*“A lot of the people who were there had grown up with the very old fashioned idea of pharmacy, a lot of the people within the school say eighteen years ago had been there maybe there for 25/35/40 years and they weren’t going anywhere, it was the only school*

*in Ireland and until the last ten/twelve years there was almost a situation that the senior people in school appointed people they had taught because there was no other schools to have come from so there was kind of a system in the school that here's the way we do things and we have to do things in a particular way.” (R18)*

The focus of comments from academic staff from this school in relation to the impact of accreditation was at a higher level than in the new schools – about changes in the structure of the school and in the organisation and delivery of the programme rather than detailed comments about curriculum or delivery.

*“We had so much hassle if you like with the whole accreditation process and all these visits that we were being subjected to that we ended up revising our whole course completely to allow us to more easily prove that we complied with the criteria.” (R10)*

#### **2.3.2.4 The indicative syllabus**

Staff from the new schools generally considered that the syllabus provided a useful guide when developing their curriculum. However, many had reservations about the content and there was a general perception that it was dated and in need of review.

*“I think an indicative syllabus is useful but it shouldn't be used as a stick to beat the educators.” (R19)*

*“I think in some places it was a little bit restrictive, I think in some places it was outdated, some of it was absolutely useful and we ensured that we complied with it again but it was a little bit out of the ark, it possibly could have been redesigned for the future in mind.” (R16)*

In the established school, the view of the syllabus was that it was less important since the course was established and broadly already complied. The main concern was the need to make clear in documentation that the curriculum was in line with the syllabus.

*“I'd say not hugely because there were things that we were doing anyway and it was just a matter of being able to point that out.” (R10)*

#### **2.3.2.5 Mismatch between curriculum ambitions and accreditation**

Respondents were asked whether they considered there to have been any mismatch between the plans of the schools for curriculum development and the expectations of the accreditation process. In the new schools the response was at two levels. In the sense that since the schools were new, then planning was undertaken in full knowledge of the accreditation requirements and therefore the planning process ensured that the plans conformed to these requirements. At a different level, staff did experience some constraints where their plans did not entirely fit with the accreditation specification. One staff member spoke of a difference through the approval cycle with very strict compliance with accreditation requirements in the early years and later more flexibility.



*“I wouldn’t have thought that was a big problem for us and maybe it was because we were a new school so we were starting with a completely clean slate.” (R11)*

*“I think very much the outline accreditation document for the first cycle of students we very much stuck to that for the first two cycles and we have then since modified that as per student feedback.” (R14)*

*“Some of what they were looking for was out of date and we saw new requirement for our graduates to perform, we felt that we were stuck with, sometimes, something we felt may have limited our scope to develop.” (R15)*

One respondent from the established school considered that the biggest mismatch was in the focus of the accreditation panels upon pharmacy practice within the curriculum. This was partly attributed to the failure of the PSI to establish control of the pre-registration year and as a consequence passing the responsibility for developing the practice element to the schools.

*“I’d say the greatest mismatch was the fact that the accreditation panel always tended to be hugely focused on practice of pharmacy and while we would see practice of pharmacy as being as important as any of the other subject areas.” (R10)*

#### **2.3.2.6 Preparation and training for accreditation**

None of the staff interviewed had any training to support their role in the accreditation process.

#### **2.3.2.7 Future roles of the PSI**

##### **Accreditation**

The general view was that the PSI as the national regulator should continue to accredit the pharmacy degree but that there was a need for a thorough review of the process of accreditation. Talking of the future role of the PSI, one respondent (R18) summarised a view expressed in different ways by most: *“I wouldn’t try to diminish their role in accreditation, I think it should just be done in a more simple way but concentrating on what’s important rather than what’s not”.*

When asked about what should be retained or developed for the future, external representation on the accreditation panels and direct contact of the panels with students were specifically identified although there were differences in opinions on the inclusion of graduates within the panels.

*“They [external representatives] bring different perspectives to it. I would certainly retain the external dimension, fully appreciating though that the Society under law has an obligation to accredit.” (R18)*

*“I think they [PSI visitation team] must retain the discussions with the students.” (R13)*

Two main themes emerged when respondents were asked to describe their preferred model for future accreditation of pharmacy education in Ireland. The first was a need for a

fundamental change in the relationship between the schools of pharmacy and the PSI as the accrediting body. There was unanimous agreement that the responsibility for accreditation must continue to lie with the PSI but that there should be much more collaborative working with the Schools. One possible change that was mentioned was inclusion of representation of all schools on the PSI Education Committee or its replacement. A general view was the need for a change in style of the accreditation process so that it became more inclusive of the schools and less an external assessment.

*“I would welcome a more collaborative approach to the accreditation procedures, more of a discussion as opposed to what tended to be in the past an examination of what was going on.” (R10)*

*“In terms of the model for education we want to be sure that we’re aligning all of our standards together but I think then there’s some expertise that’s going to reside with academia because practice is different in education in the way that’s it’s delivered, they’ve got to talk to us and hopefully then we will emerge together with a coherent set of standards.” (R15)*

The possibility of some form of self-assessment was mentioned by a number of respondents. Fundamental to this was the view that the PSI as the accrediting body must recognise the special knowledge of academics in relation to teaching and learning and also accept that educationalists also recognise their responsibility to prepare students for professional life.

*“The medics know they have to produce doctors who will be able to treat patients, similarly with nursing, similarly with engineering and similarly with pharmacy but there is a acceptance that at the back of the minds of all of the people who are teaching in those areas they are preparing people for their vocation.” (R18)*

The idea of some degree of self-regulation was mentioned by many although in different contexts. Frequently, comparisons were made with medicine or dentistry where the educational providers are given more scope to demonstrate how they met broader outcome standards. Another view was that there could be a greater emphasis upon self-reporting and upon the internal quality procedures of each educational provider such as internal reviews and external examiners, with reduced emphasis upon formal visits to schools.

*“The school would put forward their case as to, this is what we’re doing, these are the learning outcomes, this is how we’ve proved we’ve achieved those learning outcomes.” (R10)*

The second major theme was the need for a greater emphasis upon outcome measures within the accreditation process. Although expressed in different ways, there was a widespread concern that the process used in the past did not assess the effectiveness of teaching and learning methods to develop the full range of knowledge, skills, behaviours and attitudes necessary for future practice and for future continued professional developments. One respondent, a Head of School, described the current focus upon rote

learning and the failure of the criteria to move this towards developing students' skills in self learning.

*"Yes I think there's too much emphasis on, like we bring in students who are extraordinary in their ability, they could learn half the telephone book and give it back to you, so what do we do with them? We give them the telephone book and they learn it off and they give it back to us." (R17)*

*"None of the criteria are forcing us to make sure that we teach the students why it's important to go on learning, why they have to keep on asking questions and how to go about it." (R17)*

Other learning outcomes that were considered to be insufficiently emphasised in the previous accreditation process were communication skills, writing skills, the synthesis of information and application of knowledge within a problem-solving conceptual role. A number of respondents did recognise the difficulty in the measurement of outcomes and alongside the view that the process should be more focussed upon outcomes or competencies, there was a view that there continued to be a need to define basic standards for programmes and schools.

*"None of the criteria are forcing us to make sure that we teach the students why it's important to go on learning, why they have to keep on asking questions and how to go about it but teaching them, throwing mountains of facts at them that they learn off, that, they're very good at doing and they throw back at us in an exam and 90% is gone the day after, that has very little to do with real professional stuff so I think in that sense it's not doing the best." (R17)*

Several suggested that part of the accreditation process could be separate, either in time by use of interim or pre-visits or by the method of data collection which could use a standardised format and be ongoing between visits.

*"If it were possible to have an informal is too informal a word but a kind of mini visitation where the detailed stuff would be out of the way by the time of the statutory visitation took place, I think that would be a more effective way." (R18)*

*"I think the process of collecting fundamental factual information is important but minimising the bureaucratic pain involved in it, or there's easier ways in doing form filling than the actual form there is at the moment, if you could literally just cut things from Word and paste them into something rather than having to fill in little boxes it's easier." (R19)*

Another view was that there should be an increased emphasis upon the measurement of student performance both during their undergraduate career and afterwards in practice. Two respondents suggested greater emphasis on learning within the accreditation process upon performance of graduates and engagement of employers and the providers of workplace.

*“They need to think about adapting the process to enabling them to be if anything able to spend more time with the external contributors and I say external even in the sense of our clinical partners in our teaching hospitals so those people who are making a contribution to the clinical teaching.” (R13)*

There were a number of additional suggestions for improvements in the mechanics of the accreditation process. These included a reduced emphasis upon a single formal visit and the possibility of regular visits to include viewing of teaching and learning sessions. Another suggestion was the linkage of accreditation with internal quality mechanisms within the individual educational providers.

*“A combined visit [accreditation with internal quality] could combine both, that it could accredit the quality academically of what we were doing but also review and consider the fitness for practice of the academic element.” (R18)*

Mentioned explicitly by one but implicitly by all was the need for better communication.

*“I think it’s critically important that the professional society and the university staff keep talking to one another, I think it needs to be done in the spirit of cooperation rather than confrontation.” (R19)*

### **Fitness to practice and a student code of conduct**

Respondents all agreed that the schools of pharmacy should be under an obligation to divulge information to the PSI that might indicate that a student was not fit to practice as a pharmacist.

*“I do think there is an obligation on the schools to actually notify the PSI early on if something occurs.” (R14)*

Two main reservations emerged. Firstly, because of the small size of the schools of pharmacy and the need for informed but unbiased decision making, the question as to whether fitness to practice issues would be better handled at a higher level within the institution (for example at Faculty level with medicine and nursing) arose.

*“I think that the school is too small to have a fitness to practice committee but I do think that the college could have representations from dentistry, nursing, occupational therapy, pharmacy.” (R14)*

Secondly, a majority of respondents were concerned that the process was proportionate and also took into account the fact that students are young people and are not practicing professionals. This led to the added concern that unless the process was carefully designed and implemented, it could lead to the undesirable consequence of driving problems and behaviours underground.

*“But I do think it is still a period of training they’re still very young and I would hate people to be kind of standing in the background with a big bad stick waiting to pounce on students because they did x or they did y.” (R11)*

*“We just get people who are 17/18 years of age and they stumble in the door and first time away and that’s the difficulty and the other thing is if they actually know that we’re reporting everything to the PSI they’re going to begin to adopt behaviours that are very secretive and not functional either.” (R15)*

There was a unanimous view that the PSI should be involved in setting a national code for pharmacy students either as a set standard or as a base standard that allowed flexibility for schools of pharmacy to customize to their requirements. The PSI Code of Conduct for the pharmacy profession was mentioned as an excellent model by several respondents.

*“The PSI would say those are the key principles now you can go away and develop them suitability for your own institution and the ethos and the way you do this and this but we would like to see them.” (R18)*

*“The profession has a code of conduct that was actually launched last year with six principles and the patient is paramount in each one of those principles so you could actually have a student code of conduct that mirrored the professional’s code of conduct.” (R14)*

Finally, concerns were expressed about the implications for schools of pharmacy if an integrated five-year programme were to be introduced and the school became responsible for signing the student as fit to practice. This was seen as a very significant extension of responsibility.

### **2.3.2.8 Views on the future model of pharmacy education in Ireland**

A number of concerns were raised about what was seen as a continuing distance between the PSI and its decision making and the schools of pharmacy. The lack of representation from all schools on the PSI Education Committee was mentioned as were the relatively infrequent meetings of the Heads of Schools with the PSI.

*“The Heads of Schools meet occasionally and I think met with the Society even less occasionally so there’s relatively little dialogue between the schools and the Society.” (R17)*

Only one respondent mentioned the possibility of a central accrediting organisation and then in the context that Ireland was too small a country to support such an organisation. However, there was a universal concern that the powers of the PSI could lead to it taking independent decisions about education that had major implications for schools without general consultation with the schools.

Respondents were asked about their preferred model for the future of pharmacy education in Ireland. Perhaps because these interviews were conducted during the first year of the new pharmacy internship programme, the responses were dominated by comments on the format of that programme. There was a general consensus that better linkage of the one-year training programme and the degree was a good thing but there was concern about resources to deliver a fully integrated five-year programme.

*“Resourcing is just going to kill it unless we get the resources that’s the first step, we have to get the hearts and minds of the politicians and say pharmacy is undergoing a complete change, you’re going to be better out of the outcome.” (R10)*

*“While we can see the benefit of having an integrated five-year degree there’s this huge question about resourcing. If we were to do that in the next couple of years it would involve a big change in the syllabus, the change in the personnel that we would require, the extra staffing and facilities that they need to do that.” (R11)*

The background financial condition in Ireland was mentioned by many respondents and there was a very genuine and widespread concern about the timing of change given the problems within pharmacy at the time of the interviews. One respondent actively involved at a national level expressed this very forcefully – *“I’m usually an optimistic person, I despair at the moment”*. (R20)

*“I do want to see changes but Irish Pharmacy in Ireland is going through a bad economic time and pharmacy is going through a disastrous time and it’s now literally a race to the bottom.” (R20)*

In responses to this question about the future of pharmacy education the main topic was concern about whether the introduction of the current National Pharmacy Internship Programme removed the potential for proper discussion as to the best way forward for pharmacy education. Most respondents viewed the National Pharmacy Internship Programme as an interim solution but one that had removed future flexibility and made more likely a move to a fully integrated five-year programme but without the necessary funding. Respondents from two schools made very similar observations, typical of the majority of respondents.

*“I would view that the existing model that’s ongoing at the moment as being an interim arrangement because especially now that the course has been called a Masters. I think that needs to be an integrated model, this idea of having a four year degree and then doing a one year’s Masters in that way is not the ideal model.” (R11)*

*“Well I think we’ve almost been forced into making a decision with, events have kind of taken hold and things have moved on, I mean the fact that the internship programme was running.” (R10)*

An area of significant concern was the possible reduction of the one year workplace training element of the five-year programme which was seen as essential to a professional education process. *“I also have concern in that certain schools may downgrade the pre-reg from a twelve month to a six month.” (R14)*

Another major concern within the two schools not involved in the delivery of the National Pharmacy Internship Programme was that the change to a single higher education provider reduced their status and authority as providers of pharmacy education.

*“We want to be able to say that X is the place to do pharmacy, if you go to X you can complete your pharmacy education with us. So we don’t want to say to students right, you can do four years here but after that you have to go somewhere else if you want to become a registered pharmacist.” (R10)*

One comment summed up the dual concerns about being unable to move from the current situation and its effects upon some schools.

*“The integration I very much welcome, and again all that arose out of it. It was precipitated by economic necessity. My concern at the moment is that the interim position that we’re in could potentially be fatal from the point that it is interim, it’s for three years. There is no way back unless we get to the promised line of the five-year integrated programme.” (R20)*

## **2.4 The view from the Pharmaceutical Society of Ireland**

### **2.4.1 Methodology**

The PSI was asked to identify a number of staff and non-staff members of their accreditation panels. A total of six individuals were interviewed and in addition, one external advisor to the PSI was interviewed (interviews R1 to R7). The format and analysis of the interviews was the same as that for those described in Part two, section 2.3.1 above.

### **2.4.2 Findings**

#### **2.4.2.1 Development of the accreditation method**

Four of the eight interviewees had direct experience of the development of the accreditation criteria that were used in Ireland throughout the programme of accreditation of the two new schools of pharmacy and of the existing school. The first formal approach to the PSI for approval of the development of a new school of pharmacy was in 1996. Prior to that, the PSI had operated a four-yearly cycle of visitations to the single school in Dublin. All four respondents with experience of this process and two of the other respondents spoke of an exclusivity agreement that existed between the PSI and the Dublin School which was agreed by Government. The extent to which this was formalised within legislation was not clear but the respondents with direct experience of that time all considered this to be a major rate limiting step in the movement towards accreditation of additional providers.

*“With the backing of the Government’s Department of Education and the Higher Educational Authority, the Society signed an exclusivity agreement with Trinity that it would not recognise any other pharmacy degree course in the State. Now that automatically caused problems because that was actually specifically written into the Society’s regulations and approved by the Minister.” (R1)*

The visitation system that operated prior to 1996 was more informal than the later accreditation process and not based upon written standards. However, the format of a two-day visit by a panel of visitors from PSI was the same as that used in the later accreditation process.

*“It [visitation process] was very similar to an accreditation process but it wasn’t called accreditation, you were either happy or you weren’t, you signed off the visit, report back to the Council and it was sent back for report.”(R1)*

However, all the respondents who had direct experience of the process were critical and expressed doubt as to whether the process had much effect upon the schools.

*“The four yearly rotation visit in the single school became a kind of OK we’ll all go and have a nice chat and we’ll agree to disagree and you provide us with documentation which has no page numbers on it and we’ll just take it.” (R3)*

The approach from initially one, and subsequently two, HEIs to open new schools of pharmacy presented significant problems to the PSI. There was a rapid recognition by the Council of the society that there needed to be a formal process to guide approval. However, all respondents spoke of the lack of educational expertise and resources within the Society. After a two-year period, in 1996 the Council of the PSI decided to adapt the accreditation requirements of the Royal Pharmaceutical Society in Great Britain.

*“A number of us went well if somebody wants to set up a university course in pharmacy they have to be facilitated so in order to do that we have to have a process so a number of us sat down and stole the accreditation process from the UK or adapted the accreditation process.” (R2)*

The Council *“set up an education policy strategy committee and it initially went through the Royal Pharmaceutical Society accreditation criteria of that time which is 1998 or earlier and changed it line by line where necessary.” (R1)*

The resulting PSI accreditation criteria were adopted formally by the PSI Council in October 1998 and the PSI applied to Government for a change in powers to allow it to recognise additional schools of pharmacy within the Irish State. Six respondents including those directly involved at the time, considered that the subsequent delay until the process of accreditation of the new schools started in 2002 was largely due to problems in obtaining a Government decision – both on the change in the PSI powers and in agreement of HEA funding for one of the prospective new providers.

*“Yes and it took three and a half years to change that legislation because again the Department of Health was uncertain about what to do, there’s a whole process then. UCC was encumbered I suppose by the fact that it needed State funding, it needed Higher Education Authority funding.” (R1)*

There was a general view that the PSI was under very significant pressures and that this put strain upon all the individuals concerned and potentially upon the development of the accreditation process.

*“The legislation had to change to permit a second or third school of pharmacy so there were a number of things happening in parallel there and I don’t know how much they*



*influenced that sense of formality of the process, that sense of urgency, things being done a bit too quickly.” (R7)*

#### **2.4.2.2 The accreditation process from 2002**

##### **Experiences of the process**

Six of the eight respondents had been involved either at the beginning or in the early years of the new process. All six recognised the difficulty inherent within the accreditation process. Major concerns were over the resources available to the PSI, both staff and funding, and the demands of a process which included annual visits to the new schools over the period of introduction of their degree programmes. These difficulties were compounded by a greater than expected number of interactions with the existing school which had the problem of adjusting to the new process.

*“It became a very onerous task with two new schools of pharmacy which had to be accredited every year during the first cycle of its intake as well as a crisis in Trinity at the time because of a difficulty in staffing and other ongoing legacy issues.” (R4)*

*“One of the main concerns at the time from the Society’s point of view was that they just didn’t have the resources prior to the 2007 Pharmacy Act Society had no powers to raise monies other than the individual pharmacist membership.” (R1)*

There was also a general recognition from these six respondents that the process had from the beginning to tackle some major issues, mainly around the resources to be made available to the schools. These applied particularly to one of the new schools and the existing Dublin school. There were also at the beginning, major concerns about the curriculum plans in one of the new schools.

*“I sat through many visits to [university X] trying to get their curriculum up to some kind of integrated model overall, because I think when I first read their curriculum my main point was that it was a whole load of modules picked out of nursing and medicine and slotted into something that came up to 3500 hours... I felt that there was no vertical or horizontal progression in the curriculum.” (R3)*

*“My first exposure to the visitation process was a crisis meeting with the provost of Trinity college which came about as a result of the death of the professor of pharmacology in Trinity and the retirement of the senior lecturer in the discipline of pharmacology which left the pharmacology department in Trinity down to two junior lecturers, with a recruitment embargo.” (R4)*

Respondents all spoke of the difficulty of the process and there was a general sense that it was at time, confrontational.

*“It was very hard because none of us had a great deal of experience doing it or any experience doing it and we were in a very confrontational adversarial position from the word go.” (R2)*

However, there was a general view that it had been successful and appropriate. These views are illustrated in successive sections of this report. One respondent became involved in the accreditation process only towards the end of the cycle of approval of the new schools. This provided a different view of the process and some clearly articulated concerns.

*“Most of the people, including people on the Council who had many years experience in practice were not applying any formal process really to the accreditation system, they were actually in some form of assessment that I’d never seen written down.” (R5)*

*“In effect one person here in the office, was a pharmacist, she had the understanding of what accreditation processes, I think the two experts endeavoured to ensure that what was advised was reasonable but I felt, there was obviously a philosophical battle between them in the practicing profession.” (R5)*

### **Perceived strengths and weaknesses of the accreditation process**

Respondents who had been involved in the early accreditation process all considered that the major strengths were that the process was open and fair. Two with most involvement at this time, both recognised that the process was inflexible but there was a view that given the challenges, this was probably necessary.

*“I thought the strengths at the time were it was fair, it wasn’t flexible and I don’t necessarily think that that was a strength but I think at the time it had to be reasonably inflexible.” (R2)*

*“It didn’t bend to pressure, I think that was one of its strong points.” (R3)*

A widely held view was that the process stimulated reflection about pharmacy undergraduate education, both within the PSI and within the Schools. Six of the respondents identified this as a strength.

*“It also then made the Society look at other aspects of its business and its responsibilities, there was a lot that we weren’t doing in terms of education and what we should have been doing.” (R1)*

*“I think it helped the schools to review and think a lot about the courses they provided and ultimately I think the students and pharmacy will benefit as a consequence.” (R6)*

A universally recognised strength was the involvement of team members from outside Ireland who were academics and who brought both experience and expertise in various aspects of pharmacy education.

*“I suppose the involvement of the external accreditors was absolutely key, that is something that should continue because I think Ireland is quite small as a centre so you need to build that expertise in Ireland.” (R6)*

*“External and continuity of the visitors really, it’s a very difficult thing to do” (R3)*

One of the respondents was highly critical of the process and considered that it really had few strengths *“To be honest I don’t believe there were many strengths, never saw it as a structured evidence based process.”* (R5) The one strength identified by this individual was the external involvement.

*“The only strength of the process was that two eminent academics [were involved].”* (R5)

Respondents identified a number of weaknesses – one who had identified inflexibility as a strength also recognised it as a weakness. Issues about the process were identified including late submission of material for the panels to consider.

*“One visit we did we walked in and I think we got handed something like three documents of at least 150 pages long on the day.”* (R3)

Four of the respondents mentioned resources, primarily the small staff base at the PSI and the difficulty that this presented to the team in turning round the reports to the scheduled timetable.

*“The timelines were impossible very often and if the Society had more staff the turn around on accreditation reports would have been far quicker and that wouldn’t have led to some of the difficulties that it led to because there was, very often the timeline from the visit to the preparation and the completion of an accreditation report which had to go back to the university for comment and then have to go to Council and meet for another four weeks, those time scales were impossible.”* (R4)

Three respondents identified the small team involved in the visits as a potential weakness, both in relation to the loading upon them but also in the longer term, because this increased the risk of loss of the expertise. Linked to this and to the view that the process in its early days could be confrontational was a concern about the personal vulnerability of members of this small group.

*“The key weakness is that it became a very specific small group of people who developed this expertise which could very easily be lost.”* (R6)

*“The group that were doing the work were very exposed personally and came in for a lot of probably unwarranted criticism because all they were doing was their best and trying to protect the good name of pharmacy and the good name of delivering undergraduate degree programmes to pharmacy.”* (R2)

### **Changes in the accreditation process with time**

All seven respondents agreed that the accreditation process changed with time. Two main themes emerged. Firstly, there was a commonly held view that experience gained by the accreditation team developed their confidence and their understanding of the educational perspective. Comments by two of the interviewees illustrate this theme.

*“I think that the accrediting team became much more confident, comfortable and I think themselves had a clearer view as to where they were going with it.”* (R6)

*“We gained an awful lot of knowledge in the process of accreditation.” (R3)*

The second theme was the development of understanding between the team and the staff within the schools of pharmacy and their parent institutions. This is illustrated by a comment from a member of the accreditation team who had been involved through the larger part of the process.

*“When I went into it first it was very confrontational, it was them and us opposite sides of a table hammering it out and I think by the time I finished with accreditation the process had become a lot more convivial but it had become a lot less confrontational and a lot more businesslike. Mutual respect had been developed across the table with the three schools of pharmacy and I think they were a lot more enjoyable to do because the confrontational adversarial nature had been taken out of them.” (R4)*

The development of mutual understanding between the schools and the visitation team was considered a major advantage of the process. Another view from an interviewee who joined the PSI late in the process was a reflection that both in the schools of pharmacy and in the PSI, there was increased recognition that the standards for pharmacy education are a joint responsibility with neither side having exclusive control.

*“I think what, one of the things that has happened is that I think there has become a greater awareness on the part of the Council at the office here, of the people here, of the importance of accreditation, I think they’ve also come to understand that we’re not sole depositories and depositories of all wisdom in Ireland on these matters.” (R5)*

*“There is now a connection not only in the minds of assessors and regulators but I think the schools of pharmacy hold their responsibility to ensure that their people are competent.” (R5)*

All the respondents considered that the introduction of the new schools had changed the accreditation process in a positive way. Concerns about the old approval process prior to 2002, have already been identified earlier in this chapter. The general concern about the rigour of this process emerged again when talking about changes in the process. The positive element was seen as the openness of the process and the capacity for individual schools to learn and develop by the shared experience.

*“I think the accreditation process improves in that because it had to be much more open to each of the schools, how they operated, their new thinking about the output of pharmacy programme should be and equally the accreditation process had to take that into account.” (R6)*

At a more strategic level, a very senior member of the PSI staff reflected that the overall process had changed the positioning of pharmacy education within Ireland.

*“I also think that the big dynamic was to bring pharmacy into the heart of health services at undergraduate training and the impact of that will take some, probably a generation to filter through, it’s well on its way.” (R5)*

### 2.4.2.3 *The purpose of accreditation*

There was general agreement that the purpose of the accreditation process was to ensure the competence of pharmacists joining the register of the PSI. This was expressed in different ways but there was no dissent.

*“To protect the credibility of the rules by which people presented for registration to the Council.” (R7)*

*“To be able to give the public an assurance that the people who are practicing the profession and who are providing professional services do so in a safe and proper professional manner and in accordance to the statutory code of conduct about the profession.” (R5)*

Interestingly, four of the interviewees mentioned a responsibility not only nationally within Ireland, but also a responsibility to maintain the standards expected within the EU.

*“I suppose we have the EU requirements and the national legislation requirements to ensure that our national courses meet that, so the PSI had that statutory role which I continued to do under the Pharmacy Act and so that was the key responsibility ensuring that the statutory requirements were met.” (R6)*

There was also general agreement that the process of accreditation had achieved its purpose. Four of the interviewees made reference to the outcomes of the process – that in their view Ireland had ended up with three high quality schools and a raised understanding of the purpose of undergraduate education in developing graduates fit for practice in professional life.

*“I think that the schools did have to amend their courses before they started to meet the professional standards that we put in place and I think because they’ve met them I think the quality of the graduate is pretty good, I don’t necessarily feel that it would have been.” (R2)*

Others, although generally supportive of the process, had some reservations largely related to the lack of outcome focus in the accreditation requirements.

*“I think the probably the PSI at the time didn’t have a real view as to what competencies of a good pharmacist should be, what the ultimate output from the pharmacy programme should be and I think that was a key drawback in that that it was a bit ad hoc in being able to give that to the schools and being to work with the schools.” (R5)*

### 2.4.2.4 *The accreditation criteria*

The general view of respondents was that the criteria were adequate for the purpose.

*“I think on the whole they were appropriate for a general, a good general pharmacy education with some clinical, some practical and some academic portions within the actual course.” (R3)*

*"I think for the time absolutely I do, I think that, like any set of accreditation criteria they're out of date pretty soon after they're written." (R4)*

There was a similar level of agreement that the criteria were measurable although several respondents pointed to some degree of inflexibility and a focus upon measurement of process rather than outputs or outcomes of the educational process.

*"They were of a particular time; they were very much focused on input, taking into account legal requirements, EU requirements, various things so they captured all of those." (R6)*

*"I don't think they had a lot of refinement to them, I think when shades of grey came into it, it caused a bit of a problem." (R2)*

Three respondents raised concerns about the inability of the PSI to update the criteria in the years after their introduction in 2002.

*"It's like anything in life, it has to be a fluid document and we were so busy with the processes of accreditation, I'm not so sure that over a four year period we got an opportunity to revisit some of the criteria." (R4)*

When asked whether the criteria measured the ability of graduates to be fit to practice there was much less certainty. A majority of interviewees were either uncertain or felt that they did not. The point was made by a number that although many of the criteria were measurable, what was measured was some way from practice. In effect it was measurement of the process within the school that was being used as a proxy for the qualities of the graduates.

*"I think they didn't measure that at all actually. I think they were primarily about systems in school, how the curricula operated, but how the system operated but there was little if any, from my recollection, outcomes criteria as to what the student would be competent to do or their fitness at the end of the programme." (R6)*

*"No I don't believe there were apparent ways of doing that at the time so you were trying to infer it by looking at the process, the resources in place, the teaching staff, the lab facilities, the time allocated, those kinds of things, we were trying to put tangibles on what really an intangible thing." (R7)*

There was general agreement about the need for change and regret that the criteria had not been developed more over the period. The most common suggestion for change in the criteria was for a move towards competence-based assessments.

*"I think we have to have competency assessment and I know it's an evolving field I think the whole ethos of what it means to be a profession and be a professional hasn't been grasped yet by pharmacy in Ireland." (R7)*

Again there was general agreement that the criteria have been influential in the development of the pharmacy curriculum within all three schools. An interviewee who was

involved throughout the early phase of the process recognised clear differences between schools, one of the new schools was considered to have needed far more input from accreditation than the other whilst it was recognised that the existing school had a different set of problems in adopting an existing curriculum to the criteria.

*“I think it was essentially critical for UCC, I think RCSI really had put a skeletal thing together but really waited until the accreditation criteria had been adopted by Council, had been circulated and that and then developed their curriculum round them.” (R1)*

*“Trinity were given additional time because they were an existing course so it took them longer to change theirs but no it was absolutely key and critical to all three courses.” (R1)*

#### **2.4.2.5 The indicative syllabus**

The interviewees were divided in their views on the value of the indicative syllabus. Three considered it to be useful; two to be very useful as a check on content of the programme.

*“Well it was very useful; you could literally compare what they were giving with what was on the document.” (R1)*

The remaining interviewees considered the indicative syllabus to have limited value. All could see some value as a check on content but the common concerns were that it could lead to inflexibility and impede diversity of provision, that it could easily become nothing more than an automatic “tick-box” process and that because it was a measure of process, it did not reflect the outcome competencies of graduates.

*“It did need to be ticked but there is a danger that if you focus entirely on that you lose what we’ve just been talking about in terms of the outcomes.” (R7)*

*“On a strategic level we need to revisit the syllabus so that it relates back to what competencies we require.” (R5)*

#### **2.4.2.6 Preparation and training for accreditation**

None of the participants in the accreditation process had received any training for their roles. Several spoke of learning by doing. The responses were well summarised in the following quotation from an accreditation panel member who was involved throughout the full sequence of visits.

*“I suppose you start off as committee member and then you become vice chair of the committee and then you become chair of the committee and then you’re learn to run that committee meeting by observation. None of it prepares you for a visit where you have to interview the Head of the School for 45 minutes on how his or her school is performing and no I was not prepared or educated or trained to do any of that.” (R3)*

### 2.4.2.7 Future roles of the PSI

#### Accreditation

There was general agreement that the process for accreditation needed to be revised. Five of the eight respondents articulated the need to work with the schools of pharmacy in the development of the process and the educational standards that must be central to a new process. This view was captured by the comment of a member of the PSI staff who had long experience of the old process.

*“I think you can’t operate in a system where PSI is locked into its criteria separate from the schools and accredits to those and schools tick a number of boxes as to whether they measure or not. I think there has to be a process whereby the PSI and the schools work together to develop criteria bearing in mind competencies that are needed as pharmacists, pharmacy skills, how they contribute to society, what society expects from them and I suppose schools have to have input and have to have a role in the development of whatever the criteria should be.”* (R6)

There was also a widespread agreement that the new process should be more focussed upon the competencies required of a pharmacist rather than the process by which these qualities were communicated and developed.

*“I think the criteria must look at a pharmacist as a professional person.”* (R5)

A number of respondents mentioned a concern about keeping the process manageable and not too complex. One considered that it would be sensible to adapt the new accreditation system which is currently under consultation within the UK.

*“They have done an awful lot of work that seems to be very good in terms of feedback and in terms of the validation process, quality process etc that are in place and then just in terms of performance and team members from the accreditation and being assessed it really, there really is a lot to work there with and I think we can adapt it to the Irish situation.”* (R1)

Three respondents mentioned the role of self-assessment by the schools of pharmacy, both in respect of their responsibility to maintain standards and as an essential component of a new accreditation system.

*“I think a much more self accreditation model might, for the schools might make it much more easy from their point of view and then the actual accreditation visit then is reviewing those and able to focus on key issues.”* (R6)

*“I think the other issue that’s critical to this is going to be the business of self-assessment.”* (R5)

A related issue was articulated strongly by one respondent – the importance of the internal quality procedures within the higher education institutions.



*“If the university system is robust enough it will identify the issues and I will come back to the more critical ones, are leadership, competent leadership, good governance, good robust governance systems, that actually people are participating in a high quality education environment.” (R5)*

The importance of leadership was stressed and this was related to the importance for each school to have a developed strategy and mission. This view matched closely with the view of the majority of respondents that the new system must be more flexible than the old and while assuring standards, should not impede diversity.

#### **Fitness to practice and a student code of conduct**

Respondents were asked their views on what requirement should be made for students to demonstrate their fitness to practice. The question brought in the issue of a student Code of Conduct and who should set the standards within such a code. There was a general agreement that as a health profession, pharmacy students must meet standards of behaviour appropriate for their later registration.

*“The PSI’s core role is to protect that register so they have to have an input on fitness for practice. When you say fitness to practice to me I would call that fitness to register.” (R7)*

However, respondents generally found it difficult to define what these should be and several mentioned the difficulty inherent in the position that pharmacy students are not registered and so not regulated by the PSI whereas universities have limited powers to set behaviour and attitude standards. Overall, all the respondents agreed that there should be some national standards that could be operated by each of the HEIs but that these should not be overly prescriptive.

*“I think it should be general principles, I think a code of conduct for students is a bit over the top, I think it is anyway but general principles of behaviour and I think the bottom line is drug abuse will not be tolerated and cannot be tolerated, they’re responsible for people’s lives.” (R3)*

*“I think a joint process maybe between the regulator and the university to ensure that progress of individuals is dependent not just on academic achievement but on something else.” (R2)*

#### **2.4.2.8 Views on the future model of pharmacy education in Ireland**

Respondents were asked their opinion on the direction of change for pre-registration pharmacy education in Ireland. There was no clear majority view on integration of the pre-registration year with the four-year university degree. Several respondents voiced concerns.

*“I don’t necessarily think that a five-year programme will make things better but I haven’t sufficient experience of it to say it won’t.” (R2)*

*“I am not convinced [a] fully integrated five-year is the only way to go, I say that because I believe that pharmacy is a very good foundation education... and we don’t want to lose that.” (R7)*

One respondent (R6) with significant experience of education within the PSI spoke in favour of an integrated approach: *“Personally I think the integrated is probably a better course”*. A number of respondents commented that it was important to have contact with patients and practice throughout the programme of education and training. One respondent made the point that in her view, it was not possible to develop professionalism in one year.

*“The way that that year was constructed at the moment it’s the entire responsibility is with the running of the year so you’re back to the question of can you turn somebody into a professional in a year, can you assess the competency in one year and hand over for registration so I don’t think that’s the answer.” (R7)*

Three of the respondents were concerned that the issue of the pattern of pre-registration education was distinct from the issue of whether the academic award should be a Masters award. Overall there was little support for the pattern of an undergraduate degree followed by a single Masters year.

*“Making it a five-year extended Masters kind of programme, I have a slight discomfort with.” (R2)*

*“Somewhere along the line here, getting your registration as a registered pharmacist became confused with acquiring an academic qualification and it’s not an academic qualification, not as far as I know anyway, we were not an awarding body.” (R3)*

A number of concerns were expressed about the new National Pharmacy Internship Programme introduced for the 2009 graduates. These mainly focussed upon the discontinuity of having a single higher education provider for the output from three different schools of pharmacy and the speed of its introduction. The most frequently articulated concern was that the change had left the professional experience component at the end of the five-year block and so had not moved forward the professional standards for pharmacy education in Ireland.

*“In Ireland the patient contacts that pharmacy students have are virtually zero and attempts to increase them have been very difficult, all the schools of pharmacy have medical schools, they have affiliated hospitals there, there are training procedures for medics within the hospitals and yet we have failed abjectly failed to get pharmacy students on board, to get pharmacy students into pharmacies in the locality and therefore get some experience as they are being trained.” (R4)*

## Chapter 3 The undergraduate pharmacy degree in Ireland

### 3.1 Introduction

This chapter of the report focuses on the work examining the pharmacy undergraduate degree. At the time of the study, three Higher Education Institutions (HEIs) offered undergraduate pharmacy degrees in Ireland. One of these was established as a university school in 1977 and previously had a long history as the only school of the Pharmaceutical Society of Ireland (PSI). The other two schools were established recently, one taking a first intake in 2002 and the second in 2003. All three schools were located within health faculties/colleges, with medicine and other health sciences, and all offered a four year modular degree programme which was Bologna compliant and based upon the European Credit Transfer and Accumulation System (ECTS) credit system.<sup>56</sup> The largest school in terms of student intake was the long established school with a total intake of around 75 students in first year, the majority of whom (just fewer than 70) came from Ireland and were funded through the Irish Higher Education Authority (HEA). The other two schools took intakes of around 55, again with the majority coming from Ireland and being funded by the HEA. The number of students entering the programmes from outside the EU was very small. Applications for entry were mainly via the Central Admissions Office (CAO) scheme and pharmacy in Ireland has been a very popular subject resulting in high intake standards. At the time of the study, the typical offer was greater than 540 points at Irish Higher Leaving Certificate.

The relatively small intake meant that the total number of students in each school of pharmacy was between 200 and 280, which limited the total staff numbers. In all three schools, there was a core staff group which was largely dedicated to pharmacy with an additional number who contributed to pharmacy but were not part of the core school staff. Different schools managed this in different ways. In one, there was an institution-wide system that involved joint appointments, in the case of pharmacy between the pharmacy school and other academic units. In the other institutions, there were systems that allowed contribution from other academic units. All three schools had core staff in the academic areas of pharmaceuticals and pharmacy practice (including clinical pharmacy) but these academic units were small, typically not more than five individuals. The long established school had core staff in pharmacology and chemistry in addition to pharmaceuticals and pharmacy practice. In the newer schools, the areas of pharmacology and medicinal chemistry involved significant contributions from staff whose main base was outside the school of pharmacy. The size of the staff group was an important factor in achievement of a critical mass to both deliver the programme and develop research.

The specific objectives of this part of the study were:

- Ai. To document the variations in approach to curriculum design and organisation across the three schools of pharmacy in Ireland.

- Aii. To document by sub-discipline the teaching, learning and assessment methods used to deliver the curriculum.
- Aiii. To determine the attitudes and views of key staff responsible for the learning environment on current and potential developments in curriculum and teaching, learning and assessment strategies.
- Aiv. To measure the extent of, and the methods for, multi-professional learning involving pharmacy undergraduate students.
- Av. To measure the extent of, and the variety of approaches to, placement education (formal education in the health professional workplace).
- Avi. To obtain an insight into students experience of key elements of the teaching, learning and assessment strategies identified in (Ai) to (Av) above.
- Avii. To document student views of the value of key elements of the teaching, learning and assessment strategies identified in (Ai) to (Av) above.
- Aviii. To document the views of the academic staff members of the value of the key elements of the teaching learning and assessment practices identified in (Ai) to (Av) above.
- Aix. To document the views of pre-registration students and recently qualified pharmacists on selected elements of teaching learning and assessment practices.
- Ax. To identify examples of good practice and methods to support their introduction for dissemination within the schools of pharmacy.
- Axi. To make recommendations for a set of principles for pharmacy education in Ireland for further consultation within the pharmacy profession and other key stakeholders.
- Axii. To make recommendations for a future strategy for primary pharmacy education and training in Ireland and for a framework to guide curriculum and assessment. This will be accompanied by a review of the funding implications.

## **3.2 A review of the documentation from the pharmacy schools**

### **3.2.1 Methodology**

This stage of the project involved an analysis of the documentary evidence related to education provision, in terms of curriculum design, methods of delivery, organisational structures and documentation made available to students detailing aspects of the pharmacy programmes at each of the three schools.

The schools were supplied with a comprehensive list of the required documentation along with an explanatory note against each item requested. Upon receipt, the documents were recorded and cross-checked against the list as detailed below:

- University Prospectus
- Programme Specification
- Course/Programme Handbook
- Course/Unit/Module Specifications/Descriptors
- Syllabus

- Information provided to students on the research project
- Summary of practice and clinical placements within the four year programme
- Summer Placement Handbook and/or Codes of Practice or equivalent
- Summary of any inter-professional learning and/or teaching
- Details of Fitness to Practice Requirements
- Institutional Course Delivery and/or Assessment Regulations and Requirements
- Details of the Term/Semester Structure and how teaching is arranged within each block
- Details of novel teaching or good practice

The information was then summarised and collated in a tabular format, from which relevant information was subsequently transferred into an Excel spreadsheet, to enable cross-analysis by school; details as below:

- Methods of assessment
- Modules taught
- Information relating to placements undertaken as part of the undergraduate programme
- School staffing details
- Methods of teaching employed (i.e. lectures, seminars, practicals etc)

In addition to the initial request, schools were also requested to provide information on student admissions; by year of intake, nationality and methods of finance (i.e. free fees, EU fees and non-EU fees). This information was then incorporated into the spreadsheet containing the summary of the documentary evidence.

### **3.2.2 Findings**

#### **3.2.2.1 Hours of study**

Figure 1 summarises the total contact hours and total reported hours of directed study in the three pharmacy degree programmes. Formal contact hours include all face to face teaching including lectures, tutorials, workshops and practicals. There was considerable similarity between the three schools with a range of 1680 to 1964 hours over the four years of the programme. These figures exclude the placements and the time on projects. The time spent on projects was handled differently by the three schools and has been excluded from this data set. The directed study reported by the three schools shows a significant variation but this is likely to be due to differences in the way of expressing directed study. Since all three programmes meet the ECTS credit model, the total student workload over the four years of the programme should be 4800 hours. The component not covered by formal contact will be formal directed study plus student managed learning and different institutions will manage these differently.

**Figure 1: Total contact time and directed study during the four-year degree programmes**

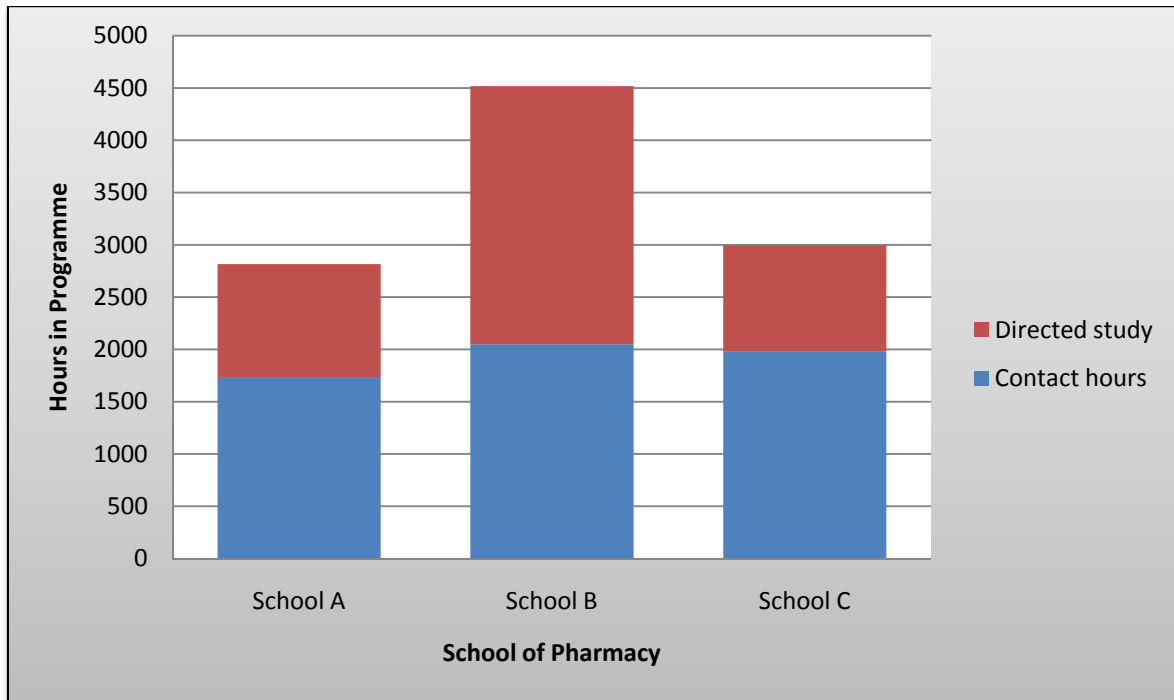
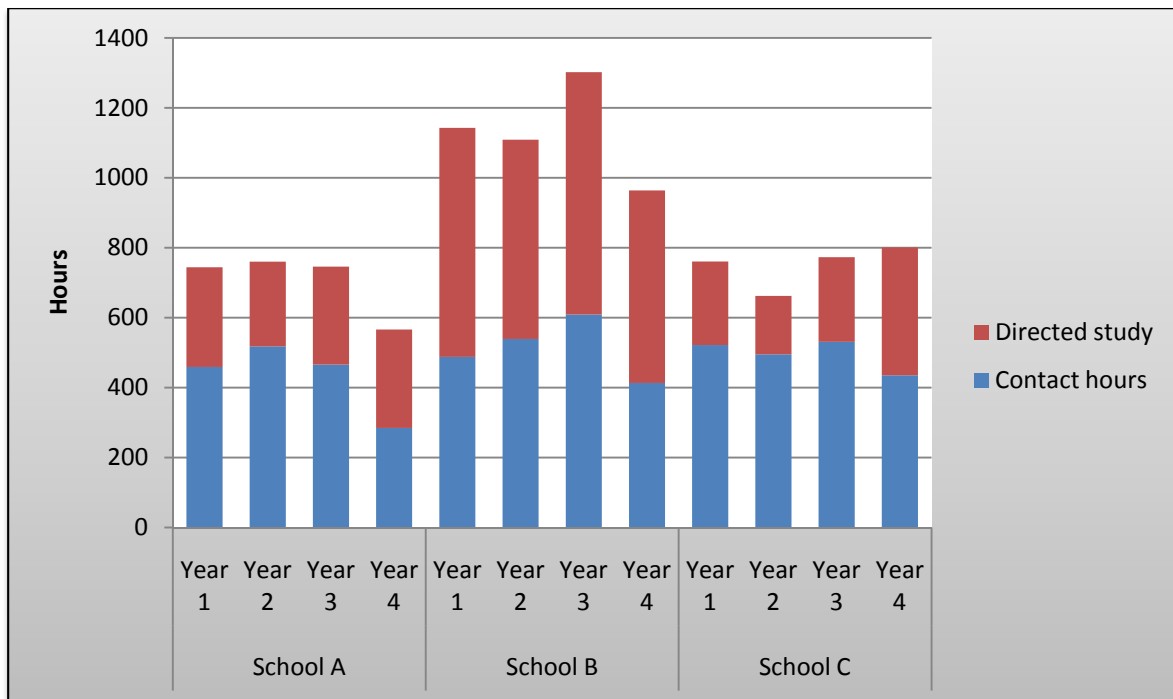


Figure 2 summarises the contact hours and directed study in each school of pharmacy by year of study.

**Figure 2: Contact hours and directed study for each year of the programme in the three schools**



Again there is a broad similarity between the schools. There is a fall in both contact teaching hours and directed study in the final year which can be mainly attributed to the project – which accounts for either 10 or 15 credits (equivalent to total student work of 200 or 300

hours). Therefore allowing for the project, the total formal teaching (face to face with staff) shows no major changes over the duration of the programmes.

Figure 3 shows a breakdown of the types of contact teaching and learning. Workshops and seminar sessions have been combined and placements and projects again are not shown. Lectures are the main method of formal contact followed by practicals. In all years, school A has the lowest total lecture load. Schools A and B show a fall in total lecture hours in the final year, whereas the total lectures per year in school C are fairly constant throughout the programme.

**Figure 3: Hours in different learning situation shown by school of pharmacy and year of study**

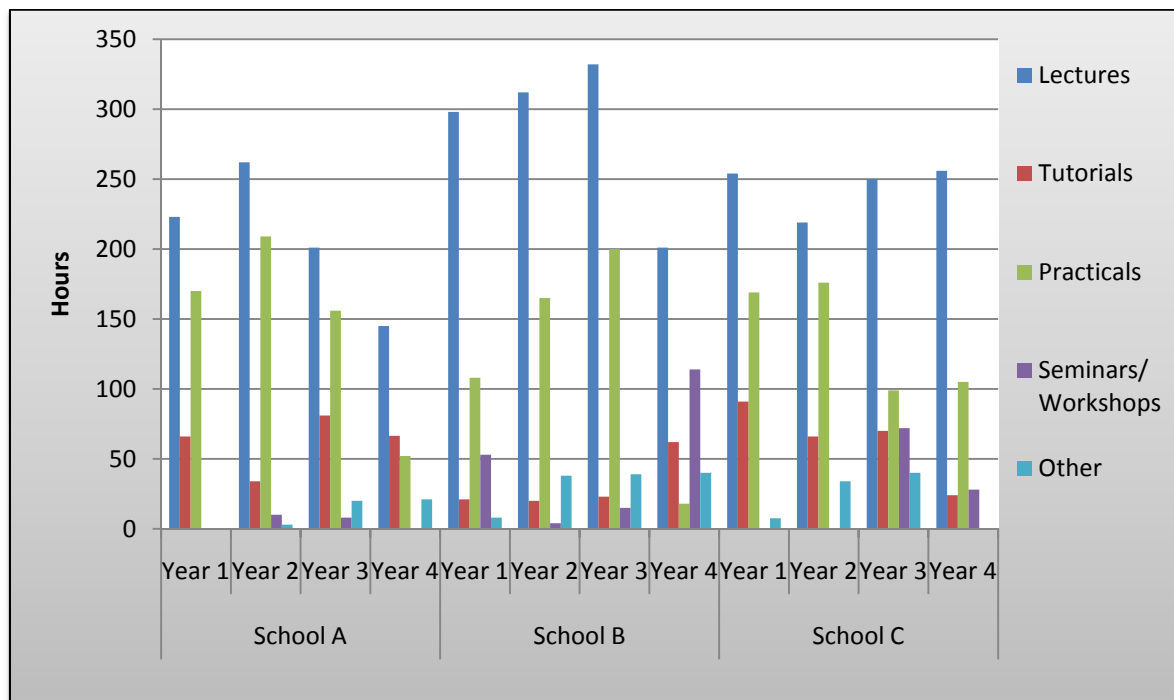
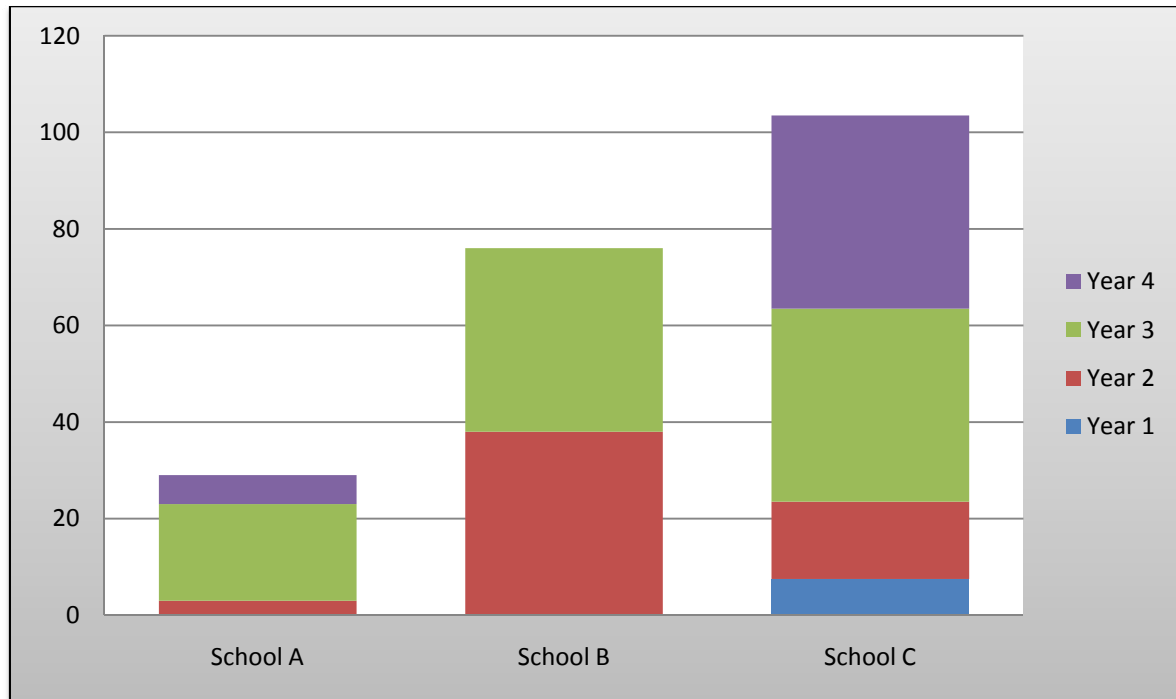


Figure 4 shows the time students spent on work placements in each school of pharmacy by year of study. In all schools the total time is small compared with the formal learning time. The schools took very different approaches to placement provision. School A organised short placements in community during teaching periods but also included a placement to be completed in vacation. School B had a compulsory one week placement to be taken in vacation and to be organised by the student. This was assessed by workbook. School C required a series of placements in each year of the programme. Short day placements in years one and two and a week community placement in year 3 followed by a week-long hospital placement in year 4. In years two to four students had to source their own placements.

All schools assessed placement activity using a variety of approaches including log books, pass-fail assessments and attendance requirements.

**Figure 4: Hours of work placement experience per year of study in each school of pharmacy**



### 3.2.2.2 Curriculum

Figure 5 summarises the curriculum in the three schools of pharmacy. The modules have been classified according to academic area. Clinical pharmacy and pharmacy practice have been amalgamated into one category. The classification was undertaken on the basis of the module content rather than simply the module title. Figure 6, Figure 7 and Figure 8 show the same analysis for each year of the programme in each school of Pharmacy.



Figure 5: Four-year curriculum in each school of pharmacy shown by major subject areas

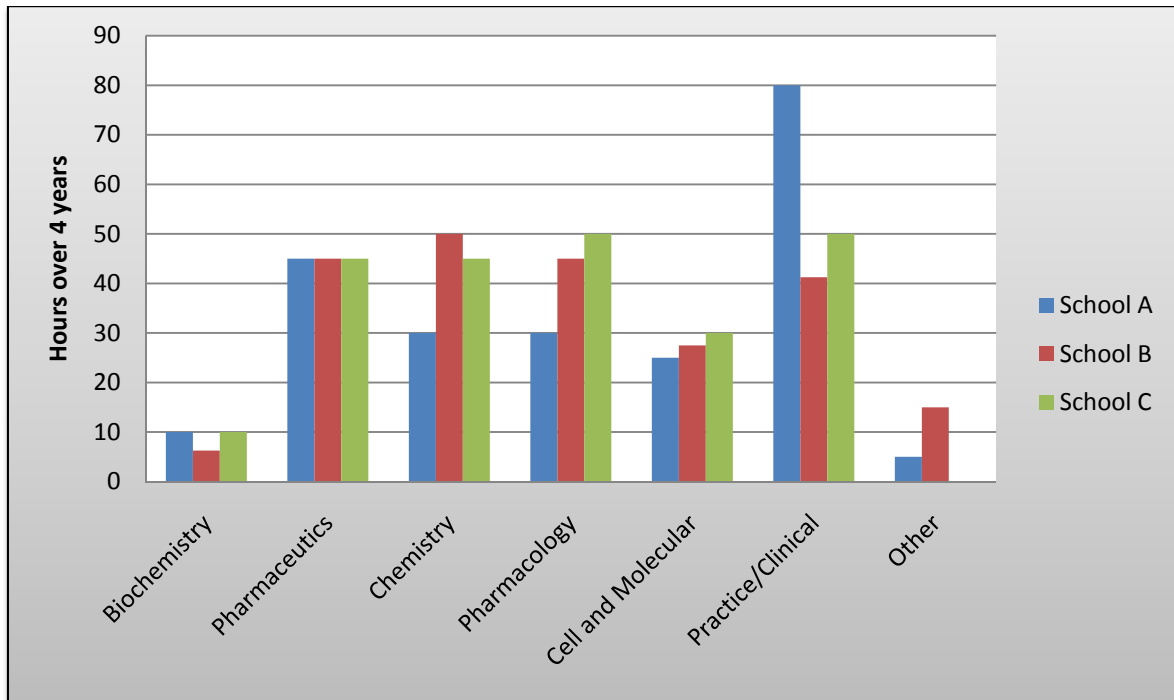
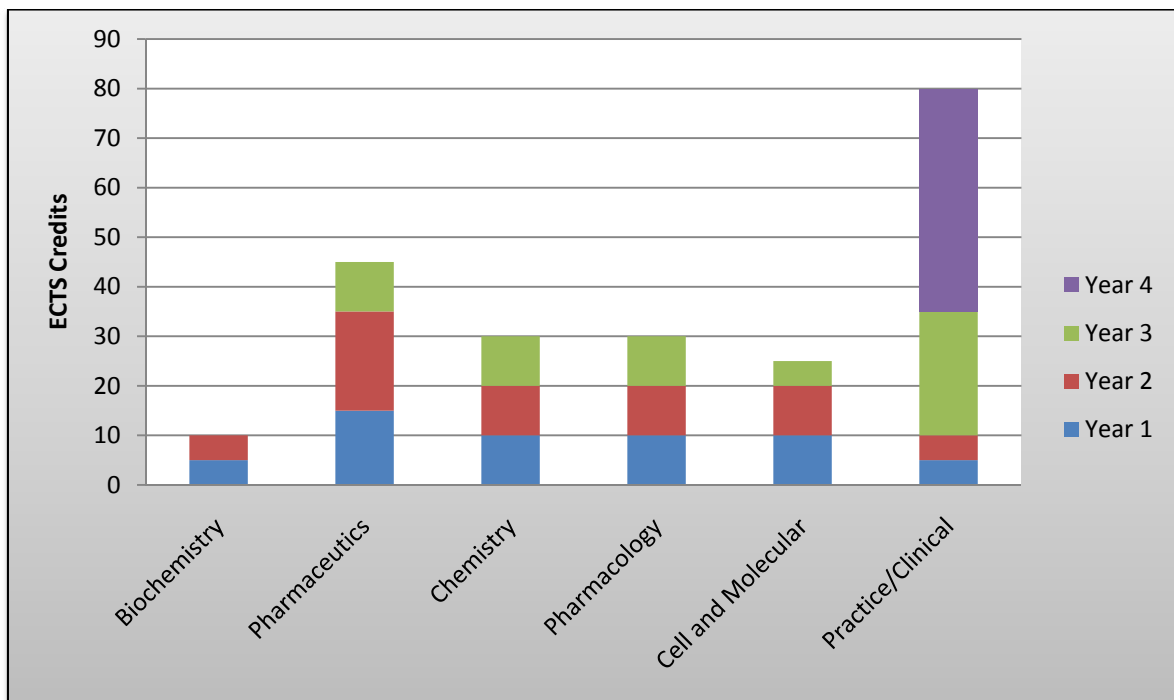
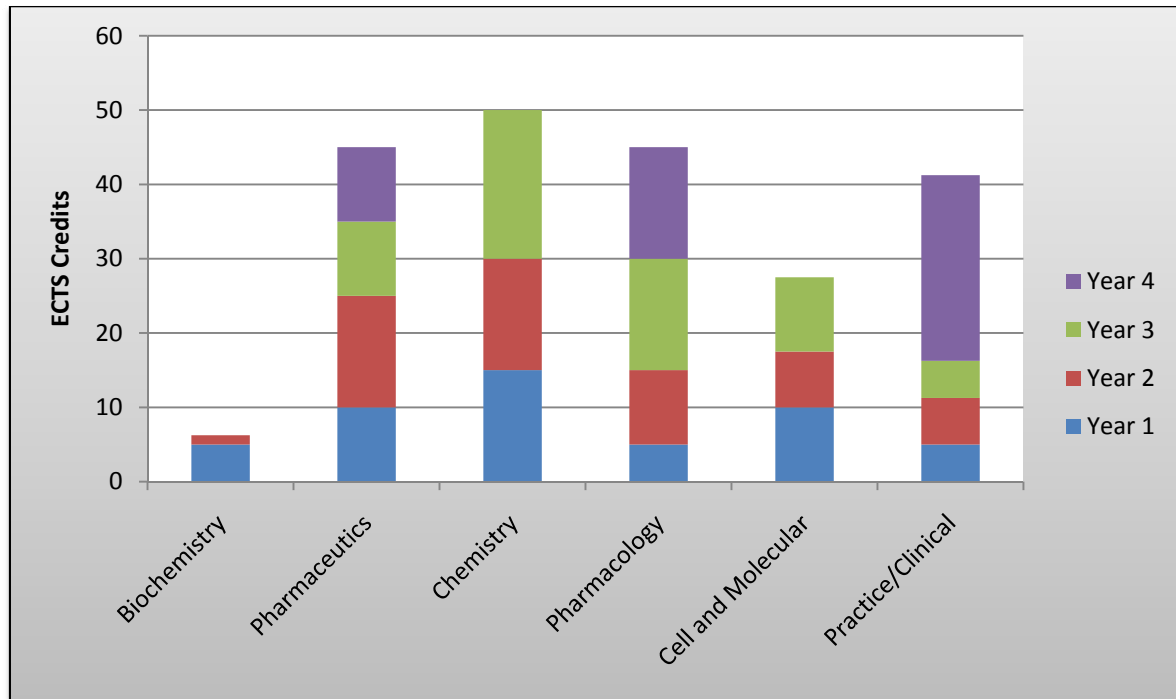


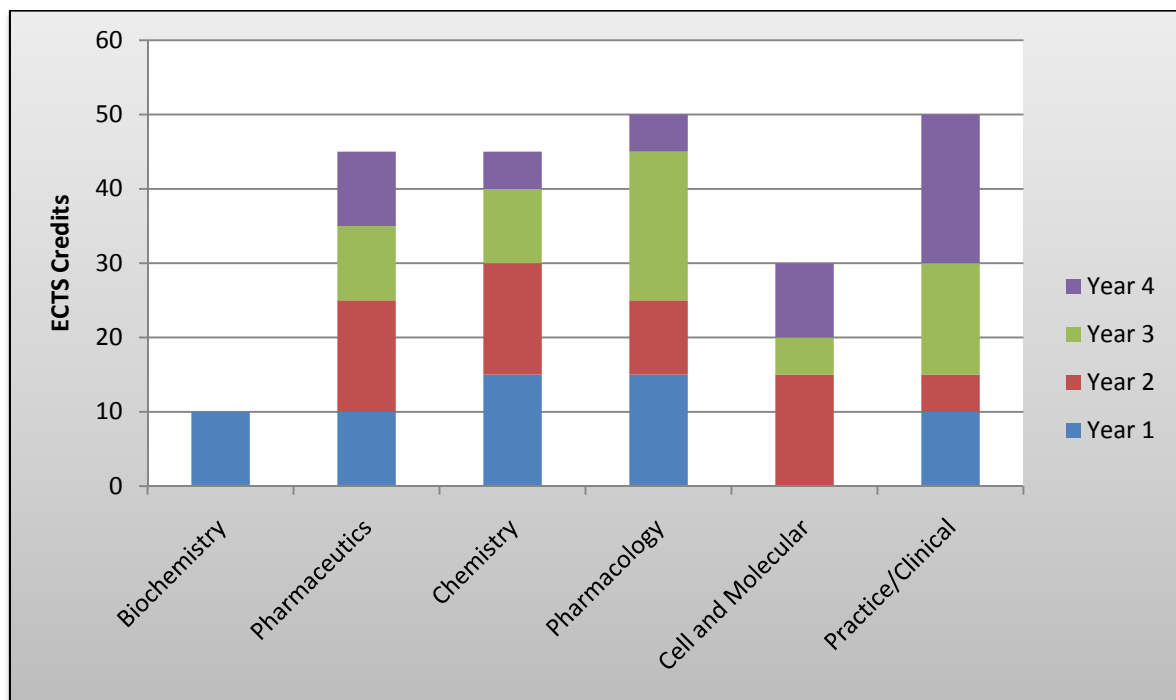
Figure 6: Curriculum in each school of pharmacy shown by major subject areas and year of study – School A



**Figure 7: Curriculum in each school of pharmacy shown by major subject areas and year of study – School B**



**Figure 8: Curriculum in each school of pharmacy shown by major subject areas and year of study – School C**



Some modules were difficult to classify and the large element of practice in the curriculum of school A was due to the highly integrated nature of many of the modules, particularly in the final year of the programme. There is considerable similarity in the overall curriculum content of the three schools and this may at least partly be attributed to the PSI accreditation process. In all schools, the pharmacy practice and clinical curriculum is loaded

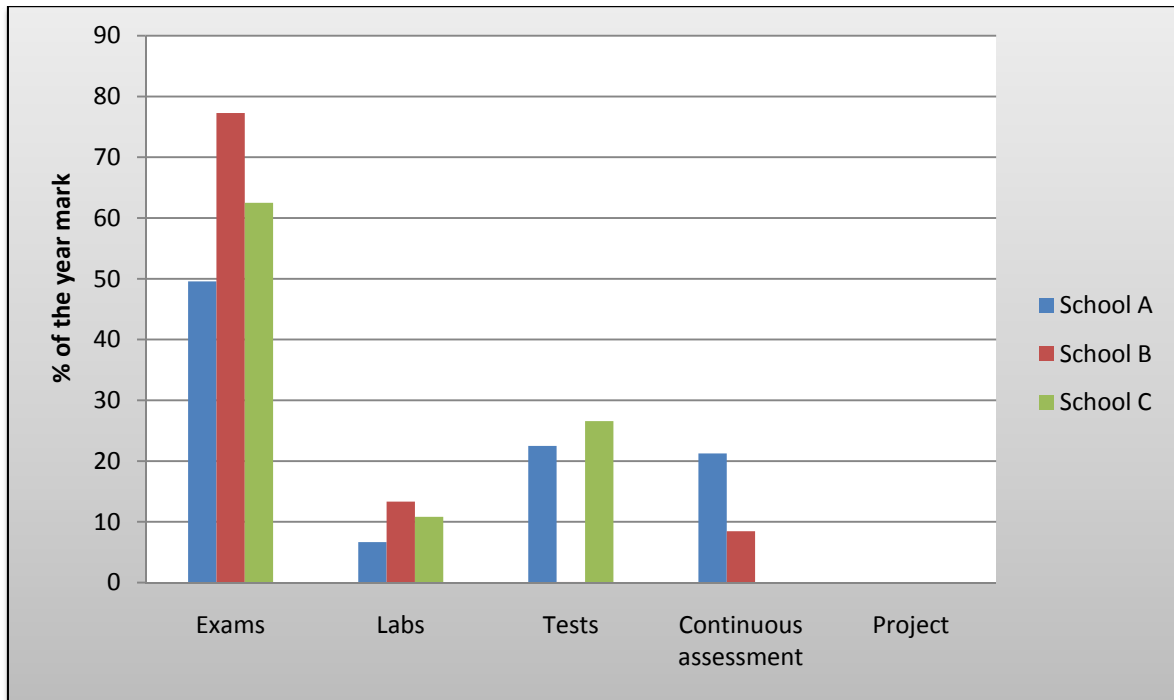
towards the end of the programme and mainly in the third and final years. Within the disciplines like pharmaceuticals, pharmacology and chemistry, basic science was front-loaded in the curriculum and generally became more applied in later years. An example would be chemistry where in the latter years this tends to become more applied with an emphasis upon analysis.

### **3.2.2.3 Assessment**

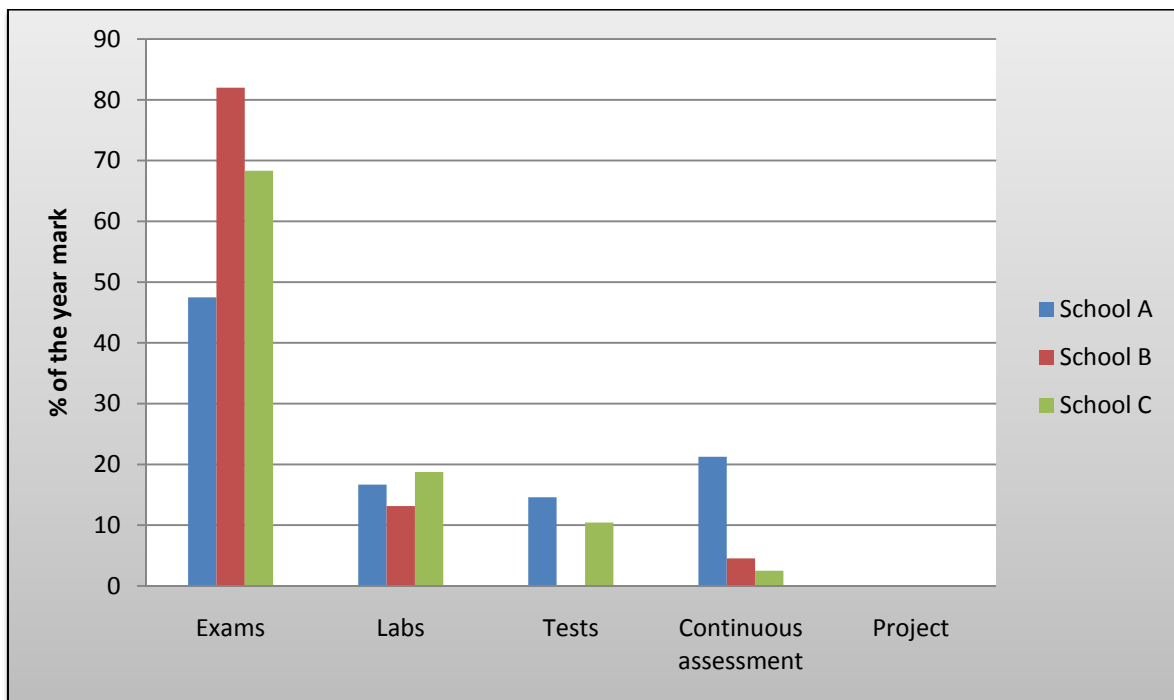
Figure 9, Figure 10, Figure 11 and Figure 12 summarise the assessment methods used in each of the pharmacy programmes in the three schools of pharmacy. Data for school B were not complete for years three and four of the programme and has therefore been omitted from Figure 11 and Figure 12. The assessment methods have been grouped into five major classes. Dissertations and small projects in the first three years of the programme have been included within continuous assessment (CA). Similarly, a number of tests including Objective Structured Clinical Examinations (OSCEs) and multiple-choice class tests have been included under the general term “tests”. Examinations are those assessments specified in module descriptors as end of year examinations.

The identification and classification of this data is difficult and it is important not to over-interpret the findings. However, it is clear that all three pharmacy programmes have assessment methods that are heavily focussed upon written examinations and tests. Furthermore, in the two schools for which the four year data was available, the proportion of marks deriving from these assessments decreased progressively in years three and four of the programme.

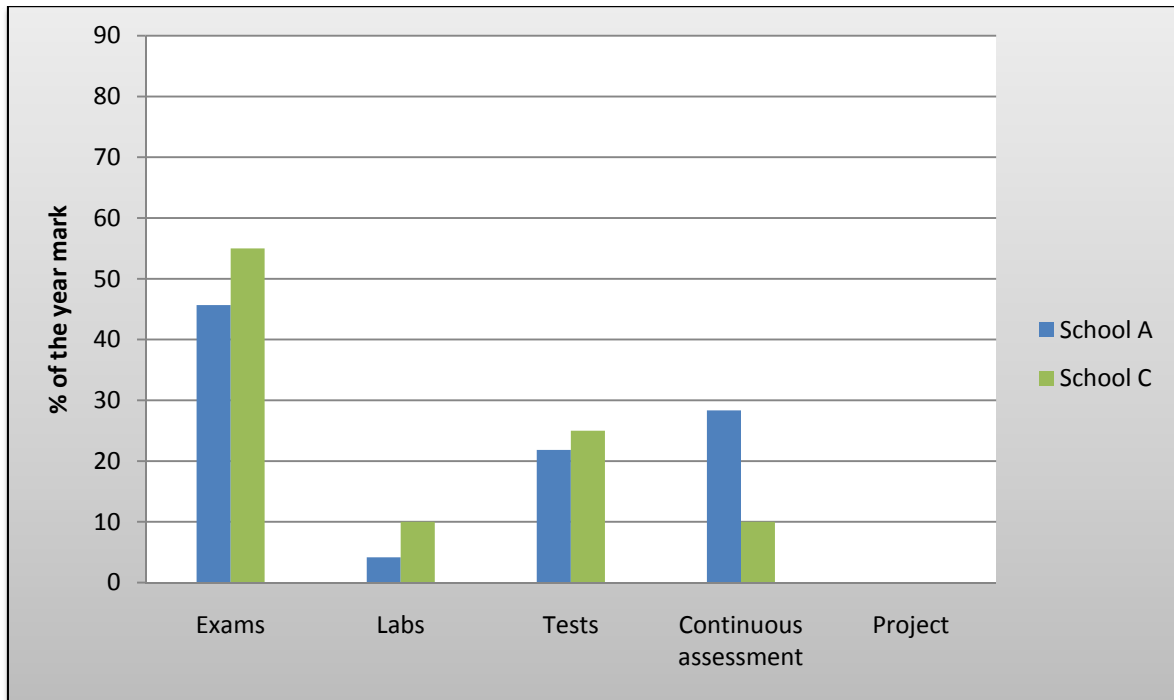
**Figure 9: Methods of assessment in the first year of the pharmacy programme by school**



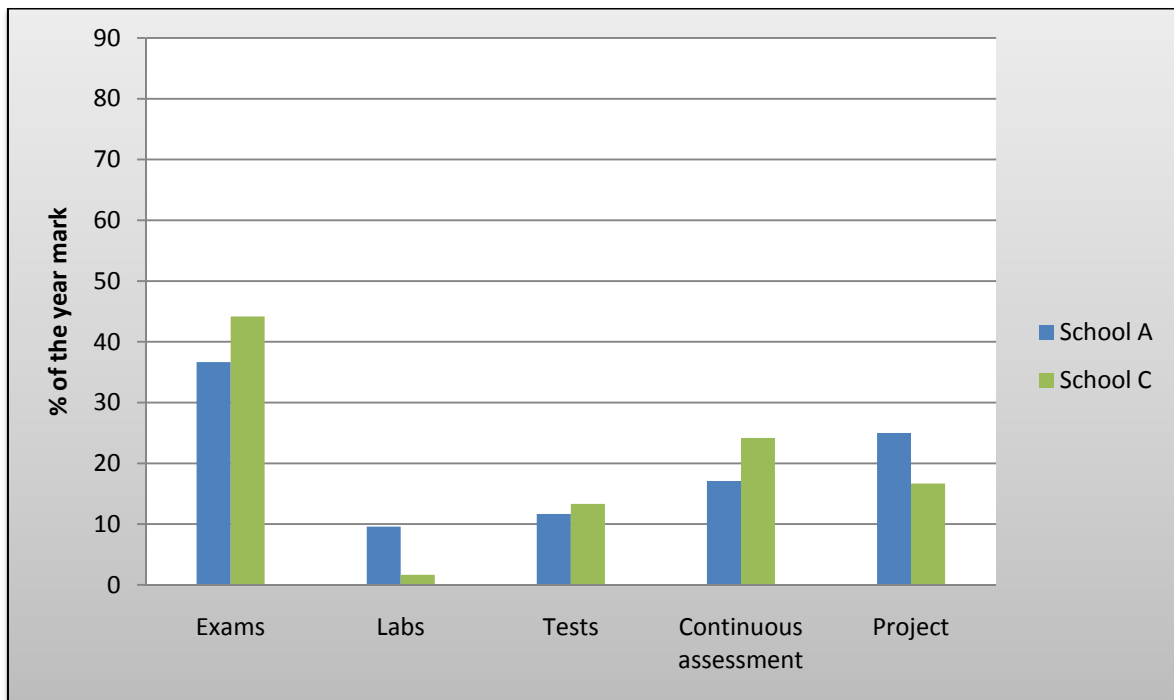
**Figure 10: Methods of assessment in the second year of the pharmacy programme by school**



**Figure 11: Methods of assessment in the third year of the pharmacy programme by school**



**Figure 12: Methods of assessment in the final year of the pharmacy programme by school**



### 3.3 Interviews with key school staff members

#### 3.3.1 Methodology

Each school was asked to identify up to three individuals who would fit the roles outlined in the Role Descriptors (see Part three, section A2.1). Owing to the arrangement of staff in the three schools, the following interviews were conducted:

*School A:*

- Head of School.
- Programme Director and Head of Pharmacy Practice (joint interview with two individuals).

*School B:*

- Head of School.
- Programme Director.
- Head of Pharmacy Practice.

*School C:*

- Head of School and Programme Director (combined interview).
- Head of Pharmacy Practice.

Three interview schedules were developed and revised following input from the Project Steering Group. Where one interview covered more than one area of inquiry (i.e. for School A and School C) combined schedules (to avoid repetition) were used. Copies of the three individual schedules can be found in Part three, section A2.2 (Head of School), Part three, section A2.3 (Programme Director) and Part three, section A2.4 (Head of Pharmacy Practice). The interviews were audio-recorded and transcribed verbatim.

#### 3.3.2 Findings

##### 3.3.2.1 Interviews with the Heads of Schools of Pharmacy

###### **Institution structure and the school of pharmacy**

Each Head of School was asked about the position of their school within their institution. All were in sub-organisations (Faculty/College), grouped around health, along with medicine and other health sciences. This places pharmacy within Ireland in a strong position for the development of inter-professional learning with medicine and other major health care professions. To our knowledge, Ireland is the only EU state in which pharmacy first level education is entirely co-located with medicine and other health care disciplines within long established universities.

###### **Financial resources**

All three schools of pharmacy had some degree of independence in the control of their budget. In all three universities the Faculty or College had a significant role in allocation of funding to its constituent programmes and there was some degree of educational provision

at faculty level. Therefore, the budget allocation process involved discussion at Faculty level. In all three institutions there was a formal method for resource allocation. In practice, it appeared that there were differences in the degree of financial autonomy of the Heads of Schools. One Head spoke of a very considerable degree of autonomy with the net income credited directly to the school following faculty and institutional level agreement on cost allocations:

*“I’m responsible for the budget and the fee income is credited directly to the school, I have a budget which is agreed which I work within then we obviously pay overhead costs, central shared services we contribute to, library and security and electricity, ultimately we are responsible.”* (Head of School)

Throughout the interview, this Head was less concerned about financial and physical resources for the pharmacy provision. In contrast, in another school, there was a much greater degree of institutional control through an institutional budget model that made the faculty the major budget centre.

*“Yes we’ve got some budget but again it’s part of the budget of the faculty of health sciences so any substantial decision I take it needs to be ratified by the executive committee of health sciences.”* (Head of School)

The third school had only just received a devolved budget due to the decentralisation of administration within the College.

*“This is the first year that we’ve been operating with this, with our own strict budget for consumables etc.”* (Head of School)

In this school, resources were clearly an issue throughout the interview and the school not only paid costs to the University but was also paying a mortgage on the new building.

One of the criteria for the degree accreditation process operated by the former Pharmaceutical Society of Ireland (PSI) (prior to the Pharmacy Act 2007) was that each school of pharmacy should be an autonomous unit within the institution. All three Heads of Schools considered that this was unrealistic. The response of one Head summarised well the views of all:

*“There’s autonomy and autonomy I guess you know, autonomous - should it be autonomous in respect of designing its own courses, deciding how many students - it can never be completely autonomous, the school of pharmacy should take a major responsibility for the design of the course and for well let’s say defining the graduate and how you get there, but there are areas where you clearly can’t be totally autonomous.”* (Head of School)

Another Head went further and challenged the view that an autonomous school was the best model for pharmacy.

*“We’re actually very integrated into the university, we have joint appointments with chemistry, microbiology, biochemistry, anatomy and physiology so we’re incredibly integrated actually for a school of pharmacy and I personally think that’s a stronger model.”* (Head of School)

All three Heads of the Schools of Pharmacy were, to varying degrees, concerned about the resources available for the delivery of the undergraduate pharmacy programme. The general concern was about the funding for the four years of the undergraduate programme from the Higher Education Authority (HEA) and in this respect, the Heads had been working together to develop a joint proposal for additional funding. At the time of the PEARs study the inter-school working group had identified an HEA budget shortfall of around four-thousand Euros per student per year. However, there were more specific concerns about elements of provision most notably staffing and the changing demands of pharmacy education.

### **Staffing**

All three Heads of School expressed significant concerns about staffing. One concern was the broad spread of pharmacy education across disciplines and the difficulty in maintaining critical mass in each of these disciplines given the limited total number of staff generated by the programme funding models.

*“We would consider there to be four professional subjects and they would be pharmaceutical chemistry, pharmacology, clinical practice and pharmaceuticals or drug delivery”.* (Head of School)

A second concern for all three Heads was a universal agreement on the changing nature of the practice of pharmacy as a major driver for changes in pharmacy education. The development of the clinical patient facing role in pharmacy was considered to place enhanced demands upon undergraduate education providers in the area of pharmacy practice and clinical pharmacy. All three schools recognised this as a major resource challenge that could only be partially addressed at the current level of funding. Two primary challenges emerged – staffing and the need to develop practice-based teachers, and access to the workplace for work-based learning.

### **Recruitment**

All three Heads of Schools agreed that there had been difficulties in the recruitment of staff, largely because of staff shortages in key pharmacy areas such as pharmaceuticals and pharmacy practice. However, the Heads were unanimous in their view that they had been able to recruit high quality staff. In the two new schools, the Heads commented that many of the staff members recruited were in relatively early stages of their careers. The size of the schools also meant that the academic base in terms of the number of staff was small. One Head spoke of their satisfaction at the outcome of the recruitment process.



*“We were extraordinarily lucky with staff recruitment, one of the things from the outset that I was very worried about was would we get good staff to drive the school... in practice we were very lucky, the team of people we got together here are extraordinarily talented, very, very gifted.”*(Head of School)

In the longest established school, there were continuing concerns about replacement of staff and particularly of senior staff. This was attributed to the financial situation.

*“Because of the difficult fiscal situation there is a lot of pressure from the faculty, lots of pressure from university and then also a lot of pressure from the Government. This is very challenging, I’m very disappointed that I cannot, I am not in the position to recruit a Chair in pharmaceutical technology, I would love to go to recruit a Chair in the practice of pharmacy but it’s a dream as it stands at the moment.”* (Head of School)

The Head of this school had very considerable experience outside the Irish educational system and was concerned about a perceived inflexibility in Ireland in relation to staffing.

### *Roles and functions*

Staffing was the area of greatest concern for Heads of School. All three Heads spoke of the need to develop research and of the importance of research for career development of academic staff. However, there was also a widespread recognition of the conflicting demands for input to professional education by practising pharmacists and of the heavy demands on the relatively small academic staff numbers in each school to deliver a complex multi-disciplinary vocational programme.

*“Pharmacy is a big problem because teaching demands, teaching loads in pharmacy is very heavy and buying protected time for research staff is very difficult, it’s a big problem.”* (Head of School)

*“Well it’s just the level of teaching and the level of student contact that we have here is really very high and we want a balance for all our academics, it’s very important that they have time for research.”* (Head of School)

In all three schools, research was seen as critical for the external reputation of the institution, its international standing and hence the institution’s ability to attract external funding. In addition, two Heads spoke of the importance of research to the future careers of staff and of the need for staff to compete in the wider institution.

*“If you have staff that are spending all their time teaching then they won’t be able to do research so I think it’s, and their careers within the university will never progress either because and so you would have pharmacy people left behind the rest of the university.”* (Head of School)

*“It’s quite challenging to get people who are actually experienced on the academic level, getting them to compete in the modern university and in the environment and buy into*

*the fact that they work in a university system not in a school of pharmacy and that they have to compete in that level.” (Head of School)*

A contrasting theme also raised by the Heads of two schools was the need for high quality teachers who could develop alternative careers. This was most fully developed by the Head at one of the three schools:

*“There has to be a way of rewarding teachers but also then it becomes incumbent on the teacher for their career path to show, you know the researcher has to provide publications and research, the teacher that wants to get to professor level is going to have to show that they have developed some excellence in teaching.” (Head of School)*

This respondent also questioned the assumption of the primacy of research within universities. He commented that *“the primary role of the university is to teach no matter what anybody says”*. Developing this theme he stated:

*“Universities are not there to solve the research problem, well you can make them do that if you want but they’re not there to develop your new line of products, new medicines, whatever, new aeroplanes. Universities contribute to that by virtue of their scholarship but their primary role has been forgotten and their primary role is teaching and scholarship.” (Head of School)*

#### *Practice staff*

The development of an academic staff base in the practice and clinical areas was recognised as a major challenge and one that could only be solved by a concerted approach from the Higher Education Institutions and external employers. Heads recognised that in contrast to medicine, there was no established career route for the academic practitioner and one head described the difficulties he had experienced in introducing joint-funded teacher practitioner posts with local hospitals.

*“I am a big fan of joint appointments and it’s been a big disappointment of mine in the last couple of years, I’ve been pushing hard on joint appointments. I’ve actually got agreements but the problem is that the [individuals] hospitals that I have approached have had difficulty in getting hospitals to commit to their half.” (Head of School)*

The development of the academic workforce in the area of pharmacy and clinical practice emerged as a major concern in all Schools of Pharmacy and particularly the development of research capacity in these critical areas. Comments by the medically qualified head of one of the schools exemplified this concern.

*“I would like to make everything to support POP (Practice of Pharmacy) on the other hand what the area needs, it needs more research type of approach and this can only be through the recruitment of people who are strong on research.” (Head of School)*

In all three Schools of pharmacy, concerns over development of the academic workforce and academic capacity were linked to clearly articulated aspirations for the development of

pharmacy as a profession. All three heads considered that pharmacy as a profession was insufficiently recognised in Ireland and that it had great potential to contribute more to health provision and through research and the pharmaceutical industry, to economic prosperity. Development of research capacity in the Schools of Pharmacy was seen as essential to develop a wider research capacity within the profession. Speaking of the profession as a whole, one head of school commented:

*“If they’re going to persuade the Government of their value as a profession that all has to be evidence based and to use the awful cliché evidence based research so we need to try and encourage pharmacists in say community and hospital to get involved in research so that they can show the services that they provide are a value to the patient and are of economic value to the state.”* (Head of School)

The Heads of Schools were also asked their views on the required competencies for a member of teaching staff. All three considered it important to have an appropriate representation of pharmacists on the teaching staff. One Head considered it important that there should be at least one pharmacist in each academic subject area. Another Head thought that about 50% of total staff as pharmacists would be about right but with all staff in clinical and professional areas as pharmacists. Another view was that the requirement for a pharmacist in each discipline was unrealistic and unnecessary. What were important were the overall balance and the ability of pharmacists to articulate professional needs.

*“I think the driver should be that on the staff in the school there’s a good representation of pharmacists and that those people are clearly involved in the decision making and that’s as far as I would go.”* (Head of School)

The importance of a higher degree, preferably a PhD, was considered essential for academic staff and there was a view that this was a major challenge in relation to the clinical and professional area.

*“It’ll take maybe five years before that situation eases but to get a pool of potential teachers in the clinical entity more than five years, it will take maybe a decade.”* (Head of School)

### **Experiences of accreditation by the former PSI**

Only one of the three Heads of School had been in this role throughout the prior application and subsequent accreditation cycle. This Head of School perceived that the former PSI was not ready to accredit new schools at the time the institution first submitted a bid and had no agreed method for accreditation. This Head considered that overall, this resulted in delays.

*“They just weren’t ready for us and we had to actually use, pretty much the UK guidelines for accreditation.”* (Head of School)

When the PSI did introduce an accreditation system it was based upon the UK guidelines which focussed upon curriculum and the process of education. The same Head considered

that this resulted in some mismatch between the educational approach adopted at his institution and the accreditation requirements.

*“When we devising this course, we made the course outside in - we pictured the graduate and we decided how we were going to get there. The method that was adopted by the Society wasn’t quite that. It was all these boxes ticked so you deliver this and this and this, do you deliver this number of hours and this number of hours, this number of hours divided up like this, that’s what they required.”* (Head of School)

However, in retrospect this Head of School considered that the relationship with the PSI had been good and remained so. It was the accreditation method that was the problem - “a historical cumbersome one for accreditation”.

The Head of one of the new schools of pharmacy was appointed at the time when the school had received final approval to start the programme but had been present throughout the annual accreditation visits up to the final full accreditation in 2007. This Head of School perceived a big difference between the early visits and those in the final year leading to full approval.

*“I think initially for the first year or two it was a very big deal if you like where we felt that we were being scrutinised to a very minute detail but we got through it and our experience in the latter years would have been much more positive experience and I think the Society has changed a lot over the years.”* (Head of School)

Commenting on the last visit, *“If I was to compare that to the first visit we had four years previously I would have said that the tone of it was much more encouraging rather than kind of examining.”* (Head of School)

The Head of the longest established school of pharmacy was the most critical of the accreditation process implemented by the old PSI. This respondent joined the institution towards the end of a long re-accreditation round and experienced two visits by a PSI team. Again the process was perceived to change over these two visits:

*“I went through the two accreditation visits and the first visit I was disappointed with, I felt that there was a basic inequality between the position of PSI and the accredited school. The second was much better; I would say we started to interact as partners rather than the supervisor and the student.”* (Head of School)

### **The future of pharmacy education and training**

*How could it be improved?*

This was the first question in a series about the future of pharmacy education in Ireland. Each Head was asked how they thought pharmacy education and training in the state could be improved. All three Heads of Schools identified the pre-registration year as a critical issue because of variability and lack of any quality control of the process.

*“It’s totally inadequate, that’s because there are tutors who are very good, tutors who will give a very structured training, but most of them go in and they’re a pair hands to run the pharmacy so the structure of the pre-reg year, the idea of this traditional project that they did to tick that box.”* (Head of School)

*“The pre-reg year if I can start with that definitely needs to be overhauled because I think that everybody appreciates now that there are huge variability in the quality of training that our graduates are getting so there has been a lot of feedback from the students that have been recently qualified to criticize a lot of areas of the pre-reg training year.”* (Head of School)

*“The fifth year is not run by us, it’s run by the Society, there’s some good things but there are also some bad things as you see so all of these issues are up for discussion and they should be addressed.”* (Head of School)

There was also a general recognition by the Heads that the schools of pharmacy would need to become more involved in the whole of the five-year programme of education and training. One Head, a non-pharmacist, spoke of his vision of an MSc qualification, possibly a four plus one programme. Another identified the image of pharmacy within Government and the public profile of pharmacy as a major issue. Further comments below (see *The five-year programme – future role of the schools of pharmacy*) explore the views of Heads on the future involvement of schools of pharmacy in the overall five-year period of pharmacy education and training.

*“We need to persuade the Government of the value of pharmacy graduates and we need to give them more responsibilities and get them more involved in the whole healthcare system especially now when healthcare budgets are going through the roof and everything is costing in Ireland anyway so much. The Government isn’t getting the full value out of our graduates I think.”* (Head of School)

#### *The pharmacy undergraduate curriculum*

The Heads of Schools were asked what they would like to see changed in the undergraduate pharmacy curriculum in order to produce pharmacists of the highest quality. The question was framed in the context of the Pharmacy Act in Ireland that offered the opportunity for major changes in pharmacy education.

One clear theme that emerged was the importance of maintaining the academic rigour of the curriculum and its foundation in science and technology. Two of the Heads articulated this in terms of the need to support graduates to work in all areas of pharmacy and health.

*“Well one of the things is that if you have a healthy academic dose in education at the end of the study people have the choice, do I want to be a pharmacist, clinician or maybe scientist or maybe or maybe work in the pharmaceutical industry so if we prepare them well for every opportunity the spectra of choice broadens.”* (Head of School)

*“The broad base of the degree that allows people to qualify and work in all areas of pharmacy, I think that’s very important so I would not like to see our degree become totally clinical or totally technology driven, I think that we need to keep this balance and avoid the kind of temptation to become totally clinical.”* (Head of School)

The Head of the third school also referred to the need to maintain the underpinning science and to provide for all areas of pharmacy but he placed a greater emphasis upon clinical skills because of the need *“to understand that most pharmacists will go into community and pharmacist in community will need a set of clinical skills”* (Head of School).

*“I still feel that pharmacy to contribute more to the practice of healthcare needs to be more clinical. It can’t lose its science technical, its scientifically base, pharmacists should be able to go into industry, into a manufacturing lab but they sure as hell however have the need to have good clinical skills.”* (Head of School)

In terms of curriculum design, one Head spoke of the need to focus upon outcome qualities. In relation to the undergraduate degree, he linked this to an integrated approach to the development of clinical skills.

*“I’m a great fan of outcome focused, in defining the graduate and working how you will get them. Once you’ve got that defined the Head of School should be able to say OK that’s my task to get them there I think the five-year programme would have to be integrated over the five years rather than an add on to the current year. It would have to require clinical skills taught throughout.”* (Head of School)

#### *The five-year programme – future role of the schools of pharmacy*

This question was about the undergraduate degree and the current pre-registration year as a five-year block of training and education. There was general agreement amongst the Heads of Schools that the schools should become more involved in the fifth year. One comment was representative of the general views.

*“I think we need probably to accept more responsibility for a practice of pharmacy compound and the clinical pharmacy being really very strong.”* (Head of School)

However, two of the Heads of Schools were concerned that change was not rushed and that it was properly planned and funded. A distinction was drawn between the immediate problem of a shortage of pre-registration places and the longer term perspective of producing an integrated programme. Referring to his recent discussions with the PSI about an interim solution to the problem of managing the pre-registration year he commented:

*“This is the emergency type of reaction rather than the strategic one, you were asking about the strategic one and the answer is yes, yes we are ready, no we don’t have the resources.”* (Head of School)

Heads at two schools both expressed very considerable concerns about attempting to make a major change without adequate planning, preparation and resources. A number of

quotations have been provided because of the strong feelings expressed about the issue of resources.

*“It’s not something that can happen overnight if you want to do it correctly and there’s no point in doing it half satisfactorily the first time, I think that we should get it right, well you never get everything right, but a lot of thought and planning should go into it to try and get the best we can from the get go if you like so that’s going to take a couple of years.”* (Head of School)

*“I think the other thing, the resources that are available in school of pharmacy are really going to have to be upped because we at the moment, we are understaffed as I said to you earlier on for our existing commitment which is just the four year degree, nothing to do with the fifth year and if we were to take on additional responsibilities in the fifth year and I think the, it looks as if the schools are going to be key in this fifth year and it’s going to be a huge additional demand on the schools and that really needs to be looked at very carefully.”* (Head of School)

*“I think my first advice will be if you don’t have resources don’t mess with what we have, we are not brilliant but not too bad. The big change costs and it offers you tons of opportunity if you do it properly but if you attempt the big change without the proper resource it will be a disaster, a mess and this is the last thing you want to have given circumstances.”* (Head of School)

*“From where I’m sitting at the moment and it’s a strong thing to say and I don’t say it lightly, if we were told to go to an MPharm programme tomorrow with the resources we have and if the other two schools decided to do it as well I wouldn’t do it because we simply couldn’t do it properly and that’s a very strong statement, I’ve spent my whole career doing things on a shoestring but this particular one I don’t think we could.”* (Head of School)

The Head of the third school generally took a more relaxed view about the potential involvement of his school in a five-year programme.

*“OK we’re going to do five years now, what’s that graduate going to be like after five years or are you going to have to have a four [year] graduate and a five-year graduate, a four year BSc and a fifth year certificate masters whatever, are you going to do that?”* (Head of School)

Speaking of the general economic conditions in Ireland following the credit crisis he commented:

*“I think the problem of moving on has been made more difficult now, although it’s not totally, the fact is in one way that’s the case in another way it’s forcing them into position now, because of the lack of pre-reg places, we now have to force down the five-year plan more rapidly and that’s probably good rather than bad.”* (Head of School)

However, overall this respondent identified clinical teaching resources as one of the critical factors for development of the five-year programme. He commented that it was not possible to bring such staff into full time positions because with time their clinical expertise became outdated. He saw joint appointments as the way forward but spoke of difficulties in securing the hospital or practice based component.

*“I’ve been pushing hard on joint appointments. I’ve actually got agreement in the last couple of years and that’s probably lapsed for two of those posts here but the problem is that the hospitals that I have approached have had difficulty putting, getting hospitals to commit to their half, it’s been a disappointment to me but it hasn’t made me go away.”*  
(Head of School)

This view was echoed by another Head of School who saw the mission of core staff as undertaking research and the teaching of students. To deliver an integrated programme would need another cadre of staff supporting the core academics. Speaking of core staff in relation to this new staff group, the Head explained:

*“...then I want to wrap around them a whole team of people who are the interface between us and healthcare delivery, maybe joint appointments with the hospital sector, joint appointments with community sector, people whose only role in the university is making sure that they bring the cutting edge of practice in and expose our students to it and expose our staff to it.”* (Head of School)

#### *Responsibility for workplace learning*

Heads of Schools were unanimously agreed that the pre-registration year was the weak point in the chain of education and training to registration as a pharmacist. The primary criticisms were the lack of uniformity of experience and a lack of any rigorous quality assurance process. A typical comment was:

*“It’s [the pre-registration year] totally inadequate, that’s because there are tutors who are very good tutors, tutors who will give a very structured training, but most of them go in and they’re a pair of hands to run the pharmacy.”* (Head of School)

These views were echoed by other senior staff within the Schools of Pharmacy. However, all the staff interviewed were positive about engagement of the Schools of Pharmacy with the delivery of the fifth year of work-based learning. The primary concerns were adequate funding, the availability of staff and the identification and training of work-based tutors. The key issues that emerged in relation to the fifth-year were as follows:

- The need to develop a set of national competencies for registration as a pharmacist and an agreed system of assessment. These should be reached through involvement of the PSI, all three schools and other stakeholders. *“It’s complicated, all I’m saying is the school would have a role but not the sole role and the school’s role is as educators.”* (Head of School)



- That all schools would welcome engagement in the work-based training but that this would need to be resourced and there would be significant demands in terms of staffing. These demands would also fall disproportionately upon the practice and clinical areas. *“We would need to have a tripling of our staff in clinical practice to really so what I want to do in ethics and specially OTC and pharmacy practice.”* (Head of Pharmacy Practice)
- That the work-based tutors were critical to the success of work-based learning. Concerns were raised over current capacity within the workplace. A programme director commented *“there are a limited number of people in Ireland with the correct skill set to be able to deliver what will be required in a pre-registration year.”* (Programme Director) A significant concern based upon previous experience of working with short in-course placements was the capacity of the Irish Hospital Service where there were *“limited numbers of hospitals with very busy pharmacists working within them and large numbers of students when you look at the three schools.”* (Programme director) A very experienced pharmacy practice lead at a school of pharmacy went further and spoke of the lack of links between the Health Service Authority, the Schools of Pharmacy and the Irish Medicines Board. *“The health services authority needs educating about pharmacists education”* and *“we have to sort out what is the educational role of hospital pharmacists and within that pre-registration.”* (Head of pharmacy practice) Although the hospital service emerged as an area of concern, it was also seen as an area of great potential for pharmacy education with an added potential for developing research and outreach enterprise activity.
- That the methods of assessment needed a major review. The development of professional competency was seen by respondents from all schools as a continuous process from entry to school of pharmacy through to registration. However, the assessment of fitness to practice as a registrant needed to measure practice performance and at the time of the interviews no school was in a position to do that. One head of practice commented *“The student has to take responsibility for the care of the patient, albeit under supervision, in order to be able to demonstrate the necessary skills and competencies and we can’t do that at the moment.”* (Head of Pharmacy Practice)

One Head spoke of the importance of workplace learning for all degree programmes as a means of... of consolidating their academic learning.

*“You could ever say about universities that the best thing we do for students is actually put them out into the workplace and it’s exactly the same with pharmacy if we do it right and if we embed those placements within their learning and package it right we could actually have a wonderful product.”* (Head of School)

### **Qualities of the day one pharmacist**

This question was about the essential qualities of the pharmacist at the point of entry to the register: often termed the day-one pharmacist. Two of the Heads mentioned an ability to work in a variety of sectors. In one case the vision was of an academic capability to compete in the employment market in extended settings.

*“To prepare the graduate to be, to have this high degree of education and I would like to see that any pharmacist will become my PG students, I would like to see that the pharmacist can go and work with the Government and be prepared to this or be a part of the pharmaceutical industry or even and go and let’s say revamp their career.”* (Head of School)

One Head recognised that the pharmacist at registration must have a set of skills suitable for practice in community pharmacy but that this skill set needed to be wider

*“We don’t just want them to be focussed upon that [community pharmacy], they should be able to have other skills as well.”* (Head of School)

In contrast, another focussed upon practice but drew a distinction between the level of practice at the point of registration and that later in a pharmacist’s career.

*“At the end of the five years [they] should be able to practice in the role that [they] choose to practice in but they should not be assumed to be a competent, fully competent practitioner, they are ready for practice in that area but will need development of those skills.”* (Head of School)

### **Admission to a school of pharmacy**

Each Head of School was asked to describe their current admissions policy for entry to the undergraduate pharmacy degree and how they would like to see this developing into the future. All spoke about the inflexibility of the Irish CAO central application system which is essentially based upon academic point scores. They recognised that pharmacy was a highly competitive subject but all felt that this would reduce to some extent because of the employment position that was developing in the community sector. All three Heads were confident that there would not be a major problem in future recruitment.

One raised the issue that the current recruitment system did not provide for those applicants who might have a genuine interest in pharmacy but with lower, albeit acceptable academic scores.

*“There’s probably a lot of people who have not reached the threshold, quite capable to making good pharmacists but the system is racked against them.”* (Head of School)

In a similar vein, one Head who was not a pharmacist spoke of a concern about a mismatch between the current admission system and the ideal of attracting students with a real calling to study pharmacy.

*“I personally would love to think they were coming into pharmacy because they wanted to be pharmacists, and there’s certainly a group of them who are but to an extent I think the way in which university places are offered here unfortunately puts a different value on things than a real love for the subject.”* (Head of School)

Following the initial question about the admissions policy, each Head was asked their views on how to ensure that entrants to pharmacy were not only academically capable but that they also had the right attitudes and values for a career as a health professional. A Head with experience of admissions for pharmacy and medicine in North America, considered that interviews were valuable. Speaking of the current admissions system he commented:

*“It does not take into consideration our interest, the specificity of pharmacy. I would like to see it changed, I would like to see like let’s say the admission to medicine, we’ll see the candidates face to face and have the opportunity to interview.”* (Head of School)

Two Heads spoke of the recent changes in the admissions system for medicine within Ireland where an aptitude test had been introduced. The view at one school was that this should be evaluated to see if it were applicable to pharmacy. At the other, the Head also considered it worth close observation but he could see the potential problem that this test would simply become another way of picking out the most academically able students.

*“Medicine is changing at the moment in that there are, there is a requirement to do a scoring system, you know what’s going to happen, that’s open to abuse as well, what is going to happen is that the candidates are going to turn their minds towards the high points the students, they have to cram for their high points, they have to work through this system of knowing that they’ve got the best answers for the rigid test.”* (Head of School)

### **Future interaction with the PSI**

The Heads of Schools were asked how in future should the schools and the PSI work to assure the quality and fitness to practice of the day one pharmacist. They were asked to take a new look and not be bound by past experiences.

All three Heads recognised the importance of the relationship and wanted, in the terms of one, to *“...be co-operative, positive interaction where, and consultative so not prescriptive”*. All three Heads wanted a positive role for the schools but they recognised that the relative role of the schools and the PSI would vary according to the circumstances. One Head commented *“...in every and each stage of education of the pharmacist, the schools, the academia has something to say but whether it drives it depends on the context. I would say that Society is entitled to run, to set the criteria”*. Another Head developed this view further by referring to the statutory responsibility of the PSI as a regulator.

*“The PSI has a requirement under the law to ensure that graduates maintain their competency and they’ve got the prime responsibility there. They can delegate it to other*

*bodies if they wish and I assume they wish to delegate some of this to the schools but they have the prime responsibility for signing off.” (Head of School)*

### 3.3.2.2 Interviews with the programme directors and pharmacy practice leads

#### Organisation of the pharmacy degree

The degree programmes in all three schools were modular and credit based. Interviews with programme directors and practice leads revealed a clear identity for the traditional pharmacy subject areas of pharmaceuticals, pharmaceutical or medicinal chemistry, pharmacology and pharmacy practice. In one school there was also a clearly identified pharmacognosy grouping. However, in all three schools there was a move to a school based approach to management and curriculum development. In all three schools, resources were allocated at a school level. In the two newer schools this was a system in place from their foundation but in the case of the third school this change had been implemented in 2005 following recommendations from the PSI accreditation process.

Respondents were asked about the structures for management of the curriculum and syllabus. In all three schools there was a school level curriculum committee. In two of the schools this was made up of internal staff, whereas at the other, the “*Curriculum Board*” included a majority of external members representing the various pharmacy sectors. In all three schools the Heads of School were ultimately responsible for the curriculum and for staffing but in one, there was a formal Executive Committee that had a more strategic role in maintaining “*an overview of the curriculum*”. One school had a designated programme director whereas at another there had been a recent implementation of a middle management structure with senior academic staff taking responsibility for areas of curriculum.

#### Pharmacy practice within the curriculum

In all three schools clinical pharmacy and therapeutics was considered to be a fundamental part of pharmacy practice. In one school the term clinical practice was used to describe the overall range of this subject area whereas in the other schools, the term *Practice of Pharmacy* (POP) was the general descriptor. At the time of the interviews, one school was in the process of rolling in a new four year degree with increased practice and clinical content.

Respondents were asked about the balance of teaching between the pharmaceutical sciences and practice and how this was reviewed. In all three schools the overarching Curriculum Committee had some responsibility for this. This was most clearly expressed by staff from a school where there was mention of integrated modules including practice and science. At another school the Curriculum Board had a more strategic role but as a new school, staff considered that there were no issues about balance. Here it was considered that the school had a “*strong practice ethos*” with around 30% of curriculum time. The interviewee from the third school did see some tensions between the time allocation to practice and the pharmaceutical sciences. The view was expressed that since the school Executive Committee had a majority of scientists the views of the practice staff could be

*“overruled”*. Concerns were expressed about *“the heavy chemistry component”* within the programme although there was recognition that there had been a recent 10 credit reduction in time allocation to this area.

Resources for practice teaching were a concern in two of the schools. In one, the head of practice commented that practice *“is still a significant resource driven component”* with the *“least resources”* and *“is least able to provide for extensive teaching”*. This respondent also spoke of a major problem in provision of practice teaching within hospitals where experience showed that *“it is difficult for them to provide the sort of degree both in both the extent and in structure that we would like for the clinical experience”*. These comments closely reflected the views of one of the Heads of another school (see Part two, section 3.3.2.1). Very similar comments about staff resources were made by another head of practice where in practice and clinical area, there was a focus upon case-based teaching. *“People don’t understand that case-based teaching is vary labour intensive and that’s the only way you can teach practice and clinical”*.

### **External influences on curriculum design**

Two of the schools identified formal mechanisms to provide external input to the curriculum design and development process. In one, it was the Curriculum Board (see above) whereas in the other an established subgroup which included representatives from the various pharmacy sectors fed into the *Course Management Committee*. At the third school the head of practice spoke of a *“Pharmacy Advisory Committee”* which liaised with community pharmacists *“to see what patients were wanting, which would actually feed back into the development of the curriculum”*. In responding to the general question about external influences, the respondents from two schools spoke of the changing economic environment for pharmacy in Ireland. In both schools the changes in the community pharmacy contract and in remuneration was seen as a factor that would change the aspirations of pharmacy students. The respondent from one of these schools spoke of the general economic crisis and its effect upon remuneration within the pharmacy sector were seen as the primary external influences – *“These factors are so overwhelming at the moment there is almost a sense of despair”*. The Head of School and programme director at another school also considered the changing economic situation in pharmacy to be a major issue and *“it is likely that graduates may follow the industry route”*.

One head of practice also mentioned the importance of the external political environment upon curriculum design; particularly the influence of Government policy and of Government organisations such as the Irish Medicines Board and the Health Services Executive (HSE). Concerns were expressed about the lack of direct links between the HSE and the schools of pharmacy and about their lack of understanding of pharmacy. *“The health services authority needs educating about pharmacists education”*. Speaking of a lack of clarity of the educational role of HSE pharmacists he commented *“we have to sort out what is the educational role of those hospital pharmacists and within that pre-registration”*.

When asked about influences upon curriculum from outside Ireland the respondents at all three schools mentioned the influence of the UK. One head of practice commented *“Ireland is very influenced by the UK”* whereas at another school the programme director mentioned the UK origin of the accreditation process adopted by the former PSI (prior to the Pharmacy Act 2007). At the third school the *“international flavour in this college”* was seen as a major influence considering that over 70% of students in the college were from outside the EU area. The imminent development of a new school of pharmacy in Bahrain was given as an example of the requirement within the school to maintain close contact with overseas pharmacy issues: *“we have been in contact with the various authorities of their jurisdictions and looking at our programme and how it meets their needs”*.

### **The influence of accreditation upon curriculum development**

In all three schools the accreditation system operated by the former PSI was seen as an external influence but views about its value varied. The programme director at one school considered that accreditation had been a constraint *“the accreditation system has been very much almost like a check box, you have to satisfy all of these things and all of these constraints on development of the curriculum”*. This respondent considered accreditation a dominant influence on curriculum development; *“we had to design our curriculum to satisfy the Society’s accreditation documents... everything else came secondary to that”*.

Concerns about the accreditation system’s focus on process were expressed at a second school *“it was a shifting round of credits; it did not step back and look at what we’re teaching and what we’re doing, are we over teaching in some areas”*. In contrast, the head of practice although recognising accreditation as a *“tick box process”*, also considered that it could be *“a stimulus because it tends to provide a deadline”*. An example quoted was the implementation of the ECTS credit system– the first pharmacy school in Ireland to complete this process. The interviews at the third school did not reveal any real criticism of the accreditation process more a recognition that compliance *“was something we have to do”*.

### **Internal constraints on curriculum design**

All three schools of pharmacy operated within their standard institutional framework for course delivery. Two of the schools were semesterised whereas the third was in the process of moving from a three term academic year to two semesters from 2009/10. The schools all operated the ECTS credit system and had examinations predominantly at the end of the year. These institutional frameworks were not considered a problem for delivery of the pharmacy curriculum. At one interview, there was the comment that although the semester system was a college one, *“the hours are dictated by the PSI through the EU directive [pharmacy education] and also the Bologna agreement”*.

Only one school had an institutional requirement that all programmes include a *“broad curriculum”*. Although not yet effected for pharmacy, the implication was that in each year *“there will be x number of ECTS as a core and then x number of ECTS as elective or optional”*. The process was exemplified in relation to a second year course where *“one module in*

*second year [will] be substituted for broad curriculum course if the student wants to do it, I think its professional development in career planning in second year".* The problem foreseen was the high number of credits of the core pharmacy curriculum.

### **Common curriculum with other programmes**

All three schools had a small amount of joint learning with students on programmes other than pharmacy. In general this was in the first year and in basic sciences like chemistry, biochemistry, microbiology, and physiology; these were examples provided during the interviews and are not an exhaustive list. However, the total time was small and in all schools this teaching came under the auspices of the relevant curriculum planning group or committee. The area of inter-professional education is covered separately (see below).

### **Teaching and learning**

#### *Didactic teaching and student centred learning*

All three schools used a combination of formal didactic teaching and student centred learning. In all schools, the modular system linked to ECTS credits set a norm for the amount of teaching. In one school the system was explained *"for a 5 credit module you need 125 hours under Bologna of which 62.5 hours are either in staff contact or self directed learning"*. In all schools there was agreement that direct contact hours were high. The programme director at another school commented that they *"do a lot of didactic teaching"* and the reasons were linked partly to tradition and partly because this is less resource demanding *"In terms of staff being rewarded... they don't get rewarded for teaching the same material to ten groups of seven students"*. At the third school there was a view that the amount of formal teaching was about twice that in the UK. Here there was an intention to reduce the *"didactic components"* and to *"explore these new ways of teaching"*.

Respondents were also asked about their use of problem based learning (PBL). In one school the respondent stated this was used in a first year module. Respondents from two schools referred to *"case based learning"*. What was described was problem centred rather than problem based learning. The head of practice at one of these mentioned resources as a problem in the delivery of PBL.

#### *Teaching of pharmacy practice*

As has been mentioned previously, in all three schools pharmacy practice incorporated clinical teaching and as a consequence it took place throughout the four year programme. Asked about the development of their teaching and learning strategy for pharmacy, respondents from all three schools stated that this was developed as a collaborative process between staff in the subject area. The responses from two schools were virtually identical *"This is a collaborative process. Ideas are generated by individuals and then there is consensus"* (First) and *"we sit down together and decide together"* (Second).

In all three schools the core skills of dispensing and supply of medicines were covered each year of the four year curriculum. In two schools the respondents emphasised that

dispensing was now taught in combination with clinical skills. In one of these schools the term dispensing was no longer used for modules *“the emphasis is upon a more patient centred focus i.e. medicines concept to patients”*. Only the respondents in this school referred to formal provision of ethics. Here ethics was *“integrated with the professional teaching and ends up being integrated with the law”*. In the other school ethics teaching was under review and in the third school basic ethics was integrated with law with external speakers developing specific ethical issues in the final year.

#### *Preparation for continuing professional development (CPD)*

Respondents at each school were asked how they encouraged students to learn for themselves in preparation for CPD. In two schools there was mention of a problem based approach to learning that was embedded in the curriculum. The head of practice of one of these mentioned a PBL module in first year that spread into second year although he commented *“we do not have the resources to do it beyond there... to be able to do PBL again in third and again really in fourth”*. In the other, there was mention of the general approach in the programme. *“I do think that some of the things that we do in theory, should encourage that because we have this problem solving approach and we do very much encourage students to be actually seeking out information”*. The head of practice at the third school focussed upon the importance of student reading and particularly directed or recommended reading of chapters. Distinction was drawn between this and internet based research: *“I expect them to spend their time reading rather than downloading”*.

In one school there was an institutional requirement for a professional development portfolio. *“Professional portfolios have been introduced and used very successfully in the clinical years”*. Collaboration with the PSI was also seen as important with the view expressed that the Registrar of the PSI had been a major driver in leading schools on preparation for CPD. *“The Registrar is a big driver on that, he sort of brought the schools in, we were probably on the back foot”*. On collaboration *“I don’t think as a school we can do this in isolation, I think we need to collaboratively work with the Society to see what’s reasonable”*. Assessment of CPD was mentioned as a critical issue.

#### *Development of professional values and attitudes*

In two schools professional values and attitudes had been built into the learning outcomes for practice modules. The head of practice of one commented that it was necessary *“...to set that professionalism from year one all the way through”*. In the other, students were taught *“what it is to be professional”*. *“In terms of the attitudes... we are knowledge, skill and attitude based curriculum and we have defined our attitudes and they are now in the documentation, how exactly we assess that”*. In the third school professional values and attitudes were said to be incorporated into the clinical areas of the programme and developed in practicals where there was said to be *“a strong element of professionalism”*. Respondents from two of the schools spoke about a student code of conduct. The head of practice at the third school commented that in relation to professional attitudes *“there was*



*not enough understanding out of practice about the importance of it". He commented further "I think that represents an area which I suspect all schools find a little bit difficult but it's one that needs attention".*

#### *Inter-professional learning (IPL)*

In none of the three schools was there a significant amount of IPL. In one school there was some joint teaching with medical students which *"provided students with an opportunity to interact"*. At the time of the interviews, one school did not have any IPL although the head of practice *"had spoken with some of the other healthcare professional courses"*. However, the programme director commented *"I don't see this happening immediately"* and that across the college a lot of courses were *"just getting to grips with the modularisation and this new semesterisation so people are really just trying to get their courses structured correctly"*. In the third school there was mention of IPL in the final year of the programme.

#### *Placement teaching in community or hospital pharmacy*

Respondents at each school were asked what arrangements, if any, they had made for placement teaching in community or hospital pharmacy. Two schools had some formal provision. In one of these, it was centred upon community pharmacy with one day in first year *"in which we base it around the prescription"*, two days in second year and a week in each of the third and final years. In the second school, second year students undertook a three hour placement and they were also expected to undertake a 20 hour placement that they organised for themselves. There were also out of hours visits to community pharmacies. The self organised placements were not confined to Ireland and could be taken anywhere in the world. The third school did not offer formal placements. The head of practice commented *"in practice we haven't really done up until now"*. However, plans were in place for 2009/10: *"It is expected to run next year and time has been set aside for community practice with set tasks"*.

Asked about supervision, the head of practice at this school drew distinction between placement learning and work experience. *"I call them experience because I am not placing... the pharmacist supervise... I haven't trained the pharmacists"*. At another school it was said that students found their own placement – and therefore again strictly these were experiential visits rather than formal placements. Here a member of staff acted as co-ordinator but *"doesn't make too many formal agreements"*. At the third school there was a much more developed relationship with the placement providers. *"We contact all of the pharmacists whom we have relationship with every year"*. *"Supervisors [of placements] are given a list of all the competencies that we want them to go through with that individual student, the students are told what kind of competencies they're going to have to be verified on after their visit"*. A workbook was used and practice based supervisors provided feedback to the course team.

When asked how the college resourced placements, a head of practice at one school commented *"It's going to be based upon the kindness of our friends in the community"*

*pharmacy and they'll essentially be doing it really".* In another school the head of practice commented *"the resourcing of it is just non-existent"*. Only in the third school was there a definite plan to further develop placement education. *"Absolutely that's what we have to do if we're to develop"*.

All three schools had one part time Boots funded teacher-practitioner although their input to work-based learning was limited. All three schools arranged visits to pharmaceutical manufacturing plants.

#### *Conduct and fitness to practice*

Two of the three schools had a formal, written code of conduct which a student signed at the start of the programme. One of these schools also had a formal structure to consider fitness to practice issues – a *"Conduct Committee"*. In the other school, such issues would be considered by the University *"Disciplinary Committee"* if they fell under the disciplinary regulations. Concern was expressed by the practice head at this school that it was difficult to engage the wider non-professional staff in the fitness to practice process. *"There's a view here that its nothing to do with us, fitness to practice is nothing to do with us and that's largely from the science, from people outside practice"*.

The third school did not have a written code of conduct although one was in development for the planned placement programme. However, in this college there were standards of expected dress and behaviour that were explained in first year lectures on professionalism.

#### **Assessment**

In all three of the schools the final degree mark was dependent upon performance in earlier years of the programme. In one school there was a graded scheme with a contribution from all four years of the programme but with 50% from the final year. A similar system applied in another of the schools but with no contribution from the first year. In all three schools the major examinations were at the end of each year of study.

#### *Assessments in pharmacy practice*

In all three schools there were a wide range of assessments in use within the area of pharmacy practice. All three schools used practicals, mainly for dispensing, plus formal written examinations. OSCE assessments were also in use in all three schools for clinical work. Two schools used video for recording students and to develop communication skills. The video recordings were not assessed in one but they were in the second. One school had a well established use of peer assessment *"primarily in the communications skills and in the problem based learning"*. Another school did not use peer assessment but at the third school this had recently been introduced for group projects. All three schools had some use of oral examinations (viva voce) although this was variable. Practical and written examinations remained the main means of assessment in all three schools. Resources were mentioned as a constraint for many forms of assessment such as OSCEs.

As has been mentioned above, the assessment of professional values and attitudes was integrated into the module outcomes in two schools. In one of these, such skills were primarily assessed in practical exams *“looking at the quality of the work that is presented there and also then in the clinical area”*.

#### *Assessment of clinical and professional competence*

Asked how they approached the assessment of clinical and professional competence, the respondents in two schools emphasised the importance of OSCE assessments. The head of practice in one commented *“the OSCE is the nearest we get to it really... and the video review”*. In the second school, the comment was that the *“OSCE is really the only way for clinical competence”*. *“OSCE assess some of the theoretical competencies, both from knowledge and a skill based but how they perform in real life”*. The respondents at this school also emphasised the importance of clinical skills: *“clinical competence would be the driver”*. In the third school the head of practice emphasised the importance of the practical dispensing examination. *“Third year dispensing is competence based and if they don’t pass after four attempts, they are they’re out”*.

#### *Feedback to students*

Respondents were asked about how they provided feedback on assessments to students. In all three schools feedback was provided. In one school there were college regulations on what material students were allowed to see. Here students could meet with an examiner and were allowed to see their scripts whereas for practical exams, feedback was provided *“usually when they have done badly”*. In another school, general feedback was given when the results of multiple choice examinations were released. Student could also *“see a lecturer if they had done badly”* whereas with practical exams students were provided with an *“opportunity to get feedback on why, where they went wrong.”* The practice respondents in the third school considered that *“we provide good feedback”* and this was particularly related to modules they had developed *“such as patient care modules where students get individualised feedback about their performance”*.

#### *Assessment load*

The programme director in one school commented that students may struggle with weekly practical write-ups *“there may be merit in possibly streamlining the way in which they write up a practical”*. The head of practice considered that the issue was more one of balance of assessment load. *“I don’t think we should have a lot more than we have but I think we should have more in practice assessment”*.

In the other two schools the respondents mentioned deliberate strategies to review and reduce assessment load in the practice area. The head of practice at one echoed the views of the head of practice mentioned above in relation to assessment load in other areas. Whilst stating that there was a definite attempt to keep the load down in practice, this was not the pharmaceutical sciences. *“Chemistry and pharmaceuticals do a huge amount of write-*

*ups at home*". *"Pharmacology, the burden of that assessment is very, very high"*. There was also a view that the clinical assessments in the final year had a high assessment load.

The practice heads in the third school commented that the stated priority was to review the quantity and quality of assessment and seek creative methods of reducing the assessment burden. *"We have actually looked at individual modules and tried to reduce it"*. They spoke of a move away from formal written examinations for the clinical and patient care modules. However, a constraint was the potential increase in load on staff. *"Where you cut exams, as we have done, you tend to find that you need to look at the quality of your assessment strategy and that invariably means a huge staff burden. So there is balance to be met between the students' needs for an appropriate assessment and the staff needs not to be crushed by the assessment burdens and the overall quality and quantity needs a big review."*

#### *Assessments and the full range of qualities to be a pharmacist*

Respondents at each of the schools were asked whether they thought that their current assessments measured the full range of qualities to practice as a pharmacist. The programme director in one school considered that the assessments were adequate *"to enter the pre-reg year"*. The head of practice in the same school considered that the difficulty lay in the ability to measure competencies. *"The student has to take responsibility for the care of the patient, albeit it under supervision, in order to be able to demonstrate the necessary skills and competencies and we can't do that at the moment"*. The head of practice in another school had concerns about whether the qualities necessary for practice had been clearly mapped and this was necessary *"before we can then effectively assess whether they are day one standard and how exactly you assess that"*. The head of pharmacy practice considered this a difficult question but that there was no national understanding of the qualities, skills and performance necessary to enter pre-registration training.

#### **Optional studies**

Respondents at the schools of pharmacy were asked two questions about optional studies – their view as to whether pharmacy should include provision for specialised options and the position of their own school with regard to optional studies. Only one of the schools included specialised electives in the final year based around sectors of pharmacy practice (community, hospital and industry). The programme director commented that these should be viewed as giving the students *"a taste, a bit of a flavour"* rather than constraining them to a particular sector. This respondent commented *"I personally prefer a core programme approach"* and that the fourth year was *"not the right time to specialise"*.

A second school did not offer optional studies but the possibility of an option stream had been *"discussed but not implemented."* Similarly, staff in the third school had considered options but not pursued them. *"We did think about it and in fact we went to the bother of writing a few optional module descriptors. Two big problems with it, the first is economics of scale, with only 50 [students]"*. The second issue raised by respondents in this school was

that in surveys of students from the college who had entered pre-registration training, *“the students didn’t see that as a priority, it was bottom of their list”*.

### **Research projects**

All three schools of pharmacy ran a research project module in the final year of the pharmacy programme. This was between 10 and 15 ECTS credits and in all cases was supported by core material covering research skills. In all schools the projects were offered across the full range of academic disciplines within the school and some projects were offered in partnership with external supervisors in various settings. One school offered only individual research projects whereas team projects were offered in the other schools. Respondents at one of these emphasised that in the case of team projects students had individual data to analyse and wrote their own report. Here it was considered likely that team projects would increase in the future.

### **How pharmacy education in Ireland could be improved**

Respondents were asked how they thought pharmacy education in Ireland could be improved and what they considered to be the big questions.

The programme director at one school spoke of the need to maintain the science content. There was a strongly held view that *“the society [PSI] has failed to manage the pre-registration year properly, I think they have expected the universities to take on more and more practice material and squeeze it into a four year curriculum”*. *“The fifth year has never functioned properly in my view and that fifth year needs to be seriously examined. The Society has been very quick to point out the deficiencies in the first four years but have never seriously acknowledged what we are doing right in the first four years”*. This was considered to be a firm base in the pharmaceutical sciences. The solution for the future was seen as *“the fifth year needs to be maximised in terms of its potential for... what they need to know before they can become practising pharmacists”*. Overall *“we should bring the pre-reg into the overall course”*. That the pre-registration and the four year degree should be integrated was agreed by the head of practice in the same school: *“there should be one programme leading to entry into the profession at the end of the programme”*. This respondent anticipated *“an extended period of practical, of clinical practice in the final part of it”*. The suggestion was made that there should be a national body incorporating the educational stakeholders for the undergraduate programme, the schools of pharmacy, the national regulator (PSI) and the health service.

The respondents at a second school had a vision of a continual educational process *“so that your training starts when you enter a school of pharmacy as an undergraduate and ends when you decide not to be on the register for pharmacists anymore”*. There was a vision of an integrated programme of study within the college.

In the third school, the head of practice also identified the pre-registration year as a key area for change. It should be *“overhauled”* to address the variability in *“the quality of training that our graduates are getting so there have been a lot of feedback from the*

*students that have been recently qualified to criticise a lot of areas in the pre-reg training". A major concern was staffing in the school of pharmacy; "we would have to have a tripling of our staff in clinical practice to really do what I want to do in ethics and specially OTC and pharmacy practice to really get stuck into the third and fourth years".*

### **The future role of the schools of pharmacy in the five-year programme**

Respondents were asked their views on the future role of the schools of pharmacy in the overall five-year programme of education and training for a pharmacist in Ireland. There was a general view that the schools should have a greater role in the fifth year of this process – the current pre-registration year. The programme director in one school suggested that the programme could be modelled so that the 4-year course became the BSc Pharmacy and the fifth year led to an MPharm or masters award. A key issue was resource. *"If universities were to be involved in that fifth year it has to become attractive, not just from the school's point of view but from the university's point of view". "I think in the current financial situation that all the universities are in they, universities, would want to be pretty sure that they're not going to be taking on something that going to end costing them time and money".* The head of practice in the same school was also of the view that the schools should take responsibility for the full five-year programme but that this would be on the understanding that *"we are no longer training scientists who can become pharmacists, we are training pharmacists"*.

Respondents in a second school were also in favour of a greater role for the school within the five-year programme. The view was expressed that *"schools of pharmacy are good at overview and looking at the quality assurance of the output and should be the experts in assessment"*. The vision was for *"an overseeing role"* but with the five-year programme being delivered in a mixture of settings, both academic and practice.

### **The future responsibilities of schools of pharmacy for workplace learning**

Respondents at all schools identified the need for more structured workplace learning and for the need to provide training for tutors. The programme director in one school spoke of the need to reduce variability of experience and so provide all students with *"the same type of experience"*. A perceived problem was the capacity of the hospital service in Ireland with a *"limited number of hospitals with very busy pharmacists working in them and large numbers of students when you look at the three schools"*.

The Head of School in a second school and the programme director at the first school (above) both identified the need to maintain 6-months *"in a clinical setting"* in order to comply with the EU directive on pharmacy education and training. The respondents in the third school identified the need to *"form strategic alliances so that we would be confident that the work-based learning would meet the competency objectives that will be set"*. Training of tutors was identified as an issue. *"We need to have tutor pharmacists, we need them to undergo that massive education programme to be a tutor pharmacist, accredit them and also assist them"*. The possibility for the school to engage with the fifth year was

seen as a great opportunity. Speaking of the fifth year structure, the head of practice commented *“it’s not there at all, that’s our opportunity, that’s what we’re about really”*.

### **Future role of the PSI in ensuring the quality of pharmacy education**

Respondents were asked how, if they had a blank sheet of paper, they considered the PSI and schools should work to ensure the quality and fitness to practice of day one pharmacists.

The programme director in one school focussed upon the need to ensure that tutors were fully prepared and trained for the placement role. A concern was that *“there are a limited number of people in Ireland with the correct skill set to be able to deliver what will be required in a pre-registration year”*. Related to this was the question of how tutors could be assessed to ensure continuing competence.

The respondents in a second school commented that *“the new PSI will need a collaborative approach and we need to be sitting down and talking about these things together, we need an open, transparent and collaborative approach to do it”*. These views were echoed by the Head of the third school.

## **3.4 The views of undergraduate pharmacy students**

### **3.4.1 Methodology**

#### **3.4.1.1 Questionnaire design and distribution**

Using initial results from Part two, section 3.3, an undergraduate student self-completion questionnaire was designed by members of the project team and circulated around the Steering Group for comment. Following amendment, a pilot was undertaken using representatives from Aston University (all of whom were registered pharmacists within Great Britain). Minor changes to the wording of some questions were made before distribution to the sample individuals.

Distribution at all three schools of pharmacy was undertaken during timetabled sessions to try and achieve a high response rate. Questionnaires were distributed to students by a member of the project team (RCSI and TCD) or a member of school staff (UCC) and students were asked to complete and hand back the questionnaire during the session. Students were informed that the questionnaires were anonymous (students were not identifiable; only general demographic information was collected – see Part three, section A2.5) and that completion was not compulsory.

#### **3.4.1.2 Response rate**

The overall response rate for this questionnaire was 84.5%. A detailed breakdown of the response rates from the three schools can be seen in Table 1.

Cross-tabular analysis was achieved using SPSS v16 and statistical evaluation undertaken using the Chi-squared statistical test. Significance was taken to be where  $\rho \leq 0.050$ . Where appropriate, cross-tabular analysis on the results from this survey was performed against:<sup>a</sup>

- gender and
- school of pharmacy attended<sup>b</sup>.

**Table 1: The response rate from the three schools of pharmacy to the student undergraduate questionnaire**

School of pharmacy and year of study	Questionnaires and response rates		
	Returned	Number in year	Response rate
<b>School A</b>			
First year	55	56	98.2
Second year	46	51	90.2
Third year	48	50	96.0
Final year	44	48	91.7
<b>TOTAL</b>	<b>193</b>	<b>205</b>	<b>94.1</b>
<b>School B</b>			
First year	60	72	83.3
Second year	57	61	93.4
Third year	58	75	77.3
Final year	40	52	76.9
<b>TOTAL</b>	<b>215</b>	<b>260</b>	<b>82.7</b>
<b>School C</b>			
First year	37	59	62.7
Second year	41	58	70.7
Third year	52	53	98.1
Final year	46	56	82.1
<b>TOTAL</b>	<b>176</b>	<b>226</b>	<b>77.9</b>
<b>Combined (all three schools of pharmacy)</b>			
First year	152	187	81.2
Second year	144	170	84.7
Third year	158	178	88.8
Final year	130	156	83.3
<b>GRAND TOTAL</b>	<b>584</b>	<b>691</b>	<b>84.5</b>

Cross-tabulation between year of study and school of pharmacy did not show any statistically significant differences (n=584, Chi,  $\rho=0.404$ ).

<sup>a</sup> In some cases additional Chi-squared calculations have been undertaken with the removal of options to eliminate small response numbers from the calculation.

<sup>b</sup> In places, additional cross-tabulation was undertaken by year of study.



### 3.4.2 Findings

#### 3.4.2.1 Demographics of respondents

73% of respondents (n=423/578) stated they were female and cross-tabulation with school of pharmacy (n=578, Chi,  $\rho=0.596$ ) and year of study (n=578, Chi,  $\rho=0.822$ ) showed no statistically significant differences. The age profile of respondents is detailed in Table 2. Cross-tabulation by gender (n=578, Chi,  $\rho=0.737$ ) showed no statistically significant differences; however, cross-tabulation by school of pharmacy (n=578, Chi,  $\rho=0.000$ )<sup>a</sup> did highlight differences in the age profile of the schools (see Table 3).

**Table 2: Age range of respondents**

Age	Frequency	Percent
17 or less	1	0%
18	40	7%
19	98	17%
20	114	20%
21	123	21%
22	64	11%
23-29	99	17%
30-39	37	6%
40+	2	0%
TOTAL	578	100%

**Table 3: Age range of respondents by school of pharmacy**

Age (n=578)	School A (n=191)	School B (n=213)	School C (n=174)
17 or less (n=1)	-	-	1% (n=1)
18 (n=40)	3% (n=6)	11% (n=24)	6% (n=10)
19 (n=98)	17% (n=33)	19% (n=41)	14% (n=24)
20 (n=114)	8% (n=16)	26% (n=55)	25% (n=43)
21 (n=123)	20% (n=39)	22% (n=47)	21% (n=37)
22 (n=64)	8% (n=15)	10% (n=22)	16% (n=27)
23-29 (n=99)	35% (n=67)	7% (n=15)	10% (n=17)
30-39 (n=37)	7% (n=14)	4% (n=8)	9% (n=15)
40+ (n=2)	1% (n=1)	1% (n=1)	-

<sup>a</sup> With removal of the options "Less than or equal to 17" (n=1) and "40+" (n=2), Chi,  $\rho=0.000$  (n=575).

Just over one-third of respondents (35%, n=201/579) stated that they had worked in a pharmacy (in any role) prior to starting their degree and just under a quarter (23%, n=133/578) stated that they had a primary degree or other third level or vocational/Post-Leaving Certificate qualification before starting their degree. Cross-tabulation of both questions with gender (n=578, Chi,  $\rho=0.000$  and n=578, Chi,  $\rho=0.941$ ) and school of pharmacy (n=579, Chi,  $\rho=0.092$  and n=578, Chi,  $\rho=0.000$ ) showed statistically significant differences; female students were much more likely to have prior pharmacy experience than male students (see Table 4) and that students at RCSI were more likely to have a primary degree or other their level or vocational/Post-Leaving Certificate qualification before starting their degree (see Table 5).

**Table 4: The difference between female and male students as to whether students had any prior pharmacy experience before starting their degree**

Did you work in a pharmacy (in any role) prior to starting your degree? (n=578)	Female (n=423)	Male (n=155)
Yes (n=200)	40% (n=169)	20% (n=31)
No (n=378)	60% (n=254)	80% (n=124)

**Table 5: The difference by school of pharmacy as to whether students had a primary degree or other their level or vocational/Post-Leaving Certificate qualification before starting their degree**

Did you have a primary degree or other their level or vocational/Post-Leaving Certificate qualification before starting your degree? (n=578)	School A (n=191)	School B (n=213)	School C (n=174)
Yes (n=133)	41% (n=79)	10% (n=22)	18% (n=32)
No (n=445)	59% (n=112)	90% (n=191)	82% (n=142)

A significant majority (95%, n=550/577) stated they were Irish citizens with only 1% (n=4) stating they came from another EU/EEA country. The remainder (4%, n=23) stated they were from outside the EU/EEA. Cross-tabulation with gender (n=577, Chi,  $\rho=0.192$ ) and school of pharmacy (n=577, Chi,  $\rho=0.078$ ) did not show any statistically significant differences.

### 3.4.2.2 Student workload

Students were asked their views on the amount of work required for the degree course and how they found coping with the workload. The results are summarised in Table 6 below.

**Table 6: Responses to questions about student workload**

Question	Response				
Overall, the volume of work required for the degree course is? (n=584)	Far too much	Too much	About right	Not enough	Nowhere near enough
	16% (n=97)	55% (n=319)	28% (n=165)	1% (n=3)	-
I find coping with the amount of work required: (n=584)	Very easy	Easy	About average	Difficult	Very difficult
	0% (n=1)	1% (n=4)	32% (n=184)	55% (n=320)	13% (n=75)

Cross-tabulation of both questions with gender (n=578, Chi,  $\rho=0.002$  and n=578, Chi,  $\rho=0.000$ )<sup>a</sup> (see Table 7 and Table 8) and school of pharmacy (n=584, Chi,  $\rho=0.000$  and n=584, Chi,  $\rho=0.000$ )<sup>b</sup> (see Table 9 Table 10) showed statistically significant differences.

**Table 7: Responses to the question about volume of student workload by gender**

Overall, the volume of work required for the degree course is? (n=578)	Female (n=423)	Male (n=155)
Far too much (n=96)	20% (n=83)	8% (n=13)
Too much (n=316)	55% (n=231)	55% (n=85)
About right (n=163)	26% (n=108)	36% (n=55)
Not enough (n=3)	0% (n=1)	1% (n=2)

**Table 8: Responses to the question about coping with the workload by gender**

I find coping with the amount of work required (n=578)	Female (n=423)	Male (n=155)
Very easy (n=1)	0% (n=1)	-
Easy (n=4)	1% (n=2)	1% (n=2)
About average (n=182)	26% (n=111)	46% (n=71)
Difficult (n=317)	59% (n=248)	45% (n=69)
Very difficult (n=74)	14% (n=61)	8% (n=13)

<sup>a</sup> With removal of the option “Not enough” (n=3) from the first question and the options “Very easy” (n=1) and “Easy” (n=4) from the second question; n=575, Chi,  $\rho=0.002$  and n=573, Chi,  $\rho=0.000$  respectively.

<sup>b</sup> With removal of the option “Not enough” (n=3) from the first question and the options “Very easy” (n=1) and “Easy” (n=4) from the second question; n=581, Chi,  $\rho=0.000$  and n=579, Chi,  $\rho=0.000$  respectively.

**Table 9: Responses to the question about volume of student workload by school of pharmacy**

Overall, the volume of work required for the degree course is? (n=584)	School A (n=193)	School B (n=215)	School C (n=176)
Far too much (n=97)	7% (n=13)	16% (n=35)	28% (n=49)
Too much (n=319)	45% (n=87)	63% (n=136)	55% (n=96)
About right (n=165)	47% (n=91)	20% (n=43)	18% (n=31)
Not enough (n=3)	1% (n=2)	1% (n=1)	-

**Table 10: Responses to the question about coping with the workload by school of pharmacy**

I find coping with the amount of work required (n=584)	School A (n=193)	School B (n=215)	School C (n=176)
Very easy (n=1)	1% (n=1)	-	-
Easy (n=4)	2% (n=3)	1% (n=1)	-
About average (n=184)	46% (n=88)	24% (n=51)	26% (n=45)
Difficult (n=320)	47% (n=90)	60% (n=129)	57% (n=101)
Very difficult (n=75)	6% (n=11)	16% (n=34)	17% (n=30)

Comments from the student respondents in the questionnaire on student workload included:

*“Pharmacy is a busy time consuming course. It is taught very well but the workload is huge.”* (Undergraduate student questionnaire respondent)

*“I enjoy my course, the subjects are very interesting and there is a huge band of chemical, physiological and pharmacological study. However the workload is enormous and even if one spends a lot of time studying and working, it is difficult to do well in exams.”* (Undergraduate student questionnaire respondent)

Respondents were asked their views on how they would describe the balance of the pharmacy degree course. A majority (56%, n=325/584) stated that they viewed it as having too much of a focus on pure scientific knowledge and skills (44%, n=256) or far too much of a focus on pure scientific knowledge and skills (12%, n=69) closely followed by 40% (n=235) who stated that the balance was about right. The remainder either stated that there was, too much of a focus on professional knowledge and skills (3%, n=19) or far too much of a focus on professional knowledge and skills (1%, n=5). Cross-tabulation with gender (n=578,

Chi,  $\rho=0.203$ )<sup>a</sup> and school of pharmacy (n=584, Chi,  $\rho=0.000$ )<sup>b</sup> indicated significant differences between the responses given compared with the school of pharmacy (see Table 11).

**Table 11: Responses to the question on balance of the degree course by school of pharmacy**

I think that the balance of the degree course is best described as (n=584)	School A (n=193)	School B (n=215)	School C (n=176)
Far too much of a focus on pure scientific knowledge and skills (n=69)	4% (n=7)	17% (n=36)	15% (n=26)
Too much of a focus on pure scientific knowledge and skills (n=256)	31% (n=59)	51% (n=109)	50% (n=88)
About right (n=235)	61% (n=117)	29% (n=63)	31% (n=55)
Too much of a focus on professional knowledge and skills (n=19)	4% (n=8)	3% (n=6)	3% (n=5)
Far too much of a focus on professional knowledge and skills (n=5)	1% (n=2)	1% (n=1)	1% (n=2)

### 3.4.2.3 Teaching and learning

Respondents were asked their views on the amount of teaching and learning material they received relating to the pharmaceutical sciences and to the practice of pharmacy. The results are detailed in Table 12 below<sup>c</sup>.

<sup>a</sup> With removal of the option “Far too much of a focus on professional knowledge and skills” (n=4), Chi,  $\rho=0.182$  (n=574).

<sup>b</sup> With removal of the option “Far too much of a focus on professional knowledge and skills” (n=5), Chi,  $\rho=0.000$  (n=579).

<sup>c</sup> The respondents were told that the term “*pharmaceutical sciences*” includes (but is not limited to) the following subjects: medicinal chemistry, pharmacology, pharmaceuticals and microbiology; and “*the practice of pharmacy*” includes (but is not limited to) the following subjects: dispensing, law and ethics and clinical therapeutics.

**Table 12: Respondents' views on the amount of teaching and learning material they received relating to the pharmaceutical sciences and to the practice of pharmacy**

Statement	Nowhere near enough	Not enough	About right	Too much	Far too much
Considering the degree course as a whole, the time devoted to material relating to the pharmaceutical sciences is (n=584)	0% (n=2)	7% (n=39)	59% (n=343)	32% (n=184)	3% (n=16)
Considering the degree course as a whole, the time devoted to material relating to the practice of pharmacy is (n=584)	9% (n=53)	51% (n=295)	36% (n=210)	4% (n=25)	0% (n=1)
Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Dispensing should be taught in all years of the degree course (n=584)	53% (n=309)	39% (n=229)	2% (n=12)	5% (n=28)	1% (n=6)
Law and ethics should be taught in all years of the degree course (n=584)	22% (n=127)	47% (n=276)	12% (n=70)	18% (n=102)	2% (n=9)
Material relating to clinical pharmacy should be taught in all years of the degree course (n=584)	44% (n=257)	46% (n=267)	6% (n=35)	4% (n=21)	1% (n=4)
I consider that the science content of the early part of the course was/will be necessary for the professional parts of the degree course (n=583)	8% (n=46)	37% (n=218)	19% (n=109)	30% (n=174)	6% (n=36)

Respondents were asked their views on the importance of a range of teaching and learning methods for their own learning. The results are summarised in Table 13 below, although it should be remembered that early year students may not have experienced some methods (for example placements) owing to their relative location within the programme.

**Table 13: Respondents' views on the importance of a range of teaching and learning methods for their own learning**

	Very important	Fairly important	Not important	Have not experienced
Lectures (n=584)	62% (n=360)	35% (n=203)	3% (n=20)	0% (n=1)
Scientific Laboratory Practicals (n=584)	27% (n=160)	42% (n=247)	30% (n=177)	-
Dispensing or Clinical Practicals (n=580)	87% (n=506)	11% (n=64)	1% (n=7)	1% (n=3)
Tutorials (n=583)	44% (n=257)	40% (n=235)	13% (n=77)	2% (n=14)
Workshops (n=581)	28% (n=165)	38% (n=220)	15% (n=87)	19% (n=109)
Seminars (n=577)	13% (n=75)	36% (n=210)	24% (n=136)	27% (n=156)
Directed Study (n=575)	37% (n=214)	41% (n=237)	9% (n=52)	13% (n=72)
Problem based learning (PBL) (n=581)	34% (n=195)	38% (n=222)	14% (n=79)	15% (n=85)
Computer aided learning packages (n=581)	10% (n=60)	37% (n=212)	46% (n=267)	7% (n=42)
Case studies or presentations (n=583)	31% (n=179)	49% (n=287)	17% (n=100)	3% (n=17)
Community pharmacy placements/visits (n=583)	60% (n=347)	17% (n=101)	6% (n=36)	17% (n=99)
Hospital pharmacy placements/visits (n=582)	44% (n=255)	17% (n=98)	4% (n=24)	35% (n=205)
Industrial pharmacy placements/visits (n=582)	32% (n=187)	19% (n=109)	12% (n=72)	37% (n=214)

Respondents were also asked their views on the usefulness of a range of practical classes for their own learning. The results are summarised in Table 14 below.

**Table 14: Respondents' views on the usefulness of a range of practical classes for their own learning**

	Very useful	Fairly useful	Not very useful	Not at all useful	Have not experienced
Medicinal/ Pharmaceutical Chemistry Practicals (n=582)	12% (n=70)	33% (n=192)	38% (n=219)	17% (n=96)	1% (n=5)
Pharmacology Practicals (n=583)	8% (n=48)	31% (n=183)	29% (n=166)	19% (n=108)	13% (n=78)
Pharmaceutics/ Physical Pharmacy Practicals (n=583)	33% (n=190)	46% (n=268)	14% (n=83)	7% (n=38)	1% (n=4)
Dispensing Practicals (n=584)	83% (n=482)	14% (n=81)	2% (n=12)	0% (n=2)	1% (n=7)
Other Practice (Therapeutics) Practicals (n=572)	22% (n=126)	22% (n=124)	7% (n=38)	3% (n=16)	47% (n=268)
Pharmacognosy Practicals (n=582)	4% (n=24)	16% (n=95)	21% (n=124)	22% (n=127)	36% (n=212)
Microbiology Practicals (n=583)	10% (n=60)	32% (n=189)	24% (n=139)	19% (n=112)	14% (n=83)
Anatomy/Physiology Practicals (n=581)	11% (n=61)	24% (n=140)	16% (n=92)	17% (n=101)	32% (n=187)
Biology/Biochemistry Practicals (n=583)	6% (n=36)	23% (n=132)	29% (n=167)	30% (n=177)	12% (n=71)
IT practicals (practical classes on the use of computers/software) (n=582)	7% (n=42)	22% (n=127)	16% (n=95)	15% (n=85)	40% (n=233)



Cross-tabulation of the data in Table 14 with gender<sup>a</sup> showed statistically significant differences for one of the ten practical class types as outlined in Table 15.

**Table 15: Respondents’ views on the usefulness of dispensing practical classes for their own learning by gender of respondent**

		Very useful	Fairly useful	Not very useful	Not at all useful	Have not experienced
Dispensing Practicals (n=578)	Female (n=423)	86% (n=365)	11% (n=45)	2% (n=7)	0% (n=1)	1% (n=5)
	Male (n=155)	72% (n=111)	23% (n=36)	3% (n=5)	1% (n=1)	1% (n=2)

Respondents were asked their views on the usefulness of a range of information technology (IT) applications for their own learning. The results are summarised in Table 16. Cross-tabulation of the data in Table 16 with gender<sup>b</sup> did not show any statistically significant differences. Further cross-tabulation of the data in Table 16 with gender with the removal of the option “Have not experienced”<sup>c</sup> also did not show any statistically significant differences.

<sup>a</sup> Chi,  $\rho=0.063$  (n=576); Chi,  $\rho=0.435$  (n=577); Chi,  $\rho=0.464$  (n=577); Chi,  $\rho=0.001$  (n=578); Chi,  $\rho=0.075$  (n=566); Chi,  $\rho=0.660$  (n=576); Chi,  $\rho=0.063$  (n=577); Chi,  $\rho=0.867$  (n=575); Chi,  $\rho=0.503$  (n=577) and Chi,  $\rho=0.229$  (n=576) respectively.

<sup>b</sup> Chi,  $\rho=0.761$  (n=578); Chi,  $\rho=0.089$  (n=578); Chi,  $\rho=0.997$  (n=575); Chi,  $\rho=0.732$  (n=575); Chi,  $\rho=0.131$  (n=577); Chi,  $\rho=0.551$  (n=578); Chi,  $\rho=0.387$  (n=576); Chi,  $\rho=0.180$  (n=578); Chi,  $\rho=0.812$  (n=577); Chi,  $\rho=0.620$  (n=577) and Chi,  $\rho=0.066$  (n=576) respectively.

<sup>c</sup> With removal of the option “Have not experienced” (n=3, n=48, n=344, n=428, n=98, n=98, n=76, n=61, n=82, n=279 and n=409 respectively); Chi,  $\rho=0.576$  (n=575); Chi,  $\rho=0.101$  (n=530); Chi,  $\rho=0.989$  (n=231); Chi,  $\rho=0.638$  (n=147); Chi,  $\rho=0.083$  (n=479); Chi,  $\rho=0.387$  (n=480); Chi,  $\rho=0.263$  (n=500); Chi,  $\rho=0.220$  (n=517); Chi,  $\rho=0.735$  (n=495); Chi,  $\rho=0.498$  (n=298) and Chi,  $\rho=0.524$  (n=167) respectively.

**Table 16: Respondents' views on the usefulness of a range of information technology (IT) applications for their own learning**

	Very useful	Fairly useful	Not very useful	Not at all useful	Have not experienced
On-line access to copies of lecture notes (n=584)	95% (n=552)	5% (n=26)	1% (n=3)	-	1% (n=3)
On-line access to e-learning material (in addition to lecture notes) (n=584)	67% (n=390)	20% (n=115)	5% (n=27)	1% (n=4)	8% (n=48)
On-line delivery of lectures (n=581)	28% (n=165)	7% (n=39)	4% (n=22)	1% (n=7)	60% (n=348)
Podcasts and vodcasts (n=581)	8% (n=48)	10% (n=56)	5% (n=31)	3% (n=15)	74% (n=431)
Release of coursework on-line (n=583)	58% (n=335)	21% (n=123)	3% (n=20)	1% (n=6)	17% (n=99)
Submission of coursework on-line (n=584)	51% (n=297)	23% (n=136)	7% (n=40)	2% (n=13)	17% (n=98)
Computer aided learning (CAL) packages (n=582)	17% (n=101)	35% (n=203)	23% (n=132)	12% (n=68)	13% (n=78)
On-line tests or quizzes to assist learning (i.e. the marks do not count) (n=584)	37% (n=217)	35% (n=207)	12% (n=68)	5% (n=31)	10% (n=61)
Formal assessment on-line (for example, on-line examinations) (n=583)	23% (n=134)	36% (n=207)	17% (n=101)	10% (n=59)	14% (n=82)
Use of on-line collaboration (for example, discussion boards, wikis, etc) (n=583)	10% (n=58)	19% (n=109)	15% (n=89)	8% (n=46)	48% (n=281)
On-line portfolios and blogs (n=582)	3% (n=19)	8% (n=47)	10% (n=56)	8% (n=48)	71% (n=412)

### 3.4.2.4 Assessment

Respondents were asked their views on the amount of formal assessment on their degree course. The results are summarised in Table 17. Cross-tabulation of these data with gender (n=578, Chi,  $\rho=0.766$ ) and school of pharmacy (n=583, Chi,  $\rho=0.000$ ) showed statistically significant differences between the three schools of pharmacy as shown in Table 18.

**Table 17: Undergraduate students' views on the amount of formal assessment on their course**

	Too little	About right	Too much
I consider that the amount of formal assessment in my degree course is (n=583)	8% (n=45)	65% (n=380)	27% (n=158)

**Table 18: Undergraduate students' views on the amount of formal assessment on their course by school of pharmacy**

		Too little	About right	Too much
I consider that the amount of formal assessment in my degree course is (n=583)	School A (n=193)	7% (n=13)	74% (n=143)	19% (n=37)
	School B (n=214)	14% (n=29)	56% (n=119)	31% (n=66)
	School C (n=176)	2% (n=3)	67% (n=118)	31% (n=55)

Respondents were also asked their views on the balance between examination and coursework assessments, and the focus on memorised knowledge in the degree assessment process. The results from these two questions are summarised in Table 19 and Table 20. Cross-tabulation of these data with gender (n=577, Chi,  $\rho=0.465$  and n=578, Chi,  $\rho=0.364$ ) and school of pharmacy (n=583, Chi,  $\rho=0.000$  and n=584, Chi,  $\rho=0.048$ ) showed statistically significant differences between the three schools of pharmacy for both questions and for year of study for the second question as shown in Table 21.

**Table 19: Undergraduate students' views on the balance between examination and coursework assessments**

	Too much of an emphasis on coursework marks	About right	Too much of an emphasis on examination marks
I consider that the balance between exams and coursework assessments on my degree course is (n=583)	4% (n=25)	47% (n=274)	49% (n=284)

**Table 20: Undergraduate students' views on the focus on memorised knowledge in the degree assessment process**

	Too little	Just about right	Too much
I consider that the focus on memorised knowledge in my degree assessment process is (n=584)	2% (n=11)	33% (n=190)	66% (n=383)

**Table 21: Undergraduate students' views on the balance between exams and coursework assessments and the focus on memorised knowledge in the degree assessment process by school of pharmacy and year of study (where statistically significant differences were found)**

		Too much of an emphasis on coursework marks	About right	Too much of an emphasis on examination marks
I consider that the balance between exams and coursework assessments on my degree course is (n=583)	School A (n=193)	7% (n=13)	53% (n=102)	40% (n=78)
	School B (n=214)	2% (n=5)	30% (n=65)	67% (n=144)
	School C (n=176)	4% (n=7)	61% (n=107)	35% (n=62)
		Too little	Just about right	Too much
I consider that the focus on memorised knowledge in my degree assessment process is (n=584)	School A (n=193)	3% (n=5)	40% (n=78)	57% (n=110)
	School B (n=215)	1% (n=3)	28% (n=61)	70% (n=151)
	School C (n=176)	2% (n=3)	29% (n=51)	69% (n=122)
	First year (n=152)	-	43% (n=66)	57% (n=86)
	Second year (n=144)	1% (n=2)	29% (n=41)	70% (n=101)
	Third year (n=158)	2% (n=3)	30% (n=47)	68% (n=108)
	Fourth year (n=130)	5% (n=6)	28% (n=36)	68% (n=88)

Respondents were then asked their views on whether a range of assessment methods could measure the skills necessary to become a pharmacist. The results from this question are

summarised in Table 22. Cross-tabulation of the data in Table 22 with gender<sup>a</sup> showed statistically significant differences for the first (formal examinations) and sixth (assessment of placements) assessment methods (see Table 23). Further cross-tabulation with gender with the removal of the option “I have not experienced this style of assessment”<sup>b</sup> showed statistically significant differences for only one of the six assessment methods (formal examination) as outlined in Table 24.

**Table 22: Respondents’ views on whether a range of assessment methods are able to measure the skills necessary to become a pharmacist**

	Can measure the skills necessary to become a pharmacist	Cannot measure the skills necessary to become a pharmacist	I have not experienced this style of assessment
<b>Formal examinations (n=584)</b>	59% (n=344)	41% (n=237)	1% (n=3)
<b>Individual coursework (n=581)</b>	81% (n=472)	18% (n=105)	1% (n=4)
<b>Group coursework (n=582)</b>	64% (n=370)	35% (n=201)	2% (n=11)
<b>Practical examinations or tests (n=578)</b>	87% (n=503)	11% (n=65)	2% (n=10)
<b>Clinical OSCE style (one-to-one) assessments (n=584)</b>	64% (n=375)	6% (n=35)	30% (n=174)
<b>Assessment of placements (n=583)</b>	64% (n=372)	9% (n=54)	27% (n=157)

<sup>a</sup> Chi,  $\rho=0.011$  (n=578); Chi,  $\rho=0.427$  (n=575); Chi,  $\rho=0.167$  (n=576); Chi,  $\rho=0.587$  (n=572); Chi,  $\rho=0.237$  (n=578) and Chi,  $\rho=0.024$  (n=577) respectively.

<sup>b</sup> With removal of the option “I have not experienced this style of assessment” (n=3, n=4, n=11, n=10, n=171 and n=155 respectively); Chi,  $\rho=0.003$  (n=575); Chi,  $\rho=0.634$  (n=571); Chi,  $\rho=0.079$  (n=565); Chi,  $\rho=0.648$  (n=562); Chi,  $\rho=0.779$  (n=407) and Chi,  $\rho=0.619$  (n=422) respectively.

**Table 23: Respondents’ views on whether a range of assessment methods are able to measure the skills necessary to become a pharmacist by gender of respondent (where statistically significant differences were found)**

		Can measure the skills necessary to become a pharmacist	Cannot measure the skills necessary to become a pharmacist	I have not experienced this style of assessment
<b>Formal examinations (n=578)</b>	Female (n=423)	55% (n=234)	44% (n=187)	1% (n=2)
	Male (n=155)	69% (n=107)	30% (n=47)	1% (n=1)
<b>Assessment of placements (n=577)</b>	Female (n=423)	67% (n=283)	9% (n=39)	24% (n=101)
	Male (n=154)	56% (n=86)	9% (n=14)	35% (n=54)

**Table 24: Respondents’ views on whether a range of assessment methods are able to measure the skills necessary to become a pharmacist (with the removal of the option “I have not experienced this style of assessment”) by gender of respondent (where statistically significant differences were found)**

		Can measure the skills necessary to become a pharmacist	Cannot measure the skills necessary to become a pharmacist
<b>Formal examinations (n=575)</b>	Female (n=421)	56% (n=234)	44% (n=187)
	Male (n=154)	70% (n=107)	31% (n=47)

Respondents were asked how useful they found feedback on examination performance and on performance in coursework. The results are summarised in Table 25.

**Table 25: Respondents’ views on the usefulness of feedback on examination performance and performance in coursework**

	On examination performance (n=582)	On performance in coursework (n=582)
Very useful	10% (n=60)	12% (n=69)
Fairly useful	24% (n=142)	32% (n=186)
No opinion	11% (n=61)	11% (n=66)
Not very useful	10% (n=57)	13% (n=74)
Not useful at all	3% (n=17)	3% (n=19)
Have not yet experienced	42% (n=245)	29% (n=168)

Cross-tabulation of the data in Table 25 with gender (n=576, Chi,  $\rho=0.727$  and n=576, Chi,  $\rho=0.193$ ) did not show any statistically significant differences. Further cross-tabulation of the data in Table 25 with gender with the removal of the option “Have not yet experienced” (n=243 and n=166) (n=333, Chi,  $\rho=0.831$  and n=410, Chi,  $\rho=0.492$ ) also did not show any statistically significant differences.

Finally in this section, respondents were asked if overall, they were satisfied with the amount of feedback they have received. Only 29% (n=165/572) stated they were. Cross-tabulation with gender (n=566, Chi,  $\rho=0.272$ ), school of pharmacy (n=572, Chi,  $\rho=0.393$ ) and year of study (n=572, Chi,  $\rho=0.003$ ) showed statistically significant differences by year of study (see Table 26).

**Table 26: Respondents’ views on whether they were satisfied with the amount of feedback they have received by year of study of respondent**

		Yes (n=165)	No (n=407)
Overall, are you satisfied with the amount of feedback you have received? (n=572)	First year (n=144)	30% (n=43)	70% (n=101)
	Second year (n=143)	20% (n=28)	80% (n=115)
	Third year (n=155)	39% (n=60)	61% (n=95)
	Fourth year (n=130)	26% (n=34)	74% (n=96)

Comments from the student questionnaire on feedback included:

*“For some subjects we receive feedback for lab write-ups - the comments often do not reflect the results. There is often no explanation of where marks were lost - just one or two brief comments. More constructive criticism required - breakdown of marks etc.”* (Undergraduate student questionnaire respondent)

*“I have submitted coursework on several occasions and been given no feedback for it - not even a grade. Although I'm sure that they are graded, and the marks are taken into account in overall grades, a breakdown of what proportion of marks was obtained due to lab work, project work and assignments and formal, end-of-semester tests would be helpful.”* (Undergraduate student questionnaire respondent)

*“Very little feedback was supplied in relation to the continuous assessment parts of the course, often with no feedback in some modules.”* (Undergraduate student questionnaire respondent)

### 3.4.2.5 Options

Respondents were asked their views on the inclusion of optional subjects in the pharmacy degree course. The results from this question are summarised in Table 27.

**Table 27: Respondents’ views on the inclusion of optional subjects in the pharmacy degree course**

<i>Regarding options, I think that the degree course should (respondents were asked to choose only one option):</i>	Response (n=576)
<b>Comprise entirely core, set subjects with no element of choice</b>	21% (n=120)
<b>Have options available, but only pharmacy subjects</b>	24% (n=137)
<b>Have options available, but only non-pharmacy subjects</b>	8% (n=43)
<b>Have options available from both pharmacy and non-pharmacy subjects</b>	43% (n=249)
<b>Other</b>	5% (n=27)

Cross-tabulation with gender (n=570, Chi,  $\rho=0.514$ ) and school of pharmacy (n=576, Chi,  $\rho=0.587$ ) did not show any statistically significant differences.

Comments from the student questionnaire respondents highlighted the desire for a business option in addition to the pharmacy modules:



*“Perhaps give option to do more business.”* (Undergraduate student questionnaire respondent)

*“I think certain core pharmacy modules are required but business and language options should be available also especially business related subjects. A community pharmacist needs business knowledge as well as clinical.”* (Undergraduate student questionnaire respondent)

### 3.4.2.6 Inter-professional learning

Within this section, respondents were asked whether they had experienced any inter-professional learning<sup>a</sup> with other health professional students. Nearly two-thirds (64%, n=371/579) stated that they had experienced inter-professional learning within lectures; however, only around one-quarter (24%, n=138/573) stated that they had experience of inter-professional learning within interactive sessions (e.g. workshops/tutorials). Cross-tabulation with gender (n=573, Chi,  $\rho=0.052$  and n=567, Chi,  $\rho=0.446$ ) and school of pharmacy (n=579, Chi,  $\rho=0.000$  and n=573, Chi,  $\rho=0.000$ ) showed statistically significant differences by school of pharmacy (see Table 28).

**Table 28: Experience of inter-professional learning by school of pharmacy of respondent**

During your studies to date, have you experienced inter-professional learning with other health professional students within:		Yes	No
Lectures (n=579)	School A (n=192)	72% (n=139)	28% (n=53)
	School B (n=213)	49% (n=104)	51% (n=109)
	School C (n=174)	74% (n=128)	26% (n=46)
Interactive sessions, e.g. workshops/tutorials (n=573)	School A (n=188)	51% (n=95)	50% (n=93)
	School B (n=214)	11% (n=23)	89% (n=191)
	School C (n=171)	12% (n=20)	88% (n=151)

The students who stated that they had some experience of inter-professional learning with other healthcare students (n=387) were asked which groups of health-professional students they had experienced inter-professional learning with. Results are summarised in Table 29.

<sup>a</sup> Within the questionnaire, “inter-professional learning” was defined as: *“Inter-professional learning involves students learning from students from other professions, as well as learning with students from other professions. This is different from inter-professional teaching where members of different healthcare professions simply attend the same shared teaching session (for example, lectures)”*.

**Table 29: The different health-professional students involved in inter-professional learning with pharmacy undergraduate students**

	Response (n=387)
Medical students	80% (n=309)
Student nurses	2% (n=7)
Dental students	34% (n=131)
Other	58% (n=223)

The same students were asked how useful their experience of inter-professional learning had been (see Table 30).

**Table 30: Respondents' views on the usefulness of inter-professional learning**

<i>In relation to your degree course, how useful has your experience of inter-professional learning been?</i>	(n=377)
Very useful	6% (n=21)
Moderately useful	23% (n=85)
No opinion	28% (n=105)
Not useful	25% (n=94)
Not useful at all	19% (n=72)

Cross-tabulation of the data in Table 30 with gender (n=374, Chi,  $\rho=0.804$ ) and school of pharmacy (n=377, Chi,  $\rho=0.004$ ) did show a statistically significance by school of pharmacy (see Table 31).

**Table 31: Respondents’ views on the usefulness of inter-professional learning by school of pharmacy**

<i>In relation to your degree course, how useful has your experience of inter-professional learning been?</i> (n=377)	School A (n=139)	School B (n=108)	School C (n=130)
<b>Very useful (n=21)</b>	5% (n=7)	5% (n=5)	7% (n=9)
<b>Moderately useful (n=85)</b>	30% (n=42)	13% (n=14)	22% (n=29)
<b>No opinion (n=105)</b>	19% (n=27)	32% (n=35)	33% (n=43)
<b>Not useful (n=94)</b>	30% (n=42)	22% (n=24)	22% (n=28)
<b>Not useful at all (n=72)</b>	15% (n=21)	28% (n=30)	16% (n=21)

All students (irrespective of whether they had experience of inter-professional learning or not) were asked how strongly they agreed or disagreed with the statement that “*inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy*” (see Table 32).

**Table 32: Respondents’ views on whether inter-professional learning should be a requirement for all undergraduate pharmacy degrees**

<i>How strongly do you agree with the statement that “inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy”?</i>	(n=576)
<b>Strongly agree</b>	17% (n=95)
<b>Agree</b>	37% (n=213)
<b>Neither agree nor disagree</b>	31% (n=180)
<b>Disagree</b>	13% (n=75)
<b>Strongly disagree</b>	2% (n=13)

Cross-tabulation of the data in Table 32 with gender (n=571, Chi,  $\rho=0.978$ ) and school of pharmacy (n=576, Chi,  $\rho=0.026$ ) did show a statistically significance by school of pharmacy (see Table 33).

**Table 33: Respondents’ views on whether inter-professional learning should be a requirement for all undergraduate pharmacy degrees by school of pharmacy**

<i>How strongly do you agree with the statement that “inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy”? (n=576)</i>	School A (n=192)	School B (n=213)	School C (n=171)
<b>Strongly agree (n=95)</b>	17% (n=33)	20% (n=42)	12% (n=20)
<b>Agree (n=213)</b>	44% (n=84)	35% (n=75)	32% (n=54)
<b>Neither agree nor disagree (n=180)</b>	28% (n=54)	31% (n=66)	35% (n=60)
<b>Disagree (n=75)</b>	9% (n=18)	11% (n=24)	19% (n=33)
<b>Strongly disagree (n=13)</b>	2% (n=3)	3% (n=6)	2% (n=4)

Comments from the student questionnaire regarding inter-professional learning were mixed and included:

*“We will have to work with these in future so may as well start now. Each professional has different knowledge - overall improve for patient.”* (Undergraduate student questionnaire respondent)

*“I think it would help to be able to understand the course from another professional perspective.”* (Undergraduate student questionnaire respondent)

*“Sometimes when we have classes with med students, lecturers may not even acknowledge our presence.”* (Undergraduate student questionnaire respondent)

*“I learnt that one group (Medicine) believe that they are far superior to all other educational groups within the college and feel that only their opinions matter.”* (Undergraduate student questionnaire respondent)

### 3.4.2.7 Placements

Within this section, respondents were first asked if their school required them to undertake placement work during the vacation period. Nearly three-quarters (72%, n=416/577) stated that it did. Cross-tabulation by school of pharmacy (n=577, Chi,  $p=0.017$ ) showed statistically significant differences (see Table 34).

**Table 34: Experience of inter-professional learning by school of pharmacy of respondent**

Does your school of pharmacy require you to undertake placement work during the vacational period? (n=577)	Yes	No
School A (n=192)	65% (n=125)	35% (n=67)
School B (n=212)	78% (n=165)	22% (n=47)
School C (n=173)	73% (n=126)	27% (n=47)

Those respondents who answered “yes” to the previous question were asked if this placement work was assessed. Nearly three-quarters (72%, n=288/403) of respondents stated that it was. Cross-tabulation by school of pharmacy (n=403, Chi,  $p=0.000$ ) showed statistically significant differences (see Table 35).

**Table 35: Assessment of vacational placement work by school of pharmacy of respondent**

Is this placement work assessed (for example, by the completion and assessment of a workbook or portfolio, etc)? (n=403)	Yes	No
School A (n=122)	13% (n=16)	87% (n=106)
School B (n=154)	94% (n=145)	6% (n=9)
School C (n=127)	100% (n=127)	-

Respondents were then asked within which years of their pharmacy degree different placement work took place during term time. The results are summarised in Table 36.

**Table 36: Respondents’ experience of placement education in different sectors of the profession**

<i>If you have any experience of placement education during your degree course (i.e. during term time, in addition to any vocational placements), tick the appropriate boxes below to indicate when and where these took place (n=584)</i>	First year	Second year	Third year	Fourth year
<b>Community</b>	43% (n=248)	52% (n=310)	28% (n=164)	5% (n=30)
<b>Hospital (pharmacy)</b>	2% (n=10)	5% (n=28)	8% (n=49)	9% (n=51)
<b>Hospital (ward-based)</b>	1% (n=3)	2% (n=13)	6% (n=33)	5% (n=28)
<b>Industry</b>	1% (n=5)	3% (n=16)	2% (n=9)	1% (n=7)
<b>GP Practice</b>	1% (n=6)	1% (n=7)	7% (n=39)	1% (n=5)
<b>Other</b>	1% (n=4)	1% (n=3)	1% (n=4)	0% (n=2)

Following on from the previous questions, respondents were asked to what extent was/were their professional placement(s) (both during the course and/or during the vacation) a good learning experience? The results are summarised in Table 37 below.

**Table 37: Respondents’ views on whether their professional placement(s) (both during the course and/or during the vacation) was a good learning experience**

<i>To what extent was/were your professional placement(s) (both during the course and/or during the vacation) a good learning experience?</i>	(n=554)
<b>Very good</b>	43% (n=237)
<b>Good</b>	18% (n=102)
<b>Fairly good</b>	10% (n=53)
<b>Not very good</b>	6% (n=34)
<b>Not at all good</b>	2% (n=10)
<b>Have not yet experienced</b>	21% (n=118)

Cross-tabulation by gender (n=550, Chi,  $\rho=0.450$ ) and school of pharmacy (n=554, Chi,  $\rho=0.000$ ) showed statistically significant differences between schools of pharmacy (see Table 38 and Table 39). With the removal of the option “Have not yet experienced” (n=117, n=118 and n=118 respectively), further cross-tabulation by gender (n=433, Chi,  $\rho=0.389$ ), and school of pharmacy (n=436, Chi,  $\rho=0.013$ ) showed statistically significant differences between the schools of pharmacy (see Table 40).

**Table 38: Respondents’ views on whether their professional placement(s) (both during the course and/or during the vacation) was a good learning experience by school of pharmacy**

<i>To what extent was/were your professional placement(s) (both during the course and/or during the vacation) a good learning experience? (n=554)</i>	School A (n=185)	School B (n=194)	School C (n=175)
<b>Very good (n=237)</b>	43% (n=80)	42% (n=81)	43% (n=76)
<b>Good (n=102)</b>	15% (n=27)	14% (n=27)	27% (n=48)
<b>Fairly good (n=53)</b>	10% (n=19)	7% (n=13)	12% (n=21)
<b>Not very good (n=34)</b>	8% (n=14)	1% (n=2)	10% (n=18)
<b>Not at all good (n=10)</b>	2% (n=4)	1% (n=1)	3% (n=5)
<b>Have not yet experienced (n=118)</b>	22% (n=41)	36% (n=70)	4% (n=7)

**Table 39: Respondents’ views on whether their professional placement(s) (both during the course and/or during the vacation) was a good learning experience by year of study**

<i>To what extent was/were your professional placement(s) (both during the course and/or during the vacation) a good learning experience? (n=554)</i>	First year (n=134)	Second year (n=134)	Third year (n=157)	Fourth year (n=129)
<b>Very good (n=237)</b>	19% (n=26)	42% (n=56)	48% (n=75)	62% (n=80)
<b>Good (n=102)</b>	8% (n=10)	22% (n=29)	23% (n=36)	21% (n=27)
<b>Fairly good (n=53)</b>	6% (n=8)	8% (n=11)	15% (n=23)	9% (n=11)
<b>Not very good (n=34)</b>	-	8% (n=10)	11% (n=17)	5% (n=7)
<b>Not at all good (n=10)</b>	1% (n=1)	1% (n=1)	3% (n=5)	2% (n=3)
<b>Have not yet experienced (n=118)</b>	66% (n=89)	20% (n=27)	1% (n=1)	1% (n=1)

**Table 40: Respondents’ views on whether their professional placement(s) (both during the course and/or during the vacation) was a good learning experience (with the removal of the option “Have not yet experienced”) by school of pharmacy**

<i>To what extent was/were your professional placement(s) (both during the course and/or during the vacation) a good learning experience? (n=436)</i>	School A (n=144)	School B (n=124)	School C (n=168)
<b>Very good (n=237)</b>	56% (n=80)	65% (n=81)	45% (n=76)
<b>Good (n=102)</b>	19% (n=27)	22% (n=27)	29% (n=48)
<b>Fairly good (n=53)</b>	13% (n=19)	11% (n=13)	13% (n=21)
<b>Not very good (n=34)</b>	10% (n=14)	2% (n=2)	11% (n=18)
<b>Not at all good (n=10)</b>	3% (n=4)	1% (n=1)	3% (n=5)

Finally within this section, respondents were asked their level of agreement or disagreement with two statements relating to placement education (see Table 41).



**Table 41: Respondents’ level of agreement or disagreement with two statements relating to placement education**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Professional placements should be compulsory in at least one year of study (n=580)	72% (n=415)	24% (n=141)	2% (n=13)	2% (n=10)	0% (n=1)
Professional placements should be compulsory in all years of study (n=579)	40% (n=229)	31% (n=182)	14% (n=83)	13% (n=76)	2% (n=9)

Cross-tabulation of the data in Table 41 with gender (n=575, Chi,  $\rho=0.051$  and n=574, Chi,  $\rho=0.001$ ) and school of pharmacy (n=580, Chi,  $\rho=0.736$  and n=579, Chi,  $\rho=0.000$ ) showed statistically significant differences for the second statement with gender and school of pharmacy (see Table 42 and Table 43).

**Table 42: Respondents’ views on whether placements should be compulsory in all years of study by gender**

<i>Professional placements should be compulsory in all years of study (n=574)</i>	Female (n=420)	Male (n=154)
Strongly agree (n=228)	43% (n=180)	31% (n=48)
Agree (n=182)	33% (n=139)	28% (n=43)
Neither agree nor disagree (n=81)	13% (n=54)	18% (n=27)
Disagree (n=74)	10% (n=41)	21% (n=33)
Strongly disagree (n=9)	1% (n=6)	2% (n=3)

**Table 43: Respondents’ views on whether placements should be compulsory in all years of study by school of pharmacy**

<i>Professional placements should be compulsory in all years of study (n=579)</i>	School A (n=193)	School B (n=212)	School C (n=174)
<b>Strongly agree (n=229)</b>	29% (n=56)	38% (n=81)	53% (n=92)
<b>Agree (n=182)</b>	30% (n=57)	35% (n=75)	29% (n=50)
<b>Neither agree nor disagree (n=83)</b>	20% (n=38)	15% (n=32)	8% (n=13)
<b>Disagree (n=76)</b>	20% (n=38)	10% (n=22)	9% (n=16)
<b>Strongly disagree (n=9)</b>	2% (n=4)	1% (n=2)	2% (n=3)

Comments from the student questionnaire regarding placements included:

*“You get to see the theory put into practice. See exactly how things work in real life.”*  
(Undergraduate student questionnaire respondent)

*“Gives firsthand experience of dealing with patients, more representative of what our real life experiences will be when qualified.”* (Undergraduate student questionnaire respondent)

*“Gaining experience in both community and hosp allows us to see the variety of roles the pharmacy plays... in decision as to which pharmaceutical career you wish to pursue.”*  
(Undergraduate student questionnaire respondent)

### **3.4.2.8 Research projects**

Within the section of the questionnaire relating to research projects, respondents were first asked how important they thought it was that there should be a research project in the degree course (see Table 44).

**Table 44: Respondents' views on how important it is to have a research project in the degree course**

<i>How important do you think it is that there should be a research project in the degree course?</i>	(n=580)
<b>Very important</b>	17% (n=99)
<b>Fairly important</b>	37% (n=215)
<b>Not sure</b>	26% (n=151)
<b>Not very important</b>	15% (n=88)
<b>Not at all important</b>	5% (n=27)

Cross-tabulation of the data in Table 44 by gender (n=576, Chi,  $\rho=0.386$ ) and school of pharmacy (n=580, Chi,  $\rho=0.119$ ) and year of study (n=580, Chi,  $\rho=0.000$ ) showed statistically significant differences by year of study (see Table 45).

**Table 45: Respondents' views on how important it is to have a research project in the degree course by year of study**

<i>How important do you think it is that there should be a research project in the degree course? (n=580)</i>	First year (n=152)	Second year (n=144)	Third year (n=154)	Fourth year (n=130)
<b>Very important (n=99)</b>	11% (n=17)	11% (n=16)	18% (n=27)	30% (n=39)
<b>Fairly important (n=215)</b>	38% (n=57)	36% (n=52)	33% (n=50)	43% (n=56)
<b>Not sure (n=151)</b>	33% (n=50)	31% (n=45)	27% (n=41)	12% (n=15)
<b>Not very important (n=88)</b>	15% (n=23)	17% (n=24)	18% (n=28)	10% (n=13)
<b>Not at all important (n=27)</b>	3% (n=5)	5% (n=7)	5% (n=8)	5% (n=7)

Next, respondents were asked, if they had experience of choosing a research project, whether they thought that there was enough choice in terms of research project topics. The results are summarised in Table 46.

**Table 46: Respondents' views on whether there was enough choice in terms of research project topics**

<i>If you have experience of choosing a research project, do you think there was enough choice in terms of the research project topics that were available to you?</i>	With inclusion of "I am yet to choose a research project" (n=568)	Without inclusion of "I am yet to choose a research project" (n=191)
<b>Yes</b>	18% (n=102)	53% (n=102)
<b>Not sure</b>	7% (n=38)	20% (n=38)
<b>No</b>	9% (n=51)	27% (n=51)
<b>I am yet to choose a research project</b>	66% (n=377)	

Cross-tabulation of the data in Table 46 (without inclusion of "I am yet to choose a research project"; n=377) with gender (n=191, Chi,  $\rho=0.109$ ) and school of pharmacy (n=191, Chi,  $\rho=0.247$ ) did not show any statistically significant differences.

Finally in this section, respondents were asked, if they had experience of undertaking a research project, whether they considered that the pharmacy degree course provided them with the necessary skills and knowledge to undertake the project. The results from this question are summarised in Table 47.

**Table 47: Respondents’ views on whether they considered that the pharmacy degree course provided them with the necessary skills and knowledge to undertake the project**

<i>If you have experience of undertaking a research project, do you consider that your pharmacy degree course provided you with the necessary skills and knowledge to undertake the project?</i>	With inclusion of “I am yet to choose a research project” (n=567)	Without inclusion of “I am yet to choose a research project” (n=199)
Yes	21% (n=120)	60% (n=120)
Not sure	9% (n=49)	25% (n=49)
No	5% (n=30)	15% (n=30)
I am yet to choose a research project	65% (n=368)	

Cross-tabulation of the data in Table 47 (without inclusion of “I am yet to choose a research project”; n=367) with gender (n=199, Chi,  $\rho=0.855$ ) and school of pharmacy (n=199, Chi,  $\rho=0.534$ ) did not show any statistically significant differences.

### 3.4.2.9 Influences on future careers

The next section of the questionnaire covered the influences on the students’ future career. Firstly, respondents were asked how strong their desire was to be a pharmacist when they started their pharmacy course and at the time of completing the questionnaire. The results from these two questions are summarised in Table 48 below.

**Table 48: Respondents’ desire to study pharmacy when they started a pharmacy course and at the time of completing the questionnaire**

<i>How strong would you say your desire to study pharmacy was?</i>	When you started your pharmacy course? (n=580)	Now (n=580)
Very strong	43% (n=251)	38% (n=221)
Fairly strong	38% (n=218)	42% (n=246)
Not very strong	14% (n=83)	14% (n=81)
Not at all strong	5% (n=28)	6% (n=32)

Cross-tabulation of the data in Table 48 with gender (n=577, Chi,  $\rho=0.409$  and n=577, Chi,  $\rho=0.103$ ) and school of pharmacy (n=580, Chi,  $\rho=0.006$  and n=580, Chi,  $\rho=0.007$ ) showed

statistically significant differences by school of pharmacy (for both questions) (see Table 49 and Table 50).

**Table 49: Respondents’ desire to study pharmacy when they started a pharmacy course by school of pharmacy**

<i>How strong would you say your desire to study pharmacy was when you started your pharmacy course? (n=580)</i>	School A (n=192)	School B (n=214)	School C (n=174)
<b>Very strong (n=251)</b>	49% (n=94)	33% (n=70)	50% (n=87)
<b>Fairly strong (n=218)</b>	33% (n=63)	44% (n=94)	35% (n=61)
<b>Not very strong (n=83)</b>	14% (n=26)	16% (n=35)	13% (n=22)
<b>Not at all strong (n=28)</b>	5% (n=9)	7% (n=15)	2% (n=4)

**Table 50: Respondents’ desire to study pharmacy at the time of the questionnaire by school of pharmacy**

<i>How strong would you say your desire to study pharmacy was now? (n=580)</i>	School A (n=192)	School B (n=214)	School C (n=174)
<b>Very strong (n=221)</b>	49% (n=94)	31% (n=67)	35% (n=60)
<b>Fairly strong (n=246)</b>	37% (n=71)	48% (n=102)	42% (n=73)
<b>Not very strong (n=81)</b>	11% (n=21)	15% (n=33)	16% (n=27)
<b>Not at all strong (n=32)</b>	3% (n=6)	6% (n=12)	8% (n=14)

When asked if pharmacy was the respondents’ first and only choice for study at university, 66% (n=318/579) stated that it was. Cross-tabulation by gender (n=579, Chi,  $\rho=0.002$ ), and school of pharmacy (n=579, Chi,  $\rho=0.000$ ) showed statistically significant differences by gender (see Table 51) and school of pharmacy (see Table 52).

**Table 51: Was pharmacy your first and only choice for study at university by gender**

<i>Was pharmacy your first and only choice for study at university? (n=576)</i>	Female (n=421)	Male (n=155)
<b>Yes (n=378)</b>	69% (n=292)	56% (n=86)
<b>No (n=198)</b>	31% (n=129)	45% (n=69)

**Table 52: Was pharmacy your first and only choice for study at university by school of pharmacy**

<i>Was pharmacy your first and only choice for study at university? (n=579)</i>	School A (n=192)	School B (n=214)	School C (n=173)
<b>Yes (n=381)</b>	53% (n=101)	72% (n=154)	73% (n=126)
<b>No (n=198)</b>	47% (n=91)	28% (n=60)	27% (n=47)

Respondents who stated that pharmacy was not their first and only choice (n=198) were asked which other options they considered (see Table 53).

**Table 53: Respondents other degree choices**

<i>Which other options did you consider?</i>	n=190
<b>Pharmacy was my second choice to medicine</b>	41% (n=78)
<b>Pharmacy was my second choice to dentistry</b>	4% (n=8)
<b>Pharmacy was my second choice to another health degree.</b>	4% (n=8)
<b>Pharmacy was my second choice to another science (non-health) degree</b>	8% (n=15)
<b>Other</b>	43% (n=81)

Cross-tabulation by gender (n=5190, Chi,  $\rho=0.533$ ) and school of pharmacy (n=190, Chi,  $\rho=0.360$ ) did not show any statistically significant differences.

Respondents were then asked how strong their desire was to be a pharmacist both at the start of their time at pharmacy school and at the time of the questionnaire. The results are summarised in Table 54).

**Table 54: Respondents' desire to be a pharmacist when they started at pharmacy school and at the time of completing the questionnaire**

<i>How strong would you say your desire to be a pharmacist was?</i>	When you started pharmacy school? (n=579)	Now (n=578)
<b>Very strong</b>	45% (n=260)	41% (n=239)
<b>Fairly strong</b>	35% (n=201)	38% (n=221)
<b>Not very strong</b>	15% (n=85)	15% (n=87)
<b>Not at all strong</b>	6% (n=33)	5% (n=31)

Cross-tabulation of the data in Table 54 with gender (n=576, Chi,  $\rho=0.641$  and n=575, Chi,  $\rho=0.051$ ) and school of pharmacy (n=579, Chi,  $\rho=0.001$  and n=578, Chi,  $\rho=0.001$ ) and year of study (n=579, Chi,  $\rho=0.524$  and n=578, Chi,  $\rho=0.001$ ) showed statistically significant differences by school of pharmacy (for both questions) and year of study (for the second question) (see Table 55, Table 56 and Table 57).

**Table 55: Respondents' desire to be a pharmacist when they started at pharmacy school by school of pharmacy**

<i>How strong would you say your desire to be a pharmacist was when you started at pharmacy school? (n=579)</i>	School A (n=191)	School B (n=214)	School C (n=174)
<b>Very strong (n=260)</b>	51% (n=98)	35% (n=75)	50% (n=87)
<b>Fairly strong (n=201)</b>	33% (n=62)	37% (n=79)	35% (n=60)
<b>Not very strong (n=85)</b>	11% (n=20)	19% (n=41)	14% (n=24)
<b>Not at all strong (n=33)</b>	6% (n=11)	9% (n=19)	2% (n=3)



**Table 56: Respondents' desire to be a pharmacist at the time of the questionnaire by school of pharmacy**

<i>How strong would you say your desire to be a pharmacist was now? (n=578)</i>	School A (n=191)	School B (n=213)	School C (n=174)
<b>Very strong (n=239)</b>	52% (n=99)	34% (n=72)	39% (n=68)
<b>Fairly strong (n=221)</b>	35% (n=67)	43% (n=92)	36% (n=62)
<b>Not very strong (n=87)</b>	11% (n=21)	18% (n=38)	16% (n=28)
<b>Not at all strong (n=31)</b>	2% (n=4)	5% (n=11)	9% (n=16)

**Table 57: Respondents' desire to be a pharmacist at the time of the questionnaire by year of study**

<i>How strong would you say your desire to be a pharmacist was now? (n=578)</i>	First year (n=149)	Second year (n=144)	Third year (n=155)	Fourth year (n=130)
<b>Very strong (n=239)</b>	46% (n=68)	43% (n=62)	34% (n=53)	43% (n=56)
<b>Fairly strong (n=221)</b>	40% (n=59)	41% (n=59)	37% (n=58)	35% (n=45)
<b>Not very strong (n=87)</b>	13% (n=20)	15% (n=21)	16% (n=24)	17% (n=22)
<b>Not at all strong (n=31)</b>	1% (n=2)	1% (n=2)	13% (n=20)	5% (n=7)

Next, respondents were asked how confident they were that their pharmacy degree course to date has developed their knowledge, personal skills, practical skills and professional attitude and behaviour. The results from these questions are summarised in Table 58.

**Table 58: Respondents' confidence that their degree course to date has developed their knowledge, personal skills, practical skills and professional attitude and behaviour**

<i>Overall, how confident are you that your pharmacy degree programme to date has developed your...</i>	Very confident	Fairly confident	Not very confident	Not at all confident
<b>Knowledge (n=582)</b>	37% (n=215)	51% (n=296)	11% (n=65)	1% (n=6)
<b>Personal skills (n=581)</b>	28% (n=163)	51% (n=297)	18% (n=103)	3% (n=18)
<b>Practical skills (n=580)</b>	29% (n=169)	53% (n=306)	17% (n=97)	1% (n=8)
<b>Professional attitude and behaviour (n=582)</b>	39% (n=229)	48% (n=281)	11% (n=64)	1% (n=8)

Cross-tabulation of the data in Table 58 with gender (n=578, Chi,  $\rho=0.032$ , n=577, Chi,  $\rho=0.787$ , n=576, Chi,  $\rho=0.243$  and n=578, Chi,  $\rho=0.792$ ) and school of pharmacy (n=582, Chi,  $\rho=0.000$ , n=581, Chi,  $\rho=0.000$ , n=580, Chi,  $\rho=0.005$  and n=582, Chi,  $\rho=0.003$ ) showed statistically significant differences for six of the twelve comparisons as shown in Table 59 and Table 60.

**Table 59: Respondents' confidence that their degree course to date has developed their knowledge by gender**

<i>Overall, how confident are you that your pharmacy degree programme to date has developed your knowledge (n=578)</i>	Very confident (n=215)	Fairly confident (n=293)	Not very confident (n=64)	Not at all confident (n=6)
<b>Female (n=423)</b>	35% (n=146)	51% (n=217)	13% (n=55)	1% (n=5)
<b>Male (n=155)</b>	45% (n=69)	49% (n=76)	6% (n=9)	1% (n=1)

**Table 60: Respondents' confidence that their degree course to date has developed their knowledge, personal skills, practical skills and professional attitude and behaviour by school of pharmacy**

<i>Overall, how confident are you that your pharmacy degree programme to date has developed your ...</i>		Very confident	Fairly confident	Not very confident	Not at all confident
<b>Knowledge (n=582)</b>	School A (n=193)	46% (n=88)	49% (n=95)	5% (n=10)	-
	School B (n=215)	29% (n=63)	55% (n=119)	15% (n=32)	1% (n=1)
	School C (n=174)	37% (n=64)	47% (n=82)	13% (n=23)	3% (n=5)
<b>Personal skills (n=581)</b>	School A (n=193)	39% (n=76)	51% (n=98)	9% (n=17)	1% (n=2)
	School B (n=214)	21% (n=44)	52% (n=112)	23% (n=50)	4% (n=8)
	School C (n=174)	25% (n=43)	50% (n=87)	21% (n=36)	5% (n=8)
<b>Practical skills (n=580)</b>	School A (n=192)	35% (n=67)	53% (n=101)	12% (n=22)	1% (n=2)
	School B (n=214)	21% (n=44)	56% (n=120)	22% (n=48)	1% (n=2)
	School C (n=174)	33% (n=58)	49% (n=85)	16% (n=27)	2% (n=4)
<b>Professional attitude and behaviour (n=582)</b>	School A (n=193)	45% (n=87)	47% (n=90)	8% (n=16)	-
	School B (n=215)	31% (n=67)	54% (n=116)	14% (n=30)	1% (n=2)
	School C (n=174)	43% (n=75)	43% (n=75)	10% (n=18)	3% (n=6)

The last set of questions in this section related to the Pharmaceutical Society of Ireland (PSI). Firstly, respondents were asked if they had received any information from the PSI about the pharmacy profession or becoming a pharmacist. Around 8% (n=48/582) stated that they had only received information in printed and/or electronic form with 48% (n=277) stating that they had someone from the PSI had visited their school (but not that they had received any information in printed and/or electronic form). A further 8% (n=44) stated that they had received both. Just over a third (37%, n=213) stated that they had not received any information. Cross-tabulation of these data with school of pharmacy (n=582, Chi,  $\rho=0.000$ ) showed statistically significant differences (see Table 61).

**Table 61: Amount of information received from the PSI by school of pharmacy**

<i>Have you received any information from the PSI about the pharmacy profession or becoming a pharmacist? (n=582)</i>	<b>Yes; in printed and/or electronic form (n=48)</b>	<b>Yes; someone from the PSI spoke to my school (n=277)</b>	<b>Yes; in printed and/or electronic form and someone from the PSI spoke at my school (n=44)</b>	<b>No (n=213)</b>
<b>School A (n=193)</b>	10% (n=19)	44% (n=84)	8% (n=15)	39% (n=75)
<b>School B (n=215)</b>	10% (n=21)	38% (n=81)	9% (n=19)	44% (n=94)
<b>School C (n=174)</b>	5% (n=8)	64% (n=112)	6% (n=10)	25% (n=44)

Those respondents who stated that they had received some form of information from the PSI were asked if they had found the information useful. Over half of respondents (53%, n=188/357) stated that they found the information either moderately useful (46%, n=164) or very useful (7%, n=24). The remainder either stated that they had no opinion (23%, n=82), stated that the information was not useful (18%, n=63) or stated that the information was not at all useful (7%, n=24). Cross-tabulation of these data with gender (n=357, Chi,  $\rho=0.226$ ) and school of pharmacy (n=357, Chi,  $\rho=0.035$ ) showed statistically significant differences (see Table 62).

**Table 62: Usefulness of information received from the PSI by school of pharmacy**

<i>If you did receive information from the PSI about the pharmacy profession or becoming a pharmacist, overall, how useful did you find this information? (n=357)</i>	Very useful (n=24)	Moderately useful (n=164)	No opinion (n=82)	Not useful (n=63)	Not at all useful (n=24)
<b>School A (n=114)</b>	9% (n=10)	42% (n=48)	28% (n=32)	11% (n=13)	10% (n=11)
<b>School B (n=118)</b>	4% (n=5)	54% (n=64)	22% (n=26)	15% (n=18)	4% (n=5)
<b>School C (n=125)</b>	7% (n=9)	42% (n=52)	19% (n=24)	26% (n=32)	6% (n=8)

Finally in this section, respondents were asked whether they thought that pharmacy students should register with the PSI during their time at university. Just over one-third of respondents (38%, n=215/568) stated that they thought they should. Cross-tabulation of these data with gender (n=567, Chi,  $\rho=0.434$ ) and school of pharmacy (n=568, Chi,  $\rho=0.028$ ) and year of study (n=568, Chi,  $\rho=0.000$ ) showed statistically significant differences by school of pharmacy (see Table 63).

**Table 63: Respondents' views on whether undergraduate students should be registered with the PSI by school of pharmacy and year of study**

<i>Do you think that pharmacy students should have to register with the PSI during their time at university? (n=568)</i>	Yes (n=215)	No (n=353)
<b>School A (n=189)</b>	44% (n=84)	56% (n=105)
<b>School B (n=207)</b>	38% (n=78)	62% (n=129)
<b>School C (n=172)</b>	31% (n=53)	69% (n=119)

### 3.4.2.10 Student perceptions

In the penultimate section of the questionnaire, respondents were asked their level of agreement or disagreement with nine statements about their degree course which had been developed from a previous study<sup>28</sup> of pharmacy education in the UK. The results are summarised in Table 64. Cross-tabulation of the data in Table 64 with gender<sup>a</sup> indicated statistically significant differences for four of the nine statements (see Table 65). Cross-

<sup>a</sup> Chi,  $\rho=0.906$  (n=578); Chi,  $\rho=0.677$  (n=577); Chi,  $\rho=0.250$  (n=576); Chi,  $\rho=0.395$  (n=578); Chi,  $\rho=0.001$  (n=578); Chi,  $\rho=0.000$  (n=578); Chi,  $\rho=0.000$  (n=575); Chi,  $\rho=0.004$  (n=575) and Chi,  $\rho=0.162$  (n=575) respectively.

tabulation of the data in Table 64 with school of pharmacy<sup>a</sup> indicated statistically significant differences for eight of the nine statements (see Table 66 and Table 67).

**Table 64: Respondents’ level of agreement or disagreement with nine statements relating to their pharmacy degree course**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I think that the first year is about bringing everyone up to the same level before entering the second year (n=580)	14% (n=81)	47% (n=273)	13% (n=75)	21% (n=121)	5% (n=30)
The pharmacy degree is more about memorising fact than applying knowledge (n=579)	20% (n=113)	36% (n=207)	18% (n=104)	22% (n=127)	5% (n=28)
A lot of the science we are taught is irrelevant (n=578)	30% (n=174)	40% (n=231)	13% (n=73)	16% (n=90)	2% (n=10)
Clinical teaching comes too late in the degree; I think it should be brought in right from the beginning (n=580)	41% (n=238)	36% (n=210)	11% (n=61)	11% (n=63)	1% (n=8)
There should be less generic science and more material relating to the practice of pharmacy in year one (n=580)	32% (n=187)	36% (n=209)	13% (n=74)	17% (n=101)	2% (n=9)
It is difficult to manage your time between timetabled sessions and directed study/coursework (n=580)	45% (n=260)	35% (n=200)	12% (n=71)	8% (n=45)	1% (n=4)
I do believe it’s a very hard degree course because there is an enormous amount of it (n=576)	58% (n=332)	33% (n=188)	7% (n=42)	2% (n=13)	0% (n=1)
Pharmacy degree courses seem to have more assessments than other courses (n=576)	31% (n=177)	25% (n=143)	23% (n=131)	20% (n=114)	2% (n=11)
Generally, the assessments used on my degree course don’t measure the skills for being a pharmacist; they just measure your knowledge base (n=576)	32% (n=185)	43% (n=250)	14% (n=80)	10% (n=60)	0% (n=1)

<sup>a</sup> Chi,  $p=0.001$  (n=580); Chi,  $p=0.000$  (n=579); Chi,  $p=0.011$  (n=578); Chi,  $p=0.376$  (n=580); Chi,  $p=0.006$  (n=580); Chi,  $p=0.000$  (n=580); Chi,  $p=0.000$  (n=576); Chi,  $p=0.000$  (n=576) and Chi,  $p=0.000$  (n=576) respectively.

**Table 65: Respondents' level of agreement or disagreement with four statements relating to their pharmacy degree course by gender**

Statement		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
There should be less generic science and more material relating to the practice of pharmacy in year one (n=578)	Female (n=423)	34% (n=143)	37% (n=156)	14% (n=57)	15% (n=65)	1% (n=2)
	Male (n=155)	28% (n=44)	34% (n=52)	10% (n=16)	23% (n=36)	5% (n=7)
It is difficult to manage your time between timetabled sessions and directed study/coursework (n=578)	Female (n=423)	50% (n=213)	33% (n=139)	9% (n=38)	7% (n=31)	1% (n=2)
	Male (n=155)	30% (n=47)	39% (n=61)	20% (n=31)	9% (n=14)	1% (n=2)
I do believe it's a very hard degree course because there is an enormous amount of it (n=575)	Female (n=420)	64% (n=268)	29% (n=120)	6% (n=27)	1% (n=5)	-
	Male (n=155)	41% (n=64)	44% (n=68)	9% (n=14)	5% (n=8)	1% (n=1)
Pharmacy degree courses seem to have more assessments than other courses (n=575)	Female (n=420)	35% (n=146)	22% (n=94)	22% (n=92)	20% (n=83)	1% (n=5)
	Male (n=155)	20% (n=31)	32% (n=49)	25% (n=39)	20% (n=31)	3% (n=5)

**Table 66: Respondents’ level of agreement or disagreement with eight statements relating to their pharmacy degree course by school of pharmacy (1)**

Statement		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I think that the first year is about bringing everyone up to the same level before entering the second year (n=580)	School A (n=193)	17% (n=32)	52% (n=100)	12% (n=24)	16% (n=30)	4% (n=7)
	School B (n=213)	15% (n=31)	51% (n=109)	14% (n=29)	16% (n=35)	4% (n=9)
	School C (n=174)	10% (n=18)	37% (n=64)	13% (n=22)	32% (n=56)	8% (n=14)
The pharmacy degree is more about memorising fact than applying knowledge (n=579)	School A (n=193)	12% (n=23)	29% (n=56)	21% (n=41)	33% (n=63)	5% (n=10)
	School B (n=212)	23% (n=48)	42% (n=89)	18% (n=37)	15% (n=32)	3% (n=6)
	School C (n=174)	24% (n=42)	36% (n=62)	15% (n=26)	18% (n=32)	7% (n=12)
A lot of the science we are taught is irrelevant (n=578)	School A (n=193)	20% (n=38)	45% (n=87)	13% (n=25)	21% (n=40)	2% (n=3)
	School B (n=212)	38% (n=81)	36% (n=76)	13% (n=27)	11% (n=24)	2% (n=4)
	School C (n=173)	32% (n=55)	39% (n=68)	12% (n=21)	15% (n=26)	2% (n=3)
There should be less generic science and more material relating to the practice of pharmacy in year one (n=580)	School A (n=193)	26% (n=50)	35% (n=68)	18% (n=34)	21% (n=40)	1% (n=1)
	School B (n=213)	36% (n=77)	37% (n=78)	12% (n=25)	12% (n=26)	3% (n=7)
	School C (n=174)	35% (n=60)	36% (n=63)	9% (n=15)	20% (n=35)	1% (n=1)



**Table 67: Respondents’ level of agreement or disagreement with eight statements relating to their pharmacy degree course by school of pharmacy (2)**

Statement		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It is difficult to manage your time between timetabled sessions and directed study/coursework (n=580)	School A (n=193)	29% (n=55)	41% (n=79)	16% (n=31)	13% (n=25)	2% (n=3)
	School B (n=213)	55% (n=118)	32% (n=67)	10% (n=21)	3% (n=7)	-
	School C (n=174)	50% (n=87)	31% (n=54)	11% (n=19)	8% (n=13)	1% (n=1)
I do believe it’s a very hard degree course because there is an enormous amount of it (n=576)	School A (n=192)	44% (n=84)	39% (n=75)	13% (n=25)	4% (n=7)	1% (n=1)
	School B (n=211)	62% (n=130)	32% (n=67)	4% (n=9)	2% (n=5)	-
	School C (n=173)	68% (n=118)	27% (n=46)	5% (n=8)	1% (n=1)	-
Pharmacy degree courses seem to have more assessments than other courses (n=576)	School A (n=192)	29% (n=55)	26% (n=49)	27% (n=51)	18% (n=35)	1% (n=2)
	School B (n=211)	21% (n=45)	21% (n=45)	26% (n=54)	28% (n=60)	3% (n=7)
	School C (n=173)	45% (n=77)	28% (n=49)	15% (n=26)	11% (n=19)	1% (n=2)
Generally, the assessments used on my degree course don’t measure the skills for being a pharmacist; they just measure your knowledge base (n=576)	School A (n=192)	19% (n=37)	48% (n=92)	17% (n=32)	16% (n=31)	-
	School B (n=211)	36% (n=75)	44% (n=92)	14% (n=30)	6% (n=13)	1% (n=1)
	School C (n=173)	42% (n=73)	38% (n=66)	10% (n=18)	9% (n=16)	-

### 3.4.2.11 *The pre-registration year*

In the last section of this questionnaire, respondents were first asked their views in two statements relating to the pre-registration year. The results are summarised in Table 68 below.

**Table 68: Respondents' level of agreement or disagreement with two statements relating to the pre-registration year**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I am aware of the requirements that I will have to meet in my pre-registration year (n=568)	4% (n=25)	26% (n=149)	17% (n=94)	38% (n=218)	14% (n=82)
My degree course to date has provided me with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter my pre-registration year (n=565)	4% (n=24)	33% (n=186)	32% (n=180)	25% (n=142)	6% (n=33)

Cross-tabulation of both questions with gender (n=567, Chi,  $\rho=0.598$  and n=564, Chi,  $\rho=0.059$ ) and school of pharmacy (n=568, Chi,  $\rho=0.734$  and n=565, Chi,  $\rho=0.004$ ) and year of study (n=568, Chi,  $\rho=0.000$  and n=565, Chi,  $\rho=0.000$ ) showed statistically significant differences for the second statement with school of pharmacy (see Table 69) and with both statements for year of study (see Table 70).

**Table 69: Respondents' level of agreement or disagreement with a statement relating to the pre-registration year by school of pharmacy**

My degree course to date had provided me with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter my pre-registration year (n=565)	Strongly agree (n=24)	Agree (n=186)	Neither agree nor disagree (n=180)	Disagree (n=142)	Strongly disagree (n=33)
School A (n=190)	8% (n=15)	40% (n=75)	31% (n=58)	18% (n=35)	4% (n=7)
School B (n=205)	2% (n=4)	29% (n=60)	31% (n=63)	31% (n=64)	7% (n=14)
School C (n=170)	3% (n=5)	30% (n=51)	35% (n=59)	25% (n=43)	7% (n=12)

**Table 70: Respondents’ level of agreement or disagreement with two statements relating to the pre-registration year by year of study**

Statement		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<b>I am aware of the requirements that I will have to meet in my pre-registration year (n=568)</b>	First year (n=148)	2% (n=3)	20% (n=29)	19% (n=28)	43% (n=64)	16% (n=24)
	Second year (n=137)	3% (n=4)	18% (n=24)	18% (n=25)	50% (n=68)	12% (n=16)
	Third year (n=154)	5% (n=7)	24% (n=37)	11% (n=17)	41% (n=63)	20% (n=30)
	Fourth year (n=129)	9% (n=11)	46% (n=59)	19% (n=24)	18% (n=23)	9% (n=12)
<b>My degree course to date had provided me with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter my pre-registration year (n=565)</b>	First year (n=146)	1% (n=2)	19% (n=28)	45% (n=65)	30% (n=44)	5% (n=7)
	Second year (n=137)	4% (n=5)	26% (n=35)	33% (n=45)	34% (n=46)	4% (n=6)
	Third year (n=153)	6% (n=9)	33% (n=51)	26% (n=39)	26% (n=39)	10% (n=15)
	Fourth year (n=129)	6% (n=8)	56% (n=72)	24% (n=31)	10% (n=13)	4% (n=5)

Finally, respondents were asked within which sector(s) of the profession they wished to undertake their pre-registration year. Respondents could select more than one sector and the results are summarised below in Table 71.

**Table 71: Respondents choice of pre-registration year**

<i>Within which sector(s) of the profession do you wish to undertake your pre-registration training?</i>	n=584 <sup>a</sup>
Entirely within community pharmacy	31% (n=183)
Entirely within hospital pharmacy	13% (n=77)
A split position between community and hospital pharmacy	44% (n=259)
A split position between community and industry	11% (n=63)
A split position between hospital and industry	6% (n=34)
A split position between community and a school of pharmacy	5% (n=26)
A split position between hospital and a school of pharmacy	4% (n=23)

## 3.5 The views of the staff from the pharmacy schools

### 3.5.1 Methodology

#### 3.5.1.1 Questionnaire design and collation of contact details

Using initial results from Part two, section 3.3, a school staff self-completion questionnaire was designed by members of the project team and circulated around the Steering Group for comment. Following amendment, a pilot was undertaken using representatives from Aston University (all of whom were registered pharmacists within Great Britain). Minor changes to the wording of some questions were made before distribution to the sample individuals.

A contact list of school teaching staff from the three schools of pharmacy was assembled using data obtained from the documentary review (see Part two, section 3.2) and school of pharmacy staffing lists on the schools' websites and then summary lists were double-checked with the school representatives on the Project Steering Group. Individuals from the three schools who were interviewed as part of the earlier stage of this work (see Part two, section 3.3), were not included in the questionnaire distribution database.

The final version of the questionnaire (see Part three, section A2.6) was transposed for electronic delivery via LimeSurvey<sup>b</sup> and staff names and e-mail addresses were entered into the database via a comma separated variable (csv) file.

<sup>a</sup> Of the 584 respondents, 21 respondents did not select any option, 504 respondents selected one option, 27 respondents selected two options, 26 respondents selected three options, 3 respondents selected four options, 2 respondents selected five options and one respondent selected all seven options.

<sup>b</sup> See <http://www.limesurvey.org/>.

An e-mail was sent to all identified individuals to inform them of the project and the questionnaire and then individual invitations were sent from the on-line LimeSurvey system to all individuals in the database in January 2010. Two follow-up invitations to participate were sent at approximately three week intervals.

### **3.5.1.2 Response rate**

Initially, a total of 94 individuals were initially identified, which following removal of previously interviewed individuals, left a database of 85:

- Royal College of Surgeons in Ireland.
  - 19 individuals initially identified.
  - 3 individuals removed as they were interviewed in an earlier stage of this work.
  - **Total 16 individuals.**
- Trinity College Dublin.
  - 56 individuals initially identified.
  - 3 individuals removed as they were interviewed in an earlier stage of this work.
  - **Total 53 individuals.**
- University College Cork
  - 19 individuals initially identified.
  - 3 individuals removed as they were interviewed in an earlier stage of this work.
  - **Total 16 individuals.**

Three of the 85 individuals (all from TCD) contacted the project team after initial contact and stated that their engagement with the pharmacy course was so minimal that they were unable to complete the questionnaire. They were subsequently removed from the database leaving a final total of 82 individuals.

In total, 67 electronic responses were received for the survey. This was made up from 41 full responses (50.0%) and 26 partial responses.

Nine individuals had more than one data set recorded on-line. Seven of these nine had completed a partial return and a full return and so the corresponding partial returns were removed from the database. The other two individuals had two partial returns each and so the more complete return was selected for inclusion and the less complete return removed from the database.

Of the remaining fifteen partial responses (eleven were discussed in the previous paragraph), one responded had only logged-in to the on-line survey but had provided no answers and eight had only answered one or two questions and so were removed. The remaining six partial responses contained at least some answers to the questions and so

were retained. This resulted in a final response rate of 41 full responses and 8 usable partial responses, providing data from 49 respondents for analysis (response rate: 59.8%).

Cross-tabular analysis was achieved using SPSS v16 and statistical evaluation undertaken using the Chi-squared statistical test. Significance was taken to be where  $p \leq 0.050$ . Where appropriate, cross-tabular analysis was undertaken when comparing the results against the respondents' school of pharmacy.

Respondents were asked at which schools of pharmacy they taught. Two respondents indicated that they taught at more than one (in both cases two) schools. For the remaining 47 respondents, of the eight who only partially completed the questionnaire, to enable cross-tabular analysis to take place, it was assumed that they only taught at one school (the one where the invitation to participate in the survey was sent). Cross-tabular analysis was only undertaken with the 47 individuals who had not indicated they taught at more than one school of pharmacy. The respondent profile by school of pharmacy is detailed in Table 72.

**Table 72: The questionnaire respondent profile by school of pharmacy**

School of pharmacy (n=49)	Total
School A	n=11
School B	n=25
School C	n=15

### 3.5.2 Findings

46% (n=19/41) of respondents who answered the question were female and 83% (n=35/42) were Irish citizens. The remainder (17%, n=7) were all EU/EEA citizens. The range of job titles provided by the respondents is detailed in Table 73.

**Table 73: The job titles provided by the questionnaire respondents**

Job title (n=39)	
Professor	3% (n=1)
Associate Professor	5% (n=2)
Adjunct Professor	3% (n=1)
Senior Lecturer	28% (n=11)
Lecturer	54% (n=21)
Teacher Practitioner	5% (n=2)
Other	3% (n=1)

Respondents were also asked to state which disciplines within the pharmacy course they taught under (respondents were able to indicate more than one area). Table 74 summarises the results.

**Table 74: The disciplines the respondents taught under**

Discipline	Response
Medicinal Chemistry	n=8
Microbiology/Cell Biology	n=5
Pharmacognosy	n=4
Pharmaceutics	n=9
Pharmacology	n=4
Pharmacy Practice/Clinical Pharmacy	n=10
Other	n=5

84% (n=31/37) worked full-time at their HE institution and 15% (n=5/34) stated that they possessed a teaching qualification. Respondents were asked how many HE institutions they had worked at. Just over one-third (34%, n=14/41) stated they had only worked in one HE institution with 29% (n=12) stating they had worked in two institutions, 27% (n=11) stating

they had worked in three institutions, 7% (n=3) stating they had worked in four institutions and only 2% (n=1) stating they had worked in five or more institutions.

When asked how many years' experience respondents had working in HE institutions, a range of response was provided. These are summarised in Table 75 below.

**Table 75: The number of year's respondents had worked in HE institutions**

Number of years	Response (n=40)
0-5	30% (n=12)
6-10	28% (n=11)
11-15	13% (n=5)
16-20	5% (n=2)
Over 20 years	25% (n=10)

Finally in this section, respondents were asked if they were a registered pharmacist. Of the 39 respondents who provided an answer to this question, over one-third (46%, n=18) stated that they were registered in Ireland with 10% (n=4) stating they were registered in Great Britain. No respondents stated they were registered in Northern Ireland and a further 8% (n=3) stated they were a registered pharmacist in another country. A total of 46% (n=18) stated they were not registered as a pharmacist.<sup>a</sup>

### 3.5.2.1 Workload

Respondents were first asked their views on the student workload. Nearly three-quarters (71%, n=35/49) stated they thought it was about right with a quarter (25%, n=12) stating that it was too much. Only two respondents (4%) stated they thought that student workload was far too much. Cross-tabular analysis by school of pharmacy (n=47, Chi,  $\rho=0.511$ ) did not show any statistically significant differences. Respondents were then asked how easy they thought it was for students to cope with the workload. Around a half (51%, n=25) stated they thought that it was neither easy nor difficult with 41%, (n=20) stating they thought that it was difficult for the students to cope. The remainder either thought that it was easy (6%, n=3) or very difficult (2%, n=1). Cross-tabular analysis by school of pharmacy (n=47, Chi,  $\rho=0.101$ ) did not show any statistically significant differences.

Respondents were then asked their views on the amount for formal student contact hours. The majority (53%, n=26) thought that the amount for formal student contact hours was too

<sup>a</sup> Respondents were able to select more than one option, which four respondents did. Three of these were registered in Ireland and Great Britain and one was registered in Ireland and another country (not Ireland, Great Britain or Northern Ireland).



little with 2% (n=1) stating far too little. The remainder either thought that the number of hours were about right (41%, n=20) or far too much (4%, n=2). Cross-tabular analysis by school of pharmacy (n=47, Chi,  $\rho=0.433$ ) did not show any statistically significant differences.

Next, respondents were asked to think about their own workload and indicate their level of agreement or disagreement with a series of statements (see Table 76).

**Table 76: Respondents’ level of agreement or disagreement with statements relating to their own workload**

I have enough time to:	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
Develop teaching material (n=49)	2% (n=1)	53% (n=26)	12% (n=6)	29% (n=14)	4% (n=2)	-
Develop delivery and teaching methods (n=49)	2% (n=1)	33% (n=16)	25% (n=12)	27% (n=13)	14% (n=7)	-
Provide student feedback (n=49)	-	41% (n=20)	16% (n=8)	43% (n=21)	-	-
Conduct research (n=49)	2% (n=1)	14% (n=7)	14% (n=7)	47% (n=23)	16% (n=8)	6% (n=3)
Complete administrative responsibilities (n=49)	-	20% (n=10)	35% (n=17)	27% (n=13)	16% (n=8)	2% (n=1)

Cross-tabular analysis by school of pharmacy (n=47, Chi,  $\rho=0.839$ ; n=47, Chi,  $\rho=0.972$ ; n=47, Chi,  $\rho=0.976$ ; n=47, Chi,  $\rho=0.826$  and n=47, Chi,  $\rho=0.719$  respectively) did not show any statistically significant differences.

### 3.5.2.2 Teaching and learning

The next section started by asking the respondents’ opinion on a number of questions concerning the amount of teaching and learning material relating to the pharmaceutical sciences and to the practice of pharmacy.<sup>a</sup> The results are summarised in Table 77 and Table 78 below.

<sup>a</sup> The respondents were told that the term “*pharmaceutical sciences*” includes (but is not limited to) the following subjects: medicinal chemistry, pharmacology, pharmaceuticals and microbiology; and “*the practice of pharmacy*” includes (but is not limited to) the following subjects: dispensing, law and ethics and clinical therapeutics.

**Table 77: Respondents' views on the amount of teaching and learning material relating to the pharmaceutical sciences and to the practice of pharmacy**

Statement	Nowhere near enough	Not enough	About right	Too much	Far too much
The time devoted to material relating to the pharmaceutical sciences is (n=49)	-	18% (n=9)	67% (n=33)	14% (n=7)	-
The time devoted to material relating to the practice of pharmacy is (n=49)	-	29% (n=14)	53% (n=26)	18% (n=9)	-

**Table 78: Respondents' views on two statements relating to teaching and learning on the pharmacy degree course**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Material relating to clinical pharmacy should be taught in all years of the undergraduate BSc Pharmacy degree course (n=49)	20% (n=10)	35% (n=17)	12% (n=6)	27% (n=13)	6% (n=3)
I consider that the science component of the early part of the course is necessary for the professional parts of the undergraduate BSc Pharmacy degree course (n=49)	65% (n=32)	22% (n=11)	10% (n=5)	-	2% (n=1)

Cross-tabulation of the data in Table 77 and Table 78 with school of pharmacy (n=47, Chi,  $\rho=0.034$ ; n=47, Chi,  $\rho=0.597$ ; n=47, Chi,  $\rho=0.335$  and n=47, Chi,  $\rho=0.431$  respectively) showed statistically significant differences for the first statement by school of pharmacy (see Table 79).

**Table 79: Respondents’ views on the time devoted to material relating to the pharmaceutical sciences by school of pharmacy**

The time devoted to material relating to the pharmaceutical sciences is (n=47)	Not enough (n=9)	About right (n=31)	Too much (n=7)
School A (n=10)	50% (n=5)	50% (n=5)	-
School B (n=23)	13% (n=3)	74% (n=17)	13% (n=3)
School C (n=14)	7% (n=1)	64% (n=9)	29% (n=4)

Next, respondents were asked how well they thought their course develops a student’s knowledge, skills and attributes. The results are summarised in Table 80 below.

**Table 80: Respondents’ views on how well they thought their course develops a student’s knowledge, skills and attributes**

Overall, how confident are you that the undergraduate BSc Pharmacy degree course at your institution develops a student’s:	Very confident	Fairly confident	Not very confident	Not at all confident
Pharmaceutical knowledge (n=49)	35% (n=17)	61% (n=30)	4% (n=2)	-
Personal skills (n=49)	12% (n=6)	53% (n=26)	31% (n=15)	4% (n=2)
Practical skills (n=49)	22% (n=11)	53% (n=26)	20% (n=10)	4% (n=2)
Professional attitudes and behaviour (n=49)	25% (n=12)	45% (n=22)	29% (n=14)	2% (n=1)
Capacity for self reflection (n=49)	-	39% (n=19)	53% (n=26)	8% (n=4)
Capacity for self-learning (n=49)	2% (n=1)	61% (n=30)	31% (n=15)	6% (n=3)

Cross-tabular analysis by school of pharmacy (n=47, Chi,  $\rho=0.834$ ; n=47, Chi,  $\rho=0.197$ ; n=47, Chi,  $\rho=0.017$ ; n=47, Chi,  $\rho=0.073$ ; n=47, Chi,  $\rho=0.481$  and n=47, Chi,  $\rho=0.198$  respectively) showed statistically significant differences for the question on the development of practical skills by school of pharmacy (see Table 81).<sup>a</sup>

<sup>a</sup> With removal of the option “Not at all confident” (n=2), Chi,  $\rho=0.012$  (n=45).

**Table 81: Respondents' views on the ability of their course to develop a student's practical skills by school of pharmacy**

Overall, how confident are you that the undergraduate BSc Pharmacy degree course at your institution develops a student's practical skills (n=47)	Very confident (n=10)	Fairly confident (n=26)	Not very confident (n=9)	Not at all confident (n=2)
School A (n=10)	50% (n=5)	20% (n=2)	30% (n=3)	-
School B (n=23)	13% (n=3)	52% (n=12)	26% (n=6)	9% (n=2)
School C (n=14)	14% (n=2)	86% (n=12)	-	-

Next, respondents were asked their views on the importance of a range of learning techniques. The results from this section are summarised in Table 82. Cross-tabulation of the data in Table 82 with the respondents' school of pharmacy did not show any statistically significant differences.<sup>a</sup>

<sup>a</sup> Chi,  $\rho=0.342$  (n=47); Chi,  $\rho=0.533$  (n=47); Chi,  $\rho=0.895$  (n=47); Chi,  $\rho=0.246$  (n=47); Chi,  $\rho=0.296$  (n=47); Chi,  $\rho=0.402$  (n=47); Chi,  $\rho=0.938$  (n=47); Chi,  $\rho=0.559$  (n=47); Chi,  $\rho=0.921$  (n=47); Chi,  $\rho=0.545$  (n=47); Chi,  $\rho=0.406$  (n=47); Chi,  $\rho=0.419$  (n=47) and Chi,  $\rho=0.732$  (n=47) respectively.

**Table 82: Respondents' views on the usefulness of a range of learning techniques**

Thinking about learning techniques, how important are each of the following for student learning	Very important	Fairly important	Not important	Have not used
Lectures (n=49)	71% (n=35)	29% (n=14)	-	-
Scientific laboratory practicals (n=49)	80% (n=39)	12% (n=6)	-	8% (n=4)
Dispensing or clinical practicals (n=49)	82% (n=40)	4% (n=2)	-	14% (n=7)
Tutorials (n=49)	57% (n=28)	39% (n=19)	2% (n=1)	2% (n=1)
Workshops (n=49)	51% (n=25)	39% (n=19)	2% (n=1)	8% (n=4)
Seminars (n=49)	33% (n=16)	41% (n=20)	10% (n=5)	16% (n=8)
Directed study (n=49)	49% (n=24)	39% (n=19)	8% (n=4)	4% (n=2)
Problem based learning (PBL) (n=49)	43% (n=21)	35% (n=17)	8% (n=4)	14% (n=7)
Computer aided learning packages (n=49)	22% (n=11)	59% (n=29)	8% (n=4)	10% (n=5)
Case studies or presentations (n=49)	63% (n=31)	25% (n=12)	2% (n=1)	10% (n=5)
Community pharmacy placements/visits (n=49)	49% (n=24)	25% (n=12)	8% (n=4)	18% (n=9)
Hospital pharmacy placements/visits (n=49)	53% (n=26)	25% (n=12)	2% (n=1)	20% (n=10)
Industrial pharmacy placements/visits (n=49)	45% (n=22)	37% (n=18)	4% (n=2)	14% (n=7)

Next, respondents were asked if the course at their institution had a personal tutoring system. A significant majority (90%, n=44/48) stated that it did. Cross tabulation by school of pharmacy (n=47, Chi,  $p=0.001$ ) indicated that all respondents who stated that their school didn't have a personal tutoring system were from one school (School C). Those respondents who stated their school did have a personal tutoring system (n=44) were asked to say how effective they thought it was in providing both pastoral and academic support. The results are summarised in Table 83 below.

**Table 83: Respondents’ views on how effective the personal tutoring system is in providing pastoral and academic support**

In your opinion, how effective is the personal tutoring system at your university in providing	Very effective	Effective	Neither effective nor ineffective	Ineffective	Very ineffective	Don’t know
<b>Pastoral support (n=44)</b>	36% (n=16)	32% (n=14)	9% (n=4)	2% (n=1)	-	21% (n=9)
<b>Academic support (n=44)</b>	18% (n=8)	50% (n=22)	16% (n=7)	-	-	16% (n=7)

Cross-tabulation of the data in Table 83 with school of pharmacy (n=42, Chi,  $\rho=0.172$  and n=42, Chi,  $\rho=0.044$ ) showed statistically significant differences for the second question, see Table 84.

**Table 84: Respondents’ views on how effective the personal tutoring system is in providing academic support by school of pharmacy**

In your opinion, how effective is the personal tutoring system at your university in providing academic support (n=42)	Very effective (n=8)	Effective (n=21)	Neither effective nor ineffective (n=7)	Don’t know (n=6)
<b>School A (n=10)</b>	50% (n=5)	50% (n=5)	-	-
<b>School B (n=23)</b>	13% (n=3)	44% (n=10)	26% (n=6)	17% (n=4)
<b>School C (n=9)</b>	-	67% (n=6)	11% (n=1)	22% (n=2)

The respondents were asked about the level of control they exercised on choice of teaching and learning methods. The results are summarised in Table 85.

**Table 85: Respondents' stated level of control on the choice of teaching and learning methods**

How much control do you (as an individual) have over the choice of teaching and learning methods used	Full control	Fair amount of control	Very little control	No control	Not applicable
<b>Modules I coordinate (n=49)</b>	37% (n=18)	47% (n=23)	6% (n=3)	-	10% (n=5)
<b>Modules I teach but do not coordinate (n=49)</b>	8% (n=4)	67% (n=33)	14% (n=7)	2% (n=1)	8% (n=4)

Cross-tabulation of the data in Table 85 with school of pharmacy (n=47, Chi,  $p=0.622$  and n=47, Chi,  $p=0.287$ ) did not show any statistically significant differences.

Respondents were then asked how they would like to see a different teaching styles change at their institution. The results are summarised in Table 86.

**Table 86: Respondents' views on changes they would like to see at their institutions to different teaching styles**

Thinking about the undergraduate BSc Pharmacy degree course at your institution, as a whole how would you like to see the following changed?	More	About the same	Less
<b>Formal teaching (non-interactive) (n=48)</b>	4% (n=2)	65% (n=31)	31% (n=15)
<b>Student centred teaching (interactive) (n=48)</b>	63% (n=30)	35% (n=17)	2% (n=1)
<b>Directed learning (n=48)</b>	42% (n=20)	50% (n=24)	8% (n=4)

Cross-tabulation of the data in Table 86 with school of pharmacy (n=46, Chi,  $p=0.391$ ; n=46, Chi,  $p=0.604$  and n=46, Chi,  $p=0.430$ ) did not show any statistically significant differences.

Next, respondents were asked on a scale of 1 to 5, where 1 represents very good and 5 represents very poor, how they would rate the relationship between staff and students at their school. Nearly one-quarter (23%, n=11/48) rated the relationship at "1" with 60% (n=29) rating it at "2". Of the remainder, 15% (n=7) rated the relationship at "3" and 2% (n=1) rated it at "4". Cross-tabulation of these data with school of pharmacy (n=46, Chi,  $p=0.004$ ) showed statistically significant differences as detailed in Table 87.

**Table 87: Respondents’ views on the relationship between staff and students by school of pharmacy**

On a scale of 1 to 5, where 1 represents very good and 5 represents very poor how would you rate the relationship between staff and students in your school of pharmacy? (n=46)	1 (n=10)	2 (n=28)	3 (n=7)	4 (n=1)
<b>School A (n=10)</b>	60% (n=6)	40% (n=4)	-	-
<b>School B (n=23)</b>	4% (n=1)	61% (n=14)	30% (n=7)	4% (n=1)
<b>School C (n=13)</b>	23% (n=3)	77% (n=10)	-	-

Next, respondents were asked to rate the usefulness of a range of different IT applications for teaching and learning. The results are detailed in Table 88. Cross-tabulation of the data in Table 88 with the respondents’ school of pharmacy showed statistically significant differences for four of the IT applications where in each case, the uptake and stated usefulness was much greater in one school (School A) than the other two (see Table 89).<sup>a</sup>

<sup>a</sup> Chi,  $\rho=0.109$  (n=46); Chi,  $\rho=0.267$  (n=46); Chi,  $\rho=0.100$  (n=46); Chi,  $\rho=0.411$  (n=46); Chi,  $\rho=0.012$  (n=46); Chi,  $\rho=0.005$  (n=46); Chi,  $\rho=0.863$  (n=46); Chi,  $\rho=0.053$  (n=46); Chi,  $\rho=0.023$  (n=46); Chi,  $\rho=0.006$  (n=46) and Chi,  $\rho=0.294$  (n=46) respectively.



**Table 88: Respondents' views on the usefulness of a range of different IT applications for teaching and learning**

How useful do you find the following IT applications in your teaching	Very useful	Fairly useful	Not very useful	Not at all useful	Have not used
On-line access to copies of lecture notes (n=48)	54% (n=26)	38% (n=18)	-	-	8% (n=4)
On-line access to e-learning material (in addition to lecture notes) (n=48)	44% (n=21)	42% (n=20)	2% (n=1)	-	13% (n=6)
On-line delivery of lectures (n=48)	17% (n=8)	10% (n=5)	6% (n=3)	-	67% (n=32)
Podcasts and vodcasts (n=48)	8% (n=4)	6% (n=3)	4% (n=2)	-	81% (n=39)
Release of coursework on-line (n=48)	29% (n=14)	29% (n=14)	2% (n=1)	-	40% (n=19)
Submission of coursework on-line (n=48)	33% (n=16)	31% (n=15)	4% (n=2)	-	31% (n=15)
Computer aided learning (CAL) packages (n=48)	21% (n=10)	27% (n=13)	8% (n=4)	2% (n=1)	42% (n=20)
Formative assessments e.g. on-line tests or quizzes to assist learning (i.e. the marks do not count) (n=48)	25% (n=12)	27% (n=13)	4% (n=2)	-	44% (n=21)
Summative assessment e.g. formal assessment on-line (for example, on-line examinations) (n=48)	21% (n=10)	17% (n=8)	6% (n=3)	-	56% (n=27)
Use of on-line collaboration (for example, discussion boards, wikis, etc) (n=48)	10% (n=5)	15% (n=7)	8% (n=4)	2% (n=1)	65% (n=31)
On-line portfolios and blogs (n=48)	2% (n=1)	6% (n=3)	6% (n=3)	2% (n=1)	83% (n=40)

**Table 89: Respondents’ views on the usefulness of a range of four different IT applications for teaching and learning by school of pharmacy**

How useful do you find the following IT applications in your teaching		Very useful	Fairly useful	Not very useful	Not at all useful	Have not used
Release of coursework on-line (n=46)	School A (n=10)	70% (n=7)	30% (n=3)	-	-	-
	School B (n=23)	13% (n=3)	30% (n=7)	-	-	57% (n=13)
	School C (n=13)	23% (n=3)	23% (n=3)	7% (n=1)	-	46% (n=6)
Submission of coursework on-line (n=46)	School A (n=10)	80% (n=8)	20% (n=2)	-	-	-
	School B (n=23)	17% (n=4)	26% (n=6)	4% (n=1)	-	52% (n=12)
	School C (n=13)	23% (n=3)	54% (n=7)	-	-	23% (n=3)
Summative assessment e.g. formal assessment on-line (for example, on-line examinations) (n=46)	School A (n=10)	50% (n=5)	30% (n=3)	10% (n=1)	-	10% (n=1)
	School B (n=23)	9% (n=2)	9% (n=2)	9% (n=2)	-	74% (n=17)
	School C (n=13)	15% (n=2)	23% (n=3)	-	-	62% (n=8)
Use of on-line collaboration (for example, discussion boards, wikis, etc) (n=46)	School A (n=10)	20% (n=2)	30% (n=3)	30% (n=3)	-	20% (n=2)
	School B (n=23)	9% (n=2)	-	4% (n=1)	4% (n=1)	83% (n=19)
	School C (n=13)	-	31% (n=4)	-	-	69% (n=9)

Comments from the teaching staff questionnaire respondents on the use of IT in teaching included:

*“Facilitating online access to notes enables students to be informed both before and after a lecture. Undertaking practicals by CAL greatly facilitates the students learning experience without the technical problems encountered in the laboratory.”* (School teaching staff questionnaire respondent)

*“Students can access in own time and proceed at own pace. Repeated access is possible, as are hyperlinks to support references if applicable - decreasing the amount of time a student would have to spend searching for a specific reference/source.”* (School teaching staff questionnaire respondent)

The last questions in this section examined the respondents' views on whether they felt that their institution rewards quality and innovation of teaching. The results are summarised in Table 90.

**Table 90: Respondents' views on whether they felt that their institution rewards quality and innovation of teaching**

How strongly do you agree that your institution rewards:	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
<b>Quality of teaching (n=48)</b>	2% (n=1)	19% (n=9)	31% (n=15)	23% (n=11)	23% (n=11)	2% (n=1)
<b>Innovation of teaching (n=48)</b>	2% (n=1)	21% (n=10)	31% (n=15)	27% (n=13)	17% (n=8)	2% (n=1)

Cross-tabulation of the data in Table 90 with school of pharmacy (n=46, Chi,  $\rho=0.320$  and n=46, Chi,  $\rho=0.181$ ) did not show any statistically significant differences.

### 3.5.2.3 Assessment

Respondents were first asked in this section whether they considered the amount of formal assessment (summative) is about right. The majority (85%, n=40/47) stated they thought that it was about right with the remainder (15%, n=7) stating they thought that it was too much. Cross-tabulation with school of pharmacy (n=45, Chi,  $\rho=0.124$ ) did not show any statistically significant differences. Next, respondents were asked if they thought that the balance between exams and continuous assessment was about right. Again, the majority (83%, n=39/47) stated that they thought that it was about right with the remainder stating they either thought that there was too much emphasis on examination marks (15%, n=7) or on continuous assessment (2%, n=1). Cross-tabulation with school of pharmacy (n=45, Chi,  $\rho=0.204$ ) did not show any statistically significant differences. Finally in this section, respondents were asked their views on the focus of memorised knowledge. The majority of respondents (51%, n=24) thought that it was about right but this was closely followed by 47% of respondents (n=22) who thought that there was too much of a focus on memorised knowledge. Only one respondent (2%) stated they thought that there was too little a focus on memorised knowledge. Again cross-tabulation with school of pharmacy (n=45, Chi,  $\rho=0.208$ ) did not show any statistically significant differences.

Comments from the teaching staff questionnaire respondents on the focus of assessments on memorised knowledge included:

*“Excessive examination from memory particularly in the final year. It would be appropriate to attempt to gauge the students' depth of understanding/insight/educated opinions and ability to integrate elements of the course at this stage rather than repeat back facts they have learned off.”* (School teaching staff questionnaire respondent)

*“Learning in my institution is too reliant on memory. This is hard to change and is complicated. Partly it is the result of too much contact hours leading to superficial learning on behalf of teaching staff and students partly it is cultural in relation to the history and development of the subject and school as well as the selection and formation of students. Very hard to change.”* (School teaching staff questionnaire respondent)

### 3.5.2.4 Feedback on assessments

Respondents were asked when they provided feedback to students on assessment in the modules they teach on. The results are summarised in Table 91. Of the 49 respondents, 47 provided at least one answer to this question (respondents were able to select more than one option in each row) and so the percentages in Table 91 are calculated from this figure.

**Table 91: The provision of feedback on the modules the respondents teach**

Feedback is provided on (n=47)	Routinely		Upon request	
	To all students	Only to students who have failed	To all students	Only to students who have failed
<b>Exams</b>	15% (n=7)	13% (n=6)	64% (n=30)	15% (n=7)
<b>Coursework</b>	53% (n=25)	2% (n=1)	43% (n=20)	4% (n=2)

Respondents were then asked if they were satisfied with the amount of feedback they are able to provide or if a lack of time prevents them from providing feedback to all students. The results are summarised below (see Table 92).

**Table 92: Respondents’ views on two questions relating to student feedback**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<b>I am satisfied with the amount of feedback I provide (n=47)</b>	11% (n=5)	45% (n=21)	19% (n=9)	23% (n=11)	2% (n=1)
<b>Lack of time prevents me from providing feedback to all students (n=46)</b>	26% (n=12)	28% (n=13)	22% (n=10)	22% (n=10)	2% (n=1)

Cross-tabulation of the data in Table 92 with school of pharmacy (n=45, Chi,  $\rho=0.911$  and n=44, Chi,  $\rho=0.278$ ) did not show any statistically significant differences.

### 3.5.2.5 *Inter-professional learning*

Within this section, respondents were first asked if, in the modules they teach, students learnt with other health professional students. Nearly one-third (31%, n=14/45) stated that they did. Cross-tabulation with school of pharmacy (n=43, Chi,  $\rho=0.028$ ) showed that 62% (n=8/13) of respondents from School C stated that students did learn with other health professional students on modules they taught compared to 20% from both School A (n=2/10) and School B (n=4/20).

Those respondents (n=14) who stated that they did use inter-professional learning were asked which format it took place. Nearly three-quarters (71%, n=10/14) stated it took place in large lecture style format and 50% (n=7/14) stated it took place on small-group workshop/tutorial style format (respondents could select both formats). Cross-tabulation of these responses with school of pharmacy (n=14, Chi,  $\rho=0.307$  and n=14, Chi,  $\rho=0.039$ ) indicated that lecture format inter-professional learning took place at all three schools (School A, 50%, n=1/2; School B, 100%, n=4/4; School C, 63%, n=5/8) but only at two of the three schools in small-group workshop/tutorial style format (School A, 100%, n=2/2; School B, 0%, n=0/4; School C, 63%, n=5/8).

All respondents (irrespective of whether they personally were involved in inter-professional learning) were asked to what extent they considered inter-professional learning was a useful method to enhance learning that teaching pharmacy students on their own would not achieve. Two-thirds (67%, n=30/45) stated that it was useful with only 4%, (n=2) stating that it was not useful. The remainder 29% (n=13) had no opinion. Cross-tabulation with school of pharmacy (n=43, Chi,  $\rho=0.549$ ) did not show any statistically significant differences. Respondents were also asked which year(s) they thought that inter-professional learning should take place (respondents were able to indicate more than one year). Unsurprisingly, the responses increased the further you went through the years with 14 respondents stating first year, 17 stating second year, 25 stating third year and 33 stating fourth year.

Finally in this section, respondents were asked how strongly they agreed with the statement that *“inter-professional learning with other health professional students should be a requirement within all undergraduate degree programmes in Ireland”*. Respondents tended to agree with the statement with 29% (n=13/45) strongly agreeing and 24% (n=11) agreeing. Only 9% (n=4) disagreed and the remainder (38%, n=17) neither agreeing nor disagreeing. Cross-tabulation with school of pharmacy (n=43, Chi,  $\rho=0.939$ ) did not show any statistically significant differences.

Comments from the teaching staff questionnaire regarding inter-professional learning included:

*“In modules our students are taught with medical students, the pharmacy students feel these lectures given by medics primarily are focused towards the medics and their*

*presence or needs are irrelevant or secondary to those of the medical students.”* (School teaching staff questionnaire respondent)

### 3.5.2.6 Pharmaceutical Society of Ireland

Respondents were asked if they thought that pharmacy students should be registered with the PSI during their time at university. Opinion was divided with 47% (n=21/45) stating that they should be. Cross-tabulation with school of pharmacy (n=43, Chi,  $\rho=0.354$ ) did not show any statistically significant differences.

### 3.5.2.7 Options

Within the section on options, respondents were asked their views on whether the undergraduate BSc Pharmacy degree course should comprise of options and if so, what type of options should be available. The results are summarised in Table 93.

**Table 93: Respondent’s views on whether the undergraduate BSc Pharmacy degree course should comprise of options**

Option	Response (n=45)
Comprise entirely of core, set subjects with no element of choice	13% (n=6)
Have options available, but only pharmacy subjects	13% (n=6)
Have options available, but only from non-pharmacy subjects	18% (n=8)
Have options available from both pharmacy and non-pharmacy subjects	49% (n=22)
Other	7% (n=3)

Cross-tabulation of the data in Table 93 with school of pharmacy (n=43, Chi,  $\rho=0.793$ ) did not show any statistically significant differences.

### 3.5.2.8 Research projects

Respondents were asked two questions about research projects. The first asked them how important they thought it was to include a research project within the degree. The majority of respondents (69%, n=31/45) stated that it was very important with 22% (n=10) stating it was important. Only 7% (n=3) and 2% (n=1) stated it was not very important or not important at all respectively. When asked if the pharmacy degree course at their institution provided the necessary skills and knowledge to undertake the project, 60% (n=27/45) stated it did with only 16% (n=7) stating that they thought that it didn’t. The remainder (24%, n=11) were not sure. Cross tabulation of both questions with school of pharmacy (n=43, Chi,

$\rho=0.023$  and  $n=43$ , Chi,  $\rho=0.069$ ) showed statistically significant differences for the first question (see Table 94).

**Table 94: Respondents' views the importance of an undergraduate research project by school of pharmacy**

In your opinion, how important is it that the undergraduate BSc Pharmacy degree course at your institution contains a research project (n=43)	Very important (n=29)	Fairly important (n=10)	Not very important (n=3)	Not at all important (n=1)
School A (n=10)	40% (n=4)	60% (n=6)	-	-
School B (n=20)	65% (n=13)	15% (n=3)	15% (n=3)	5% (n=1)
School C (n=13)	92% (n=12)	8% (n=1)	-	-

### 3.5.2.9 Placements

Within this section, respondents were first asked if students at their institution were required to undertake compulsory work placements (during term time and/or outside term time). Just over a half (55%,  $n=24/44$ ) indicated that they did although cross-tabulation by school did not indicate any statistically significant differences ( $n=42$ , Chi,  $\rho=0.447$ ).

Respondents who answered yes to the previous question ( $n=24$ ) were asked a series of questions about the placements at their institution. Firstly, respondents were asked if the placements took place in term-time or outside of term time (or both). Nine respondents indicated that placements took place within term time and twenty indicated that they took place outside term time. Simple cross-tabulation with school of pharmacy indicated that respondents were indicating that both modes took place in all three schools.

These respondents were then asked how strongly they agreed or disagreed with three statements relating to placements. The results are summarised in Table 95. Cross-tabulation of these data with school of pharmacy ( $n=23$ , Chi,  $\rho=0.228$ ;  $n=23$ , Chi,  $\rho=0.308$  and  $n=23$ , Chi,  $\rho=0.264$ ) did not show any statistically significant differences.

**Table 95: Respondents’ views on three statements relating to placements**

How strongly do you agree or disagree that these compulsory work placements:	Strongly agree	Agree	Neither agree nor disagree	Disagree
Provide a meaningful experience of the workplace? (n=24)	38% (n=9)	54% (n=13)	8% (n=2)	-
Provide an opportunity for the development of professional behaviour and values? (n=24)	38% (n=9)	54% (n=13)	8% (n=2)	-
Provide an opportunity for the application of knowledge? (n=24)	29% (n=7)	50% (n=12)	13% (n=3)	8% (n=2)

These respondents were asked if they students were assessed on the placements and 63% (n=15/24) stated that they were. Cross-tabulation of these data with school of pharmacy (n=23, Chi,  $\rho=0.558$ ) did not show any statistically significant differences.

These 24 respondents were then asked if they were involved in any support activity relating to student placements (for example, sourcing, organising, etc). Three respondents indicated that they were and simple cross-tabulation by school of pharmacy indicated that one respondent was from School A and two from School C.

These three respondents were asked how the compulsory placements were organised in their school (although it should be noted that responses are only from two of the three schools). The results are shown below in Table 96 (respondents were able to select more than one response from Table 96).

**Table 96: The organisation of compulsory placements in two of the three schools**

Option	Response (n=3)
The school takes full responsibility for arranging work placements.	n=1
The school provides a list of pharmacy tutors but students are expected to arrange their own placements.	n=0
Students take full responsibility for arranging their placements.	n=2
Don’t know.	n=0
Other	n=1



Next, these three respondents were asked a question about the pharmacists at the placement location. Table 97 summarises the results.

**Table 97: Responses to six statements regarding the pharmacists at the placement location**

Thinking about pharmacists who provide compulsory work placement experience (for your students) and the location in which the work placement takes place, do/does:	Yes	No
They receive training from the university (n=3)	-	n=3
The university provide support, upon request (n=3)	n=2	n=1
The university inform them of the skills/learning objectives to be achieved by the student during the placement (n=3)	n=3	-
They provide formal feedback to the university on a student's performance (n=3)	n=2	n=1
The university set standards of quality for the teaching to be provided by the pharmacist (n=3)	-	n=3
The university set standards of quality for the premises in which work placement experience is to be provided (n=3)	-	n=3

Finally for these three respondents, they were asked to what extent they agreed or disagreed that the measures taken by the university to ensure students benefit from their work placement learning experience are effective. Responses were split with one respondent agreeing, one disagreeing and one neither agreeing nor disagreeing.

All respondents, irrespective of whether they had had any involvement with placements or not, were asked how strongly they agreed or disagreed with two statements relating to placements. The results are summarised in Table 98.

**Table 98: Respondents' views on two questions relating to placements**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Work placements should be compulsory in <i>at least one year of study</i> (n=44)	50% (n=22)	16% (n=7)	23% (n=10)	11% (n=5)	-
Work placements should be compulsory in <i>all years of study</i> (n=44)	9% (n=4)	11% (n=5)	34% (n=15)	32% (n=14)	14% (n=6)

Cross-tabulation of the data in Table 98 with school of pharmacy (n=42, Chi,  $\rho=0.489$  and n=42, Chi,  $\rho=0.584$ ) did not show any statistically significant differences.

### 3.5.2.10 *The pre-registration year; old format*

Questions about the pre-registration year were separated into two sections and the first of the two examined the respondents' views of the pre-registration year before the introduction of the National Pharmacy Internship Programme (2009/2010). Firstly, respondents were asked how strongly they agreed or disagreed that the undergraduate BSc Pharmacy degree course at their institution provided students with the necessary knowledge and skills to enter a pre-registration in community pharmacy, hospital pharmacy and industry. The results are summarised in Table 99.

**Table 99: Respondents' views on whether they felt that their institution provided students with the necessary knowledge and skills to enter a pre-registration in community pharmacy, hospital pharmacy and industry**

Sector	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
Community pharmacy (n=43)	23% (n=10)	54% (n=23)	12% (n=5)	5% (n=2)	2% (n=1)	5% (n=2)
Hospital pharmacy (n=43)	19% (n=8)	58% (n=25)	16% (n=7)	-	2% (n=1)	5% (n=2)
Industry (n=43)	12% (n=5)	44% (n=19)	21% (n=9)	12% (n=5)	5% (n=2)	7% (n=3)

Cross-tabulation of the data in Table 99 with school of pharmacy (n=41, Chi,  $\rho=0.387$ ; n=41, Chi,  $\rho=0.019$  and n=41, Chi,  $\rho=0.215$ ) did show statistically significant differences in the responses relating to hospital pharmacy (see Table 100).

**Table 100: Respondents' views on whether they felt that their institution provided students with the necessary knowledge and skills to enter a pre-registration in hospital pharmacy by school of pharmacy**

School (n=41)	Strongly agree (n=8)	Agree (n=23)	Neither agree nor disagree (n=7)	Disagree (n=0)	Strongly disagree (n=1)	Don't know (n=2)
School A (n=10)	50% (n=5)	40% (n=4)	10% (n=1)	-	-	-
School B (n=18)	17% (n=3)	44% (n=8)	33% (n=6)	-	-	6% (n=1)
School C (n=13)	-	85% (n=11)	-	-	8% (n=1)	8% (n=1)

Secondly within this section, respondents were asked how strongly they agreed or disagreed that prior to the commencement of the pre-registration year (old format) that students were made aware of the criteria they would have to meet in their pre-registration year to successfully qualify as a pharmacist. Of the 43 respondents who answered the question, 14% (n=6) strongly agreed and 30% (n=13) agreed. This contrasted with 14% (n=6) who disagreed and 7% (n=3) who strongly disagreed. The remainder (21%, n=9) neither agreed nor disagreed, or stated that they didn't know (14%, n=6). Cross-tabulation with school of pharmacy (n=41, Chi,  $p=0.204$ ) did not show any statistically significant differences.

### 3.5.2.11 *The pre-registration year; new format*

This next section reports the respondents' views of the pre-registration year following the introduction of the National Pharmacy Internship Programme (2009/2010). The first question asked how strongly respondents agreed or disagreed that they felt well informed of the structure of the New Pharmacy Internship Programme 2009-2010. Responses were divided with 12% (n=5/43) strongly agreeing and 16% (n=7) agreeing compared to 42% (n=18) disagreeing and 19% (n=8) strongly disagreeing. The remainder (12%, n=5) neither agreed nor disagreed. Although differences highlighted by cross-tabulation with school of pharmacy was not statistically significant (n=41, Chi,  $p=0.123$ ), a greater percentage of respondents indicated "strongly agree" or "agree" from the school where the National Pharmacy Internship Programme was run when compared to the other two schools.

Respondents were then asked that recognising that the PSI will set standards for the internship year, how strongly they agree or disagree that each of the following models (see Table 101) can provide effective educational/training to develop a student from the intern stage to becoming a registered pharmacist in Ireland (see Table 101).

**Table 101: Respondents' views on how strongly they agreed or disagreed that each of the following models could provide effective educational/training to develop a student from the intern stage to becoming a registered pharmacist in Ireland**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<b>OPTION 1</b> 4-year undergraduate BSc degree course and the pre-registration year run by the PSI (n=43)	7% (n=3)	37% (n=16)	16% (n=7)	23% (n=10)	16% (n=7)
<b>OPTION 2</b> 4-year undergraduate BSc degree course and the pre-registration year run by a university under contract with the PSI (n=43)	16% (n=7)	42% (n=18)	14% (n=6)	12% (n=5)	16% (n=7)
<b>OPTION 3</b> 4-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland (n=43)	16% (n=7)	49% (n=21)	19% (n=8)	12% (n=5)	5% (n=2)
<b>OPTION 4</b> 4-year undergraduate BSc degree course and the pre-registration year run by an independent body (n=43)	5% (n=2)	14% (n=6)	26% (n=11)	35% (n=15)	21% (n=9)
<b>OPTION 5</b> Full integration of the pre-registration year into a 5-year programme run by the individual universities (n=43)	38% (n=12)	21% (n=9)	14% (n=6)	13% (n=10)	14% (n=6)

Cross-tabulation of the data in Table 101 with school of pharmacy (n=41, Chi,  $\rho=0.461$ ; n=41, Chi,  $\rho=0.002$ ; n=41, Chi,  $\rho=0.482$ ; n=41, Chi,  $\rho=0.211$  and n=41, Chi,  $\rho=0.844$ ) showed statistically significant differences between schools for option 2. Greater percentages of respondents strongly agreed or agreed with this option from the school currently hosting the New Pharmacy Internship Programme than from the other two schools (see Table 102).

**Table 102: Respondents’ views on how strongly they agreed or disagreed that option 2 could provide effective educational/training to develop a student from the intern stage to becoming a registered pharmacist in Ireland by school of pharmacy**

School of pharmacy <sup>a</sup>	Strongly agree (n=6)	Agree (n=17)	Neither agree nor disagree (n=6)	Disagree (n=5)	Strongly disagree (n=7)
School X (home of the New Pharmacy Internship Programme) (n=10)	50% (n=5)	40% (n=4)	10% (n=1)	-	-
School Y (n=18)	-	33% (n=6)	17% (n=3)	11% (n=2)	39% (n=7)
School Z (n=13)	8% (n=1)	54% (n=7)	15% (n=2)	23% (n=3)	-

Respondents were then asked their preference for a future model for pharmacy education. Table 103 summarises the results (respondents were asked to select one option). Cross-tabulation with school of pharmacy (n=41, Chi,  $p=0.193$ ) did not show any statistically significant differences.

**Table 103: Respondents’ preference for a future model of pharmacy education in Ireland**

Taking into account all circumstances (e.g. economic climate, logistics, cost, time etc) of the five options listed below, please would you select the option that in your opinion best represents the model for the future pharmacy education in Ireland.	Response (n=43)
4-year undergraduate BSc degree course and the pre-registration year run by the PSI	14% (n=6)
4-year undergraduate BSc degree course and the pre-registration year run a university under contract with the PSI	14% (n=6)
4-year undergraduate BSc degree course and the pre-registration year run in partnership with all schools of pharmacy in Ireland	33% (n=14)
4-year undergraduate BSc degree course and the pre-registration year run by an independent body	2% (n=1)
Full integration of the pre-registration year into a 5-year programme run by the individual universities	37% (n=16)

Respondents were then asked, regardless of how they answered the previous question, how strongly they agreed or disagreed that the completion of a five-year programme should lead to a Masters qualification. Over half of the respondents who answered this question were in favour with 23% (n=10/43) strongly agreeing and 30% (n=13) agreeing; 7% (n=3) disagreed and 14% (n=6) strongly disagreed with the remainder (26%, n=11) neither agreeing nor

<sup>a</sup> A different coding structure has been used in the reporting of these results to preserve anonymity.

disagreeing. Cross-tabulation with school of pharmacy (n=41, Chi,  $p=0.668$ ) did not show any statistically significant differences.

Further open comments from teaching staff questionnaire respondents highlighted potential challenges to the implementation of a five-year programme:

*“Budget, coordination among schools, disciplines within and across schools and with the training establishments. Evaluation of the training establishments and the tutoring they offer, if they continue to oblige.”* (School teaching staff questionnaire respondent)

*“Resourcing of universities to carry out this implementation. Engagement (or lack of) of staff with the process of implementation given current workloads and lack of understanding of professional pharmacist role of some non-pharmacist staff.”* (School teaching staff questionnaire respondent)

*“Additional resources will be required to restructure the existing programme and implement a clinically oriented fifth year.”* (School teaching staff questionnaire respondent)

*“I think the challenge will be that each college will have to develop competencies in providing a pre-registration year with the associated costs and resources required to do this for, in each universities case, a small number of students. It does not seem a very cost effective or synergistic approach, as the likely costs and resources required would not be significantly greater for one college to run it for all students. In addition I think it will be more confusing for tutor pharmacists and could also potentially lead to variations in the coursework being provided.”* (School teaching staff questionnaire respondent)

### **3.5.2.12 Personal career development**

This last section of the staff questionnaire before the demographics examined the respondents' views on their personal career development. Firstly, respondents were asked if they were satisfied with the level of support they have received from their institution to enable their career to progress. Over half (58%, n=25/43) stated they were, with the remainder stating that they weren't. Cross-tabulation with school of pharmacy (n=41, Chi,  $p=0.188$ ) did not show any statistically significant differences. Next, respondents were asked if they had a formal appraisal system at their institution. Similar results to the previous question were found with 54% (n=23/43) stating they did have a formal appraisal system with the remainder stating that they didn't. Cross-tabulation with school of pharmacy (n=41, Chi,  $p=0.019$ ) showed statistically significant differences between the schools (see Table 104).

**Table 104: The presence of a formal appraisal system by school of pharmacy**

Do you have a formal appraisal system? (n=41)	Yes (n=22)	No (n=19)
School A (n=10)	30% (n=3)	70% (n=7)
School B (n=18)	44% (n=8)	56% (n=10)
School C (n=13)	85% (n=11)	15% (n=2)

Those respondents who stated that they did have a formal appraisal system (n=22) were asked two further questions. The first question asked if the appraisal was linked to a career development plan; 68% (n=15/22) stated that it was. The second question asked if the appraisal was linked to performance related pay. For this question, only 9% (n=2/22) stated that it was. Cross-tabulation of both questions with school of pharmacy (n=21, Chi,  $\rho=0.393$  and n=21, Chi,  $\rho=0.620$ ) did not show any statistically significant differences.

Respondents were then asked how important three different aspects are in ensuring progression at their institution. The results are summarised in Table 105.

**Table 105: Respondents' views on how important three different aspects are in ensuring progression at their institution**

Aspect	Very important	Fairly important	Important	Not very important
Demonstrating commitment to research (n=42)	86% (n=36)	7% (n=3)	5% (n=2)	2% (n=1)
Demonstrating commitment to development of innovative teaching/learning methodologies (n=42)	17% (n=7)	43% (n=18)	26% (n=11)	14% (n=6)
Demonstrating leadership (n=42)	36% (n=15)	38% (n=16)	12% (n=5)	14% (n=6)

Cross-tabulation of all three questions with school of pharmacy (n=40, Chi,  $\rho=0.057$ ; n=40, Chi,  $\rho=0.117$  and n=40, Chi,  $\rho=0.442$ ) did not show any statistically significant differences.

Respondents were then asked if they thought that there should be two separate career paths for academic staff; one for research and one for teaching. Opinion was divided with 48% (n=20/42) stating that they thought that there should be two separate career tracks. Cross-tabulation with school of pharmacy (n=40, Chi,  $\rho=0.605$ ) did not show any statistically significant differences.

Respondents were asked their opinion of their job satisfaction from teaching and research on a scale of 1 to 5 (where 1 represents high job satisfaction and 5 represents low job satisfaction). The results are summarised in Table 106.

**Table 106: Respondents' stated level of job satisfaction from teaching and research**

	1 High job satisfaction	2	3	4	5 Low job satisfaction	Not applicable
Teaching (n=42)	45% (n=19)	29% (n=12)	14% (n=6)	10% (n=4)	2% (n=1)	-
Research (n=42)	52% (n=22)	21% (n=9)	17% (n=7)	2% (n=1)	-	7% (n=3)

Cross-tabulation of both questions with school of pharmacy (n=40, Chi,  $\rho=0.056$  and n=40, Chi,  $\rho=0.807$ ) did not show any statistically significant differences.



## Chapter 4 The pre-registration year in Ireland

### 4.1 Introduction

This chapter of the report focuses on the work examining the pre-registration year in Ireland. It should be noted that the PEARs Project examined the pre-registration year as it was up to and including the 2007/2008 academic year. In 2008/2009, the PSI tendered for a single school of pharmacy to run the pre-registration year on behalf of the PSI (termed the National Pharmacy Internship Programme) to commence in 2009/2010. This project was commissioned before this change and so the results refer to format of the pre-registration year up to 2008/2009.

The specific objectives of this part of the study were:

- Ci. To document the experiences of students during their pre-registration year, including their interactions with their tutor and with employers.
- Cii. To document the personal experiences of pre-registration students including arrangements for accommodation and other lifestyle issues.
- Ciii. To document the education and training experienced by students and how this linked or related to their undergraduate education.
- Civ. To explore students' perceptions of the value of the pre-registration year as a basis for future work
- Cv. To explore the experiences of pre-registration tutors of supervising students and of their interactions with students.
- Cvi. To explore the motivations of pre-registration supervisors for this role and real or perceived barriers to active involvement in the process.
- Cvii. To explore pre-registration tutors' views and experiences of their training and support for the supervisory role.
- Cviii. To explore issues of workload for the supervisors and of reward in the workplace.
- Cix. To explore experiences of interacting with the PSI and with employers in support of the role.
- Cx. To identify good practice and make recommendations on how this may be best captured within a training year
- Cxi. To identify issues that need to be addressed to maximise the benefit to students and tutors including governance issues relevant to the PSI.
- Cxii. To identify training needs of pre-registration supervisors.
- Cxiii. To explore alternative models of implementing the pre-registration year that would maximise benefit.

## 4.2 Exploratory data collection

This phase of the work involved initial exploratory work with (then current; 2007-2008) pre-registration students and PSI staff members to inform the data collection instruments used for the collection of data for the rest of this chapter.

### 4.2.1 Methodology

An exploratory focus group and a telephone interview were undertaken with students who were at that time coming to the end of their pre-registration year. Two methods were employed owing to student availability:

- An evening **focus group** with five students undertaking their pre-registration year within Dublin was undertaken at a hotel in the centre of Dublin city.

The theme plan for the focus group was designed by the project team and then circulated around the Steering Group members for comment. Following amendment based on feedback, the final version (see Part three, section A3.1) was administered in Dublin by the project team.

Pre-registration students were invited to participate in the focus group via an e-mail from the Education Projects Co-ordinator at the PSI. A total of eleven individuals expressed an interest in participating and five individuals (two undertaking pre-registration within the community and three undertaking pre-registration within hospital) took part in the final focus group. The focus group was digitally recorded and transcribed verbatim for subsequent thematic analysis.

- A **telephone interview** was conducted from Aston University with two volunteers from the Cork region who agreed to participate in the interview stage of the project. The same theme plan was used as for the focus group held in Dublin (see Part three, section A3.1). The telephone interview was digitally recorded and transcribed verbatim for subsequent thematic analysis.

To further assist in the design of the student and tutor self-completion questionnaires, **exploratory interviews** were undertaken with key staff members from the PSI who had some involvement or professional interest in the pre-registration year. The interview theme plans were designed by the project team and then circulated around the Steering Group members for comment (any Steering Group members who were in the interview sample were not included in this exercise). A different theme plan was used for the PSI Registrar to the other two interviews (owing to the orientation of the questions) and copies of the final versions of the theme plans can be found in Part three, section A3.2 and Part three, section A3.3. The Steering Group's comments were considered and the theme plans amended accordingly. The following interviews were undertaken by members of the project team:

- Lorraine Horgan, Head of Education and Registration (see Part three, section A3.2).
- Marita Kinsella, Head of Legal Affairs and former Education Officer (see Part three, section A3.2).

- Dr Ambrose McLoughlin, PSI Registrar (see Part three, section A3.3).

All interviews were digitally recorded and transcribed verbatim for subsequent thematic analysis.

## 4.2.2 Findings

### 4.2.2.1 *The View from the Pharmaceutical Society of Ireland (PSI)*

Three interviews were completed with staff from the PSI. Results from the analysis of these interviews were used to inform the design of the questionnaires for the (then) current and former (pre 2007/2008) pre-registration students and pre-registration tutor pharmacists. This section will therefore focus upon the views and perceptions of the PSI staff about the operation of the pre-registration year and about potential changes to the process.

#### **Views on the current<sup>a</sup> process**

The interviews explored the “current” pre-registration process that had been in operation for a number of years and which had continued with some modifications since the passing of the Pharmacy Act in 2007. There was general agreement that a long term issue has been the lack of explicit funding for the process until the agreement that the PSI could charge a registration fee for the pre-registration year. This lack of funding and the fact that prior to the Pharmacy Act 2007, the only income stream to the PSI was that from pharmacist registration fees, has been a major constraint on what could be achieved and has limited development and updating of the process. One of the respondents expressed the view that the previous funding system for the pre-registration year was highly unusual in the health area.

*“Up until now there has been no funding for the pre-reg year and that’s part of the difficulty, that, other than the fee that they pay for the licence exam and the small fee that they pay for preliminary registration four years earlier when they’re in first year, that was the only income that PSI had for the pre-reg year and the difficulty was, it’s being funded out of registration fees for pharmacists so the amount of money was very, very minimal.” (R1)*

*“I also have some concerns about the methodologies for the payment of pre-registration students which are quite unusual for professional interns in various professions, where they actually make no payment whatsoever or very little or nominal payment in respect of fees for the course of programme.” (R3)*

The same interviewee identified the lack of funding as a root cause of problems with the present process and stated that *“it seems to be the expectation that the PSI and people acting for the PSI including tutors will do this on a pro bona basis which I think is not acceptable.” (R3)*

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<sup>a</sup> Throughout this section, the term “current” refers to the pre-registration year up to the 2008/2009 academic year (i.e. predating the introduction of the National Pharmacy Internship Programme).

There was general agreement that the “current” process was primarily experiential and heavily dependent upon individual tutors and employers. A primary limitation of the “current” process was that it was seen as time defined and lacking a clear definition of learning outcomes other than in terms of certain areas of knowledge.

*“Under the old legislative structure literally all pre-reg had to do was show up for the twelve months and complete the pharmaceutical licence exam and that was it, they met those requirements.” (R1)*

*“There’s not competency or anything like that.” (R1)*

*“We need to lay down what are the desires and outcomes of the pre-registration year.” (R2)*

*“No milestones, nothing.” (R2)*

*“Performance is not assessed or addressed.” (R2)*

There was also general agreement that the method of communication with students needed to change. The “current” process placed heavy reliance upon a written pre-registration manual. This was described by one interviewee (R1) as a “conglomerate of different types of information” rather than providing a guide to what had to be achieved within the year. There was general agreement that the manual was dated.

*“We give them a manual which is out of date in terms of what we really want them to be looking at, there’s extracts of articles but they’re late ‘90s a lot of them and it hasn’t been updated. Where it can be updated we do try to do it, contact details or recent legislation, that’s there but the articles are still quite dated.” (R2)*

*“It [the manual] really is a conglomeration of different type of information. It is absolutely in need of being updated, I would say that but at least they get something to hopefully explain a bit about the pre-reg year and their tutors will get a complementary manual.” (R1)*

More fundamentally, criticism was expressed by one of the respondents who was clear that the current process was not fit for purpose.

*“I’ve had serious reservations about the pre-reg programme, about its appropriateness, about the validation of the process; I’ve also had concerns about the quality and how to be in a position to put in place some quality assurance system. My assessment of the programme is that it is built on an ad hoc basis.” (R3)*

### **Assessment systems within the current pre-registration process**

There was a clear recognition that the current assessment systems were too heavily focused upon measurement of knowledge. The major assessment in the “current” process is the final “licence examination”. All three respondents questioned whether this was sufficient.

*“Other than being a legal requirement, it really doesn’t assess what we need it to assess but it does assess I suppose is that they are knowledgeable about the law, the legal requirements and it attempts to assess their knowledge of ethical guidelines and principals so it does that but is doesn’t assess competency in any way in its current structure.” (R1)*

*“The final exam ought to be to assess if they’ve achieved the desired standard, I’m not really sure whether the licence exam, I think it’s more just a formality.” (R2)*

*“I have some serious concerns about the examinations and I believe there are overdue a review. I also believe that the actual examination process needs to be much more focused on assessing the competency of the individual, prospective practitioner, rather than their ability to retain knowledge.” (R3)*

More fundamental questions were also raised about the whole assessment system and the capacity of the PSI to continue to act as an examiner for the pre-registration year.

*“Genuinely I don’t know whether the PSI is the right body to continue to be delivering the pre-reg in its current structure. Now I haven’t totally made up my mind on that but I think we need to work it through, I think the schools of pharmacy have a huge contribution to make now whether they directly deliver the pre-reg programme or are part of a process of its delivery I think they have a crucial role to play in it.” (R1)*

*“I have a very strong view that the PSI does not have the resources and does not have the capacity to continue with this pre-reg programme in its present format.” (R3)*

*“We need to separate the regulation and the accreditation function away from the provision of the service and the programme and the regulator needs to focus much more on whether there are people fit to be registered, fit to practice, fit to meet the minimum standards and also people who can maintain their competencies throughout their practice in life, that’s the big challenge.” (R3)*

### **Future prospects**

All three interviewees spoke of the need to develop and assess the full range of skills, knowledge, values and attitudes relevant to a modern clinically-orientated professional. There was also uniform recognition of the need to widen the stakeholder input to the pre-registration process and involve the academic pharmacy community as well as specialists from all sectors of the profession of pharmacy. Speaking of the ideal pre-registration programme of the future:

*“Well I would see it more as a vocational training programme in clinical pharmacy practice supplemented by fairly intensive academic support from experts particularly in pharmacy practice, in community and hospital and industry and also in academic life and also in regulatory life.” (R3)*

The importance of a much more structured programme that provided clear outcomes for the pre-registration student was identified by all three respondents as a major change required to the “current” process.

*“Fundamentally giving the tutors and the pre-reg a structure to work through the year.”*  
(R1)

*“The absence of a structure around it, I feel that it’s held up by matchsticks at the moment.”* (R2)

One theme, which is highlighted by the following quote, was the need to look not just at the pre-registration year but at the whole of the educational and training process for the first level pharmacy qualification.

*“What I would perceive to be a requirement would be a five-year structured integrated programme so that the output and the outcomes for students are consistent with the requirements for the health system.”* (R3)

#### **4.2.2.2 Exploring the student view**

This section reports the findings from a focus group held in Dublin with the then pre-registration students and a telephone interview with two students in Cork.

##### **Obtaining a pre-registration place**

In both groups there was clear recognition that the attainment of a pre-registration place is difficult. There were references to an acute shortage of pre-registration places during their application year and particularly in the non-community pharmacy sectors. Although respondents also state that this proved to be less challenging than first expected and that it did lead to an alteration in attitude once students had secured pre-registration offers.

*“There’s a serious lack of pre-reg placements this year, like the year following us. People are taking months and months to get a place.”* (Dublin Group)

*“I think most people in general were quite happy with what they got because originally there was an issue in that everyone wasn’t sure would they actually get a placement.”*  
(Cork Interview)

Both groups also agreed that there was a lack of any co-ordination in the application process. This was considered to be a particular problem in relation to hospital pre-registration posts. Respondents agreed that applications had to be submitted to individual hospitals and that there was no common format on the application or on the information that had to be supplied. The lack of any common format or process for hospital applications emerged as a major issue within the focus group and discussion on this point continued after the end of the formal group session.

*“Everywhere had their own system there was no common system and no common database, I was lucky I only went to a couple of interviews and got an offer but others in our class at a really critical time in their final year were going all around the country to*

*interview after interview and I find that really quite stressful, it took up a lot of their time.” (Dublin Group)*

In addition, both groups expressed concerns over the timing of the hospital application process, which was much later than that for community pharmacy positions. The following interviewee in Cork spoke about an offer of a place in a community pharmacy in Cork in which she had vocational experience:

*“I had to decide if I wanted that before I even applied for the hospital because of the timing and the applications, all the hospital interviews were March and April and a lot of the community people wanted to get the placements sorted say in January/December kind of time so I would have had to forfeit this community place.” (Cork Interview)*

Both groups spoke at some length about the problems posed for students by the lack of co-ordination between the community and hospital application processes. Both agreed that given the general perception of an overall shortage of pre-registration places, this resulted in students accepting offers and then later declining them if a more attractive offer was received. There was a view from the group members that this was not ethically correct but inevitable given the lack of co-ordination in the system and the sheer length of the process, particularly if applying across multiple sectors.

*“Frequently, someone might have accepted a job say in October of that year, go for a job in January, find one that you really want, get that job and then maybe even more down the line.” (Dublin Group)*

Pre-registration placements in the pharmaceutical industry were not mentioned at the Dublin focus group but were by the Cork interviewees, one of whom had been keen to obtain such a post. This student had applied for an industry post early in the application year, only to find that changes in funding meant that the post was withdrawn. Members of both groups were positive about the application processes for the large community pharmacy companies in that they were considered to be systematic and easy to undertake. In comparison, the situation with small independent pharmacies was considered to be difficult for students.

*“That impression comes across with community, that the chains like Sam McCauley and Boots have an application process and they let the school of pharmacy know that they are taking so many pre-regs and they’re having interviews this day and you’ve got to apply by this date whereas the more independently owned pharmacies it’s about who you know who’s willing to take on a pre-reg as well and it’s, sometimes, it is a case of just ringing around or just getting your CV and going around to your local pharmacies.” (Cork Interview)*

## Preparation for the pre-registration year

### *Information from the Pharmaceutical Society of Ireland (PSI)*

The students in both groups appreciated that moving to a new job or environment is always challenging. They appreciated the lectures in the final year by a PSI representative on the pre-registration process and felt that this provided a good overview of the overall process and of the assessment system.

*“Well we had a couple of lectures in final year from one of the people in education and registration unit from the PSI so we were very much aware that we had, about the process of doing the pre-reg with the twelve month or the split pre-reg six months and six months and we were very well informed about when the exams were on and what basically each exam entailed so from that respect yes we were well informed in advance.”* (Cork Interview)

However, considerable concerns were expressed about general communication with the PSI during the pre-registration year and with the pre-registration manual. There were two concerns about the manual. Firstly, about the accuracy of the manual and in particular about a lack of consistency of the information it provided.

*“Somewhere in the middle of the manual it goes on and on about the project even though at the start of the manual it said there wasn’t a project. I know they were trying to do their best but like it’s kind of important for us that information is consistent.”* (Dublin Group)

*“It’s just like you have a book that says one thing on one page and a conflicting thing on another page, that’s different.”* (Dublin Group)

The second concern about the manual in both groups was its late arrival. For example, a student on a split pre-registration training programme who engaged in the Cork interview was concerned that she did not receive her manual until mid-November which was late in her first period of training (ended February). On a more positive note, the idea of a manual was supported, although in the Cork interview, the view expressed was that the manual was too orientated to community pharmacy and did not provide support for what the student should expect from the pre-registration process.

Both groups expressed considerable concern about communications with the PSI during their pre-registration year. A consistent concern was the late provision of information by the PSI particularly in relation to arrangements for examinations. There was a clear consensus that this resulted in information spreading by word of mouth amongst the pre-registration students.

*“You knew roughly what was coming up, you didn’t know any specifics and if you contact the PSI, they don’t answer their phone and anything you do find out tends to be from people who have gone forward...”* (Dublin Group)



*“The PSI left it very late to officially inform us like the pre-reg project, that wasn’t, that didn’t go ahead this year and you know somebody found, somebody in our class found out and let everybody else know because their tutor just did the tutor course and they were told, even right now there’s information on the PSI website about the pre-reg project.”* (Cork Interview)

*“There is the rumour mill going round and you have to get or you have to know a reliable source to tell you or you ring up the Society.”* (Cork Interview)

A related concern was the slow response of the PSI. A student in the Cork interview described her experience with the statutory declaration form that has to be returned to the PSI after the pre-registration period has been completed but before the final examination.

*“They sent it off at the end of September but then the Society rang me last Tuesday to say that they were just looking at my statutory declaration form and there was an error on one of my dates and they had to post the form back to me and the girl mentioned on the phone that I might have to get my tutor to change her part of the form, this was last Tuesday and if the form wasn’t correct I wouldn’t have been able to sit the exam on Monday and that form had been posted to the PSI in September, over a month ago.”* (Cork Interview)

#### *Preparation by the school of pharmacy*

Students in both groups were very positive about their preparation within their school of pharmacy for the pre-registration year.

*“I think they did as much as they can, you can never learn everything and remember in a lecture situation anyway.”* (Dublin Group)

*“Very well I think... in general it’s always difficult to prepare for a practical career from an academic point of view but I think in general we were pretty well prepared.”* (Cork Interview)

The work experience part of degree programmes was commented upon as being particularly valuable in preparation for pre-registration.

#### **Role of the pre-registration tutor**

Participants in both groups were very positive about their own experience with their pre-registration tutor but frequently they spoke of less positive experiences of their friends or associates.

*“I was assigned a brilliant tutor, friends of mine, a girl I know said that she worked with her tutor for about a week over the whole year. I had another friend who was basically working with every pharmacist. There was a complete discrepancy across the board, some people had really, good experience, others not so much interaction with their tutor at all.”* (Dublin Group)

*“I was very lucky in that I had a great tutor and I had a lot of chances to have different experiences in pharmacy that I might not have had if I had another tutor.”* (Cork Interview)

A number of concerns emerged about a lack of knowledge of many tutors about the overall pre-registration process. An example was provided at the Dublin focus group of a student whose tutor made no provision in staff timetabling to take account of examinations. Overall, there was a clear perception that tutor support and interactions were variable and that the experience could be very variable. In the Dublin focus group, one participant talked about their overall experience of the pre-registration year and commented:

*“I’m lucky I enjoyed mine but I know of people who are just counting the days.”* (Dublin Group)

One of the Cork interviewees spoke of the importance of the pre-registration position being supernumerary.

*“I know of people in my class and friends of mine that when they were there, they were there as an extra shop girl or person front of shop, they were an employee first and so if they weren’t there the shop would have been short staffed.”* (Cork Interview)

Members of the Dublin focus group raised the issue of motivation to be a tutor. There was recognition that there *“was nothing in it for them taking us on”* (Dublin Group). Also strong concerns were voiced that many tutors were undertaking the role because they had been required to do so by employers or senior management rather than of their own volition. It was considered that this could impact upon tutor motivation.

*“The managing pharmacist may not have much say getting a student so depending on how they feel on getting a student, it could impact on someone’s pre-reg negatively.”* (Dublin Group)

In the Cork interview the issue of other pharmacy staff was raised. This amounted to a local management issue since the concern was that the pre-registration student might find tension with other pharmacy staff in relation to roles normally performed by those staff.

*“Then when the student came in then it was like a territorial thing, the technician or assistant hadn’t been aware and hadn’t been fully – they didn’t know that they had to step back some time and let student’s go and help out in dispensing – especially when in some shops, there was [tension] between the pre-reg and assistant.”* (Cork Interview)

### **Resource availability for the pre-registration period**

In the Cork interview this led to positive comments about the Independent Pharmacy Ownership Scheme (IPOS) website and the National Medicines Information Centre as sources of information. In both groups there were very positive comments about the programmes of education provided by HPAI (Hospital Pharmacists Association of Ireland) for hospital students and by Boots for their students.

*“The HPAI which is like the hospital pharmacist association ran four study days for all hospital pre-regs this year and they were structured and they were lectures on, from different hospital pharmacists on various topics and I don’t see why there couldn’t be one general all pre-regs like more structured training.” (Dublin Group)*

However, the discussion on resources also raised the issue of variable experience with comments that in some pharmacies there was no internet access and poor support materials. The question on resources also prompted a discussion on some less positive experiences, mostly linked to availability of time and direct tutor support. These comments also linked to the issue of the supernumerary status of the pre-registration student identified above.

*“Some people end up doing stuff that is completely nothing to do with pharmacy or there’s a total lack of support from the tutor, they’re just there to work with.” (Dublin Group)*

One particular concern related to the provision of time to attend training days.

*“I know a case where in community pharmacy where there were training days organised and she was told that she could definitely go to this one and then the week of the training, we need you, you can’t go. There were problems getting training time, the pharmacy depended on her being there may be too much.” (Dublin Interview)*

### **The experience of applying for a post after pre-registration training**

Perhaps not surprisingly, there were concerns about the number of posts available particularly in the hospital and independent pharmacy sectors. Respondents from both the focus group and telephone interview were also uncertain about whether they were allowed to apply for posts prior to being informed that they had passed the PSI terminal examination.

*“No one is meant to start, we don’t really know if we can apply before we actually got the qualification.” (Dublin Group)*

*“There is, the letter that we got regarding to the registration exam, there was a paragraph at the end saying that, warning or threatening us that, you do realise that you’re not in any circumstances allowed to work until you are registered and we are fully aware of that and employers are aware of that as well. But I spoke to one of the members of the PSI and they said you shouldn’t even be applying for a job until you have your registration number in your hand.” (Cork Interviews)*

Despite this, participants in both focus groups stated that they believed many students had arranged posts or locum work to commence when the pre-registration results arrived.

### **The pre-registration examinations**

Participants in the focus group and telephone interview were asked how well they considered the pre-registration year prepared them for the PSI assessments. The first of

these assessments are open book tests based upon the British National Formulary (BNF) (generally referred to by participants as the “BNF tests”); these elicited mixed views. A majority of participants held negative views about these tests, mainly related to their perceived value and difficulty.

*“The pass mark [rate] for that is generally 80/90%, I don’t know why we did those two exams because they were ridiculously easy, a lot of people would have travelled up from Cork to come and sit an exam.” (Dublin Group)*

*“I don’t see how the BNF exams developed skills, I mean we did stuff in college that would have been similar but better focused... that was a waste of time.” (Dublin Group)*

*“I thought they were a little bit silly because they were open book and you could bring in whatever information you needed and the exam was long enough that if you, like if you really needed to you could have looked up the answer to every single question.” (Cork Interview)*

Other participants compared the “BNF tests” favourably with the end of pre-registration examination because they considered them to be more relevant to practice and have some clinical content. The terminal examination taken by this cohort in November 2009 focussed upon law and ethics. The preparatory course for this, three days in August, was recognised as being “targeted to the licensing examination” (Cork Interview). However, the examination itself was widely criticised mainly on the basis of perceived relevance.

*“To be honest, the pre-reg in general wouldn’t have prepared for this exam because personally I thought a lot of it was highly irrelevant stuff that you kind of had to learn by rote and would never use in real life.” (Cork Interview)*

*“It was just, you took three weeks off and you just studied and kind of learnt off things that you’re going to immediately forget.” (Cork Interview)*

*“It’s all legislation, it’s law, it’s forensics and it’s obscure, surrounded by legislation.” (Dublin Group)*

*“We had done it at college used to studying and used to exam whereas at the end of your pre-reg year you should be tested on your practice of pharmacy rather than law, some of the stuff that you’re never going to use.” (Dublin Group)*

Another major issue regarding the final licensing examination emerged when at the end of the sessions, the participants were asked about what they would like to see changed in the pre-registration process. In both the focus group and telephone interview, the issue of the total length of the pre-registration process was raised together with the related issue of the timing of the licensing examination and the time taken to release the results and allow registration.

*“The exam is in November, it is a year and a half after graduation when it could be a year after graduation rather than a year and a half so you’d just have that extra six months of working.” (Cork Interview)*

*“I have a month period before the pre-reg exam and than a month before you’re actually licensed and I finished college June of last year. It’s not pre-reg year it’s pre-reg year and a half.” (Dublin Group)*

*“One thing I would really change is the six weeks that it takes for them to mark and execute - it should only take half a day, you’re waiting six weeks to qualify.” (Dublin Group)*

Overall, contributors to both the focus group and telephone interview were sceptical about many elements of the pre-registration process. Of particular concern were anecdotal comments in the Dublin focus group about an appeal in the previous year. These reinforced the comments that much of the information about the examination process was passed informally by word of mouth but they also demonstrated scepticism of the robustness of the overall process.

*“I know last year, five people failed the pre-reg exam and then passed on appeal. That’s ridiculous. How can you appeal if there’s no writing in it, ABCD?” “They need six week to mark and it’s not that hard, how can you fail someone and then on appeal pass them?” (Dublin Group)*

### **An overall perspective – how valuable was the pre-registration year?**

Participants in both groups were overwhelmingly positive about the overall value of the year. The process was described as “enjoyable”, “indispensible and highly beneficial.” When asked what were the best things about their experience participants in both groups identified personal interactions and the satisfaction of doing something useful.

The best things about your experience:

*“The pharmacists I worked with, the people I got to speak to in the year.” (Dublin Group)*

*“Pushing yourself to do things that you could avoid up to now or just didn’t like, getting stuck in.” (Dublin Group)*

*“Dealing with people really that’s what I most enjoyed about the pre-reg and all the different from the university aspect of stuff I suppose, being in real life and being able to apply your knowledge.” (Cork Interview)*

When asked what were the things they would like to see changed a number of participants mentioned the assessments. Other issues that were raised in both groups were related to the structure of the pre-registration year and integration with college study. In the Dublin focus group this was raised in the context of the licence examination and a preference for a competence-based assessment programme.

*“Why have the exam at all, I don’t see why our college degree shouldn’t be part of that exam and get rid of the licence exam and have competencies throughout the pre-reg year which are educational.”* (Dublin Group)

In the Cork interview, there was a definite suggestion put forward for the affiliation of the pre-registration year with a school of pharmacy and a *“nationwide structured programme”* that included *“certain criteria to fulfil before the end of the year”*. It was recognised that this would not necessarily be linked to the school of pharmacy where the pre-registration students studied pharmacy, rather that the affiliation would be based geographically dependent on where the pre-registration position was located. A participant in the Cork interview also raised the issue of training and auditing of pre-registration tutors.

*“Like in college, the course was new so every time we finished we had to do a questionnaire to say that the lecture was good or the notes were bad or whatever. The tutors should have a certain standard.”* (Cork Interview)

### 4.3 The pre-registration student experience

#### 4.3.1 Methodology

##### 4.3.1.1 Questionnaire design and collation of contact details

Using initial results from Part two, section 4.2, a pre-registration student self-completion questionnaire was designed by members of the project team and circulated around the Project Steering Group for comment. Following amendment, a pilot was undertaken using representatives from the staff from Aston University (all of whom were registered pharmacists within Great Britain). Following pilot, minor changes to the wording of some questions were made before distribution to the sample individuals by differing methods (see below). A copy of the final pre-registration questionnaire can be found in Part three, section A3.4.

- **2007-2008 Pre-registration students** – it was only possible owing to the nature of the student group to obtain e-mail addresses from the (then) current pre-registration student population (2007-2008 pre-registration student cohort). E-mail addresses were collected by a representative from the PSI during the three-day forensics course in Dublin. In the 2007-2008 pre-registration cohort, a total of 143 students undertook pre-registration training and of these 142 attended the forensics course and provided an e-mail address. The questionnaire was transposed for electronic delivery using LimeSurvey<sup>a</sup> and student names and e-mail addresses were entered into the database via a comma separated variable (csv) file. Upon administration of the questionnaire, one student asked to be removed from the study leaving 141 active students in the database. A total of three mailings were administered; one initial e-mail invitation to participate and two electronic reminders.

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<sup>a</sup> See <http://www.limesurvey.org/>.

- **Completed pre-registration students** – the remaining members of the sample pool comprised of all pharmacists on the PSI's register who had a registration date on or since 1<sup>st</sup> January 2003. For these individuals, full postal addresses were obtained from the register by the Education Projects Co-ordinator at the PSI. A total of 405 individuals were identified and paper questionnaires were distributed to all individuals. In addition, a link to the on-line version of the questionnaire (via LimeSurvey) was made available in the accompanying letter. Respondents were offered the opportunity to complete the survey on-line instead of via the paper method.

#### 4.3.1.2 *Response rate*

As discussed in Part two, section 4.3.1.1, two questionnaire distribution methods were used for this phase of the project; an on-line survey for the (then) current pre-registration students (2007-2008) and a paper-based questionnaire for the pharmacists on the PSI's register who had a registration date on or since 1<sup>st</sup> January 2003 (i.e. up to and including those who undertook their pre-registration year in 2006-2007).

A total of 288 responses were received (overall response rate 53.1%); 79 from the electronic survey to pre-registration students during the 2007/8 academic year (response rate 56.0%) and 209 from the paper-based questionnaire (with optional on-line completion) sent to former pre-registration students (response rate 52.1%). A summary of the returns is provided below.

Cross-tabular analysis was achieved using SPSS v16 and statistical evaluation undertaken using the Chi-squared statistical test. Significance was taken to be where  $p \leq 0.050$ . Where appropriate, cross-tabular analysis on the results from this survey was performed against:

- gender;
- school of pharmacy attended;
- year of qualification; and
- sector(s) of pre-registration position.

For year of qualification, additional cross-tabular analysis was reported with the removal of the "other" category owing to its low number of respondents. Similarly, for sector(s) of pre-registration position, additional cross-tabular analysis was also undertaken with the removal of all cross-sector positions, again owing to the low number of respondents in these categories<sup>a</sup>.

*From the on-line (LimeSurvey) questionnaire for the (then) current pre-registration students (2007-2008 academic year)*

Total sample = 143.

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<sup>a</sup> In some cases additional Chi-squared calculations have been undertaken with the further removal of options to eliminate small response numbers from the calculation.

- One student was removed as no e-mail address was available (did not attend that year's forensics course where contact e-mail addresses were collected).

Database = 142.

- One student was removed from the database (asked not to be contacted).

Active pool = 141.

- Complete returns = 63 (44.7% response rate).
- Partial returns = 26 (16 included, 10 removed [blank or unsuitable for inclusion]).

Total number of usable responses = 79.

*Final response rate for this section: 79/141 = 56.0%.*

#### *From the paper questionnaire with on-line option*

Database = 405 students (all pharmacists on the PSI's register who had a registration date on or since 1<sup>st</sup> January 2003 – i.e. up to and including those who undertook their pre-registration year in 2006-2007).

Four removed:

- Two respondents were travelling abroad.
- One respondent died during the study.
- One respondent returned a blank questionnaire.

Active pool = 401.

- Total mailing returns = 187.
  - *First mailing returns = 141.*
  - *Second mailing returns = 29.*
  - *Final mailing returns = 17.*
- On-line returns = 22 complete (an additional four returns were incomplete and removed).

Total number of usable responses = 209

*Final response rate for this section: 209/401 = 52.1%.*

#### *Combined database*

This resulted in a total number of responses at 288 with a pool of 542 and an overall response rate of 53.1%.

### **4.3.2 Findings**

#### **4.3.2.1 Demographics of respondents**

Respondents were asked which year they qualified/will qualify as a pharmacist. These responses broken down by year of registration are detailed in Table 107 below.



**Table 107: The year of qualification of the questionnaire respondents**

	Year of qualification						
	2008	2007	2006	2005	2004	2003	Other
<b>Number (n=272)</b>	62	58	39	37	32	39	5
<b>Percentage</b>	23%	21%	14%	14%	12%	14%	2%

A majority of the 274 respondents who completed the question on gender were female (79% n=217) and 96% (n=261/272) were aged less than 30. No statistically significant differences were found in the gender profile (n=272, Chi,  $p=0.669$ ) of respondents based on the year they would have undertaken their pre-registration experience. The age distribution of respondents is shown in Table 108 below.

**Table 108: Age range of respondents**

Age	Frequency	Percent
22	4	1
23	38	14
24-29	219	81
30-39	11	4
<b>Total</b>	<b>272</b>	<b>100</b>

A small number of respondents had worked as a pharmacy technician (3%, n=8/273) or had completed a primary degree or third level qualification (9%, n=24/272) prior to starting their pharmacy undergraduate education. Of the 272 students who stated that they had completed their pharmacy education in Ireland, the majority (74%, n=213) had studied at Trinity College Dublin with 12% (n=35), and 8% (n=24) having studied at the Royal College of Surgeons in Ireland and University College Cork respectively. Nearly all respondents (99%, n=269/273) stated they were an Irish citizen at the time of their pre-registration year (two respondents stated they were a (non-Irish) EU/EEA citizen and two stated they were from outside the EU/EEA).

Respondents were asked to state the current sector of pharmacy in which they worked. Multiple responses were allowed to cover portfolio working. Table 109 summarises the sector of work for respondents. The majority were employed in community pharmacy with only 4% stating that they were not employed in pharmacy at all.

**Table 109: Current sector of work of respondents**

Within which sector(s) of the profession do you currently work?	Frequency	Percent
Community Pharmacy	172	60
Hospital Pharmacy	53	18
Industrial Pharmacy	12	4
Other Pharmacy	10	4
Just completed pre-registration and awaiting registration	34	12
Not employed in Pharmacy	10	4

Table 110 summarises the type of organisation in which the respondents completed their pre-registration training (n=272)<sup>a</sup>. Respondents were allowed to indicate more than one option to cover split pre-registration positions (19 respondents indicated in their response to this question that they undertook their pre-registration position within more than one type of organisation)<sup>b</sup>. Responses to this question indicated that the most frequent type of employer was an independent pharmacy with five or less outlets.

Of the 273 respondents who answered the question (within which sector(s) of the professional do you currently work), 44% (n=119) had worked within an organisation that had its own in-house training programme for pre-registration pharmacy graduates. Cross-tabulation of these data with the respondents' sector(s) of pre-registration employment indicated a statistically significant difference (n=271, Chi,  $p=0.000$ ) between the sectors (see Table 111)<sup>c</sup>.

<sup>a</sup> Of the sixteen respondents who omitted to answer the question surrounding type of employing organisation, cross-tabulation with the question regarding sector of pre-registration employment indicated that nine undertook their pre-registration entirely within community pharmacy, five entirely within hospital pharmacy and one each undertook a split pre-registration position between community and hospital, and community and industry.

<sup>b</sup> Of the nineteen respondents who indicated in their answer to this question that they undertook their pre-registration position in more than one type of employing organisation, fourteen indicated that this was a split between community pharmacy and industry, two a split between hospital and industry, one each for a split between community pharmacy and a school of pharmacy and community pharmacy and hospital pharmacy, and one entirely within community pharmacy (a split between a small chain and an independent community pharmacy).

<sup>c</sup> Respondents who undertook a split pre-registration position were asked to complete most sections of the questionnaire based on their community or hospital experience (see section A3.4). However, removal of the split pre-registration year options (n=28) from this question (i.e. cross-tabulation with only community and hospital one-year positions) still resulted in a statistically significant difference (n=243, Chi,  $p=0.000$ ).

**Table 110: Type of employing organisation during the pre-registration year**

What type of organisation was your re-registration employer	Frequency	Percent
Community pharmacy – large chain/multiple (more than 20 outlets)	59 <sup>a</sup>	21
Community Pharmacy – small chain (less than 20 more than 5 outlets)	12	4
Community Pharmacy – Independent (5 outlets or less)	127 <sup>b</sup>	44
Hospital Pharmacy	73 <sup>c</sup>	25
Industrial Pharmacy	16	6
Other Pharmacy	4 <sup>d</sup>	1

**Table 111: Availability of in-house training by sector(s) where the pre-registration year took place**

Did your employing organisation have its own in-house training programme? (n=271)	Yes (n=118)	No (n=153)
Entirely within community pharmacy (n=173)	35% (n=61)	65% (n=112)
Entirely within hospital pharmacy (n=70)	71% (n=50)	29% (n=20)
A split position between community and hospital pharmacy (n=5)	60% (n=3)	40% (n=2)
A split position between community and industry (n=20)	15% (n=3)	85% (n=17)
A split position between hospital and industry (n=2)	50% (n=1)	50% (n=1)
A split position between community and a school of pharmacy (n=1)	-	100% (n=1)

<sup>a</sup> Cross-tabulation with the question regarding sector of pre-registration employment indicated that of these 59 respondents, two undertook a split pre-registration position with a hospital employer and two with an industry employer, however, the other type of employing organisation was not highlighted in the respondents' answer to this question.

<sup>b</sup> Cross-tabulation with the question regarding sector of pre-registration employment indicated that of these 127 respondents, one undertook a split pre-registration position with an hospital employer and four with an industry employer; however, the other type of employing organisation was not highlighted in the respondents' answer to this question.

<sup>c</sup> Cross-tabulation with the question regarding sector of pre-registration employment indicated that one of these respondents undertook a split pre-registration position with a community employer; however, the type of employing community organisation was not highlighted in the respondents' answer to this question.

<sup>d</sup> Cross-tabulation with the question regarding sector of pre-registration employment indicated that these four responses are split between three community pharmacy organisations and one school of pharmacy.

#### 4.3.2.2 Choice of pre-registration position

The first section of the questionnaire included questions on the respondents' choice of pre-registration position. Table 112 summarises the sector(s) of the profession the respondents undertook their pre-registration placement.<sup>a</sup>

**Table 112: The respondents' pre-registration placement by sector**

Within which sector(s) of the profession did you undertake your pre-registration training?	Frequency (n=286)	Valid percent
Entirely within community pharmacy	182	64
Entirely within hospital pharmacy	74	26
A split position between community and hospital pharmacy	6	2
A split position between community and industry	21	7
A split position between hospital and industry	2	1
A split position between community and a school of pharmacy	1	0

Cross-tabulation by gender (n=272, Chi,  $\rho=0.508$ ), school of pharmacy attended (n=270, Chi,  $\rho=0.280$ ) or year of qualification (n=270, Chi,  $\rho=0.635$ ) showed no statistically significant differences in the type of pre-registration placement undertaken.

A very clear majority of respondents (90%, n=257/286) stated that they had a preference for the sector in which they wished to undertake their pre-registration placement. Cross-tabulation by gender (n=272, Chi,  $\rho=0.196$ ), school of pharmacy attended (n=270, Chi,  $\rho=0.601$ ) or year of qualification (n=270, Chi,  $\rho=0.383$ ) showed no statistically significant differences. Just under a half of respondents indicated they preferred to undertake their pre-registration placement entirely within community pharmacy (48%, n=121/253). This was followed by just under a third who had a preference for an entirely hospital placement (28%, n=72) and 14% (n=36) with a preference for a split pre-registration between community pharmacy and hospital pharmacy. Just over 10% had a preference for a split pre-registration including industrial pharmacy and partnered with either community or hospital pharmacy. Table 113 provides a detailed breakdown of these data.

<sup>a</sup> Of the two respondents who omitted to answer the question asking which sector(s) of the profession they undertook their pre-registration, cross-tabulation with the question regarding type of pre-registration employer indicated that one undertook a pre-registration position within an independent community pharmacy and one within a hospital.

**Table 113: Preference of respondents for pre-registration sector(s)**

What was/were your preference(s) as to the sector(s) of the profession for your pre-registration year	Frequency (n=253)	Percent
Entirely within community pharmacy	121	48
Entirely within hospital pharmacy	72	28
A split position between community and hospital pharmacy	36	14
A split position between community and industry	21	8
A split position between hospital and industry	8	3
A split position between community and a school of pharmacy	1	0

The majority of respondents (86%, n=245/286) considered that their pre-registration placement was geographically located where they wanted it to be, with 8% stating that it wasn't (n=22) and 7% (n=19) having no preference. Cross-tabulation by gender (n=272, Chi,  $\rho=0.485$ ), school of pharmacy attended (n=270, Chi,  $\rho=0.059$ ) or year of qualification (n=270, Chi,  $\rho=0.718$ ) showed no statistically significant differences. The most popular factors influencing choice of location were location of preferred placement (44%, n=118/269), proximity of family home (43%, n=115) and proximity to existing accommodation (35%, n=94).

Respondents were asked for the information that they received prior to making their applications for pre-registration positions, and for their views on the adequacy of this information. The findings are summarised in Table 114 below.

A variable number of respondents answered each of these questions and therefore the total number of respondents for each question is shown after the information source. Adequacy of information about pre-registration placements appears to be an issue since a majority of respondents considered that the information provided from each source was insufficient (not enough, nowhere near enough and no information).<sup>a</sup>

<sup>a</sup> The option "far too much" has not been included in the table because none of the respondents selected it.

**Table 114: Views on the adequacy of information provided by various sources to pre-registration students prior to application for a pre-registration post**

Before making any applications for pre-registration positions, did you receive any information from the following and if so, who much information was available?	Too much	About right	Not enough	Nowhere near enough	Did not receive any
<b>From the PSI about the application process (n=276)</b>	-	39% (n=107)	29% (n=79)	22% (n=60)	11% (n=30)
<b>From your school of pharmacy about the application process (n=279)</b>	-	47% (n=131)	35% (n=98)	11% (n=30)	7% (n=20)
<b>From your school of pharmacy about community employers (n=280)</b>	0.4% (n=1)	22% (n=61)	44% (n=123)	19% (n=52)	15% (n=43)
<b>From your school of pharmacy about hospital employers (n=276)</b>	1% (n=3)	27% (n=75)	37% (n=102)	15% (n=41)	20% (n=55)
<b>Directly from any community employers (n=280)</b>	0.4% (n=1)	18% (n=49)	26% (n=72)	21% (n=60)	35% (n=98)
<b>Directly from any hospital employers (n=277)</b>	0.4% (n=1)	16% (n=45)	29% (n=80)	14% (n=38)	41% (n=113)

For each question in Table 114, cross-tabular analysis was performed against school of pharmacy attended and year of qualification. The following statistically significant differences were found:

- The amount of information provided by the PSI about the application process and year of qualification (n=263, Chi,  $p=0.001$ )<sup>a</sup>. The data indicate that the amount of information provided by the PSI about the application process has been variable over the period of the study (see Figure 13).
- The amount of information from the school of pharmacy about hospital employers and both school of pharmacy attended (n=263, Chi,  $p=0.009$ )<sup>b</sup> and year of qualification (n=263, Chi,  $p=0.049$ )<sup>c</sup>. The data indicate that there was some variability between the schools on the amount of information about hospital employers

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $p=0.001$  (n=258); with removal of the “Other” category (n=5) and the option “Did not receive any” (n=30), Chi,  $p=0.647$  (n=230).

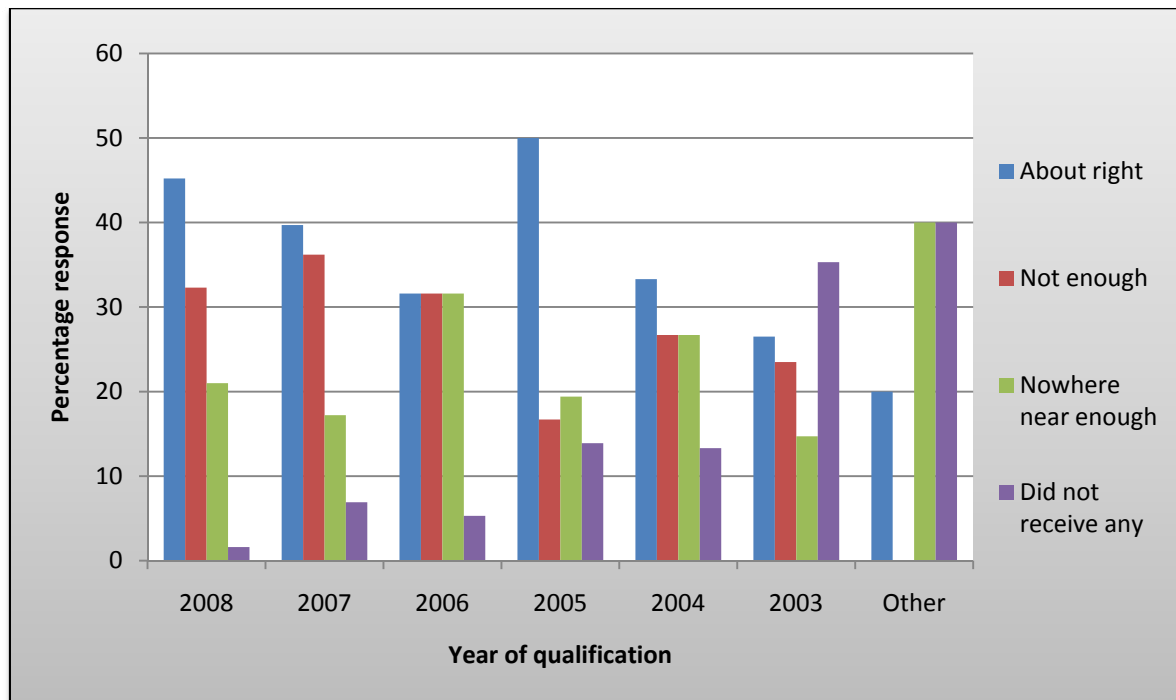
<sup>b</sup> With removal of the options “Too much” (n=3), “Nowhere near enough” (n=39) and “Did not receive any” (n=53), Chi,  $p=0.052$  (n=168).

<sup>c</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $p=0.050$  (n=258); with removal of the “Other” category (n=5) and the option “Too much” (n=3), Chi,  $p=0.034$  (n=255).

provided (see Figure 14) and also the amount provided over the period of the study (see Figure 15).

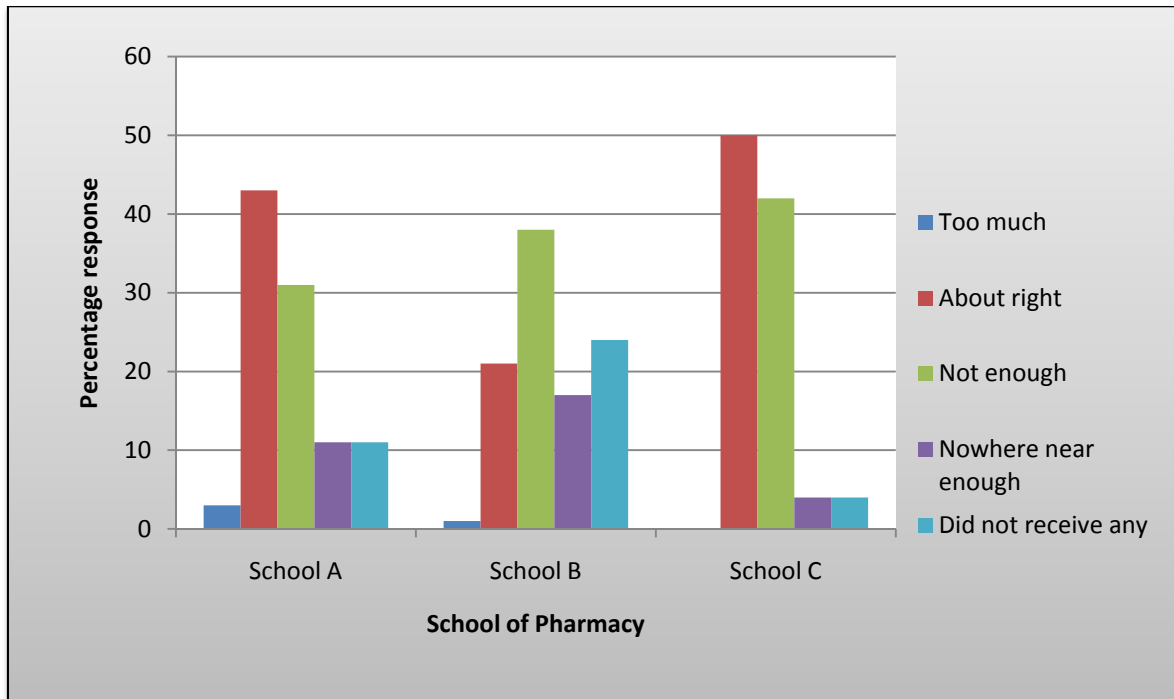
- The amount of information provided directly from any community employers and the school of pharmacy attended by the respondent (n=267, Chi,  $p=0.001$ )<sup>a</sup>. The data indicate that there was some variability between the schools on the amount of information respondents received directly from community employers (see Figure 16).

**Figure 13: Views of respondents on the amount of information received from the PSI on the application process by year of qualification**

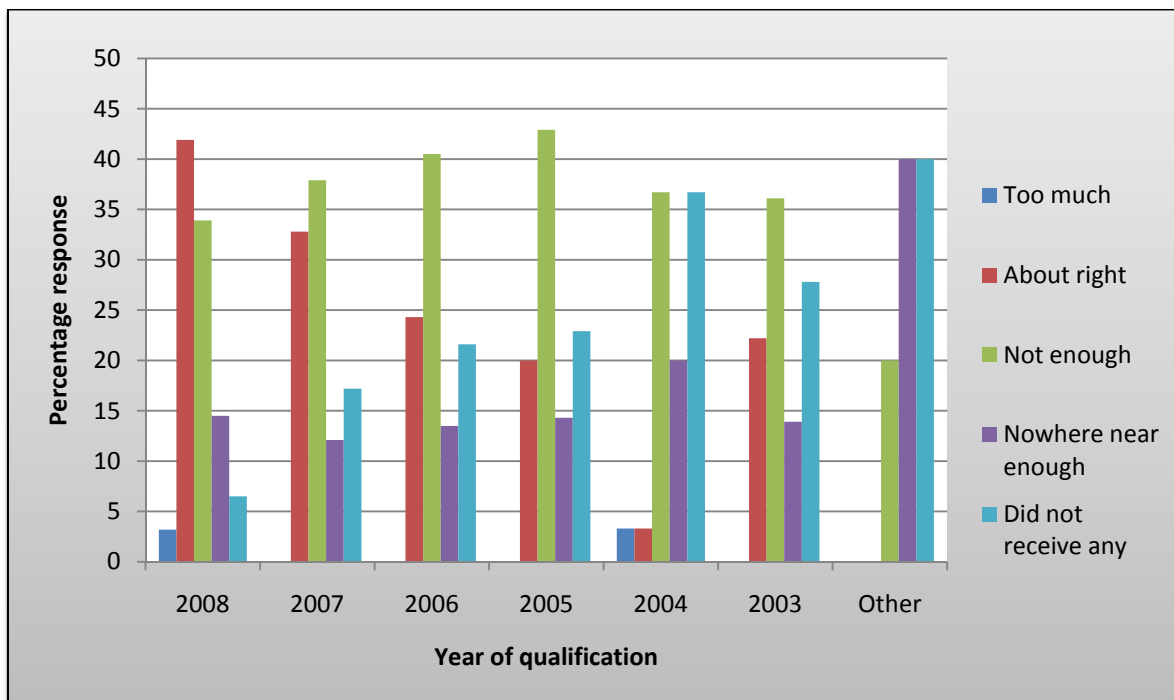


<sup>a</sup> With removal of the option "Too much" (n=1), Chi,  $p=0.000$  (n=266).

**Figure 14: Views of respondents on the amount of information received from their school of pharmacy about hospital employers by school of pharmacy**

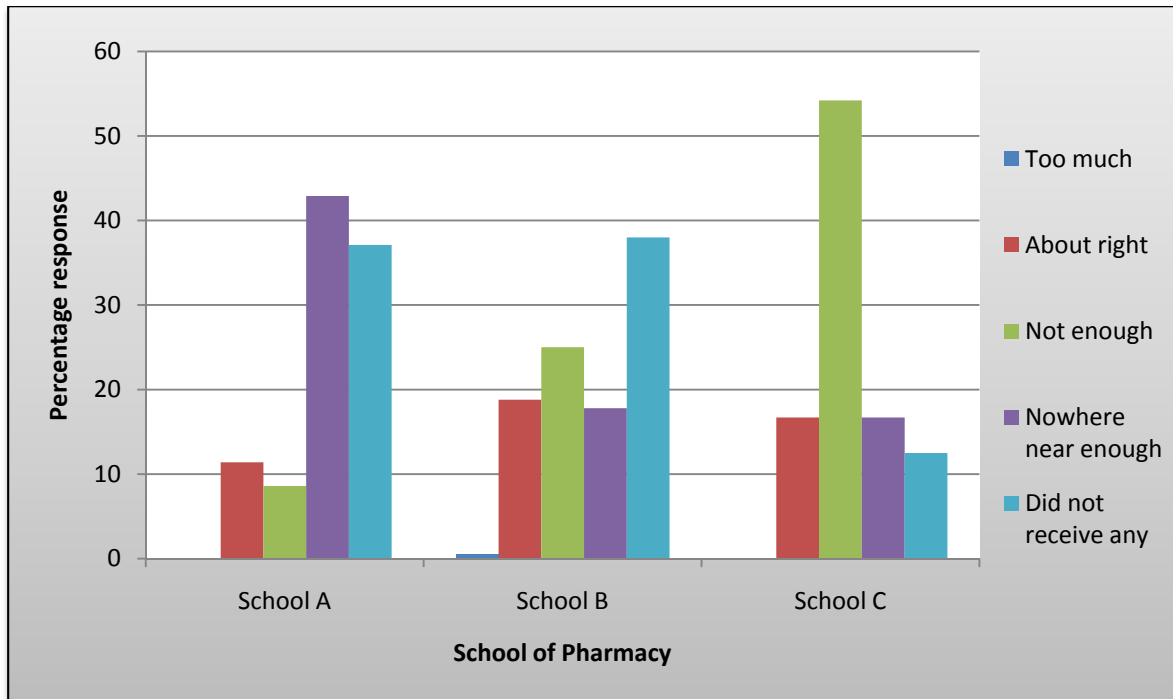


**Figure 15: Views of respondents on the amount of information received from their school of pharmacy about hospital employers by year of qualification**





**Figure 16: Views of respondents on the amount of information received directly from any community employers by school of pharmacy**



Finally in this section, respondents were asked about their agreement with three statements about the application process for pre-registration training. These statements were drawn from the findings of the focus groups with the then current (2007-2008) pre-registration students which were undertaken prior to the design of the questionnaire (see Part two, section 4.2) and all were about the timing of the pre-registration application process. The detailed responses are shown in Table 115 below. Cross-tabulation by year of qualification (n=272, Chi,  $\rho=0.915$ ; n=272, Chi,  $\rho=0.200$ ; n=270, Chi,  $\rho=0.401$  respectively)<sup>a</sup> and gender (n=274, Chi,  $\rho=0.163$ ; n=274, Chi,  $\rho=0.508$ ; n=272, Chi,  $\rho=0.322$  respectively) found no significant differences.

Over 80% of respondents answering the question agreed that the notifications and advertisements of pre-registration posts should all be made at the same time. Just under half of respondents agreed that they felt pressurised into accepting a pre-registration position even though they might be waiting for the outcome of other applications and nearly 90% agreed that the current system places pressure on the student to accept a position even though they may subsequently decline it.

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5); n=167, Chi,  $\rho=0.894$ ; n=267, Chi,  $\rho=0.347$  and n=265, Chi,  $\rho=0.253$  respectively.

**Table 115: Agreement with statements about the pre-registration application process**

Statement	Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree
Recruitment notifications/ advertisements for pre-registration positions should all be released at the same time (n=284)	51% (n=146)	35% (n=98)	11% (n=30)	4% (n=10)	-
I felt pressurised to accept a pre-registration position even though I wanted to wait to hear about other applications (n=284)	20% (n=56)	28% (n=80)	23% (n=64)	24% (n=68)	6% (n=16)
The current application system results in students accepting positions they may subsequently decline if they later receive a more favourable offer (n=282)	49% (n=138)	40% (n=113)	7% (n=21)	3% (n=8)	1% (n=2)

Comments provided by the student respondents on the questionnaires regarding the pre-registration application process included:

*“Application and interview process very drawn out; took up a lot of time coming up to final exams also some hospitals seem to have already chosen a candidate based on location but interview to keep up appearances; wastes our time and theirs.”* (Pre-registration student questionnaire respondent)

*“The application and interview process should not be structured to occur at such a busy time in the college year, with final year exams etc.”* (Pre-registration student questionnaire respondent)

*“Not enough industry places or hospital places. Places should be available at the same time and preferably before the commencement of final year in college like in the UK so students don't have to miss out on important lectures at the end of the year.”* (Pre-registration student questionnaire respondent)

*“Interviews for placements in hospitals should be undertaken at close times to allow candidates to accept a position offered without the pressure or trauma of waiting for interviews many weeks apart. Also a suitable time period such as Christmas holidays or January would be more convenient for final year students before college workload is too great.”* (Pre-registration student questionnaire respondent)

*“It would be fairer and cause less hassle for both students and employers if all hospital interviews were held at roughly same time e.g. over two weeks and that offers to students were all received at the same time then student who receive several offers could*

*accept number 1 choice and not hold up other offers.” (Pre-registration student questionnaire respondent)*

*“The list of pharmacies for pre-registration training from the PSI was released very late and resulted in an element of panic amount students who were already under enough pressure from final year study and projects.” (Pre-registration student questionnaire respondent)*

*“Not enough info available about potential tutors. Some of the tutors on the list weren't taking on pre-reg students and therefore shouldn't have been put on the list. Many of the hospital positions were given out very late leaving a lot of people unsure.” (Pre-registration student questionnaire respondent)*

#### **4.3.2.3 The Pre-registration year**

This section of the questionnaire included a series of questions to explore the respondents' experience during the pre-registration year and their views on how well prepared they were for the training year.

The first question explored the respondent's interactions with the PSI. Over half of respondents (59%, n=167/282) considered that they received about the right amount of information from the PSI on the structure and requirements of the pre-registration year before the year started. In contrast, 41% (n=115/282) considered that they received too little information. Cross-tabulation of these data by year of qualification (n=270, Chi,  $\rho=0.055$ )<sup>a</sup> and school of pharmacy attended (n=270, Chi,  $\rho=0.654$ ) did not show any significant differences.

A majority of respondents (62%, n=172/278) considered that the pre-registration manual provided by the PSI was either useful (55%, n=152) or very useful (7%, n=20) although 28% (n=78) considered it either not that useful (22%, n=61) or not useful at all (6%, n=17) with 10% (n=28) having no view. Cross-tabulation of these data by year of qualification (n=266) did not show any significant differences across the six years (Chi,  $\rho=0.548$ )<sup>b</sup>.

Nearly half the respondents (49%, n=126/260) received their manual after the start of their pre-registration year and the other half either at the beginning (35%, n=92) or prior to the beginning of the year (16%, n=42). Cross-tabulation of these data by year of qualification (n=248) indicated significant differences between the years (Chi,  $\rho=0.000$ )<sup>c</sup>. This difference is summarised below in Table 116.

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<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.106$  (n=265).

<sup>b</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.484$  (n=261).

<sup>c</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.000$  (n=243).

**Table 116: The arrival of the PSI manual by year of qualification**

When did the pre-registration manual provided by the PSI arrive (n=248)?	Year of qualification						
	2008 (n=62)	2007 (n=42)	2006 (n=26)	2005 (n=28)	2004 (n=17)	2003 (n=19)	Other (n=5)
<b>Before my pre-registration year started (n=41)</b>	7% (n=4)	37% (n=20)	11% (n=4)	18% (n=6)	14% (n=4)	10% (n=3)	0% (n=0)
<b>At the start of my pre-registration year (n=90)</b>	15% (n=9)	30% (n=16)	46% (n=17)	64% (n=21)	43% (n=12)	45% (n=13)	40% (n=2)
<b>After my pre-registration year had started (n=117)</b>	79% (n=49)	33% (n=18)	43% (n=16)	18% (n=6)	43% (n=12)	45% (n=13)	60% (n=3)

Comments from the questionnaires on the arrival of the pre-registration manual included:

*“We did not receive any induction on starting the pre-reg year, No contact was made from the society until at least November when the manuals were posted. At this point some students who had started pre-reg in July were almost 5 months into their training.”*  
(Pre-registration student questionnaire respondent)

*“We were supposed to get a training manual from the PSI before we started our placement. We did not receive these till almost November. Many people had done a few months of their pre-reg year without the guidance manual. This was particularly disappointing.”* (Pre-registration student questionnaire respondent)

When asked about whether they considered that their degree had prepared them with the necessary skills and knowledge to undertake a pre-registration year, there was a division of views. Just under a half (42%, n=120/283) either agreed (35%, n=100) or strongly agreed (7%, n=20) that the course had achieved this whereas 41% (n=116) either disagreed (33%, n=92) or strongly disagreed (9%, n=24). A further 17% (n=47) neither agreed nor disagreed with this question. Cross tabulation with school of pharmacy attended (see Table 117) showed marked differences between the three schools (n=271, Chi,  $p=0.000$ )<sup>a</sup>.

<sup>a</sup> Owing to the timeframe the data relate to, the numbers of respondents per school of pharmacy is markedly different. However, re-analysis of the data limiting the calculation to those respondents who qualified in 2008 (n=62) still shows statistically significant differences (n=62, Chi,  $p=0.015$ ), with the percentage of respondents strongly agreeing or agreeing with this statement: School A, 73%; School B, 48%; School C, 77%.

**Table 117: How strongly respondents felt their degree course had provided them with the necessary skills and knowledge for the pre-registration year by school of pharmacy**

How strongly do you agree or disagree with the sentence “My pharmacy degree course provided me with the necessary skills and knowledge to undertake a pre-registration year” (n=271)?	School A (n=35)	School B (n=212)	School C (n=24)
<b>Strongly agree (n=19)</b>	23% (n=8)	3% (n=7)	17% (n=4)
<b>Agree (n=91)</b>	54% (n=19)	27% (n=58)	58% (n=14)
<b>Neither agree nor disagree (n=46)</b>	9% (n=3)	18% (n=38)	21% (n=5)
<b>Disagree (n=91)</b>	14% (n=5)	40% (n=85)	4% (n=1)
<b>Strongly disagree (n=24)</b>	-	11% (n=24)	-

Cross-tabulation of the data by year of qualification (n=271) indicated a significant difference in responses across the years (Chi,  $p=0.001$ )<sup>a</sup>. This difference is summarised below in Table 118.

**Table 118: The view of respondents to their preparation for the pre-registration year by their school of pharmacy by year of qualification**

How strongly do you agree or disagree with the sentence “My pharmacy degree course provided me with the necessary skills and knowledge to undertake a pre-registration year” (n=271)?	Year of qualification						
	2008 (n=62)	2007 (n=58)	2006 (n=39)	2005 (n=37)	2004 (n=32)	2003 (n=38)	Other (n=5)
<b>Strongly agree (n=19)</b>	16% (n=10)	7% (n=4)	-	11% (n=4)	3% (n=1)	-	-
<b>Agree (n=91)</b>	48% (n=30)	43% (n=25)	36% (n=14)	22% (n=8)	25% (n=8)	13% (n=5)	20% (n=1)
<b>Neither agree nor disagree (n=46)</b>	19% (n=12)	16% (n=9)	13% (n=5)	19% (n=7)	13% (n=4)	21% (n=8)	20% (n=1)
<b>Disagree (n=91)</b>	16% (n=10)	33% (n=19)	36% (n=14)	41% (n=15)	44% (n=14)	45% (n=17)	40% (n=2)
<b>Strongly disagree (n=24)</b>	-	2% (n=1)	15% (n=6)	8% (n=3)	16% (n=5)	21% (n=8)	20% (n=1)

Finally, cross-tabulation of these data with the respondents’ sector(s) of pre-registration employment (for options, see Table 112) did not indicate any statistically significant differences (n=281, Chi,  $p=0.317$ )<sup>a</sup> between the sectors.

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $p=0.000$  (n=266).

Comments from the questionnaire on how well the students thought the degree course prepared them for the pre-registration year included:

*“We are fortunate to have a pre-reg year as a gradual introduction into the responsibilities of being a pharmacist. It is very necessary given the academic and theoretical nature of the pharmacy degree which I feel doesn't prepare us sufficiently for either community or hospital practice.”* (Pre-registration student questionnaire respondent)

*“There is a huge area of community pharmacy not covered by our college degree course e.g. diagnosis, various disease conditions etc. essentially we know about the drugs but not the conditions they are used to treat. Diagnosis is a major issue in community pharmacy but we are not trained for it. The shortfalls in the degree course become more evident during your pre-reg year.”* (Pre-registration student questionnaire respondent)

A majority (57%, n=161/284) considered that the degree course and the pre-registration experience had been two separate learning experiences and only 15% (n=43) considered them to be like two parts of a single learning experience. Just under a third of respondents (28%, n=80) considered that the two processes were somewhat like a single learning experience. Cross-tabulation of these data by school of pharmacy (n=272) year of qualification (n=272) and the respondents' sector(s) of pre-registration employment (n=282) did not show any significant differences (Chi,  $\rho=0.230$ ,  $\rho=0.380^b$  and  $\rho=0.492^c$  respectively).

When asked about the length of the current pre-registration year, a sizable majority (90%, n=256/284) stated that it was about right. Only 2% (n=5) stated it was too short with 7% (n=21) and 1% (n=2) stating it was too long or far too long respectively. Cross-tabulation with year of registration indicated a significant difference in the responses (n=272, Chi,  $\rho=0.042$ ) although this difference was not statistically significant upon removal of the “other” category (n=267, Chi,  $\rho=0.174$ ). Further cross-tabulation by respondents' sector(s) of pre-registration employment also indicated significant differences (n=282, Chi,  $\rho=0.002$ ) although this difference was not statistically significant upon removal (n=29) of the split-sector positions (n=253, Chi,  $\rho=0.506$ ).

When asked about their preference for the current separate degree and one year pre-registration year and a single five-year degree which incorporated the pre-registration process as placements integrated with academic studies, respondents were divided in their views. About a half (49%, n=137/282) for an integrated programme whereas 39% (n=110) indicated a preference for the current system with 12% (n=35) having no preference. Cross-tabulation of these data by year of qualification (n=271), school of pharmacy (n=271) and

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<sup>a</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=252, Chi,  $\rho=0.254$ .

<sup>b</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.323$  (n=267).

<sup>c</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=253, Chi,  $\rho=0.453$ .

the respondents' sector(s) of pre-registration employment (n=280) did not show any significant differences (Chi,  $\rho=0.204^a$ ,  $\rho=0.432$  and  $\rho=0.095^b$  respectively).

Just over half (56%, n=157/282) of respondents considered that they had about the right amount of interaction with other pre-registrations students during their year whereas just under half (44%, n=124) considered that they had too little. Only one respondent considered the contact too much. Cross-tabulation of these data by year of qualification (n=271) and by school of pharmacy (n=271) did not show any significant differences (Chi,  $\rho=0.376^c$  and  $\rho=0.978$  respectively). Cross-tabulation with the respondents' sector(s) of pre-registration employment (see Table 119) did show statistically significant differences (n=280, Chi,  $\rho=0.006^d$ ).

**Table 119: Level of interaction with other pre-registration students by pre-registration sector(s)**

How much interaction did you have with other pre-registration students during your pre-registration year? (n=280)	Too little (n=124)	About right (n=155)	Too much (n=1)
Entirely within community pharmacy (n=179)	48% (n=85)	52% (n=93)	1% (n=1)
Entirely within hospital pharmacy (n=73)	25% (n=18)	75% (n=55)	-
A split position between community and hospital pharmacy (n=5)	60% (n=3)	40% (n=2)	-
A split position between community and industry (n=20)	75% (n=15)	25% (n=5)	-
A split position between hospital and industry (n=2)	100% (n=2)	-	-
A split position between community and a school of pharmacy (n=1)	100% (n=1)	-	-

During the pre-registration year, nearly three-quarters of respondents (73%, n=204/281) had questions about their experience. The questionnaire included a broad definition of the types of questions which included student support and counselling, assessment and examination processes, learning processes and outcomes and feedback processes. Cross-tabulation of these data by year of qualification (n=270), school of pharmacy (n=270), and

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.139$  (n=266).

<sup>b</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions) showed a slight preference for the current model within the community pharmacy pool (44%, n=78/178) when compared to the hospital pharmacy pool (36%, n=26/73). In addition, the integrated model was also slightly more favoured by respondents from the community pharmacy pool (47%, n=84) compared to the hospital pharmacy pool (43%, n=31). More respondents from the hospital pharmacy pool (22%, n=16) expressed no particular preference than respondents from the community pharmacy pool (9%, n=16) (n=251, Chi,  $\rho=0.019$ ).

<sup>c</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.310$  (n=266).

<sup>d</sup> Removal of the split pre-registration year options (n=28) (i.e. cross-tabulation with only community and hospital one-year positions); n=252, Chi,  $\rho=0.003$ ; Removal of the split pre-registration year options (n=28) and the option "Too much" (n=1), Chi,  $\rho=0.001$  (n=251).

the respondents' sector(s) of pre-registration employment (n=279) did not show any significant differences (Chi,  $\rho=0.682^a$ ,  $\rho=0.253$   $\rho=0.813^b$  respectively).

Those respondents who answered positively to this question were then asked about the sources of information used to answer their questions and whether or not their questions were answered. Table 120 summarises the results from this question. There was some variation in the numbers who answered each part of this question and so the totals have been included next to each information source.

**Table 120: Sources of information used by Pre-registration students and perceptions of the accuracy of the information**

Who did you go to answer the question(s) and did they provide the necessary answer(s)	Contacted and provided the right answers	Contacted but did not provide the right answers	Not approached for information
Your pre-registration tutor (n=196)	73% (n=143)	15% (n=30)	12% (n=23)
Your pre-registration employer (n=179)	43% (n=77)	11% (n=20)	46% (n=82)
Fellow pre-registration student (n=194)	84% (n=163)	6% (n=12)	10% (n=19)
The PSI (n=184)	40% (n=74)	13% (n=24)	47% (n=86)
School of pharmacy (n=181)	7% (n=13)	4% (n=7)	89% (n=161)

The most common sources of information for pre-registration students were the pre-registration tutor (in total contacted by 88%, n=173/196) and other pre-registration students (contacted by 90%, n=175/194). In contrast, employers and the PSI were contacted about questions by just over half of respondents and schools of pharmacy were contacted by only 11% of respondents (n=20/181). There is some evidence that fellow students were considered the source most likely to provide the right answer. Cross-tabular analysis of the responses to each of these five information sources by year of qualification (n=186, Chi,  $\rho=0.744$ ; n=169, Chi,  $\rho=0.740$ ; n=184, Chi,  $\rho=0.205$ ; n=174, Chi,  $\rho=0.089$  and n=171, Chi,  $\rho=0.788$  respectively)<sup>c</sup> and the respondents' sector(s) of pre-registration employment (n=195, Chi,  $\rho=0.080$ ; n=178, Chi,  $\rho=0.876$ ; n=193, Chi,  $\rho=0.703$ ; n=183, Chi,  $\rho=0.238$  and n=180, Chi,  $\rho=0.128$  respectively)<sup>d</sup> did not show any significant statistical differences, apart from the respondents' answer to whether their pre-registration tutor provided the right

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.584$  (n=265).

<sup>b</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=250, Chi,  $\rho=0.328$ .

<sup>c</sup> With removal of the "Other" category from the year of qualification; n=182, Chi,  $\rho=0.737$ ; n=166, Chi,  $\rho=0.653$ ; n=180, Chi,  $\rho=0.587$ ; n=171, Chi,  $\rho=0.115$  and n=168, Chi,  $\rho=0.680$  respectively.

<sup>d</sup> Removal of the split pre-registration year options (i.e. cross-tabulation with only community and hospital one-year positions); n=173, Chi,  $\rho=0.039$ ; n=159, Chi,  $\rho=0.784$ ; n=173, Chi,  $\rho=0.845$ ; n=165, Chi,  $\rho=0.113$  and n=162, Chi,  $\rho=0.982$  respectively.



answers when cross-tabulation with only community and hospital one-year positions (i.e. the removal of split pre-registration options) (n=173, Chi  $\rho=0.039$ ), see Table 121. Additionally, cross-tabulation of the response “school of pharmacy” with the school the respondent attended did not show a statistical difference (n=171, Chi,  $\rho=0.150$ ).

**Table 121: Information provided to pre-registration students by sector (community or hospital) of pre-registration employment**

Sector (n=173)	Contacted and provided the right answers (n=128)	Contacted but did not provide the right answers (n=27)	Not approached for information (n=18)
Entirely within community pharmacy (n=125)	69% (n=86)	19% (n=24)	12% (n=15)
Entirely within hospital pharmacy (n=48)	88% (n=42)	6% (n=3)	6% (n=3)

Comments from the questionnaire on the information students had received about the structure of the pre-registration year included:

*“Information on basic requirements in terms of hours to be worked, assessments, project was adequate. Information on what exactly a pre-reg’s role within the community pharmacy should be and some sort of learning plan as a guide to developing skills and competencies would have been very useful and was not provided.”* (Pre-registration student questionnaire respondent)

*“There is no guidance or information available about what to expect from the pre-reg year in terms of a structured program, study time etc or about conditions of employment - wages, holidays, hours of work etc. There is no structure to the pre-reg year with the exception of the exams.”* (Pre-registration student questionnaire respondent)

*“I would have preferred more direction on where my studies should be going at each section during the year, especially coming up to the assessments. It felt a bit vague on what was exactly required of you.”* (Pre-registration student questionnaire respondent)

#### 4.3.2.4 Views of the pre-registration tutor

A majority of respondents (73%, n=202/278) considered that they had about the right interaction with their pre-registration tutor whilst about a quarter (26%, n=71) considered that they had too little interaction. Only five respondents (2%) considered they had too much interaction. Cross-tabular analysis of these data by year of qualification (n=269, Chi,  $\rho=0.790$ )<sup>a</sup> and by the respondents’ sector(s) of pre-registration employment (n=276, Chi,  $\rho=0.455$ )<sup>b</sup> did not show any significant differences. Similarly, a substantial majority of respondents (83%, n=231/278) considered that they had experienced the minimum of three

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.699$  (n=264).

<sup>b</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=247, Chi,  $\rho=0.780$ .

days a week contact that is specified by the PSI. Only 17% (n=47) stated they had received less than 3 days per week contact. Cross-tabular analysis of these data by year of qualification (n=269, Chi,  $\rho=0.833$ )<sup>a</sup> did not show any significant differences; however, cross-tabulation by the respondents' sector(s) of pre-registration employment was statistically significant (n=276, Chi,  $\rho=0.000$ )<sup>b</sup>. These differences are shown in Table 122 below.

Table 123 summarises respondents' views on the usefulness of feedback from their named pre-registration tutor on their progress during the year. A majority found the feedback either useful or very useful (63%, n=174). However, a quarter of respondents (24%, n=69) found it either not useful or not at all useful. Cross-tabulation of these data by year of qualification (n=269, Chi,  $\rho=0.976$ )<sup>c</sup> and by the respondents' sector(s) of pre-registration employment (n=276, Chi,  $\rho=0.372$ )<sup>d</sup> did not show any significant differences.

**Table 122: Respondents views on the level of contact with their pre-registration tutor by sector(s)**

The PSI states that pre-registration students must have at least three full days contact per week with their tutor pharmacist. Was this the case during your pre-registration year? (n=276)	Yes (n=231)	No (n=45)
Entirely within community pharmacy (n=175)	93% (n=163)	7% (n=12)
Entirely within hospital pharmacy (n=72)	65% (n=47)	35% (n=25)
A split position between community and hospital pharmacy (n=5)	80% (n=4)	20% (n=1)
A split position between community and industry (n=21)	76% (n=16)	24% (n=5)
A split position between hospital and industry (n=2)	-	100% (n=2)
A split position between community and a school of pharmacy (n=1)	100% (n=1)	-

**Table 123: Perceived usefulness of feedback provided by the named pre-registration tutor on progress during the pre-registration year (n=278)**

Very Useful	Useful	Neither useful nor not-useful	Not that useful	Not useful at all
23% (n=64)	40% (n=110)	13% (n=35)	14% (n=40)	10% (n=29)

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.739$  (n=264).

<sup>b</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=247, Chi,  $\rho=0.000$ .

<sup>c</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.994$  (n=264).

<sup>d</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=247, Chi,  $\rho=0.293$ .

A clear majority of respondents (68%, n=188/278) either agreed or strongly agreed that their pre-registration tutor had supported their progress as a pre-registration trainee while 17% (n=47) were undecided. A notable minority disagreed or strongly disagreed (15%, n=43). Cross-tabulation of these data by year of qualification (n=270, Chi,  $\rho=0.974$ )<sup>a</sup> and by the respondents' sector(s) of pre-registration employment (n=276, Chi,  $\rho=0.110$ )<sup>b</sup> did not show any significant differences.

Respondents were asked whether they had sought advice or help in connection with their pre-registration year from individuals other than their pre-registration tutor. The question was sub-divided into questions about the pre-registration process and more general questions about pharmacy. The responses are summarised in Table 124 below and provide clear evidence of a high level of interaction with other individuals. Other pre-registration students were the most likely source of information about the process of the pre-registration year but for questions about pharmacy in general, it was either pharmacists or other employees in their organisation.

**Table 124: Sources of information other than named pre-registration tutor**

Did you seek advice and help in connection with your pre-registration year from other individuals during the year, in addition to your named pre-registration tutor?	Yes; about the <i>process</i> of pre-registration	Yes; <i>general questions</i> about pharmacy
<b>Other pharmacists within your organisation</b>	55% (n=157)	75% (n=217)
<b>Other employees (e.g. technicians) within your organisation</b>	27% (n=78)	65% (n=186)
<b>Pharmacists from other organisations</b>	11% (n=31)	28% (n=80)
<b>Fellow pre-registration students</b>	78% (n=226)	63% (n=182)

Cross-tabulation of these data by year of registration produced the summary of data presented in Table 125. Of the eight questions analysed by year of registration, four (three regarding the *process* of pre-registration ("*Other pharmacists within your organisation*", "*Other employees (e.g. technicians) within your organisation*" and "*Fellow pre-registration students*") and one regarding *general questions* about pharmacy ("*Pharmacists from other organisations*") exhibited statistically significant differences (see Figure 17). A further two question regarding *general questions* about pharmacy ("*Other pharmacists within your organisation*" and "*Fellow pre-registration students*") exhibited a difference, albeit not statistically significant (Chi,  $\rho=0.077$  and Chi,  $\rho=0.065$  respectively).

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.947$  (n=265).

<sup>b</sup> Removal of the split pre-registration year options (n=29) (i.e. cross-tabulation with only community and hospital one-year positions); n=247, Chi,  $\rho=0.317$ .

Cross-tabulation by the respondents' sector(s) of pre-registration employment showed a significant difference with the respondents who had questions about the process of the pre-registration year and pharmacists from other organisations (n=286, Chi,  $\rho=0.011$ ) (full results as per question order in Table 125: n=156/286, Chi,  $\rho=0.176$ ; n=78/286, Chi,  $\rho=0.147$ ; n=31/286, Chi,  $\rho=0.011$ ; n=224/286, Chi,  $\rho=0.492$ ; n=215/286, Chi,  $\rho=0.053$ ; n=184/286, Chi,  $\rho=0.364$ ; n=79/286, Chi,  $\rho=0.055$  and n=181/286, Chi,  $\rho=0.397$  respectively).

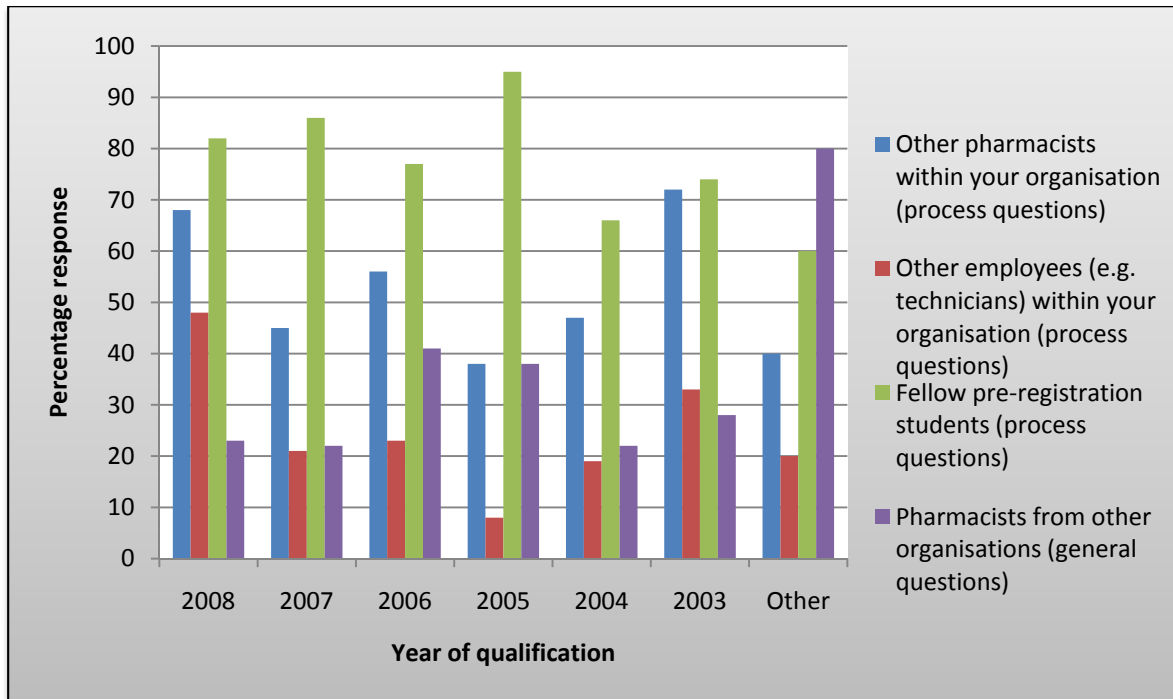
Further cross-tabulation with only community and hospital one-year positions (i.e. the removal of split pre-registration options) indicated a significant difference in the responses from community pre-registration students and hospital pre-registration students in their responses to the question about the process of the pre-registration year (n=256, Chi,  $\rho=0.020$ ) and general questions about pharmacy (n=256, Chi,  $\rho=0.005$ ) when asking other pharmacists from within their organisation and general questions about pharmacy and asking pharmacists from other organisations (n=256, Chi, 0.035) (full results as per question order in Table 125: n=137/256, Chi,  $\rho=0.020$ ; n=67/256, Chi,  $\rho=0.908$ ; n=28/256, Chi,  $\rho=0.400$ ; n=203/256, Chi,  $\rho=0.913$ ; n=195/256, Chi,  $\rho=0.005$ ; n=167/256, Chi,  $\rho=0.171$ ; n=73/256, Chi,  $\rho=0.035$  and n=165/256, Chi,  $\rho=0.438$  respectively). In all three cases, pre-registration students stated they were more likely to have asked the individual(s) in question if they had undertaken a hospital pre-registration position than a community one (see Table 126).

**Table 125: Respondents who sought advice from individuals other than their tutor about the process of the pre-registration year or about pharmacy during their pre-registration year by year of registration**

	2008	2007	2006	2005	2004	2003	Other
<i>Yes; about the process of pre-registration</i>							
<b>Other pharmacists within your organisation (n=149, Chi, <math>\rho=0.011</math>)</b>	68% (n=42)	45% (n=26)	56% (n=22)	38% (n=14)	47% (n=15)	72% (n=28)	40% (n=2)
<b>Other employees (e.g. technicians) within your organisation (n=74, Chi, <math>\rho=0.000</math>)</b>	48% (n=30)	21% (n=12)	23% (n=9)	8% (n=3)	19% (n=6)	33% (n=13)	20% (n=1)
<b>Pharmacists from other organisations (n=30, Chi, <math>\rho=0.267</math>)</b>	15% (n=9)	8% (n=5)	15% (n=6)	5% (n=2)	3% (n=1)	18% (n=7)	-
<b>Fellow pre-registration students (n=219, Chi, <math>\rho=0.041</math>)</b>	82% (n=51)	86% (n=50)	77% (n=30)	95% (n=35)	66% (n=21)	74% (n=29)	60% (n=3)
<i>Yes; general questions about pharmacy</i>							
<b>Other pharmacists within your organisation (n=210, Chi, <math>\rho=0.077</math>)</b>	87% (n=54)	76% (n=44)	72% (n=28)	78% (n=29)	81% (n=26)	62% (n=24)	100% (n=5)
<b>Other employees (e.g. technicians) within your organisation (n=182, Chi, <math>\rho=0.241</math>)</b>	73% (n=45)	64% (n=37)	59% (n=23)	65% (n=24)	98% (n=27)	59% (n=23)	60% (n=3)
<b>Pharmacists from other organisations (n=79, Chi, <math>\rho=0.033</math>)</b>	23% (n=14)	22% (n=13)	41% (n=16)	38% (n=14)	22% (n=7)	28% (n=11)	80% (n=4)
<b>Fellow pre-registration students (n=177, Chi, <math>\rho=0.065</math>)</b>	74% (n=46)	71% (n=41)	64% (n=25)	49% (n=18)	72% (n=23)	51% (n=20)	80% (n=4)
<b>TOTAL NUMBER (n=272)<sup>a</sup>.</b>	n=62	n=58	n=39	n=37	n=32	n=39	n=5

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5); n=147, Chi,  $\rho=0.006$ ; n=73, Chi,  $\rho=0.000$ ; n=30, Chi,  $\rho=0.230$ ; n=216, Chi,  $\rho=0.036$ ; n=205, Chi,  $\rho=0.082$ ; n=179, Chi,  $\rho=0.164$ ; n=75, Chi,  $\rho=0.190$  and n=173, Chi,  $\rho=0.045$  respectively.

**Figure 17: Sources of advice and help for pre-registration students with significant differences by year of qualification**



Just under two-thirds (63%, n=174/276) of respondents had been issued with a contract during their pre-registration year and the majority (56%, n=156/279) considered that the balance between feeling like an employee and like a pre-registration trainee pharmacist was right. However, a third of respondents (33%, n=93) considered that they felt more like an employee than a pre-registration trainee. For both questions, cross-tabulation of these data by year of qualification did not show any significant differences across the years (n=268, Chi,  $\rho=0.573$  and n=271, Chi,  $\rho=0.426$  respectively). Cross tabulation by the respondents' sector(s) of pre-registration employment indicated a significant difference (n=274, Chi,  $\rho=0.000$ )<sup>a</sup> in whether a respondent was issued with a contract of employment (see Table 127) but not with regard to their views on the balance between being an employee and training to be a pharmacist (n=277, Chi,  $\rho=0.077$ ).

<sup>a</sup> Removal of the split pre-registration year options (n=28) (i.e. cross-tabulation with only community and hospital one-year positions); n=246, Chi,  $\rho=0.000$ .

**Table 126: Those who sought advice from individuals other than their tutor about the process of the pre-registration year or about pharmacy during their pre-registration year by sector of pre-registration (community or hospital pharmacy) where significant differences were observed**

Did you seek advice and help in connection with your pre-registration year from any other individuals during your year, in addition to your named pre-registration tutor?	Entirely within community pharmacy (n=182)	Entirely within hospital pharmacy (n=74)
Yes; about the <i>process</i> of pre-registration		
<b>Other pharmacists within your organisation (n=137, Chi, <math>\rho=0.020</math>)</b>	49% (n=89)	65% (n=48)
Yes; <i>general questions</i> about pharmacy		
<b>Other pharmacists within your organisation (n=195, Chi, <math>\rho=0.005</math>)</b>	71% (n=130)	88% (n=65)
<b>Pharmacists from other organisations (n=73, Chi, <math>\rho=0.035</math>)</b>	25% (n=45)	38% (n=28)

**Table 127: The percentage of respondents issued with a contract of employment by pre-registration sector(s)**

Were you issued with a contract of employment for your pre-registration year? (n=274)	Yes (n=172)	No (n=102)
<b>Entirely within community pharmacy (n=174)</b>	50% (n=87)	50% (n=87)
<b>Entirely within hospital pharmacy (n=72)</b>	99% (n=71)	1% (n=1)
<b>A split position between community and hospital pharmacy (n=4)</b>	75% (n=3)	25% (n=1)
<b>A split position between community and industry (n=21)</b>	38% (n=8)	62% (n=13)
<b>A split position between hospital and industry (n=2)</b>	100% (n=2)	-
<b>A split position between community and a school of pharmacy (n=1)</b>	100% (n=1)	-

However, further cross-tabulation following the removal of all split-sector positions (n=29) did indicate a significant differences in the views of respondents between community and hospital pharmacy positions (n=248, Chi,  $\rho=0.015$ ). Around one-third (36%, n=63/175) of community pre-registration students stated they felt more like a regular employee than a pre-registration pharmacist compared to 21% (n=15/73) of hospital pre-registration students. Only 7% (n=13) of community pre-registration students compared to 16% (n=12) of hospital pre-registration students felt they were more like a pre-registration pharmacist than a regular employee with the remainder (57% (n=99) of community pre-registration

students and 63% (n=46) of hospital pre-registration students) stating that the balance was right.

Comments from the questionnaire on the students' level of interaction with other pre-registration students included:

*"Felt quite isolated from fellow pre-reg students. There should be regular i.e. monthly clinical learning days for whole year group."* (Pre-registration student questionnaire respondent)

*"There was a lack of structure and communication with the PSI. At times I felt isolated as no longer part of school of pharmacy for guidance and had to rely on peers."* (Pre-registration student questionnaire respondent)

*"I would prefer more interaction with PSI and other tutors to support during the year. I think that this would help to standardise the training for the student."* (Pre-registration tutor questionnaire respondent)

Further comments on resources and support during the year from the questionnaire included:

*"Excellent structure for learning, very well organised and gained excellent experience re: hospital pharmacy."* (Pre-registration student questionnaire respondent)

*"Doing my pre-reg in hospital. They have a structured training year and are dedicated to teaching you to become as capable pharmacist as it is in their best interests. They take on the role of training you seriously and as a result I am confident as a pharmacist."* (Pre-registration student questionnaire respondent)

*"I think there needs to be some recognition that training in hospital, community and industry are very different and require different approaches. They also seem to involve different student-tutor relationships."* (Pre-registration student questionnaire respondent)

#### **4.3.2.5 Views on the availability of resources during the pre-registration year**

Table 128 summarises respondents' views on the sufficiency of seven identified resources to support their pre-registration training programme.

Over 50% of respondents considered that structured time during the working day and support from the PSI were either insufficient or somewhat insufficient. The greatest area of concern was structured time during the day to undertake personal learning which had the highest "insufficient" rating of 39% and was considered sufficient by only 22% of respondent. Support from the PSI had the lowest "sufficient" rating (8%) and was considered to be insufficient by 28% of respondents.



**Table 128: Respondents views on the sufficiency of named resources to support their pre-registration training programme**

	Sufficient	Somewhat sufficient	Somewhat insufficient	Insufficient
Structured time during the working day to undertake personal learning (n=278)	22% (n=60)	22% (n=60)	18% (n=51)	39% (n=107)
Support from your tutor (n=278)	45% (n=125)	25% (n=69)	17% (n=48)	13% (n=36)
Support from your fellow employees (n=278)	53% (n=147)	33% (n=92)	9% (n=24)	5% (n=15)
Support from your employing organisation (n=275)	46% (n=127)	30% (n=83)	12% (n=33)	12% (n=32)
Support from the PSI (n=277)	8% (n=23)	33% (n=90)	31% (n=87)	28% (n=77)
Flexibility to allow you to attend organised study days or assessments (n=277)	61% (n=170)	20% (n=54)	9% (n=25)	10% (n=28)
Access to books and on-line resources at your employing organisation (n=277)	47% (n=130)	27% (n=74)	15% (n=41)	12% (n=32)

Cross-tabular analysis of the responses to each of these seven questions by year of qualification did not show any significant differences for any of the variables except for “Support from the PSI” and “Flexibility to allow you to attend organised study days or assessments” (n=272, Chi,  $\rho=0.467$ ; n=272, Chi,  $\rho=0.690$ ; n=272, Chi,  $\rho=0.554$ ; n=269, Chi,  $\rho=0.269$ ; n=271, Chi,  $\rho=0.014$ ; n=271, Chi,  $\rho=0.046$  and n=271, Chi,  $\rho=0.339$  respectively)<sup>a</sup>. The results from these two sub-questions by year of qualification are summarised in Table 129 and Table 130.

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5); n=267, Chi,  $\rho=0.273$ ; n=267, Chi,  $\rho=0.771$ ; n=267, Chi,  $\rho=0.412$ ; n=264, Chi,  $\rho=0.281$ ; n=266, Chi,  $\rho=0.016$ ; n=266, Chi,  $\rho=0.040$  and n=266, Chi,  $\rho=0.371$  respectively.

**Table 129: The view of respondents regarding the level of support from the PSI during their pre-registration year**

How sufficient was the support from the PSI during your pre-registration year (n=271)?	Year of qualification						
	2008 (n=62)	2007 (n=57)	2006 (n=39)	2005 (n=37)	2004 (n=32)	2003 (n=39)	Other (n=5)
<b>Sufficient (n=23)</b>	8% (n=5)	5% (n=3)	8% (n=3)	27% (n=10)	3% (n=1)	3% (n=1)	-
<b>Somewhat sufficient (n=90)</b>	39% (n=24)	28% (n=16)	21% (n=8)	30% (n=11)	38% (n=12)	44% (n=17)	40% (n=2)
<b>Somewhat insufficient (n=85)</b>	34% (n=21)	32% (n=18)	41% (n=16)	19% (n=7)	34% (n=11)	31% (n=12)	-
<b>Insufficient (n=73)</b>	19% (n=12)	35% (n=20)	31% (n=12)	24% (n=9)	25% (n=8)	23% (n=9)	60% (n=3)

**Table 130: The view of respondents on the level of flexibility to allow them to attend organised study days or assessments by year of qualification**

How sufficient was the flexibility to allow you to attend organised study days or assessments (n=271)?	2008 (n=62)	2007 (n=58)	2006 (n=39)	2005 (n=36)	2004 (n=32)	2003 (n=39)	Other (n=5)
<b>Sufficient (n=168)</b>	45% (n=28)	76% (n=44)	51% (n=20)	75% (n=27)	56% (n=18)	67% (n=26)	100% (n=5)
<b>Somewhat sufficient (n=52)</b>	24% (n=15)	12% (n=7)	21% (n=8)	17% (n=6)	31% (n=10)	15% (n=6)	-
<b>Somewhat insufficient (n=25)</b>	11% (n=7)	7% (n=4)	18% (n=7)	3% (n=1)	6% (n=2)	10% (n=4)	-
<b>Insufficient (n=26)</b>	19% (n=12)	5% (n=3)	10% (n=4)	6% (n=2)	6% (n=2)	8% (n=3)	-

Cross-tabulation of the responses to these seven questions by the respondents' sector(s) of pre-registration employment indicated significant differences for five of the seven questions (see Table 128 for list of resources: n=276, Chi,  $p=0.002$ ; n=276, Chi,  $p=0.011$ ; n=276, Chi,  $p=0.012$ ; n=276, Chi,  $p=0.115$ ; n=275, Chi,  $p=0.101$ ; n=275, Chi,  $p=0.006$  and n=275, Chi,  $p=0.000$  respectively). Upon removal of the split-sector positions, these differences remain with one additional significant difference being highlighted (n=247, Chi,  $p=0.000$ ; n=247, Chi,  $p=0.030$ ; n=247, Chi,  $p=0.000$ ; n=245, Chi,  $p=0.015$ ; n=246, Chi,  $p=0.268$ ; n=247, Chi,  $p=0.016$  and n=246, Chi,  $p=0.000$  respectively). In all cases where there was a statistically significant difference, a greater number of respondents thought that the resources were

sufficient (either indicating *sufficient* or *somewhat sufficient*) within the hospital sector when compared to the community sector (see Table 131).

**Table 131: Respondents views on the sufficiency of named resources to support their pre-registration training programme by sector (community or hospital) of employment**

	Community		Hospital	
	Sufficient	Somewhat sufficient	Sufficient	Somewhat sufficient
Structured time during the working day to undertake personal learning (n=247).	18% (n=32)	17% (n=29)	33% (n=24)	35% (n=25)
	35% (n=61/175)		68% (n=49/72)	
Support from your tutor (n=278).	43% (n=75)	25% (n=43)	57% (n=41)	26% (n=19)
	67% (n=118/175)		83% (n=60/72)	
Support from your fellow employees (n=278).	46% (n=81)	39% (n=68)	75% (n=54)	17% (n=12)
	85% (n=149/175)		92% (n=66/72)	
Support from your employing organisation (n=275).	44% (n=76)	30% (n=52)	60% (n=43)	28% (n=20)
	74% (n=128/173)		88% (n=63/72)	
Flexibility to allow you to attend organised study days or assessments (n=277).	59% (n=103)	19% (n=33)	75% (n=54)	19% (n=14)
	78% (n=136/175)		94% (n=68/72)	
Access to books and on-line resources at your employing organisation (n=277).	36% (n=62)	31% (n=53)	81% (n=58)	15% (n=11)
	66% (n=115/174)		96% (n=69/72)	

Respondents were asked how useful they considered the manuals provided by the PSI to support the forensic pharmacy assessment (the PSI Core Manual: Guide on ethics and practice; consolidated legislation for attendees at the Forensic Pharmacy Course). A majority considered it either very useful (24%, n=67/276) or useful (59%, n=163) with only 11% (n=29) considering it either not that useful or not useful. Cross-tabulation of these data by year of qualification (n=271) did not show any significant differences across the years of qualification (Chi,  $p=0.520$ )<sup>a</sup>. A number of students (40%, n=107/267) had access to resources in their school of pharmacy during the pre-registration year but no significant

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $p=0.372$  (n=266).

statistical differences were seen following cross-tabulation by year of qualification (n=262, Chi,  $\rho=0.100$ )<sup>a</sup> or school of pharmacy attended (n=262, Chi,  $\rho=0.186$ ).

#### 4.3.2.6 *Employment as a pharmacist*

The majority of respondents (83%, n=229/277) had worked as a pharmacist since completing their pre-registration training. Almost all the respondents (n=43/44 when cross-tabulated by year of qualification) who had not yet worked as a pharmacist were from the most recent cohort who would not have received the results of their pre-registration assessment at the time that the survey was completed. Additionally, no significant differences were seen when cross-tabulation was undertaken by gender (n=274, Chi,  $\rho=0.078$ ) or the respondents' sector(s) of pre-registration employment (n=275, Chi,  $\rho=0.143$ )<sup>b</sup>. Cross-tabulation by school of pharmacy attended did show a significant difference between the schools; although this could be attributed to the varying output profile from the three schools of pharmacy over the duration of the study period.

Of the group that had worked as a pharmacist, 93% (n=212/229) stated that they had obtained initial employment in their preferred sector of pharmacy. Cross-tabulation by gender (n=228, Chi,  $\rho=0.894$ ), school of pharmacy (n=228, Chi,  $\rho=0.391$ ) and year of qualification (n=228, Chi,  $\rho=0.828$ )<sup>c</sup> did not show any significant differences. Cross-tabulation with the respondents' sector(s) of pre-registration employment did indicate differences between the groups (n=227, Chi,  $\rho=0.002$ )<sup>d</sup>. Almost all (97%, n=140/144) respondents who undertook their pre-registration training solely within community pharmacy obtained initial employment in their preferred sector compared to 87% (n=53/61) of respondents who undertook their pre-registration training solely within hospital pharmacy. All (n=5/5) respondents who undertook a split position between community and hospital pharmacy, 80% (n=12/15) of respondents who undertook a split position between community and industry and 50% (n=1/2) of respondent who undertook a split position between hospital and industry stated that they obtained initial employment in their preferred sector.

The declared sectors of preference are summarised in Table 132 below. Cross tabulation by year of qualification and school of pharmacy attended did not show any significant statistical differences (n=228, Chi,  $\rho=0.289$  and n=228, Chi,  $\rho=0.647$  respectively)<sup>e</sup>.

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.083$  (n=257).

<sup>b</sup> Removal of the split pre-registration year options (n=28) (i.e. cross-tabulation with only community and hospital one-year positions); n=246, Chi,  $\rho=0.707$ .

<sup>c</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.883$  (n=223).

<sup>d</sup> Removal of the split pre-registration year options (n=22) (i.e. cross-tabulation with only community and hospital one-year positions); n=205, Chi,  $\rho=0.004$ .

<sup>e</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.600$  (n=223).

**Table 132: Respondents’ preferred sector of work following pre-registration training (n=229)**

Sector	Frequency	Percent
Community pharmacy	155	68
Hospital pharmacy	60	26
Industrial pharmacy	9	4
Other pharmacy	5	2

A statistically significant difference was found when analysing these data by gender as shown in Table 133 (n=228, Chi,  $p=0.031$ )<sup>a</sup>.

**Table 133: Respondents’ preferred sector of work following pre-registration training by gender of respondent (n=228)**

Sector	Female (n=185)	Male (n=43)
Community pharmacy (n=154)	64% (n=119)	81% (n=35)
Hospital pharmacy (n=60)	30% (n=56)	9% (n=4)
Industrial pharmacy (n=9)	4% (n=7)	5% (n=2)
Other pharmacy (n=5)	2% (n=3)	5% (n=2)

Respondents were asked a number of questions about the pre-registration examination. Overall 38% (n=86/229) of respondents either strongly agreed (18%, n=40) or agreed (20%, n=46) that the timing of the pre-registration examination made applying for jobs as a pharmacist difficult. In contrast, 25% (n=57) either strongly disagreed (3%, n=7) or disagreed (22%, n=50) with this statement whilst 38% (n=86) of respondents had no views (neither agreed nor disagreed). Cross-tabulation of these data by year of qualification (n=228) did not show any significant differences across the years (Chi,  $p=0.345$ )<sup>b</sup>.

When asked how long they had waited after the final examination until the results were released, over a half of respondents replied more the four weeks (57%, n=124). Table 134 summarises the data for this question by the five pre-set response options.

<sup>a</sup> With removal of the “Other pharmacy” option (n=5), Chi,  $p=0.023$  (n=223).

<sup>b</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $p=0.229$  (n=223).

**Table 134: Length of wait after the pre-registration examination until the publication of the results (n=218)**

How long did you have to wait after the pre-registration examination before publication of the results?	Frequency	Percent
Within two weeks	7	3
More than two weeks but within three weeks	19	9
More than three weeks but within four weeks	68	31
More than four weeks but within five weeks	76	35
Five weeks or more	48	22

Cross-tabulation of these data by year of qualification (see Table 135) indicated a statistically significant difference between the groups (n=217, Chi,  $p=0.000$ )<sup>a</sup>.

**Table 135: Length of wait after the pre-registration examination until the publication of the results by year of qualification (n=217)**

How long did you have to wait after the pre-registration examination before the publication of the results? (n=217)	2008 (n=19)	2007 (n=56)	2006 (n=38)	2005 (n=37)	2004 (n=30)	2003 (n=33)	Other (n=4)
Within two weeks (n=7)	11% (n=2)	2% (n=1)	3% (n=1)	5% (n=2)	3% (n=1)	-	-
More than two weeks but within three weeks (n=18)	32% (n=6)	2% (n=1)	3% (n=1)	-	23% (n=7)	9% (n=3)	-
More than three weeks but within four weeks (n=68)	53% (n=10)	18% (n=10)	24% (n=9)	35% (n=13)	47% (n=14)	30% (n=10)	50% (n=2)
More than four weeks but within five weeks (n=76)	5% (n=1)	41% (n=23)	37% (n=14)	43% (n=16)	23% (n=7)	39% (n=13)	50% (n=2)
Five weeks or more (n=48)	-	38% (n=21)	34% (n=13)	16% (n=6)	3% (n=1)	21% (n=7)	-

Almost three-quarters of respondents (74%, n=165/222) considered that the length of wait was either too long (37%, n=81) or far too long (38%, n=84) whilst all but one of the remaining respondents considered it to be about right (25%, n=56). Cross-tabulation by year

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=4), Chi,  $p=0.000$  (n=213); with removal of the "Other" category from the year of qualification (n=4) and the option "Within two weeks" (n=7), Chi,  $p=0.000$  (n=206); with removal of the "Other" category (n=4) and "2008" (n=19) from the year of qualification and the option "Within two weeks" (n=7), Chi,  $p=0.000$  (n=189).

of qualification indicated statistically significant differences between the years (n=221, Chi,  $\rho=0.003$ )<sup>a</sup>. These differences are summarised in Table 136 below.

**Table 136: Views of respondents on the length of wait after the pre-registration examination until the publication of the results by year of qualification (n=221)**

What is your view on the length of time between the pre-registration examination and the publication of the results? (n=221)	2008 (n=19)	2007 (n=56)	2006 (n=39)	2005 (n=37)	2004 (n=31)	2003 (n=35)	Other (n=4)
<b>Far too long (n=84)</b>	21% (n=4)	55% (n=31)	51% (n=20)	32% (n=12)	26% (n=8)	26% (n=9)	-
<b>Too long (n=80)</b>	26% (n=5)	29% (n=16)	33% (n=13)	32% (n=12)	39% (n=12)	54% (n=19)	75% (n=3)
<b>About right (n=56)</b>	47% (n=9)	16% (n=9)	15% (n=6)	35% (n=13)	36% (n=11)	20% (n=7)	25% (n=1)
<b>Too short (n=1)</b>	5% (n=1)	-	-	-	-	-	-

Table 137 shows the length of wait reported by respondents between the publication of the results of the pre-registration examination and the processing of their application for registration as a pharmacist with the PSI. Almost half of all respondents (48%, n=101/212) were registered within two weeks of the examination result being published and only 12% (n=26) had to wait more than four weeks. However, over half of the respondents (58%, n=128/221) considered that the wait was either too long (37%, n=81) or far too long (21%, n=47) with 41% (n=91) considering it to be about right and only 1% (n=2) considering it to be too short.

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=4), Chi,  $\rho=0.002$  (n=217); with removal of the “Other” category from the year of qualification (n=4) and the option “Too short” (n=1), Chi,  $\rho=0.004$  (n=216) ; with removal of the “Other” category (n=4) and “2008” (n=19) from the year of qualification and the option “Too short” (n=1), Chi,  $\rho=0.013$  (n=198).

**Table 137: Length of wait between release of pre-registration examination results and processing of application for registration (n=212)**

How long did you have to wait after the publication of the results from the pre-registration examination before your application for registration was processed (i.e. you were registered and able to practise as a pharmacist)?	Frequency	Percent
Within one week.	39	18
More than one week but within two weeks	62	29
More than two weeks but within three weeks.	59	28
More than three weeks but within four weeks.	26	12
More than four weeks.	26	12

Cross-tabulation of these data by year of qualification (see Table 138 and Table 139) indicated a significant difference between the years in both cases (i.e. publication of results and processing of application for registration; n=211, Chi,  $\rho=0.008$  and n=220, Chi,  $\rho=0.041$  respectively)<sup>a</sup>. However, further cross-tabulation with the removal of the option 2008<sup>b</sup> indicated that the differences between the years were being caused by these respondents.

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=4), Chi,  $\rho=0.004$  (n=207) and Chi,  $\rho=0.027$  (n=216) respectively; with removal of the "Other" category from the year of qualification and the "Too short" option from the second question (n=2), Chi,  $\rho=0.020$  (n=214).

<sup>b</sup> With removal of the "Other" category (n=4) and "2008" (n=19) from the year of qualification, Chi,  $\rho=0.359$  (n=188) and Chi,  $\rho=0.126$  (n=197) respectively.



**Table 138: Length of wait between release of pre-registration examination results and processing of application for registration by year of qualification (n=211)**

How long did you have to wait after the publication of the results from the pre-registration examination before your application for registration was processed (i.e. you were registered and able to practise as a pharmacist) (n=211)?	2008 (n=19)	2007 (n=56)	2006 (n=38)	2005 (n=37)	2004 (n=29)	2003 (n=28)	Other (n=4)
<b>Within one week (n=39)</b>	-	21% (n=12)	29% (n=11)	8% (n=3)	17% (n=5)	29% (n=8)	-
<b>More than one week but within two weeks (n=62)</b>	-	25% (n=14)	32% (n=12)	49% (n=18)	38% (n=11)	21% (n=6)	25% (n=1)
<b>More than two weeks but within three weeks (n=58)</b>	42% (n=8)	27% (n=15)	29% (n=11)	22% (n=8)	28% (n=8)	21% (n=6)	50% (n=2)
<b>More than three weeks but within four weeks (n=26)</b>	37% (n=7)	11% (n=6)	5% (n=2)	11% (n=4)	14% (n=4)	11% (n=3)	-
<b>Four weeks or more (n=26)</b>	21% (n=4)	16% (n=9)	5% (n=2)	11% (n=4)	3% (n=1)	18% (n=5)	25% (n=1)

**Table 139: Views of respondents on the length of wait between release of pre-registration examination results and processing of application for registration by year of qualification (n=220)**

What is your view on the length of time between the publication of the results from the pre-registration examination and when your application for registration was processed (n=220)?	2008 (n=19)	2007 (n=55)	2006 (n=39)	2005 (n=37)	2004 (n=32)	2003 (n=34)	Other (n=4)
<b>Far too long (n=46)</b>	47% (n=9)	31% (n=17)	23% (n=9)	14% (n=5)	6% (n=2)	12% (n=4)	-
<b>Too long (n=81)</b>	37% (n=7)	29% (n=16)	33% (n=13)	41% (n=15)	50% (n=16)	38% (n=13)	25% (n=1)
<b>About right (n=91)</b>	16% (n=3)	36% (n=20)	44% (n=17)	46% (n=17)	44% (n=14)	50% (n=17)	75% (n=3)
<b>Too short (n=2)</b>	-	4% (n=2)	-	-	-	-	-

Comments from the questionnaire on the length of time it took for the results to be published included:

*“It should not take six weeks for the results of the forensic exam to be notified to applicants- this is a ridiculous time frame in this age.”* (Pre-registration student questionnaire respondent)

#### 4.3.2.7 The pre-registration assessment process

Respondents were asked to indicate their agreement with statements about elements of the pre-registration assessment process. There was a similar profile of responses in relation to the two statements that (a) the open book assessments and (b) the licence examination were useful parts of the overall assessment process (see Table 140 below). In both cases around 70% of respondents either strongly agreed or agreed with these statements. A similar percentage of respondents either strongly agreed or agreed that the forensic pharmacy course prepared them for the licence examination. For all three questions, cross-tabulation showed no significant differences in the responses from students qualifying in different years (n=270, Chi,  $\rho=0.098$ ; n=271, Chi,  $\rho=0.543$  and n=271, Chi,  $\rho=0.609$  respectively)<sup>a</sup>.

**Table 140: Agreement with statements about the pre-registration assessment process**

Statement	Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree
The open book assessments were a useful part of the pre-registration training process (n=275)	14% (n=38)	56% (n=153)	15% (n=40)	11% (n=30)	5% (n=14)
The licence examination (Final Forensic Examination) was a useful part of the pre-registration training process (n=275)	16% (n=44)	55% (n=151)	10% (n=28)	15% (n=40)	4% (n=12)
The forensic pharmacy course prepared me for the licence examination (n=270) <sup>b</sup>	21% (n=57)	50% (n=136)	15% (n=40)	10% (n=26)	4% (n=11)

Cross-tabulation of all three statements with the respondents’ sector(s) of pre-registration employment (n=273, Chi,  $\rho=0.050$ ; n=273, Chi,  $\rho=0.103$ ; n=273, Chi,  $\rho=0.009$ ) indicated significant differences in the profile of responses for the first and third statement. However, further cross-tabulation with the exclusion of split-sector positions (n=28) only indicated a

<sup>a</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.042$  (n=265), Chi,  $\rho=0.407$  (n=266) and Chi,  $\rho=0.443$  (n=266) respectively. Therefore, removal of the “Other” category did indicate a slight statistically significant difference between the respondents answer to the question “The open book assessments were a useful part of the pre-registration training process” and the respondents’ year of qualification.

<sup>b</sup> In addition, five respondents stated that they had not undertaken the forensic pharmacy course.

significant difference for the third statement (n=245, Chi,  $\rho=0.072$ ; n=245, Chi,  $\rho=0.339$ ; n=245, Chi,  $\rho=0.007$ )<sup>a</sup>; see Table 141.

**Table 141: Agreement with the statement “The forensic pharmacy course prepared me for the licence examination” by sector (community or hospital) of pre-registration employment**

The forensic pharmacy course prepared me for the licence examination (n=245)	Strongly Agree (n=52)	Agree (n=124)	Neither Agree nor disagree (n=35)	Disagree (n=21)	Strongly Disagree (n=11)
Community pharmacy (n=174) <sup>b</sup>	20% (n=35)	55% (n=96)	16% (n=27)	5% (n=9)	3% (n=5)
Hospital pharmacy (n=71)	24% (n=17)	39% (n=28)	11% (n=8)	17% (n=12)	9% (n=6)

A majority of respondents (83%, n=228/276) stated they had undertaken a research project within their pre-registration year. Cross-tabulation with year of qualification (n=272) indicated a significant difference (Chi,  $\rho=0.000$ )<sup>c</sup> between the respondents due to qualify in 2008 who stated they did undertake a project as part of their pre-registration year (32%, n=20) compared to the other years (2007, 98% (n=57); 2006, 100% (n=27); 2005, 100% (n=37); 2004, 100% (n=32); 2003, 98% (n=38) and Other, 100% (n=5)). Of this group, 91% (n=207/227) indicated that they were required to undertake the project by the PSI. Unsurprisingly, cross-tabular analysis with year of qualification (n=227) indicated a significant difference (Chi,  $\rho=0.000$ )<sup>d</sup> between the respondents due to qualify in 2008 who stated they were required to undertake a project by the PSI (5%, n=1) compared to the other years (2007, 98% (n=56); 2006, 100% (n=38); 2005, 100% (n=37); 2004, 100% (n=32); 2003, 100% (n=38) and Other, 100% (n=5)).

When asked whether their named pre-registration tutor had the appropriate research skills to effectively supervise the project, just over half of the respondents (53%, n=121/228) either strongly agreed (23%, n=52) or agreed (30%, n=69) whereas 34% (n=78) either strongly disagreed (10%, n=23) or disagreed (24%, n=55).

Cross-tabulation of these data by year of qualification (n=228) indicated a significant difference in the responses (Chi,  $\rho=0.033$ )<sup>e</sup>. This difference is summarised in Table 142 below. Further cross-tabulation by year of qualification with the removal of the options “2008” (n=20; as this year did not contain a compulsory project) and “Other” (n=5) from the

<sup>a</sup> With removal of the “I did not do it” option (n=2), Chi,  $\rho=0.005$  (n=243).

<sup>b</sup> In addition, two respondents stated that they had not undertaken the forensic pharmacy course.

<sup>c</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.000$  (n=267).

<sup>d</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.000$  (n=222).

<sup>e</sup> With removal of the “Other” category from the year of qualification (n=5), Chi,  $\rho=0.016$  (n=223); with removal of the “Other” category from the year of qualification and the option “Strongly disagree” (n=23), Chi,  $\rho=0.069$  (n=200).

year of qualification also demonstrated statistically significant differences (n=203, Chi,  $\rho=0.027$ ).

**Table 142: The view of respondents as to whether their pre-registration tutor had the appropriate research skills to effectively supervise the project by year of qualification**

How strongly do you agree or disagree with the sentence “My named pre-registration tutor had the appropriate research skills to effectively supervise the project” (n=228)?	Year of qualification						
	2008 <sup>a</sup> (n=20)	2007 (n=57)	2006 (n=39)	2005 (n=37)	2004 (n=32)	2003 (n=38)	Other (n=5)
<b>Strongly agree (n=52)</b>	40% (n=8)	18% (n=10)	21% (n=8)	14% (n=5)	38% (n=12)	18% (n=7)	40% (n=2)
<b>Agree (n=69)</b>	25% (n=5)	40% (n=23)	28% (n=11)	27% (n=10)	19% (n=6)	32% (n=12)	40% (n=2)
<b>Neither agree nor disagree (n=29)</b>	20% (n=4)	7% (n=4)	15% (n=6)	22% (n=8)	3% (n=1)	16% (n=6)	-
<b>Disagree (n=55)</b>	15% (n=3)	14% (n=8)	28% (n=11)	30% (n=11)	38% (n=12)	24% (n=9)	20% (n=1)
<b>Strongly disagree (n=23)</b>	-	21% (n=12)	8% (n=3)	8% (n=3)	3% (n=1)	11% (n=4)	-

Further cross-tabulation by the respondents’ sector(s) of pre-registration employment did indicate significant differences (n=226, Chi,  $\rho=0.000$ )<sup>b</sup> between the sectors (see Table 143 below).

<sup>a</sup> Included for completeness; although respondents in this year were not required to undertake a project by the PSI (see above).

<sup>b</sup> Removal of the split pre-registration year options (n=23) (i.e. cross-tabulation with only community and hospital one-year positions); n=203 Chi,  $\rho=0.000$ .

**Table 143: The view of respondents as to whether their pre-registration tutor had the appropriate research skills to effectively supervise the project by pre-registration sector(s)**

How strongly do you agree or disagree with the sentence “My named pre-registration tutor had the appropriate research skills to effectively supervise the project” (n=226)?	Level of agreement				
	Strongly agree (n=52)	Agree (n=68)	Neither agree nor disagree (n=29)	Disagree (n=54)	Strongly disagree (n=23)
Entirely within community pharmacy (n=138)	10% (n=14)	30% (n=42)	15% (n=20)	31% (n=43)	14% (n=19)
Entirely within hospital pharmacy (n=65)	51% (n=33)	29% (n=19)	9% (n=6)	9% (n=6)	2% (n=1)
A split position between community and hospital pharmacy (n=5)	20% (n=1)	60% (n=3)	-	20% (n=1)	-
A split position between community and industry (n=15)	27% (n=4)	20% (n=3)	20% (n=3)	20% (n=3)	13% (n=2)
A split position between hospital and industry (n=2)	-	50% (n=1)	-	-	50% (n=1)
A split position between community and a school of pharmacy (n=1)	-	-	-	100% (n=1)	-

Respondents were more positive about whether their pharmacy undergraduate degree course prepared them to undertake the pre-registration project. Three-quarters of respondents (75%, n=171/228) either strongly agreed (24%, n=55) or agreed (51%, n=116) that this was the case and only 12%, (n=27) disagreed (9%, n=21) or strongly disagreed (3%, n=6) (13% (n=30) neither agreed nor disagreed). Cross-tabulation with year of registration indicated a slight but not statistically significant difference (n=228, Chi,  $\rho=0.055$ ); however, removal of the “other” category (n=5) from the year of qualification (see Table 144) did indicate a significant statistical difference between the years (n=223, Chi,  $\rho=0.020$ )<sup>a</sup>. Additional cross-tabular analysis by the school of pharmacy attended or respondents’ sector(s) of pre-registration employment did not show any differences (n=228, Chi,  $\rho=0.147$  and n=226, Chi,  $\rho=0.078$  respectively)<sup>b</sup>.

<sup>a</sup> With removal of the “Strongly disagree” option (n=6), Chi,  $\rho=0.020$  (n=217); with removal of the “Strongly disagree” option (n=6) and the “Disagree” option (n=21), Chi,  $\rho=0.143$  (n=197).

<sup>b</sup> Removal of the split pre-registration year options (n=23) (i.e. cross-tabulation with only community and hospital one-year positions); n=203 Chi,  $\rho=0.187$ .

**Table 144: The view of respondents as to whether their pharmacy degree course had provided the necessary skills and knowledge to undertake the pre-registration project by year of qualification**

How strongly do you agree or disagree with the sentence: "My pharmacy degree course provided me with the necessary skills and knowledge to undertake the pre-registration project" (n=223)?	Year of qualification					
	2008 (n=20)	2007 (n=57)	2006 (n=39)	2005 (n=37)	2004 (n=32)	2003 (n=38)
<b>Strongly agree (n=54)</b>	50% (n=10)	26% (n=15)	26% (n=10)	16% (n=6)	16% (n=5)	21% (n=8)
<b>Agree (n=114)</b>	35% (n=7)	58% (n=33)	51% (n=20)	65% (n=24)	47% (n=15)	40% (n=15)
<b>Neither agree nor disagree (n=29)</b>	5% (n=1)	9% (n=5)	13% (n=5)	14% (n=5)	16% (n=5)	21% (n=8)
<b>Disagree (n=20)</b>	10% (n=2)	-	8% (n=3)	5% (n=2)	19% (n=6)	18% (n=7)
<b>Strongly disagree (n=6)</b>	-	7% (n=4)	3% (n=1)	-	3% (n=1)	-

Just over a half of all respondents (53%, n=120/228) agreed (36%, n=81) or strongly agreed (17%, n=39) that undertaking a project as part of the pre-registration training process was a useful part of their professional development as a pharmacist. Just over a third (36%, n=82) either disagreed (22%, n=50) or strongly disagreed (14%, n=32) with this statement and the remaining 11% (n=26) had no strong views either way. Cross-tabular analysis by year of qualification (n=228, Chi,  $p=0.111$ )<sup>a</sup>, gender (n=228, Chi,  $p=0.726$ ) or school of pharmacy (n=228, Chi,  $p=0.740$ ) did not highlight any significant statistical differences. Cross-tabulation by respondents' sector(s) of pre-registration employment (n=226, Chi,  $p=0.001$ )<sup>b</sup> did show significant differences (see Table 145).

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $p=0.075$  (n=223).

<sup>b</sup> Removal of the split pre-registration year options (n=23) (i.e. cross-tabulation with only community and hospital one-year positions); n=203 Chi,  $p=0.000$ .

**Table 145: The view of respondents as to whether undertaking a project as part of the pre-registration training process was a useful part of their professional development as a pharmacist by pre-registration sector(s)**

“I feel that undertaking a project as part of the pre-registration training process was a useful part of my professional development as a pharmacist” (n=226)?	Level of agreement				
	Strongly agree (n=39)	Agree (n=80)	Neither agree nor disagree (n=26)	Disagree (n=49)	Strongly disagree (n=32)
Entirely within community pharmacy (n=138)	9% (n=12)	30% (n=41)	14% (n=19)	28% (n=38)	20% (n=28)
Entirely within hospital pharmacy (n=65)	34% (n=22)	48% (n=31)	6% (n=4)	9% (n=6)	3% (n=2)
A split position between community and hospital pharmacy (n=5)	20% (n=1)	40% (n=2)	-	40% (n=2)	-
A split position between community and industry (n=15)	27% (n=4)	27% (n=4)	20% (n=3)	13% (n=2)	13% (n=2)
A split position between hospital and industry (n=2)	-	50% (n=1)	-	50% (n=1)	-
A split position between community and a school of pharmacy (n=1)	-	100% (n=1)	-	-	-

Comments from the questionnaires on the assessment processes within the pre-registration year included:

*“It would be useful to have assessments in clinical/practice of pharmacy area rather than just legal (forensics) assessment.”* (Pre-registration student questionnaire respondent)

*“The forensic pharmacy course is not very useful in preparing students for the exam. The exam itself is an exercise in deciphering questions as well as understanding pharmacy law. The course should provide more practical examples and more opportunity for understanding the material rather than an exercise in learning off manuals. Case study style examples would make the material clearer and more useful for future practice. There is a lack of standard practice between different placements and it seems unfair that some students gain a much broader teaching and practical experience depending on the institution they are working in”.* (Pre-registration student questionnaire respondent)

#### 4.3.2.8 An overall impression of the pre-registration year

Respondents were positive about their overall pre-registration experience. Over three-quarters (78%, n=212/272) either strongly agreed (22%, n=60) or agreed (56%, n=152) that the pre-registration training had enabled them to develop the knowledge, skills and overall

competencies required for future independent practice as a pharmacist. Only 12% of respondents (n=33) either disagreed (10%, n=27) or strongly disagreed (2%, n=6) while 10% (n=27) neither agreed nor disagreed. A substantial majority of respondents also enjoyed their pre-registration year. Over 80% (81%, n=220/272) either strongly agreed (28%, n=75) or agreed (53%, n=145) with this view whilst 8% (n=20) either disagreed (6%, n=15) or strongly disagreed (2%, n=5). These results are summarised in Table 146.

**Table 146: Agreement with statements about the overall pre-registration experience**

Statement	Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree
Taking everything into consideration I feel that my pre-registration training enabled me to develop the knowledge, skills and overall competencies required for future independent practice as a pharmacist (n=272)	22% (n=60)	56% (n=152)	10% (n=27)	10% (n=27)	2% (n=6)
Overall, I enjoyed my pre-registration year (n=272)	28% (n=75)	53% (n=145)	12% (n=32)	6% (n=15)	2% (n=5)

Cross tabulation for both questions by gender (n=272, Chi,  $\rho=0.841$  and n=272, Chi,  $\rho=0.003$ ), school of pharmacy attended (n=270, Chi,  $\rho=0.723$  and n=270, Chi,  $\rho=0.134$ ) and year of qualification (n=270, Chi,  $\rho=0.945$  and n=270, Chi,  $\rho=0.339$ )<sup>a</sup> showed a significant difference in the stated levels of enjoyment of the pre-registration year by gender (see Table 147)<sup>b</sup>.

**Table 147: Respondents' stated level of enjoyment of the pre-registration year by gender (n=272)**

Overall, I enjoyed my pre-registration year (n=272)	Female (n=215)	Male (n=57)
Strongly agree (n=75)	28% (n=60)	26% (n=15)
Agree (n=145)	57% (n=123)	39% (n=22)
Neither agree nor disagree (n=32)	10% (n=21)	19% (n=11)
Disagree (n=15)	3% (n=7)	14% (n=8)
Strongly disagree (n=5)	2% (n=4)	2% (n=1)

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.885$  (n=265) and Chi,  $\rho=0.443$  (n=265) respectively.

<sup>b</sup> With removal of the option "Strongly disagree" (n=5), Chi,  $\rho=0.001$  (n=267).



Further cross-tabulation by respondents' sector(s) of pre-registration employment for both questions indicated a significant difference for the first question (n=270, Chi,  $\rho=0.001$ ), but not the second (n=270, Chi,  $\rho=0.199$ ), although any significance is not present when the split-sector pre-registration positions are removed (n=242, Chi,  $\rho=0.236$  and n=243, Chi,  $\rho=0.251$  respectively).

There was also a high level of satisfaction with both employers and the sector in which respondents undertook their pre-registration year. In both cases, less than 20% of respondents agreed or strongly agreed that they would have liked to work for a different employer or in a different pharmacy sector. These findings are summarised in Table 148 below.

**Table 148: Agreement with statements about pre-registration employer and sector (n=128)**

Statement	Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree
I wish I had undertaken a pre-registration position with a different employer (n=274).	6% (n=16)	10% (n=27)	15% (n=40)	37% (n=102)	33% (n=89)
I wish I had undertaken a pre-registration position within a different sector (n=274).	3% (n=8)	14% (n=39)	15% (n=42)	38% (n=104)	30% (n=81)

Cross tabulation for both questions by gender (n=274, Chi,  $\rho=0.041$  and n=274, Chi,  $\rho=0.303$ ), school of pharmacy attended (n=272, Chi,  $\rho=0.203$  and n=272, Chi,  $\rho=0.336$ ) and year of qualification (n=272, Chi,  $\rho=0.337$  and n=272, Chi,  $\rho=0.769$ )<sup>a</sup> showed a significant difference in whether a respondent wished they had undertaken a pre-registration position with a different employer by gender (see Table 149).

<sup>a</sup> With removal of the "Other" category from the year of qualification (n=5), Chi,  $\rho=0.325$  (n=267) and Chi,  $\rho=0.771$  (n=267) respectively.

**Table 149: Respondents’ level of agreement with the statement “I wish I had undertaken a pre-registration position with a different employer” by gender (n=274)**

I wish I had undertaken a pre-registration position with a different employer (n=274)	Female (n=217)	Male (n=57)
Strongly agree (n=16)	5% (n=11)	9% (n=5)
Agree (n=27)	12% (n=25)	4% (n=2)
Neither agree nor disagree (n=40)	12% (n=26)	25% (n=14)
Disagree (n=102)	40% (n=85)	30% (n=17)
Strongly disagree (n=89)	32% (n=70)	33% (n=19)

Cross-tabulation by respondents’ sector(s) of pre-registration employment for both questions indicated significant differences in both cases (n=272, Chi,  $\rho=0.004$  and n=272, Chi,  $\rho=0.001$ )<sup>a</sup>, although any significance with the first statement is lost when the split-sector pre-registration positions (n=28) are removed (n=244, Chi,  $\rho=0.292$  and n=244, Chi,  $\rho=0.000$  respectively)<sup>b</sup>, see Table 150 below.

**Table 150: Respondents’ level of agreement with the statement “I wish I had undertaken a pre-registration position within a different sector” by pre-registration sector (community or hospital) (n=244)**

I wish I had undertaken a pre-registration position within a different sector (n=244)	Entirely within community pharmacy (n=174)	Entirely within hospital pharmacy (n=70)
Strongly agree (n=8)	5% (n=8)	-
Agree (n=34)	18% (n=32)	3% (n=2)
Neither agree nor disagree (n=40)	18% (n=32)	11% (n=8)
Disagree (n=89)	36% (n=63)	37% (n=26)
Strongly disagree (n=73)	22% (n=39)	49% (n=34)

Comments from the questionnaires on the overall pre-registration year experience included:

*“For my part the pre-reg year was great. It was hard challenging and extremely rewarding. I had my ups and downs but that was to be expected. I was however lucky. I got a position with a very good hospital, just as I wanted. Some of my fellow pre-reg*

<sup>a</sup> Removal of the split pre-registration year options (n=28) (i.e. cross-tabulation with only community and hospital one-year positions); n=203 Chi,  $\rho=0.000$ .

<sup>b</sup> With removal of the option “Strongly agree” for the second question (n=8), Chi,  $\rho=0.000$  (n=236).

*pharmacists were however not so lucky, I heard a lot of stories about employers that were off the hook and pre-reg students having to clean windows and floors and nothing else. I think there's a huge challenge in finding appropriate placements for pre-reg pharmacists and the PSI should have controlled both placements and tutors to a far greater degree than they did. As there is a lack of placements compared to students I think it might be wise to split up the pre-reg year, integrate it with the degree and also make it compulsory to do some time in community hospital and industry. In this way the system would be more fair and this would take the pressure off the employers as well. The way it is today you're basically applying for a job with little or no support from neither college nor PSI." (Pre-registration student questionnaire respondent)*

## **4.4 The views of the pre-registration tutors**

### **4.4.1 Methodology**

#### **4.4.1.1 Questionnaire design and collation of contact details**

Using initial results from Part two, section 4.2, a pre-registration tutor self-completion questionnaire was designed by members of the project team and circulated to the Project Steering Group for comment. Following amendment, a pilot was undertaken using representatives from Aston University (all of whom were registered pharmacists within Great Britain). Minor changes to the wording of some questions were made before distribution to the sample individuals by post. A copy of the final questionnaire can be found in Part three, section A3.5.

Full postal addresses were available via the PSI's register for all individuals listed on the PSI's list of pre-registration tutors. A total of 1044 individuals were identified by the Education Projects Co-ordinator at the PSI. A total of 20 individuals were removed from the database before the questionnaires were posted as their postal addresses were outside Ireland. Paper questionnaires were distributed to all remaining 1024 individuals.

#### **4.4.1.2 Response rate**

As discussed above, the PSI provided the name and postal address details of all pharmacists who appeared on the list of pre-registration tutors. This totalled 1044 individuals. Twenty individuals were removed from the database as they had postal addresses outside Ireland leaving a total pool of 1022 individuals.

The first mailing resulted in a total of 208 returns and an additional 49 respondents indicated by return of e-mail or annotation of the returned questionnaire that they had not recently or ever tutored a pre-registration student. This provided a response rate of 21.3% at this point.

Owing to the potential significant numbers of pharmacists appearing on the tutor list who may be excluded from the study (as they only tutored prior to the study timeframe or had never tutored a pre-registration student) a covering letter was provided with the second

mailing allowing respondents to simply tick a box and return the letter in the pre-paid envelope to opt out of the study.

By the end of the second mailing a total of 256 valid returns (48 additional returns) had been received and 149 respondents had opted out of the study giving a response rate of 29.3%. This process was repeated for the third mailing which provided a total of 282 valid returns (26 additional returns) and 192 respondents had opted out; a response rate of 34.0%.

However, it was apparent that there were significantly more individuals on the original tutor list who had only tutored prior to the study timeframe or had never tutored a pre-registration student. Therefore, the PSI was asked for a list of tutors who had supervised a pre-registration student over the timeframe of the study (i.e. from 2002/2003 to 2007/2008 inclusive). A second list of 318 pre-registration tutors was supplied and this was matched with the original survey database. Of these 318 individuals, 21 did not appear on the original database, leaving an active pool of 297.

Of the 297 active tutors on the original database, 143 returned the questionnaire giving an active final response rate for this study of 48.1%.

Cross-tabular analysis was achieved using SPSS v16 and statistical evaluation undertaken using the Chi-squared statistical test. Significance was taken to be where  $p \leq 0.050$ . Where appropriate, cross-tabular analysis was undertaken comparing the results against the sector of pharmacy when the respondent last acted as a pre-registration tutor. Additional cross-tabular analysis is reported with the removal of the “Industrial pharmacy” and “Other pharmacy” categories owing to its low number of respondents. In addition some data are also reported by the academic year(s) the respondent supervised a pre-registration student.

#### **4.4.2 Findings**

##### **4.4.2.1 Demographics of respondents**

Of the 139 individuals who provided an answer to the question regarding their gender, 62% (n=86) were female. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=139, Chi,  $p=0.000$ )<sup>a</sup> did show differences, which are highlighted in Table 151 below.

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<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=4) and “Other pharmacy” (n=2); Chi,  $p=0.000$  (n=133).

**Table 151: Sector of pharmacy the respondents last supervised a pre-registration student by gender**

Sector (n=139)	Female (n=86)	Male (n=53)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	20% (n=17)	11% (n=6)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	15% (n=13)	6% (n=3)
Community pharmacy independent (5 outlets or less) (n=58)	27% (n=23)	66% (n=35)
Hospital pharmacy (n=36)	31% (n=27)	17% (n=9)
Industrial pharmacy (n=4)	4% (n=4)	-
Other pharmacy (n=2)	2% (n=2)	-

A majority of the tutors were in the 30-39 age range (53%, n=74/140) with the remaining tutors distributing into the other bands as follows: 25-29, 6% (n=8); 40-49, 26% (n=36); 50-59, 14% (n=20); 60-69, 1% (n=1); and 70 or older, 1% (n=1). Cross-tabulation with the academic year(s) the respondent acted as a tutor gave the following distribution of data (see Table 152), showing fairly consistent percentage of tutors from each age group over the duration of the study. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $\rho=0.809$ )<sup>a</sup> did not show any statistical differences.

<sup>a</sup> With removal of the "60-69" (n=1) and "70 or older" (n=1) options; Chi,  $\rho=0.398$  (n=138).

**Table 152: Age group distribution of tutors within each academic year<sup>a</sup>**

	Age group					
	25-29 (n=8)	30-39 (n=74)	40-49 (n=36)	50-59 (n=20)	69-69 (n=1)	70+ (n=1)
2002/2003 academic year (n=46/140)	-	48% (n=22)	26% (n=12)	22% (n=10)	2% (n=1)	2% (n=1)
2003/2004 academic year (n=42/140)	-	48% (n=20)	26% (n=11)	24% (n=10)	-	2% (n=1)
2004/2005 academic year (n=43/140)	-	51% (n=22)	19% (n=8)	28% (n=12)	-	2% (n=1)
2005/2006 academic year (n=60/140)	3% (n=2)	47% (n=28)	25% (n=15)	23% (n=14)	-	2% (n=1)
2006/2007 academic year (n=73/140)	6% (n=4)	45% (n=33)	25% (n=18)	23% (n=17)	-	1% (n=1)
2007/2008 academic year (n=81/140)	6% (n=5)	51% (n=41)	22% (n=18)	19% (n=15)	1% (n=1)	1% (n=1)
OVERALL (n=140)	6% (n=8)	53% (n=74)	26% (n=36)	14% (n=20)	1% (n=1)	1% (n=1)

A majority of the tutors had been on the PSI's register between 11 and 20 years (40%, n=56/140) with the remainder having been on the PSI's register between 0 and 5 years, 9% (n=12); between 6 and 10 years, 27% (n=38); between 21 and 30 years, 14% (n=20); between 31 and 40 years, 9% (n=13); and 41 years or longer, 1% (n=1). Cross-tabulation with the academic year(s) the respondent acted as a tutor gave the following distribution of data (see Table 153), showing reasonably consistent percentage of tutors from each group over the duration of the study. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $\rho=0.272$ )<sup>b</sup> did not show any statistical differences.

<sup>a</sup> Percentage values are per academic year.

<sup>b</sup> With removal of the "41 or more" (n=1) option and the options, "Industrial pharmacy" (n=5) and "Other pharmacy" (n=2), Chi,  $\rho=0.108$  (n=132).

**Table 153: Distribution of respondents between the different groups by time on the PSI register for each academic year<sup>a</sup>**

	Number of years on the PSI register					
	0-5 (n=12)	6-10 (n=38)	11-20 (n=56)	21-30 (n=20)	31-40 (n=13)	40+ (n=1)
2002/2003 academic year (n=46/140)	2% (n=1)	15% (n=7)	48% (n=22)	15% (n=7)	17% (n=8)	2% (n=1)
2003/2004 academic year (n=42/140)	2% (n=1)	19% (n=8)	45% (n=19)	14% (n=6)	17% (n=7)	2% (n=1)
2004/2005 academic year (n=43/140)	2% (n=1)	26% (n=11)	40% (n=17)	12% (n=5)	19% (n=8)	2% (n=1)
2005/2006 academic year (n=60/140)	-	28% (n=17)	40% (n=24)	15% (n=9)	15% (n=9)	2% (n=1)
2006/2007 academic year (n=73/140)	6% (n=4)	29% (n=21)	33% (n=24)	18% (n=13)	14% (n=10)	1% (n=1)
2007/2008 academic year (n=81/140)	11% (n=9)	26% (n=21)	38% (n=31)	11% (n=9)	12% (n=10)	1% (n=1)
OVERALL (n=140)	9% (n=12)	27% (n=38)	40% (n=56)	14% (n=20)	9% (n=13)	1% (n=1)

A majority studied for their pharmacy degree within Ireland (66%, n=87/132) with 32% (n=42) studying within the EU/EEA (except Ireland) and the remainder (2%, n=3) studying outside the EU/EEA. Similar figures were found when respondents were asked whether they undertook their pre-registration training (within Ireland, 68%, n=90/132; within the EU/EEA (except Ireland), 30%, n=40; outside the EU/EEA, 2%, n=2). Cross-tabulation between these two questions (n=132, Chi,  $p=0.000$ ) indicated that respondents were most likely to undertake their pre-registration training in the area (based on these three options) where they studied for their pharmacy degree (see Table 154).

<sup>a</sup> Percentage values are per academic year.

**Table 154: A comparison between where respondents undertook their pre-registration training compared to where they studied for their pharmacy degree<sup>a</sup>**

Where did you study for your pharmacy degree (n=132)?	Where did you undertake your pre-registration training?		
	Within Ireland (n=90)	Within the EU/EEA (except Ireland) (n=40)	Outside the EU/EEA (n=2)
Within Ireland (n=87)	96% (n=86)	3% (n=1)	-
Within the EU/EEA (except Ireland) (n=42)	3% (n=3)	98% (n=39)	-
Outside the EU/EEA (n=3)	1% (n=1)	-	100% (n=2)

Most tutors who responded to the survey worked in community pharmacy at the time the survey was conducted (63%, n=90)<sup>b</sup>. This splits into 14% (n=20) in a multiple or large chain (more than 20 outlets), 13% (n=19) in a small chain (20 outlets or less but more than 5) and 39% (n=55) in an independent community pharmacy (5 outlets or less). A quarter (25%, n=36) of respondents stated they worked in hospital pharmacy, 4% (n=5) in industrial pharmacy and 4% (n=6) in another area of pharmacy (respondents were able to indicate more than one area of current practice). When asked which sectors of the profession the respondents had worked in since qualification, again community pharmacy provided the greatest response with 62% (n=88)<sup>c</sup> stating they had worked in community pharmacy at some time since qualification. This splits into 18% (n=26) in a multiple or large chain (more than 20 outlets), 19% (n=27) in a small chain (20 outlets or less but more than 5) and 43% (n=62) in an independent community pharmacy (5 outlets or less). Just over a quarter (27%, n=39) respondents stated they had worked in hospital pharmacy, 6% (n=9) in industrial pharmacy and 6% (n=8) in another area of pharmacy (as before, respondents were able to indicate more than one area of current practice).

#### 4.4.2.2 Frequency of tutoring and recruitment of tutees

Respondents were asked to indicate in which years since the 2002/2003 academic year they had acted as a pre-registration tutor (either supervising one or more six-month period(s) or a full twelve-month period). Of the 140 respondents who answered this question<sup>d</sup>, the level of tutoring activity across the six academic years is summarised in Table 155. The level of activity for individual tutors over the six academic years included in the study is summarised in Table 156.

<sup>a</sup> Percentage values are based on where respondents undertook their pre-registration training.

<sup>b</sup> Two respondents stated they currently worked in all three types of community pharmacy.

<sup>c</sup> Twenty-seven respondents stated they had worked in two or three types of community pharmacy.

<sup>d</sup> Although confirmed as valid responses, three respondents did not indicate supervision in any of the six academic years.



**Table 155: Within which of the following academic (pre-registration) years did you supervise a pre-registration student (either for 6 months or for one year)?**

	Year of tutoring					
	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8
<b>Number (n=140)</b>	47	43	44	62	75	83
<b>Percentage</b>	34%	31%	31%	44%	54%	59%

**Table 156: Tutoring activity of respondents**

	Number of years tutoring (2002/3 to 2007/8)					
	One	Two	Three	Four	Five	Six
<b>Number (n=140)</b>	61	25	19	11	2	22
<b>Percentage</b>	44%	18%	14%	8%	1%	16%

Respondents were asked to indicate which sector of pharmacy they were working in when they last supervised a pre-registration student. A majority (69%, n=99) were in community pharmacy. This broke down within the community pharmacy areas to 16% (n=23) in multiple/large chain (more than 20 outlets), 11% (n=16) in small chain (20 outlets or less but more than 5) and 42% (n=60) in independents (5 outlets or less). Hospital pharmacy accounted for 25% (n=36) with industrial pharmacy (4%, n=5) and other pharmacy (2%, n=3) accounting for the remainder.

The tutors' reasons for supervising a pre-registration student were examined<sup>a</sup>. Around two-thirds (66%, n=94) indicated that it was their choice to become involved in pre-registration tutoring. Around a third (33%, n=47) indicated that their employer gave them the option to become involved although 6% (n=9) stated that their employer required them to undertake the role. Upon examination of the selection process<sup>b</sup>, around half of respondents (49%, n=70) were in complete charge of the selection process for their last pre-registration student with around a quarter (27%, n=38) not being involved in the selection and were informed by their employer about the pre-registration student. A summary of the responses to this question is provided in Table 157. All respondents were asked if they felt that the tutor should have input to the selection process. Of the 143 respondents 93% (n=133) indicated that they thought that the tutor should have input to this process. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $p=0.130$ )<sup>c</sup> did not show any statistical differences.

<sup>a</sup> Respondents were able to indicate more than one option so the total will be greater than 100%.

<sup>b</sup> Respondents were able to indicate more than one option so the total will be greater than 100%.

<sup>c</sup> With the removal of the options "Industrial pharmacy" (n=5) and "Other pharmacy" (n=3); Chi,  $p=0.058$  (n=135).

**Table 157: Tutors' involvement in the selection process**

Tutors responses to the question: <i>What was your involvement in the selection of your last pre-registration student?</i> (n=143).	Percentage responses
I was in complete charge of the selection process (i.e. I was the selector) and made the selection decision.	49% (n=70)
I was asked to look at written information about the applicant(s) (e.g. CV, application form) and provide feedback to the selector(s).	5% (n=7)
I met the applicant(s) either formally or informally and provided feedback to the selector(s).	6% (n=8)
I was involved in a formal interview of the prospective applicant(s).	22% (n=32)
I was not involved in selection and was informed by my employer about the pre-registration student.	27% (n=38)

Respondents were asked whether any students they had worked with had stated they have experienced pressure to accept a pre-registration position even though they may have wanted to wait to hear about other applications. Of the 139 responses to this question, almost a quarter (23%, n=32) stated that they had. An even higher proportion (40%, n=57/1142) stated that they had experience of a student accepting a pre-registration position with themselves, only to turn it down at a later point to take up a different position. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=139, Chi,  $\rho=0.681$ ; n=142, Chi,  $\rho=0.206$ )<sup>a</sup> did not show any statistical differences.

#### 4.4.2.3 Preparation for the pre-registration year

Respondents were asked about the level of written information they received about the process of the pre-registration year or their responsibilities from a number of different sources. The results from this part of the survey are summarised in Table 158 below. Cross-tabulation of these questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=133, Chi,  $\rho=0.325$ ; n=136, Chi,  $\rho=0.053$ ; n=124, Chi,  $\rho=0.000$ ; n=125, Chi,  $\rho=0.315$ )<sup>b</sup> showed differences in the respondents' answer to the question gauging the sufficiency of the information from their employer by organisation type. In this case, the percentage of respondents who stated that the amount of information provided by their employer was "About right" varied within the community pharmacy sectors from 55% (n=12) for multiple/large chain (more than 20 outlets), 29% (n=4) in small chain (20 outlets or less but more than 5) and 10% (n=4) in independents (5 outlets or less). Furthermore, almost a half of hospital pharmacy respondents gauged the amount of information as "About right" (44%, n=14).

<sup>a</sup> With the removal of the options "Industrial pharmacy" (n=5) and "Other pharmacy" (n=3); Chi,  $\rho=0.546$  (n=131) and Chi,  $\rho=0.164$  (n=134) respectively.

<sup>b</sup> With the removal of the options "Industrial pharmacy" (n=5) and "Other pharmacy" (n=3); Chi,  $\rho=0.645$  (n=125), Chi,  $\rho=0.209$  (n=128), Chi,  $\rho=0.000$  (n=116) and Chi,  $\rho=0.117$  (n=117) respectively.

**Table 158: The level of written information received by tutors about the process of the pre-registration year or their responsibilities from different sources**

Source	Far too much	Too much	About right	Not enough	Nowhere near enough	Did not receive any
From the PSI prior to the start of the year (n=125)	3% (n=4)	10% (n=13)	34% (n=42)	20% (n=25)	18% (n=23)	14% (n=18)
From the PSI during the course of the year (n=128)	1% (n=1)	2% (n=2)	26% (n=33)	27% (n=35)	20% (n=25)	25% (n=32)
Directly from your Employer (n=78) <sup>a</sup>	-	4% (n=3)	45% (n=35)	13% (n=10)	3% (n=2)	36% (n=28)
From the pre-registration student (n=117)	-	-	32% (n=37)	24% (n=28)	7% (n=8)	38% (n=44)

Respondents were asked about the pre-registration manual provided by the PSI in relation to the last time they supervised a pre-registration student. A majority of respondents (88%, n=126) stated they had a copy of the pre-registration manual provided by the PSI. Of these 126 respondents, 124 offered a response to the question asking how useful they found the manual. Responses were divided with 40% (n=50) found the manual either very useful (7%, n=8) or useful (34%, n=42). Around a quarter of respondents (28%, n=35) found the manual neither useful nor not useful with the remainder either stating that the manual was no that useful (23%, n=29) or not useful at all (8%, n=10). Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.133$ ; n=124, Chi,  $\rho=0.887$ )<sup>b</sup> did not show any statistical differences.

When asked when the pre-registration manual arrived, responses from the 120 individuals who answered this question were split. 23% (n=28) stated that the manual arrived before the pre-registration year started, 37% (n=44) stated that it arrived at the start of the pre-registration year with the remainder (40%, n=48) stating that it arrived after the start of the year. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=120, Chi,  $\rho=0.769$ )<sup>c</sup> did not show any statistical differences.

Respondents were asked how long ago they undertook the PSI tutor’s course. The results are summarised in Table 159 below.

<sup>a</sup> Individuals who were self-employed were asked to respond N/A and excluded from this question (n=38).

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5 and n=3 respectively) and “Other pharmacy” (n=3 and n=2 respectively); Chi,  $\rho=0.325$  (n=135) and Chi,  $\rho=0.821$  (n=119) respectively.

<sup>c</sup> With the removal of the options “Industrial pharmacy” (n=3) and “Other pharmacy” (n=2); Chi,  $\rho=0.912$  (n=115).

**Table 159: How long ago since respondents undertook the PSI tutor’s course**

How long ago did you undertake the PSI tutors’ course?	Within the last year	One to two years ago	Three of five years ago	Six to ten years ago	Longer than ten years ago
<b>Number (n=142)</b>	1	16	43	57	25
<b>Percentage</b>	1%	11%	30%	40%	18%

Respondents were also asked how useful they found the course at the time and how useful the course was in supporting their role as a pre-registration tutor. Results from these two questions are summarised in Table 160 below.

**Table 160: The usefulness of the PSI tutor’s course**

	Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<b>How useful did you find the course at the time (n=142)?</b>	14% (n=20)	49% (n=69)	15% (n=21)	15% (n=21)	8% (n=11)
<b>How useful was the course in supporting your role as a pre-registration tutor (n=143)?</b>	6% (n=8)	42% (n=60)	18% (n=26)	26% (n=37)	8% (n=12)

For all three questions, cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=142, Chi,  $\rho=0.205$ ; n=142, Chi,  $\rho=0.316$ ; n=143, Chi,  $\rho=0.259$ )<sup>a</sup> did not show any statistical differences.

Comments from the tutor questionnaire on the level of support for pre-registration tutors included:

*“Yes, currently I feel there is no support or resource available, so anything would be better than what’s currently not available.”* (Pre-registration tutor questionnaire respondent)

*“There is absolutely no ongoing support for the tutors, which is an obvious gap which needs to be addressed.”* (Pre-registration tutor questionnaire respondent)

*“Information [communication] from PSI throughout the year would be useful rather than having to rely on student to give notification of exams, deadlines etc.”* (Pre-registration tutor questionnaire respondent)

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.112$  (n=134), Chi,  $\rho=0.409$  (n=134) and Chi,  $\rho=0.275$  (n=135) respectively.

Views were sought on whether there should be a compulsory refresher course at the start of each pre-registration year and if so, whether they as a tutor would be prepared to attend. Of the 140 respondents who answered this question, 59% (n=83) stated that there should be a course and that they would be willing to attend. A further 6% (n=8) agreed that there should be a course but they would not themselves be prepared to attend. The remaining 35% (n=49) stated that there should not be one. Respondents were also asked their views as to the length of time a tutor should be able to remain on the tutor list without a refresher course if an annual refresher was not available. The 139 responses to this question are divided as follows: up to two years, 12% (n=17); up to five years, 60% (n=83); and up to ten years 21% (n=29). The remaining 7% (n=10) stated that a refresher course is not needed. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $p=0.931$ ; n=139, Chi,  $p=0.352$ )<sup>a</sup> did not show any statistical differences.

Finally in this section, respondents who were employees were asked if they received any additional training for their role as a pre-registration tutor from their employer and if so, whether this training was sufficient. Of the 97 responses, 34% (n=33) stated that they had received additional training from their employer and that the training was sufficient. This compared to only 4% of respondents (n=4) who stated that they had also received additional training from their employer but that this training was insufficient. The remaining 62% (n=60) stated that they did not receive any additional training from their employer. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor<sup>b</sup> (n=97, Chi,  $p=0.029$ )<sup>c</sup> showed differences between the sectors as shown in Table 161.

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<sup>a</sup> With the removal of the options "Industrial pharmacy" (n=5) and "Other pharmacy" (n=3); Chi,  $p=0.860$  (n=132), and Chi,  $p=0.670$  (n=131) respectively.

<sup>b</sup> With the removal of the "Not applicable" option (n=37).

<sup>c</sup> With the removal of the options "Industrial pharmacy" (n=5) and "Other pharmacy" (n=2); Chi,  $p=0.009$  (n=90).

**Table 161: Sector of pharmacy the respondents last supervised a pre-registration student by sufficiency of pre-registration tutor training from employer**

Sector (n=97)	Sufficient (n=33)	Insufficient (n=4)	Did not receive any (n=60)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	57% (n=13)	4% (n=1)	39% (n=9)
Community pharmacy small chain (20 outlets or less but more than 5) (n=14)	14% (n=2)	14% (n=2)	71% (n=10)
Community pharmacy independent (5 outlets or less) (n=19)	11% (n=2)	-	90% (n=17)
Hospital pharmacy (n=34)	38% (n=13)	3% (n=1)	59% (n=20)
Industrial pharmacy (n=5)	60% (n=3)	-	40% (n=2)
Other pharmacy (n=2)	-	-	100% (n=2)

#### 4.4.2.4 Supervising a pre-registration student

Respondents were asked in relation to their last pre-registration student, how strongly they agreed or disagreed with the sentence: *“The student’s pharmacy degree course provided him/her with the necessary skills and knowledge to undertake the pre-registration year”*. Responses varied from the 141 respondents who answered this question with 55% (n=78) either strongly agreeing (8%, n=11) or agreeing (48%, n=67). 18% (n=25) neither agreed nor disagreed, with 21% (n=29) disagreeing and 6% (n=9) strongly disagreeing. Respondents were also asked the question: *“In relation to your last pre-registration student, do you feel that they had sufficient experience within a practice environment prior to starting their pre-registration year to fully engage with the pre-registration learning experience?”*. Responses were split; of the 141 individuals who answered this question, 53% (n=75) stated they felt that the student did have sufficient experience with 47% (n=66) stating that they didn’t. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=141, Chi,  $\rho=0.162$ ; n=141, Chi,  $\rho=0.166$ )<sup>a</sup> did not show any statistical differences.

Respondents were also asked if they were able to achieve the recommended three full days contact per week with their last pre-registration student. 92% (n=131/142) stated that they were able to achieve this level of contact. When asked their opinion as to the level of their interaction with their last pre-registration student, of the 143 respondents only one respondent (1%) indicated that this interaction was too much. 94% (n=135) indicated that the amount of interaction was about right with the remaining 5% (n=7) stating that it was

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3 and n=2 respectively); Chi,  $\rho=0.573$  (n=133) and Chi,  $\rho=0.217$  (n=134) respectively.

too little. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=142, Chi,  $\rho=0.000$ ; n=143, Chi,  $\rho=0.488$ )<sup>a</sup> showed a statistically significant difference in whether a tutor achieved three full days contact with their pre-registration student based on the sector of pharmacy when the respondent last acted as a pre-registration tutor (see Table 162).

**Table 162: Sector of pharmacy the respondents last supervised a pre-registration student by whether a tutor achieved three full days contact with their pre-registration student**

Sector (n=142)	Did you achieve three full days contact a week with your pre-registration student?	
	Yes (n=131)	No (n=11)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	100% (n=23)	-
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	94% (n=15)	6% (n=1)
Community pharmacy independent (5 outlets or less) (n=60)	98% (n=59)	2% (n=1)
Hospital pharmacy (n=35)	77% (n=27)	23% (n=8)
Industrial pharmacy (n=5)	80% (n=4)	20% (n=1)
Other pharmacy (n=3)	100% (n=3)	-

With regards to their last pre-registration student, nearly three-quarters (72%, n=102/141) were issued with a contract of employment and 99% (n=142/143) were remunerated. In addition to any training provided by the PSI, just over half (51%, n=72/141) of the tutors indicated that their employing organisation had an in-house training programme to support their last pre-registration student. Cross-tabulation of all three questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=141, Chi,  $\rho=0.000$ ; n=143, Chi,  $\rho=0.925$ ; n=141, Chi,  $\rho=0.008$ )<sup>b</sup> indicated significant differences with the issue of a contract (see Table 163) and the presence of an in-house training programme (see Table 164) by sector of pharmacy when the respondent last acted as a pre-registration tutor.

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.001$  (n=134) and Chi,  $\rho=0.325$  (n=135) respectively.

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.000$  (n=133), Chi,  $\rho=0.739$  (n=135) and Chi,  $\rho=0.012$  (n=133) respectively.

**Table 163: Sector of pharmacy the respondents last supervised a pre-registration student by whether the pre-registration student was issued with a contract of employment**

Sector (n=141)	Was your last pre-registration student issued with a contract of employment?	
	Yes (n=102)	No (n=39)
Community pharmacy multiple/large chain (more than 20 outlets) (n=22)	91% (n=20)	9% (n=2)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	69% (n=11)	31% (n=5)
Community pharmacy independent (5 outlets or less) (n=59)	49% (n=29)	51% (n=30)
Hospital pharmacy (n=36)	97% (n=35)	3% (n=1)
Industrial pharmacy (n=5)	100% (n=5)	-
Other pharmacy (n=3)	67% (n=2)	33% (n=1)

**Table 164: Sector of pharmacy the respondents last supervised a pre-registration student by whether the employing organisation had its own in-house training programme**

Sector (n=141)	Did your employing organisation have its own in-house training programme to support your last pre-registration student?	
	Yes (n=72)	No (n=69)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	61% (n=14)	39% (n=9)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	50% (n=8)	50% (n=8)
Community pharmacy independent (5 outlets or less) (n=58)	36% (n=21)	64% (n=37)
Hospital pharmacy (n=36)	69% (n=25)	31% (n=11)
Industrial pharmacy (n=5)	80% (n=4)	20% (n=1)
Other pharmacy (n=3)	-	100% (n=3)

On the issue of the balance between being a pre-registration student and being an employee of the organisation the pre-registration student was employed by, a majority of respondents (69%, n=99/143) stated that they felt that balance to be about right with one-



fifth (20%, n=29) stating that the pre-registration student was more like a pre-registration student than an employee and 11% (n=15) stating that the balance was the other way. On the question of interaction with other pre-registration students, a majority of respondents (64%, n=89/139) stated that the interaction their last pre-registration student had with other pre-registration students was about right with 34% (n=47) stating that the level of interaction was too little. Only 2% (n=3) stated that there was too much interaction. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.107$ ; n=139, Chi,  $\rho=0.863$ )<sup>a</sup> did not show any statistical differences.

Tutors were asked if “At any point during the year you last supervised a pre-registration student did you have any questions or concerns about your role as a pre-registration tutor that you could not answer yourself?” and a quarter of respondents to this question (25%, n=36/143) stated that they did. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.760$ )<sup>b</sup> did not show any statistical differences. Those respondents who stated that they did not have further questions (n=107) were asked to omit the following question and the remainder (n=36) were asked where they went to get answers to questions and whether the right answers were provided. The number of respondents giving each option as an answer are summarised in Table 165 below.

Finally in this set of questions, tutors were also asked, as far as they were aware, did their last pre-registration student encounter any personal difficulties during the course of the pre-registration year (for example, housing, relationships within the workplace, etc). Around one-quarter of respondents who answered this question (26%, n=36/140) indicated that they did; however, cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $\rho=0.091$ ) did not show any statistical differences. Further analysis by removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=2) did show statistical differences (n=133, Chi,  $\rho=0.032$ ) (see Table 166).

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<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.102$  (n=135) and Chi,  $\rho=0.719$  (n=131) respectively.

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.858$  (n=135).

**Table 165: Sources approached and provision of answers for tutors who had additional questions (numbers of eligible respondents (n=36) who indicated each option as a response)**

	Yes, they provided the right answers or guidance	No, they did not provide the right answers or guidance	Not approached for information	Not applicable
The PSI	n=10	n=4	n=14	n=1
Your employer	n=12	n=1	n=7	n=5
A pharmacist colleague who was not a pre-registration tutor	n=5	-	n=9	n=8
Another pharmacist pre-registration tutor	n=24	-	n=2	n=3
The pre-registration student	n=16	n=4	n=4	n=4

**Table 166: Sector of pharmacy the respondents last supervised a pre-registration student (community or hospital only) by whether the pre-registration student experienced any personal difficulties**

Sector (n=133)	Did your last pre-registration student encounter any personal difficulties?	
	Yes (n=34)	No (n=99)
Community pharmacy multiple/large chain (more than 20 outlets) (n=22)	27% (n=6)	73% (n=16)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	50% (n=8)	50% (n=8)
Community pharmacy independent (5 outlets or less) (n=59)	15% (n=9)	85% (n=50)
Hospital pharmacy (n=36)	31% (n=11)	69% (n=25)

#### 4.4.2.5 The pre-registration process in Ireland

Pre-registration tutors were asked from their experience, whether they consider that the degree and the pre-registration training year are two parts of a single learning experience. A majority (58%, n=82/142) indicated that they felt that the degree and pre-registration training year are like two separate learning experiences. Only 16% (n=22) stated that the

degree and pre-registration training year are like two parts of a single learning experience with the remainder (27%, n=38) stating that the degree and pre-registration training year are somewhat like two parts of a single learning experience. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=142, Chi,  $\rho=0.230$ )<sup>a</sup> did not show any statistical differences.

Respondents were asked their views on the length and structure of the current pre-registration period. An overwhelming majority (92%, n=132/143) stated that they felt that the current pre-registration period is about right with 5% (n=7) stating that it is too short. The remaining respondents stated that the current pre-registration period is too long (3%, n=4), with no respondents answering “Far too long” or “Far too short”. Turning to the structure of the pre-registration period, respondents were asked based on their overall experience as a pharmacist and assuming there was no difference financially and the overall time to qualify was the same (EU required minimum of 5 years), which model did they think would produce the best learning experience to qualify as a pharmacist. Reasonably similar proportions of respondents chose “a pre-registration period of training after a four-year university-level course (as currently)” (48%, n=68/142) and “the current portion of pre-registration training to be included as extended placements within the degree, extending the degree to five years” (39%, n=55). The remainder either had no preference (10%, n=14) or did not know (4%, n=5). Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.241$ ; n=142, Chi,  $\rho=0.451$ )<sup>b</sup> did not show any statistical differences.

Tutors were then asked how strongly did they agree or disagree with the sentence: “The timing of the pre-registration examination makes it difficult for newly registered pharmacists to apply for jobs as a pharmacist”. A half of respondents (50%, n=72/143) either agreed (27%, n=38) or strongly agreed (24%, n=34) with over one-third (40%, n=57) neither agreeing nor disagreeing. The remaining respondents either disagreed (8%, n=11) or strongly disagreed (2%, n=3). Tutors were also asked their opinion on the length of time between the pre-registration examination and the publication of the results and the length of time between the publication of the results and when the application form is processed. The results from these two questions are summarised in Table 167.

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<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.488$  (n=134).

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.078$  (n=135) and Chi,  $\rho=0.417$  (n=134) respectively.

**Table 167: Tutors views on the length of time for processes that form part of the pre-registration year**

	Far too long	Too long	About right	Too short	Far too short
What is your view on the length of time between the pre-registration examination and the publication of the results (n=141)?	20% (n=28)	49% (n=69)	31% (n=43)	1% (n=1)	-
What is your view on the length of time between the publication of the results from the pre-registration examination and when the application for registration is processed (n=140)?	21% (n=30)	47% (n=66)	31% (n=43)	-	1% (n=1)

Cross-tabulation of all three questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.725$ ; n=141, Chi,  $\rho=0.864$ ; n=140, Chi,  $\rho=0.712$ )<sup>a</sup> did not show any statistical differences.

Finally in this section, respondents were asked how strongly they agreed or disagreed with the sentence: *“The PSI is the appropriate organisation to supervise the pre-registration training processes”*. Although opinion was divided, a majority (56%, n=80/142) either agreed (49%, n=69) or strongly agreed (8%, n=11), with a further 28% (n=39) neither agreeing nor disagreeing. Only 9% (n=13) and 7% (n=10) disagreed or strongly disagreed respectively. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=142, Chi,  $\rho=0.385$ )<sup>b</sup> did not show any statistical differences

#### 4.4.2.6 The pre-registration project

Within this section of the survey, respondents were asked to indicate whether their last pre-registration students undertook a project as part of their pre-registration year. Just under two-thirds (62%, n=88/143) indicated that they did. Differences were seen between whether a student undertook a project and the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.000$ )<sup>c</sup>. These differences are summarised in Table 168 below. Respondents who indicated that their last pre-registration

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.520$  (n=135), Chi,  $\rho=0.742$  (n=133) and Chi,  $\rho=0.563$  (n=132) respectively.

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.204$  (n=134).

<sup>c</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.000$  (n=135).

student did not undertake a project (39%, n=55) were not required to answer any further questions in this section leaving a pool of n=88.

**Table 168: The undertaking of a student pre-registration project by the sector of pharmacy the respondents last supervised a pre-registration student**

Sector (n=143)	Did your last pre-registration undertake a project?	
	Yes (n=88)	No (n=55)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	74% (n=17)	26% (n=6)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	31% (n=5)	69% (n=11)
Community pharmacy independent (5 outlets or less) (n=60)	52% (n=31)	48% (n=29)
Hospital pharmacy (n=36)	89% (n=32)	11% (n=4)
Industrial pharmacy (n=5)	20% (n=1)	80% (n=4)
Other pharmacy (n=3)	67% (n=2)	33% (n=1)

Of these remaining respondents, 69% (n=58/84) stated that their student was required to undertake the project by the PSI. Only 60% (n=52/87) of the tutors stated that they had received any formal research training. Cross-tabulation of both questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=84, Chi,  $p=0.000$ ; n=87, Chi,  $p=0.000$ )<sup>a</sup> showed statistical differences in both cases (see Table 169 and Table 170).

<sup>a</sup> With the removal of the option, "Other pharmacy" (n=2); Chi,  $p=0.000$  (n=82) and Chi,  $p=0.000$  (n=85) respectively.

**Table 169: Whether the pre-registration student was required to undertake a project by the PSI by sector of pharmacy the respondents last supervised a pre-registration student**

Sector (n=84)	Was your last pre-registration student required to undertake a project by the PSI?	
	Yes (n=58)	No (n=26)
Community pharmacy multiple/large chain (more than 20 outlets) (n=16)	69% (n=11)	31% (n=5)
Community pharmacy small chain (20 outlets or less but more than 5) (n=5)	100% (n=5)	-
Community pharmacy independent (5 outlets or less) (n=29)	93% (n=27)	7% (n=2)
Hospital pharmacy (n=32)	44% (n=14)	56% (n=18)
Other pharmacy (n=2)	50% (n=1)	50% (n=1)

**Table 170: Whether the tutor had undertaken any formal research training by sector of pharmacy the respondents last supervised a pre-registration student**

Sector (n=87)	Have you at any stage undertaken any formal research training?	
	Yes (n=52)	No (n=35)
Community pharmacy multiple/large chain (more than 20 outlets) (n=17)	47% (n=8)	53% (n=9)
Community pharmacy small chain (20 outlets or less but more than 5) (n=5)	40% (n=2)	60% (n=3)
Community pharmacy independent (5 outlets or less) (n=31)	36% (n=11)	65% (n=20)
Hospital pharmacy (n=32)	91% (n=29)	9% (n=3)
Other pharmacy (n=2)	100% (n=2)	-

Respondents were also asked their level of agreement with three statements relating to the pre-registration project. These results are summarised in Table 171 below.

**Table 171: Tutors' views on three statements relating to the execution of the pre-registration project**

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
"I feel equipped with the appropriate skills to supervise the research project" (n=87)	17% (n=15)	41% (n=36)	23% (n=20)	18% (n=16)	-
"The student's pharmacy degree course provided him/her with the necessary skills and knowledge to undertake the pre-registration project" (n=87)	8% (n=7)	53% (n=46)	22% (n=19)	16% (n=14)	1% (n=1)
"I feel that undertaking a project as part of the pre-registration training process is a useful part of professional development as a pharmacist" (n=87)	32% (n=28)	44% (n=38)	8% (n=7)	10% (n=9)	6% (n=5)

Cross-tabulation of all three questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=87, Chi,  $\rho=0.262$ ; n=87, Chi,  $\rho=0.061$ ; n=87, Chi,  $\rho=0.001$ )<sup>a</sup> did show a statistical difference with the last statement ("I feel that undertaking a project as part of the pre-registration training process is a useful part of professional development as a pharmacist"). The percentage of respondents who either agreed or strongly agreed that undertaking a project as part of the pre-registration training process is a useful part of professional development as a pharmacist did vary by sector. Within the community pharmacy sectors it varied from 47% (n=8/17) for multiple/large chain (more than 20 outlets), to 80% (n=4/5) in small chain (20 outlets or less but more than 5) and 68% (n=21/31) in independents (5 outlets or less). Additionally, all hospital pharmacy respondents (100%, n=32/32) but only half of the industry respondents (50%, n=1/2) responded that they agreed or strongly agreed with the statement.

#### 4.4.2.7 The overall experience

The last section of the tutor questionnaire before the demographics section asked respondents about their overall experience of the pre-registration process. Respondents were asked their level of agreement with the sentence "Taking everything into consideration, I feel that the pre-registration year provides a sufficiently rounded experience in pharmacy practice as a foundation for the future". A majority (70%, n=99/142) either agreed (61%, n=86) or strongly agreed (9%, n=13) with a further 15% (n=21) neither agreeing nor disagreeing. A further 13% (n=19) disagreed with a small number (2%, n=3) strongly disagreeing. Cross-tabulation with the sector of pharmacy when the respondent

<sup>a</sup> With the removal of the option "Other pharmacy" (n=2); Chi,  $\rho=0.193$  (n=85), Chi,  $\rho=0.064$  (n=85) and Chi,  $\rho=0.000$  (n=85) respectively.

last acted as a pre-registration tutor (n=142, Chi,  $\rho=0.741$ )<sup>a</sup> did not show any statistical differences.

Respondents were then asked whether they agreed that the current pre-registration year provides opportunities to develop a student’s knowledge and skills for future independent practice. Results from these questions are summarised in Table 172 below.

**Table 172: Views from respondents on whether they agree or disagree that the current pre-registration year provides opportunities for the students to develop their knowledge and skills to enable future independent practice**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
<b>Knowledge</b>						
Clinical knowledge (n=141)	11% (n=16)	67% (n=95)	11% (n=15)	8% (n=11)	3% (n=4)	-
Professional knowledge (n=141)	11% (n=16)	77% (n=109)	7% (n=10)	4% (n=5)	1% (n=1)	-
Business knowledge (n=141)	4% (n=5)	32% (n=45)	19% (n=27)	31% (n=44)	11% (n=16)	3% (n=4)
Management knowledge (n=141)	2% (n=3)	21% (n=30)	26% (n=36)	36% (n=50)	14% (n=19)	2% (n=3)
<b>Skills</b>						
Clinical skills (n=142)	13% (n=19)	70% (n=100)	9% (n=13)	6% (n=8)	1% (n=2)	-
Professional skills (n=142)	11% (n=16)	78% (n=110)	4% (n=6)	6% (n=9)	1% (n=1)	-
Business skills (n=142)	2% (n=3)	28% (n=40)	23% (n=32)	39% (n=56)	5% (n=7)	3% (n=4)
Management skills (n=142)	3% (n=4)	24% (n=34)	24% (n=34)	39% (n=55)	9% (n=12)	2% (n=3)

Cross-tabulation of all the responses in Table 172 above with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=141, Chi,  $\rho=0.766$ ; n=141, Chi,  $\rho=0.366$ ; n=141, Chi,  $\rho=0.098$ ; n=141, Chi,  $\rho=0.657$ ; n=142, Chi,  $\rho=0.489$ ; n=142, Chi,  $\rho=0.109$ ; n=142, Chi,  $\rho=0.090$ ; n=142, Chi,  $\rho=0.341$ )<sup>b</sup> did not show any statistical differences. Significance was found when the same cross-tabular analysis was performed with the removal of the options “Industrial pharmacy” and “Other pharmacy”. Questions where significance was found were under *Knowledge*, the option “Business knowledge” and under *Skills*, the options “Professional skills” and “Business skills” (n=133, Chi,  $\rho=0.013$ ; n=134, Chi,  $\rho=0.039$ ; n=134, Chi,  $\rho=0.036$ ). These differences are summarised in Table 173, Table 174 and Table 175 below.

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.819$  (n=134).

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.500$  (n=133), Chi,  $\rho=0.104$  (n=133), Chi,  $\rho=0.013$  (n=133), Chi,  $\rho=0.283$  (n=133), Chi,  $\rho=0.185$  (n=134), Chi,  $\rho=0.039$  (n=134), Chi,  $\rho=0.036$  (n=134) and Chi,  $\rho=0.190$  (n=133) respectively.



**Table 173: Tutors' views on whether the current pre-registration year provides opportunities for students to develop business knowledge by sector (community and hospital only)**

Sector (n=133)	Strongly agree (n=5)	Agree (n=43)	Neither agree nor disagree (n=26)	Disagree (n=40)	Strongly disagree (n=15)	Not applicable (n=4)
<b>Community pharmacy multiple/large chain (more than 20 outlets) (n=22)</b>	5% (n=1)	50% (n=11)	9% (n=2)	18% (n=4)	18% (n=4)	-
<b>Community pharmacy small chain (20 outlets or less but more than 5) (n=16)</b>	-	56% (n=9)	25% (n=4)	13% (n=2)	6% (n=1)	-
<b>Community pharmacy independent (5 outlets or less) (n=59)</b>	7% (n=4)	34% (n=20)	17% (n=10)	34% (n=20)	7% (n=4)	2% (n=1)
<b>Hospital pharmacy (n=36)</b>	-	8% (n=3)	28% (n=10)	39% (n=14)	17% (n=6)	8% (n=3)

**Table 174: Tutors' views on whether the current pre-registration year provides opportunities for students to develop professional skills by sector (community and hospital only)**

Sector (n=134)	Strongly agree (n=15)	Agree (n=104)	Neither agree nor disagree (n=5)	Disagree (n=9)	Strongly disagree (n=1)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	13% (n=3)	78% (n=18)	-	4% (n=1)	4% (n=1)
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	19% (n=3)	63% (n=10)	-	19% (n=3)	-
Community pharmacy independent (5 outlets or less) (n=59)	9% (n=5)	88% (n=52)	3% (n=2)	-	-
Hospital pharmacy (n=36)	11% (n=4)	67% (n=24)	8% (n=3)	14% (n=5)	-

**Table 175: Tutors’ views on whether the current pre-registration year provides opportunities for students to develop business skills by sector (community and hospital only)**

Sector (n=134)	Strongly agree (n=3)	Agree (n=38)	Neither agree nor disagree (n=30)	Disagree (n=52)	Strongly disagree (n=7)	Not applicable (n=4)
Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	-	44% (n=10)	17% (n=4)	26% (n=6)	13% (n=3)	-
Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	-	38% (n=6)	25% (n=4)	38% (n=6)	-	-
Community pharmacy independent (5 outlets or less) (n=59)	5% (n=3)	34% (n=20)	19% (n=11)	37% (n=22)	3% (n=2)	2% (n=1)
Hospital pharmacy (n=36)	-	6% (n=2)	31% (n=11)	50% (n=18)	6% (n=2)	8% (n=3)

Further to the above questions on knowledge and skills, respondents were also asked the following question: *“In addition to the acquisition of the necessary knowledge and skills, pre-registration students gain an appreciation of the behaviours, values and attitudes which are necessary to develop to become a successful pharmacist. How confident do you feel in mentoring a student in the development of their own behaviours, values and attitudes?”*. Of the 143 respondents, 29% (n=41) stated that they felt confident with a further 57% (n=82) stating that they felt fairly confident. 10% (n=14) stated they felt neither confident nor not confident with the remaining 4% (n=5) and 1% (n=1) stating that they felt not that confident or not confident at all respectively. Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.272$ ) did not show any statistical differences although a difference is seen (albeit not statistically significant) upon the removal of the options, “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); (n=135, Chi,  $\rho=0.052$ ).

Comments from the questionnaires on the development of different skills during the pre-registration year included:

*“Lack of business training - I feel it [business training] is a must.”* (Pre-registration tutor questionnaire respondent)

*“Have separate days out org by PSI to cover business and management e.g. coaching, communication with staff, staff management, how to maximise the business.”* (Pre-registration tutor questionnaire respondent)

Respondents were then asked their level of agreement with three statements relating to the pre-registration assessment processes. The responses provided are summarised in Table 176 below.

**Table 176: Tutors’ views on three statements relating to the pre-registration assessment processes**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
“The open-book continuous assessments form a useful part of the pre-registration training process” (n=143)	4% (n=6)	59% (n=85)	24% (n=34)	10% (n=14)	3% (n=4)
“The Licence Examination (forensic examination) form a useful part of the pre-registration training process” (n=143)	12% (n=17)	52% (n=74)	22% (n=32)	12% (n=17)	2% (n=3)
“A student’s success or failure in the Licence Examination (forensic examination) correlates with my personal assessment of their ability as a pharmacist” (n=143)	3% (n=4)	18% (n=26)	30% (n=43)	33% (n=47)	16% (n=23)

Cross-tabulation of all three questions with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=143, Chi,  $\rho=0.188$ ; n=143, Chi,  $\rho=0.282$ ; n=143, Chi,  $\rho=0.315$ )<sup>a</sup> did not show any statistical differences.

Tutors were asked “How involved do you feel the pre-registration tutor should be in the assessment of the pre-registration student’s performance? By ‘formal assessment body’ we mean a written or practical examination organised by the PSI (or other body)”, and the responses are summarised in Table 177.

Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $\rho=0.041$ ) did show a statistical difference between the sectors as outlined in Table 178 (although this difference is not statistically significant upon removal

<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $\rho=0.243$  (n=135), Chi,  $\rho=0.141$  (n=135) and Chi,  $\rho=0.188$  (n=135) respectively

of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); n=132, Chi,  $\rho=0.086$ ).

**Table 177: Tutors’ views on the assessment profile of the pre-registration year**

How involved do you feel the pre-registration tutor should be in the assessment of the pre-registration student’s performance (n=140)?	Percentage responses
All the assessment should be by the pre-registration tutor	-
A mixture, with more of the assessment by the pre-registration tutor	10% (n=14)
An even mixture of assessment by the pre-registration tutor and by a formal assessment body	47% (n=66)
A mixture, with more of the assessment by a formal assessment body	34% (n=47)
All the assessment should be by a formal assessment body	9% (n=13)

**Table 178: views on how involved a pre-registration tutor should be in the assessment of the pre-registration student’s performance by sector of pharmacy the respondents last supervised a pre-registration student**

How involved do you feel the pre-registration tutor should be in the assessment of the pre-registration student’s performance (n=140)?	Community pharmacy multiple/large chain (more than 20 outlets) (n=23)	Community pharmacy small chain (20 outlets or less but more than 5) (n=16)	Community pharmacy independent (5 outlets or less) (n=57)	Hospital pharmacy (n=36)	Industrial pharmacy (n=5)	Other pharmacy (n=3)
A mixture, with more of the assessment by the pre-registration tutor (n=14)	-	13% (n=2)	5% (n=3)	25% (n=9)	-	-
An even mixture of assessment by the pre-registration tutor and by a formal assessment body (n=66)	61% (n=14)	38% (n=6)	49% (n=28)	47% (n=17)	20% (n=1)	-
A mixture, with more of the assessment by a formal assessment body (n=47)	26% (n=6)	38% (n=6)	37% (n=21)	22% (n=8)	80% (n=4)	67% (n=2)
All the assessment should be by a formal assessment body (n=13)	13% (n=3)	13% (n=2)	9% (n=5)	6% (n=2)	-	33% (n=1)

Tutors were asked how confident they felt that they had the necessary knowledge and skills to “sign-off” a pre-registration student at the end of their year to indicate the completion of a collection of learning requirements. 23% (n=32/140) stated they felt confident with a further 54% (n=76) stating that they felt fairly confident. Only 17% (n=24) stated they felt neither confident nor not confident with the remainder stating they felt either not that confident (4%, n=6) or not confident at all (1%, n=2). Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=140, Chi,  $p=0.753$ )<sup>a</sup> did not show any statistical differences.

Finally, respondents were asked in relation to the last time they supervised a pre-registration student, to what extent would you agree or disagree with the statement “Overall, I enjoyed my year as a pre-registration tutor”. Over four-fifths either agreed (65%, n=92/141) or strongly agreed (21%, n=29) with this sentence, with the remainder either not agreeing nor disagreeing (7%, n=10), disagreeing (4%, n=6) or strongly disagreeing (3%, n=4). Cross-tabulation with the sector of pharmacy when the respondent last acted as a pre-registration tutor (n=141, Chi,  $p=0.351$ )<sup>b</sup> did not show any statistical differences.

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<sup>a</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $p=0.456$  (n=132).

<sup>b</sup> With the removal of the options “Industrial pharmacy” (n=5) and “Other pharmacy” (n=3); Chi,  $p=0.076$  (n=133).

# Part three

## Appendix 1 Data collection instrument for the review of the accreditation of health professional courses

### A1.1 Combined interview schedule

Proposed questions	Questions to be directed to:						
<i>The first set of questions is about the accreditation process prior to the Pharmacy Act 2007</i>	Schools of Pharmacy			PSI			
	Stage B2		Stage B4	Stage B3			Stage B4
	Members of staff from the school of pharmacy	A member of staff from within the university but outside of the school of pharmacy	An external (to the university) advisor or accreditor who has worked with the university	Post holder	An individual who has chaired the accreditation panel	An individual who has been members of the accreditation panel	An individual who has worked with PSI as external advisors
Accreditation Process							
1. Can you tell me what your involvement or role was with the pharmacy accreditation process to date and with which schools?	X	X	X	X	X	X	X
2. What did you see as the purpose of accrediting schools of pharmacy?	X	X	X	X	X	X	X
3. Did you think accreditation achieved its purpose?	X	X	X	X	X	X	X
4. We are interested in your views on the way in which the accreditation process was conducted i.e. timing, the arrangements for the panel pre-meetings and visits and the way the visits were organised.	X	X	X	X	X	X	X



<p>5. Considering your experience of the accreditation process, what:</p> <p>a) were the strengths of the accreditation process to date?</p> <p>b) were the weaknesses of the accreditation process to date?</p> <p>c) needs to be retained or developed for the future?</p>	X	X	X	X	X	X	X
<p>6. In your experience, did the process of accreditation change over the time that you were involved with it?</p>	X	X	X	X	X	X	X
<p>7. Has the expansion of pharmacy schools changed the accreditation process and if so how?</p>	X	X	X	X	X	X	X
<b>Accreditation Requirement</b>							
<p>8. a) Were you involved in the design or development of the accreditation criteria and in what capacity?</p> <p>b) Are you aware of anybody in the school that was involved in the design or development of the accreditation criteria?</p>	X	X	X	X	X	X	X
<p>9. We are interested in your views on accreditation criteria:</p> <p>a) Were they appropriate /measurable?</p> <p>b) To what extent did they measure 'fit for purpose'?</p> <p>c) How important were the criteria in developing schools' curricula?</p> <p>d) What changes would you like to see to the criteria?</p>	X	X	X	X	X	X	X

10. In your opinion, how useful was the indicative syllabus as part of the accreditation process?	X	X	X	X	X	X	X
11. a) How useful was the accreditation process in developing your pharmacy school's curriculum? b) Referring to curriculum design, was there a mismatch between what the schools did and what the accreditation panel wanted? c) If so, how did you overcome the differences?	X	X	X				
<b>Training (to be asked to PSI and school panels)</b>							
12. What preparation/training did you receive as a member of the accreditation panel?				X	X	X	
13. Would you have liked more training?				X	X	X	
<b>Future questions</b>							
14. What is your preferred future model of accreditation?  <b>Prompts</b> 4-year undergraduate BSc degree course and the pre-registration year run;  <ul style="list-style-type: none"> <li>by the PSI,</li> <li>by a university under contract with the PSI,</li> <li>in partnership with all schools of pharmacy in Ireland,</li> <li>by an independent body</li> <li>full integration of the pre-registration year into a 5-year programme, run by individual universities.</li> </ul>	X	X	X	X	X	X	X

<p>15. The new <u>PSI has a statutory responsibility</u> for ensuring that pharmacy education is fit for purpose.</p> <p>a) I am interested in your view of how this responsibility should be discharged?</p> <p>b) Considering your experience of the accreditation process as a whole, what changes would you like made in any new system that will be introduced as a consequence of the current review of procedures by the PSI?</p>	X	X	X	X	X	X	X
<p>16. a) Given a blank sheet of paper, how in the future should the PSI and the schools work to assure the quality and fitness for practice of day pharmacists?</p> <p>b) With reference to fitness for practice, what are your views on a student code of conduct?</p> <p>c) What are your views on who should take responsibility for defining or setting a code of conduct i.e. should:</p> <p style="padding-left: 20px;">I. there be a shared code of conduct for all pharmacy students, stipulated by the PSI?</p> <p>Or</p> <p style="padding-left: 20px;">II. the broad principles of a code of conduct be provided by the PSI but open to modification, as per each institution's own ethos and culture?</p>	X	X	X	X	X	X	X

## Appendix 2 Data collection instruments for the review of the undergraduate pharmacy degree in Ireland

### A2.1 Role descriptors

The following information was sent to each school of pharmacy to identify the individual staff members for interview.

#### **A Review of the Education of Pharmacists in Ireland**

##### Interviews with Staff Members from Schools of Pharmacy

The following is a list of the three different individuals we would like to interview as part of the PSI-commissioned project reviewing the education of pharmacists in Ireland. Specifically, these interviews will feed into Stage A of the project: A comprehensive review of the current five-year programme of education and training within Ireland, which comprises the four year undergraduate programme.

For each individual we have provided a '*job title*' but mindful that these roles are called different things at different institutions, we have also provided a '*role descriptor*' to enable Schools to select the most appropriate staff members. We are also aware that it is possible that one individual may fulfil more than one of the roles described below.

**1. Head of School.**

We would like to interview the individual at your school of pharmacy who has overall responsibility and accountability for the delivery of the pharmacy degree course. This individual would be responsible for budgetary control within the pharmacy degree and liaison with the senior university management, outside organisations and other individuals.

**2. Programme Director.**

We would like to interview the individual from the teaching/academic staff in your school of pharmacy who has the day-to-day responsibility for running and co-ordinating the pharmacy undergraduate course. This role is often titled '*Programme Director*' or '*Programme Co-ordinator*' or '*Director of Teaching and Learning*'.

**3. A member of staff directly involved in the organisation and delivery of the practice/clinical component of the degree course.**

In addition to the overview of the course which will be provided by the Programme Director (or equivalent; see (2) above), we would like to interview a member of staff directly involved in the organisation and delivery of the practice/clinical component of the degree course. Ideally, this individual will have knowledge of the placement component of the degree and would be involved in the design and planning of the pharmacy practice part of the curriculum.

## A2.2 Head of School interview schedule

### HEADS OF SCHOOLS INTERVIEW SCHEDULE

This interview will be in two parts. In the first section, we will focus upon the present and recent past and in the second, we would like to look to the future of pharmacy education in Ireland.

#### **Current Situation**

- 1) Could you outline how pharmacy currently operates within your institution? Three main sub-questions:
  - a) Which faculty/school does it reside within and how does it operate within this structure?
  - b) Is it an independent budget centre?
  - c) What are the lines of responsibility for you as Head of School?
- 2) Leading from this, one of the PSI's requirements for a school of pharmacy has been that it should be an autonomous unit. What are your views on this? Is this appropriate as we move into the future?
- 3) Considering the past role of the PSI as an accreditor of pharmacy undergraduate education – what has been your experience of this process? What was good in your experience? What didn't work? Anything that needs to be retained or developed for the future?
- 4) What has been your experience of the recruitment of academic and other teaching staff?
- 5) What is the balance of qualified pharmacy staff to other staff within your school and within the pharmacy degree? Do you have any views on what an optimum balance would be?

#### **Looking towards the Future**

- 6) I am going to start with the big question – how do you think that pharmacy education and training in Ireland could be improved? What do you think are the critical questions?
- 7) There is always some tension in vocational degree subjects between academic demands and the need to produce graduates fit to practice. What are your views on this issue and what are the critical challenges in pharmacy education to produce the highest quality pharmacist for practice?
- 8) The Pharmacy Act in Ireland offers the opportunity for a major change in education – thinking of the pharmacy undergraduate syllabus what would you like to see changed, what should be retained and what new developments should be considered – all to produce the highest quality pharmacists?
- 9) If we think more widely over the total 5 year training and educational programme for pharmacists in Ireland, what do you think should be the role of the schools of

- pharmacy in this programme? We will come back to resources but to start with I am interested in your vision for the future?
- 10) What are the essential qualities for a day one pharmacist emerging at the end of the future 5 – year educational/training programme? How can we measure these qualities? What quality assurance process would you see are desirable? (Can prompt here – outcome measures against process measures etc).
  - 11) What responsibilities would you like to see the schools of pharmacy assuming for workplace learning and education within a future pharmacy training and educational programme?
  - 12) The new PSI has a statutory responsibility for ensuring that pharmacy education is fit for purpose. I am interested in your view of how this responsibility should be discharged? Given a blank sheet of paper – how in the future should the PSI and the schools work to assure the quality and fitness for practice of day one pharmacists?
  - 13) Pharmacy is an extremely competitive subject in Ireland. What is your current admissions process for pharmacy undergraduates? How would you see this developing in the future?
    - a) What are your views on how to ensure that entrants are not only academically capable but also have the right attitudes and values for a career as a health professional?
    - b) What are your views about interviewing all applicants?
    - c) Is there a role for aptitude testing?
  - 14) Returning to the other end of the education/training programme. What are your views on assessment to ensure the highest quality pharmacists entering the profession? What changes, developments would you like to see?
  - 15) What are your views on a co-terminus award for entry to the profession (i.e. where students graduate and qualify for registration at the same time)? How could this be managed and quality assured?
  - 16) We have talked about your vision for pharmacy education and training. What would you need in terms of resources to deliver this vision? What would be the critical needs?
  - 17) Staff are the most critical resource in an educational establishment. What are the major challenges in terms of staffing for the sort of developments you have outlined? (Some critical issues to prompt if not mentioned.)
    - a) How do you see the balance between research demands and teaching demands?
    - b) Should there be new grades of teaching staff to address the demands of a large vocational teaching programme?
    - c) What are the required competencies to be a member of staff (both teaching and research staff)?
    - d) What strategies should there be to ensure teaching staff have clear goals aligned to professional aspirations?

- 18) A critical question – what are your views on the minimum requirements for pharmacists on the teaching staff to retain a unique character of pharmacy education?
- 19) What would be your future vision for the structure of a school of pharmacy that could deliver the educational programme that we have discussed – here I mean what interactions would it have with the practice of pharmacy, the PSI and with policy makers?
- 20) We are nearly at the end of this interview. Finally, what is your vision of the role of the schools of pharmacy in Ireland in supporting the development of advanced practice and any new roles within pharmacy?

Thank you very much for agreeing to do this interview. Are there any other points you would like to raise that I have not covered?

## A2.3 Programme Director interview schedule

### PROGRAMME DESIGN INTERVIEW SCHEDULE

#### CURRICULUM – Undergraduate Degree

##### 1. Design

1. We are interested in the **main subject divisions** within your department e.g. of chemistry, pharmaceuticals, practice, pharmacology and any other e.g. medical micro. Do you have subgroups, what are they, how formal is the divisional structure and how do the groups come together in curriculum design?
2. What structures do you have for the **overall curriculum and the syllabus design**? We are interested in the balance between programme level control and subject or module level control?
3. What have been the main **external influences** on curriculum design (e.g. the PSI, employers, advisory committees, higher education (HE) and/or Health Service Executive (HSE) policy)?

*Note for Interviewer: Explore their importance - relative weight, how are they used, how they are gathered.*

4. Clearly the accreditation process will change but in this question we are interested in the process up to now. How has the **accreditation process** (PSI) influenced curriculum design? How have you used the accreditation documentation in curriculum design?
5. To what extent is your curriculum development influenced by **educational/professional trends outside Ireland** (e.g. EU, UK, US)? How do you obtain information about these?
6. Are there any **internal constraints/drivers** on curriculum design e.g. requirement for interdisciplinary learning, options (pharmacy and non-pharmacy), complementary studies? Do you undertake any of these activities either as part of university strategy or by choice?
7. How do you see the **balance of teaching** between the various scientific disciplines and practice and how are decisions regarding balance made? Is the balance reviewed - if so how? Has it changed in the past?
8. Are there any **Government policies** that are influencing or might influence the way in which you deliver pharmacy education? (*Includes educational and health*)

##### 2. Delivery

1. What are the **institutional requirements for delivery of the curriculum** - modular scheme, semester, standards on hour of delivery?
2. Do these present any **particular difficulties** for the pharmacy programme - are there any special provisions in force? *Note for Interviewer: CHECK we have paper version of modular scheme.*
3. What is your plans with regard to **student numbers** – increasing, decreasing etc (includes home and overseas)? Do student numbers determine your curriculum plans or limit what you can deliver?
4. Is any part of the **curriculum common with that for other programmes** of study or delivered by other units/departments within the University? If so how do you



review and how do the various users interact. *Note for Interviewer: CHECK we have written documentation.*

## TEACHING AND LEARNING

1. How do you decide the style and amount of **formal teaching** - is it left to individual staff, to module leaders or is it decided centrally within the programme?
2. We are interested in the balance between **didactic teaching and student centred learning**. Do you have any guidelines that apply across the whole programme?
3. Do you make use of **problem based learning**? If so, where in the syllabus? Can you talk me through how it is organised and assessed?
4. In health professional education it is common to talk of **professional values and attitudes**. How do you approach the development of professional values and attitudes in your programme? Have you any agreed attitudes/values that you would wish to inculcate through the programme?
5. A related area is the development of **professional skills**. What skills do you aim to develop?
6. How do you **balance skills/knowledge** aspects of the curriculum? We are interested in how you plan skill development within your curriculum. How do you develop generic skills?
7. Next in this section we would like to explore **inter-professional learning**. Do the pharmacy students in your school undertake IPL? If so, what and how is it managed?
  - a. Have you any future plans to develop multidisciplinary learning?
  - b. Do you have any views on **IPL** – its value, relevance in undergraduate education?
8. Finally in this section, what **experience of pharmacy practice** do your students obtain within the degree programme? Do you make requirements for vocational work experience? How do you manage this and is it assessed?

## ASSESSMENT

1. Can you outline your **approach to assessment**? Is it solely modular or do you calculate an overall year mark? How do you calculate the final degree classification - what element comes from study prior to year 4?
2. We have talked about skills - **what skills do you assess** – scientific, professional and generic?
3. How do you approach their assessment of **professional values and attitudes**?
4. Do you use a **personal development portfolio** as part of your assessment method? If so can you give me some details?
5. How do you provide **feedback to students** on their progress? What sort of formative assessments do you use and when?
6. Could you tell me whether you involve **peer assessment** (students of students)? If so, when is it used, in which syllabus areas and how is it organised?
7. Do you think the **volume of assessment** on the degree programme is right?

8. Do you think that your current assessments measure the full range of qualities necessary to practice as a pharmacist? Please explain your view.
9. What if any performance indicators do you use to monitor the success of your graduates?

### **OPTIONAL STUDIES**

**We have two questions on optional studies. By this we mean either areas where the student has choice within the normal pharmacy curriculum or areas where students have a choice to include material that is not part of the normal pharmacy curriculum.**

1. Are there any arrangements in your programme for specialised study e.g. options? Have you any future plans here?
2. What is your view of optional studies - should they be part of pharmacy education or should it all be core?

### **RESEARCH PROJECTS**

1. As you know a final year project is mandatory within the PSI's requirements for pharmacy. We are interested in **how you handle projects**. Firstly when in the programme do you run projects and how long are they (hours, weeks etc)?
2. How do you develop **research skills** in students in preparation for their project?
3. What is the **range of projects** that you offer e.g. all subjects?
4. How do you **allocate** projects — what is the element of student choice?
5. Do you run **“team projects”** — projects where several students have a linked project? If so how many, how are they organised and how do you ensure that there is an individual assessment for each student?
6. How many projects are undertaken with **external supervisors** e.g. in hospitals?
7. How do you manage **assessment**? (*Note to Interviewer: issue of equity — double marking, moderation etc?*)

### **BEST PRACTICE/INNOVATION**

1. We are interested in examples of **good practice** — what do you think distinguishes your school from others?
2. Do you have any specific examples of **innovation** in curriculum, in teaching and learning or in assessment?

## **LOOKING TOWARDS THE FUTURE**

**The final set of questions is about the future of pharmacy education and training in Ireland. We are interested in your views based upon your past and current experience of running a pharmacy undergraduate programme.**

- 1) I am going to start with the big question – how do you think that pharmacy education and training in Ireland could be improved? What do you think are the critical questions?
- 2) There is always some tension in vocational degree subjects between academic demands and the need to produce graduates fit to practice. What are your views on this issue and what are the critical challenges in pharmacy education to produce the highest quality pharmacist for practice?
- 3) The Pharmacy Act in Ireland offers the opportunity for a major change in education – thinking of the pharmacy undergraduate syllabus what would you like to see changed, what should be retained and what new developments should be considered – all to produce the highest quality pharmacists?
- 4) If we think more widely over the total 5 year training and educational programme for pharmacists in Ireland, what do you think should be the role of the schools of pharmacy in this programme? We will come back to resources but to start with I am interested in your vision for the future?
- 5) What are the essential qualities for a day one pharmacist emerging at the end of the future 5 – year educational/training programme? How can we measure these qualities? What quality assurance process would you see are desirable? (*Note to Interviewer: Can prompt here – outcome measures against process measures etc*).
- 6) What responsibilities would you like to see the schools of pharmacy assuming for **workplace learning and education** within a future pharmacy training and educational programme?
- 7) **The new PSI has a statutory responsibility** for ensuring that pharmacy education is fit for purpose. I am interested in your view of how this responsibility should **be discharged? Given a blank sheet** of paper – how in the future should the PSI and the schools work to assure the quality and fitness for practice of day one pharmacists?
- 8) Pharmacy is an extremely competitive subject in Ireland. What is your current **admissions process** for pharmacy undergraduates? How would you see this developing in the future?
  - a) What are your views on how to ensure that entrants are not only academically capable but also have the right attitudes and values for a career as a health professional?
  - b) What are your views about interviewing all applicants?
  - c) Is there a role for aptitude testing?
- 9) Returning to the other end of the education/training programme. What are your views on **assessment** to ensure the highest quality pharmacists entering the profession? What changes, developments would you like to see?

- 10) What are your views on a co-terminus award for entry to the profession (i.e. where students graduate and qualify for registration at the same time)? How could this be managed and quality assured?
- 11) What would be your future vision for the **structure of a school of pharmacy** that could deliver the educational programme that we have discussed – here I mean what interactions would it have with the practice of pharmacy, the PSI and with policy makers?
- 12) **Staffing** is probably the essential resource in education. What do you think are the implications for staffing if schools were to deliver your vision of future pharmacy education in Ireland?

**Thank you very much for agreeing to do this interview we very much appreciate your involvement in what we realise has been a lengthy interview. Are there any other points you would like to raise that I have not covered?**

## A2.4 Head of Pharmacy Practice interview schedule

### PHARMACY PRACTICE INTERVIEW SCHEDULE

#### CURRICULUM

1. How is **pharmacy practice organised** in your school - does it include clinical practice? If not, what are the interactions between the practice group and the clinical group?
2. Within your school, how do you **balance teaching** between the various scientific disciplines and practice/clinical and how are decisions regarding the balance made?
3. Are you happy with the current balance - any plans for change?
4. Clearly the **accreditation process** will change but at the moment I am interested in the process up to now. How has the accreditation process (PSI) influenced curriculum design? Positive and negative influences?
5. Are there any other **external influences** that affect your curriculum? We are interested in how you ensure your curriculum is relevant to current practice (EU, UK, US).
6. Do you have any formal or informal **consultation mechanisms** with practitioners, employers or patient representatives?
7. Are there any **internal factors** within your institution that influence the practice curriculum e.g. requirement for interdisciplinary learning, options, complementary studies?
8. Do developments in **other health education** either within or outside Ireland (e.g. medicine, nursing) influence your curriculum design and development?

#### TEACHING AND LEARNING

1. Please describe the **philosophy of your practice/clinical teaching** over the four years of the programme. I am interested in what happens where, links with science and any vertical or horizontal themes within the curriculum,
2. If not covered in question 1.
  - a. Where do you teach dispensing?
  - b. Where and how do you teach pharmacy law and ethics?
  - c. Do you teach wider ethical and professional issues e.g. those relating to health care, medical ethics etc?
3. How do you decide upon the **teaching and learning strategy** for practice? Is it left to individual staff, to module leaders or is it decided centrally within the programme?
4. How do you encourage students to learn for themselves as a basis for future CPD?
5. Do you make use of **problem based learning**? If so, where in the syllabus? Can you talk me through how it is organised and assessed?
6. How do you **balance skills/knowledge** aspects of the practice curriculum? We are

interested in how you plan skill development within your curriculum. How do you develop generic skills?

7. In health professional education it is common to talk of **professional values and attitudes**. How do you approach the development of professional values and attitudes in your programme? Have you any agreed attitudes/values that you would wish to inculcate through the programme?

### **PRACTICE BASED TEACHING/LEARNING**

1. What arrangements, if any, do you have for placement teaching - i.e. within community and/or hospital pharmacy?
2. How does the school **resource** this element of education currently?
3. How is this phased over the programme? We are interested in the total number of hours of placement teaching in each year of the programme per student.
4. How do you **supervise** the dedicated university teaching placements? What is the involvement of external staff?
5. What are your **learning outcomes** for placements? Do you assess them – if so how?
6. What plans do you have for **developing placement** teaching? What are the barriers? How are you working to overcome them?
7. How many **teacher practitioners** do you have to support professional placements - and who funds them?
8. In addition to any of the placement activity already discussed, do your students experience any **other health professional placement** activity e.g. medical practices, industry, expert patient groups?
9. Is this activity **assessed** – if so how? What have been your experiences?
10. Do you operate a **code of conduct** for your students? How do you inform them of it and how is it enforced?
11. How do you deal with **inappropriate behaviour** by students? Fitness to Practice Procedures?

### **ASSESSMENT**

1. Can you talk us through the **assessment methods** used in the practice component of the programme?
2. If not covered in question 1 above, prompt about:
  - a. Peer assessment.
  - b. Group work assessments.
  - c. Oral examinations.
  - d. Video assessments.
  - e. OSCEs/OSPEs (objective structures clinical/practical examinations).
  - f. Practice based assessments (i.e. in hospital, community).
3. We are interested in how you assess **skill development** in the practice arena; this

includes the achievement of generic skills and subject specific skills? Do you have any special assessment procedures?

4. Again – the area of **professional values and attitudes**. How do you approach their assessment?
5. A key question in health professional education is the **determination of clinical/professional competence**. How do you approach this within the school?
6. Do you think there is a national understanding of the qualities, skills and performance that one should expect of an **entrant to pre-registration training**?
7. Looking at the programme overall, do you think the **volume of assessment** on the degree programme is right?
8. And again looking at the overall programme, do you think the assessment measures the full **range of qualities necessary to practice** as a pharmacist? If not, why not?

### **LOOKING TOWARDS THE FUTURE**

**The final set of questions is about the future of pharmacy education and training in Ireland. We are interested in your views based upon your past and current experience.**

1. I am going to start with the big question – how do you think that pharmacy education and training in Ireland could be improved? What do you think are the critical questions?
2. The Pharmacy Act in Ireland offers the opportunity for a major change in education – thinking of the pharmacy undergraduate syllabus what would you like to see changed, what should be retained and what new developments should be considered – all to produce the highest quality pharmacists?
3. If we think more widely over the total 5 year training and educational programme for pharmacists in Ireland, what do you think should be the role of the schools of pharmacy in this programme? We will come back to resources but to start with and I am interested in your vision for the future?
4. What are the essential qualities for a day one pharmacist emerging at the end of the future 5 – year educational/training programme? How can we measure these qualities? What quality assurance process would you see as desirable? (*Note to Interviewer: Can prompt here – outcome measures against process measures etc*).
5. What responsibilities would you like to see the schools of pharmacy assuming for **workplace learning and education** within future pharmacy training and educational programmes?
6. What are your views on how to ensure that entrants are not only academically capable but also have the right attitudes and values for a career as a health professional?
7. From a pharmacy practice perspective, what are your views on **assessment** to ensure the highest quality pharmacists entering the profession? What changes, developments would you like to see on a national scale?
8. What are your views on a co-terminus award for entry to the profession (i.e. where students graduate and qualify for registration at the same time)? How could this be managed and quality assured?
9. Again from the perspective of teaching and learning in practice, what would be your future vision for the **structure of a school of pharmacy** that could deliver the

educational programme that we have discussed – here I mean what interactions would it have with the practice of pharmacy, the PSI and with policy makers?

10. **Staffing** is probably the essential resource in education. What do you think are the implications for staffing if schools were to deliver your vision of future pharmacy education in Ireland?

**Thank you very much for agreeing to do this interview we very much appreciate your involvement in what we realise has been a lengthy interview. Are there any other points you would like to raise that I have not covered?**



## A2.5 Undergraduate pharmacy student questionnaire



# A REVIEW OF PHARMACY EDUCATION WITHIN IRELAND

## THE STUDENT EXPERIENCE OF THE PHARMACY DEGREE

### **About This Survey**

This questionnaire is part of a larger study of pharmacy education within Ireland commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) – PEARs Project. The work is being conducted by the Pharmacy Practice Research Group at Aston University in the United Kingdom.

**The aim of this research is to inform future educational planning and this questionnaire is an opportunity for you to influence this agenda and express your views.**

### **What To Do**

Any responses you give will be anonymous. Most of the questions simply require you to tick a reply box. The whole questionnaire can be completed in less than 20 minutes and we hope that you will help us with this important research.

**In the event of queries, please contact:  
Dr Chris Langley on [c.a.langley@aston.ac.uk](mailto:c.a.langley@aston.ac.uk).  
Pharmacy Practice Research Group, Aston University, Birmingham, UK.**

The Pharmacy Education and Accreditation Reviews (PEARs) Project is commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) in accordance with section 9 of the Pharmacy Act, 2007.



## SECTION A: WORKLOAD

► Q1. *The following questions are about your experience of your pharmacy degree course. Thinking about workload throughout your degree to date, which of the following options for each question best represents your opinion?*

a) *Overall, the volume of work required for the degree course is:*

TICK ONE ONLY

Far too much	Too much	About right	Not enough	Nowhere near enough
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *I find coping with the amount of work required:*

TICK ONE ONLY

Very easy	Easy	About average	Difficult	Very difficult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *I think the balance of the degree course is best described as:*

TICK ONE ONLY

Far too much of a focus on pure scientific knowledge and skills	Too much of a focus on pure scientific knowledge and skills	About right	Too much of a focus on professional knowledge and skills	Far too much of a focus on professional knowledge and skills
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION B: TEACHING AND LEARNING

► Q2. *We are interested in your views on the amount of teaching and learning material relating to the pharmaceutical sciences (for example, medicinal chemistry, pharmacology, pharmaceuticals and microbiology) and to the practice of pharmacy (e.g. dispensing, law and ethics and clinical therapeutics). For each statement within this question, please indicate which option best reflects your experience at your current point in your studies.*

a) *Considering the degree course as a whole, the time devoted to material relating to the pharmaceutical sciences is:*

TICK ONE ONLY

Nowhere near enough	Not enough	About right	Too much	Far too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *Considering the degree course as a whole, the time devoted to material relating to the practice of pharmacy is:*

TICK ONE ONLY

Nowhere near enough	Not enough	About the right amount	Too much	Far too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *Dispensing should be taught in all years of the degree course.*

**TICK ONE ONLY**

<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *Law and ethics should be taught in all years of the degree course.*

**TICK ONE ONLY**

<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) *Material relating to clinical pharmacy should be taught in all years of the degree course.*

**TICK ONE ONLY**

<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) *I consider that the science content of the early part of the course was/will be necessary for the professional parts of the degree course.*

**TICK ONE ONLY**

<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q3. Thinking about methods of teaching, look at the list below and indicate by ticking one box in each section how important each one is for your own learning (if you have not experienced any of the listed methods, please indicate in the right-hand (shaded) column).**

**TICK ONE ONLY WITHIN EACH ROW**

		<b>Very important</b>	<b>Fairly important</b>	<b>Not important</b>	<b>Have not experienced</b>
a)	Lectures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Scientific Laboratory Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Dispensing or Clinical Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Tutorials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Workshops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Seminars.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Directed Study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Problem based learning (PBL).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Computer aided learning packages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Case studies or presentations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 3 continued... **TICK ONE ONLY WITHIN EACH ROW**

k)	Community pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l)	Hospital pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m)	Industrial pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q4. Thinking about the following practical classes, look at the list below and indicate by ticking one box in each section how useful you have found each type of practical class (if you have not experienced any of the listed practical classes, please indicate in the right-hand (shaded) column).**

**TICK ONE ONLY WITHIN EACH ROW**

		Very useful	Fairly useful	Not very useful	Not at all useful	Have not experienced
a)	Medicinal/ Pharmaceutical Chemistry Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Pharmacology Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Pharmaceutics/ Physical Pharmacy Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Dispensing Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Other Practice (Therapeutics) Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Pharmacognosy Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Microbiology Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Anatomy/Physiology Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Biology/Biochemistry Practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	IT practicals (practical classes on the use of computers/software).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q5. Next, we want you to consider your experience of using information technology (IT) to support learning. In relation to your own learning, please state how useful the following are (if you have not experienced any of the items listed, please indicate in the right-hand (shaded) column):**

**TICK ONE ONLY WITHIN EACH ROW**

		Very useful	Fairly useful	Not very useful	Not at all useful	Have not experienced
a)	On-line access to copies of lecture notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	On-line access to e-learning material (in addition to lecture notes).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	On-line delivery of lectures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Podcasts and vodcasts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Release of coursework on-line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Submission of coursework on-line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Computer aided learning (CAL) packages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	On-line tests or quizzes to assist learning (i.e. the marks do not count).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Formal assessment on-line (for example, on-line examinations).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Use of on-line collaboration (for example, discussion boards, wikis, etc).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	On-line portfolios and blogs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SECTION C: ASSESSMENT

► **Q6. This question explores your experience of the assessment of the degree course.**

a) *I consider that the amount of formal assessment on my degree course is:*

**TICK ONE ONLY**

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *I consider that the balance between exams and coursework assessments on my degree course is:*

**TICK ONE ONLY**

Too much of an emphasis on coursework marks	About right	Too much of an emphasis on examination marks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *I consider that the focus on memorised knowledge in my degree assessment process is:*

**TICK ONE ONLY**

Too little	Just about right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *For the following assessment methods please state if you think that it can measure the **skills** necessary to become a pharmacist? If you have not experienced any of the assessments listed, please indicate in the right-hand (shaded) column.*

**TICK ONE ONLY WITHIN EACH ROW**

		<u>Can</u> measure the <b>skills</b> necessary to become a pharmacist	<u>Cannot</u> measure the <b>skills</b> necessary to become a pharmacist	I have not experienced this style of assessment
a)	Formal examinations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Individual coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Group coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Practical examinations or tests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Clinical OSCE style (one-to-one) assessments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Assessment of placements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) *Thinking about your experience of assessment across the whole of your degree course to date, how useful have you found the feedback in improving your performance? If you have not yet experienced any of the feedback listed, please indicate in the right-hand (shaded) column.*

i) *On examination performance.*

**TICK ONE ONLY**

Very useful	Fairly useful	No opinion	Not very useful	Not at all useful	Have not yet experienced
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ii) *On performance in coursework.*

**TICK ONE ONLY**

Very useful	Fairly useful	No opinion	Not very useful	Not at all useful	Have not yet experienced
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) Overall, are you satisfied with the amount of feedback you have received?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

<b>If answer is 'Yes'</b>
<b>GO TO Q7 ⇒</b>

g) If you answered 'No' to Question 6(f), please provide in the space below a brief description as to what you thought was lacking.

**Answer:**

## SECTION D: OPTIONS

► **Q7. Some degree courses allow students to choose options from outside the main subject area. We are interested in your views on whether such options should be available. Select the one statement below that best summarises your views on option availability.**

*Regarding options, I think that the degree course should:*

**TICK ONE ONLY**

a)	Comprise entirely core, set subjects with no element of choice.	<input type="checkbox"/>
b)	Have options available, but only pharmacy subjects.	<input type="checkbox"/>
c)	Have options available, but only non-pharmacy subjects.	<input type="checkbox"/>
d)	Have options available from both pharmacy and non-pharmacy subjects.	<input type="checkbox"/>
e)	Other (please specify): _____	<input type="checkbox"/>

## SECTION E: INTER-PROFESSIONAL LEARNING

**Inter-professional learning** involves students learning *from* students from other professions, as well as learning *with* students from other professions. This is different from **inter-professional teaching** where members of different healthcare professions simply attend the same shared teaching session (for example, lectures).

► **Q8. During your studies to date, have you experienced inter-professional learning with other health professional students within:**

**TICK ONE ONLY WITHIN EACH ROW**

		Yes	No
a)	Lectures.	<input type="checkbox"/>	<input type="checkbox"/>
b)	Interactive sessions, e.g. workshops/tutorials.	<input type="checkbox"/>	<input type="checkbox"/>

If both answers are 'No'

GO TO Q11 →

► **Q9. If you have studied with other health-professional students, please indicate which categories were involved:**

**TICK ALL THAT APPLY**

a)	Medical students.	<input type="checkbox"/>
b)	Student nurses.	<input type="checkbox"/>
c)	Dental students.	<input type="checkbox"/>
d)	Other health professionals allied to medicine (e.g. physiotherapists; optometrists; audiologists; social workers; occupational therapists)	<input type="checkbox"/>
	If so, specify which: _____	

► **Q10. In relation to your degree course, how useful has your experience of inter-professional learning been?**

**TICK ONE ONLY**

Very useful	Moderately useful	No opinion	Not useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q11. What do you think is the one major advantage and the one major disadvantage of inter-professional learning?**

a) **Advantage:** (please specify) \_\_\_\_\_

\_\_\_\_\_

b) **Disadvantage:** (please specify) \_\_\_\_\_

\_\_\_\_\_



► Q12. How strongly do you agree with the statement that “inter-professional learning with other health professional students should be a requirement for all undergraduate degrees in pharmacy”?

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION F: PLACEMENTS

► Q13. Now we have some questions about professional placements. By a ‘professional placement’ we mean a period of practical experience in a pharmacy or clinical setting that is an integral part of your degree course or undertaken during the vacation while you are still a University student.

a) Does your school of pharmacy require you to undertake placement work during the vacation period?

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is ‘No’

GO TO Q14 ⇒

b) Is this placement work assessed (for example, by the completion and assessment of a workbook or portfolio, etc)?

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

► Q14. If you have any experience of placement education during your degree course (i.e. during term time, in addition to any vacation placements), tick the appropriate boxes below to indicate when and where these took place.

TICK ALL THAT APPLY

		First year	Second year	Third year	Fourth year
a)	Community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Hospital (pharmacy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Hospital (ward-based)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	GP Practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Other (specify below)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other: \_\_\_\_\_

► Q15. *To what extent was/were your professional placement(s) (both during the course and/or during the vacation) a good learning experience? If you have not yet experienced any form of placement, please indicate in the right-hand (shaded) column.*

TICK ONE ONLY

Very Good	Good	Fairly Good	Not very Good	Not at all Good	Have not yet experienced
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q16. *What do you think is the one major advantage and the one major disadvantage of placement education?*

a) **Advantage:** (please specify) \_\_\_\_\_

\_\_\_\_\_

b) **Disadvantage:** (please specify) \_\_\_\_\_

\_\_\_\_\_

► Q17. *How strongly do you agree with the following statements?*

a) *“Professional placements should be compulsory in at least one year of study.”*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *“Professional placements should be compulsory in all years of study.”*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION G: RESEARCH PROJECTS

► Q18. *How important do you think it is that there should be a research project in the degree course?*

TICK ONE ONLY

Very important	Fairly important	Not sure	Not very important	Not at all important
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q19. *If you have experience of choosing a research project, do you think there was enough choice in terms of the research project topics that were available to you? If you are yet to choose a research project, please indicate in the right-hand (shaded) column.*

TICK ONE ONLY

Yes	Not sure	No	I am yet to choose a research project
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q20.** *If you have experience of undertaking a research project, do you consider that your pharmacy degree course provided you with the necessary skills and knowledge to undertake the project? If you are yet to undertake a research project, please indicate in the right-hand (shaded) column.*

TICK ONE ONLY

Yes	Not sure	No	I am yet to undertake a research project
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION H: INFLUENCES ON YOUR FUTURE CAREER

► **Q21.** *How strong would you say your desire to study pharmacy was?*

a) *when you started your pharmacy course?*

TICK ONE ONLY

Very strong	Fairly strong	Not very strong	Not at all strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *now?*

TICK ONE ONLY

Very strong	Fairly strong	Not very strong	Not at all strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Was pharmacy your first and only choice for study at University?

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'Yes'

GO TO Q22 ⇒

d) If your answer to Question 21(c) was 'No', what other options did you consider?

TICK ONE ONLY

a)	Pharmacy was my second choice to medicine.	<input type="checkbox"/>
b)	Pharmacy was my second choice to dentistry.	<input type="checkbox"/>
c)	Pharmacy was my second choice to another health degree.	<input type="checkbox"/>
d)	Pharmacy was my second choice to another science (non-health) degree.	<input type="checkbox"/>
e)	Other (please specify): _____	<input type="checkbox"/>

► **Q22.** *How strong would you say your desire to be a pharmacist was:*

a) *when you started pharmacy school?*

TICK ONE ONLY

Very strong	Fairly strong	Not very strong	Not at all strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *now?*

**TICK ONE ONLY**

Very strong	Fairly strong	Not very strong	Not at all strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q23. Overall, how confident are you that your pharmacy programme to date has developed your:**

a) *knowledge?*

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *personal skills?*

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *practical skills?*

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *professional attitude and behaviour?*

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q24. The following questions are about the Pharmaceutical Society of Ireland (PSI).**

a) *Have you received any information from the PSI about the pharmacy profession or becoming a pharmacist?*

**TICK ALL THAT APPLY**

Yes; in printed and/or electronic form	Yes; someone from the PSI spoke at my school	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'

GO TO Q24(c) ⇒

b) *If you did receive information from the PSI about the pharmacy profession or becoming a pharmacist, overall, how useful did you find this information?*

**TICK ONE ONLY**

Very useful	Moderately useful	No opinion	Not useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c) *Do you think that pharmacy students should have to register with the PSI during their time at university?*

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

## SECTION I: STUDENT PERCEPTIONS

► **Q25.** *The following statements are about your current perception of your pharmacy degree course as a whole. Indicate your agreement with each statement by selecting one of the options below:*

- a) *“I think that the first year is about bringing everyone up to the same level before entering the second year.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) *“The pharmacy degree is more about memorising fact than applying knowledge.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c) *“A lot of the science we are taught is irrelevant.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) *“Clinical teaching comes too late in the degree; I think it should be brought in right from the beginning.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) *“There should be less generic science and more material relating to the practice of pharmacy in year one.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- f) *“It is difficult to manage your time between timetabled sessions and directed study/coursework.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) *“I do believe it’s a very hard degree course because there is an enormous amount of it.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- h) *“Pharmacy degree courses seem to have more assessments than other courses.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- i) *“Generally, the assessments used on my degree course don’t measure the skills for being a pharmacist; they just measure your knowledge base.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION J: THE PRE-REGISTRATION YEAR

► **Q26.** *The following statements are about your perception of the pre-registration year. For Questions 26(a) and 26(b), please state how strongly you agree or disagree with the following statements:*

- a) *“I am aware of the requirements that I will have to meet in my pre-registration year.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) *“My degree course to date had provided me with the necessary background information about the pharmacy profession and its place in the healthcare system to confidently enter my pre-registration year.”*

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *Within which sector(s) of the profession do you wish to undertake your pre-registration training?*

**TICK ALL THAT APPLY**

a)	Entirely within community pharmacy.	<input type="checkbox"/>
b)	Entirely within hospital pharmacy.	<input type="checkbox"/>
c)	A split position between community and hospital pharmacy.	<input type="checkbox"/>
d)	A split position between community and industry.	<input type="checkbox"/>
e)	A split position between hospital and industry.	<input type="checkbox"/>
f)	A split position between community and a school of pharmacy.	<input type="checkbox"/>
g)	A split position between hospital and a school of pharmacy.	<input type="checkbox"/>

### SECTION K: ABOUT YOU

► **Q27. Are you:**

**TICK ONE ONLY**

<b>Female</b>	<b>Male</b>
<input type="checkbox"/>	<input type="checkbox"/>

► **Q28. How old are you?**

**TICK ONE ONLY**

<b>≤17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23-29</b>	<b>30-39</b>	<b>40+</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q29. Did you work in a pharmacy (in any role) prior to starting your degree?**

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

► **Q30. Did you have a primary degree or other third level or vocational/Post-Leaving Certificate qualification before starting your pharmacy degree?**

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

► **Q31. Are you an Irish citizen, an EU/EEA citizen (except Irish) or from outside the EU/EEA?**

**TICK ONE ONLY**

<b>I am an Irish citizen</b>	<b>I am an EU/EEA Citizen (except Irish)</b>	<b>I am from outside the EU/EEA</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q32. Which school of pharmacy do you attend?**

**TICK ONE ONLY**

Royal College of Surgeons in Ireland	<input type="checkbox"/>
Trinity College, Dublin	<input type="checkbox"/>
University College Cork	<input type="checkbox"/>

► **Q33. What year of your studies are you in?**

**TICK ONE ONLY**

First year	<input type="checkbox"/>	Second year	<input type="checkbox"/>
Third year	<input type="checkbox"/>	Final year	<input type="checkbox"/>

► **Q34. How would you best describe your ethnic background?**

**TICK ONE ONLY**

White or White Irish	<input type="checkbox"/>	Dual Heritage	<input type="checkbox"/>
Black or Black Irish	<input type="checkbox"/>	Other Ethnic Group	<input type="checkbox"/>
Asian or Asian Irish	<input type="checkbox"/>	Don't want to say	<input type="checkbox"/>

**Thank you for your time and cooperation. If you have any other comments that you would like to make about your pharmacy undergraduate education, enter them below.**

**Additional Comments:**

**Do Not Write Below this line – for administrative use only.**

Student questionnaire vFinal



## A2.6 Pharmacy school staff questionnaire



# **A REVIEW OF PHARMACY EDUCATION WITHIN IRELAND**

## **STAFF PERSPECTIVE OF THE PHARMACY DEGREE**

### **About This Survey**

*This questionnaire is part of a larger study of pharmacy education within Ireland commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) – PEARs Project. The work is being conducted by the Pharmacy Practice Research Group at Aston University in the United Kingdom.*

***The aim of this research is to inform future educational planning and this questionnaire is an opportunity for you to influence this agenda and express your opinions.***

### **What To Do**

*Any responses you give will be anonymous. Most of the questions simply require you to tick a reply box. The whole questionnaire can be completed in less than 30 minutes and we hope that you will help us with this important research.*

***In the event of queries, please contact:***

***Alpa Patel on [A.Patel10@aston.ac.uk](mailto:A.Patel10@aston.ac.uk)***

***Pharmacy Practice Research Group, Aston University, Birmingham, UK.***

*The Pharmacy Education and Accreditation Reviews (PEARs) Project is commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) in accordance with section 9 of the Pharmacy Act, 2007.*



**SECTION A: WORKLOAD**

► Q1. Thinking about student workload in the undergraduate BSc Pharmacy degree course at your institution, which of the following options best represents your opinion?

a) The volume of the work required is:

**TICK ONE ONLY**

<b>Far too much</b>	<b>Too much</b>	<b>About right</b>	<b>Not enough</b>	<b>Nowhere near enough</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'About right' to Q1(a)
GO TO Q1(c) ⇒

b) What changes would you like to see, to make the workload about right?

<b>Answer</b>
---------------

c) Referring to your response to Q1(a), how easy do you think it is for the average student to cope with the workload?

**TICK ONE ONLY**

<b>Very easy</b>	<b>Easy</b>	<b>Neither easy or difficult</b>	<b>Difficult</b>	<b>Very difficult</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Please indicate whether in your opinion the amount of formal student contact hours is:

**TICK ONE ONLY**

<b>Far too little</b>	<b>Too little</b>	<b>About right</b>	<b>Too much</b>	<b>Far too much</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q2 Thinking about your own workload, please indicate how strongly you agree or disagree with the following statements (if any of the statements do not apply, please select 'Not applicable').

**TICK ONE ONLY WITHIN EACH ROW**

<b>I have enough time to:</b>		<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Not applicable</b>
a)	develop teaching material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	develop delivery and teaching methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	provide student feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	conduct research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	complete administrative responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION B: TEACHING AND LEARNING**

► Q3. We are interested in your opinion on the amount of teaching and learning material relating to the pharmaceutical sciences (for example, medicinal/pharmaceutical chemistry, pharmacology, pharmaceuticals and microbiology) and to the practice of pharmacy (e.g. dispensing, law and ethics and clinical therapeutics) in the undergraduate BSc Pharmacy degree course at your institution. For each statement within this question, please indicate which option best expresses your opinion:

a) The time devoted to material relating to the pharmaceutical sciences is:

**TICK ONE ONLY**

Nowhere near enough	Not enough	About right	Too much	Far too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) The time devoted to material relating to the practice of pharmacy is:

**TICK ONE ONLY**

Nowhere near enough	Not enough	About right	Too much	Far too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Material relating to clinical pharmacy should be taught in all years of the undergraduate BSc Pharmacy degree course.

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) I consider that the science content of the early part of the course is necessary for the professional parts of the undergraduate BSc Pharmacy degree course.

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q4. Overall, how confident are you that the undergraduate BSc Pharmacy degree course at your institution develops a student's:

a) Pharmaceutical knowledge?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) Personal skills?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) Practical skills?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Professional attitudes and behaviour?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) Capacity for self-reflection?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) Capacity for self-learning?

**TICK ONE ONLY**

Very confident	Fairly confident	Not very confident	Not at all confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q5. Thinking about learning techniques, how important are each of the following for student learning (If you have no experience of/involvement with any of the listed methods, please select "Have not used").**

**TICK ONE ONLY WITHIN EACH ROW**

		Very important	Fairly important	Not important	Have not used
a)	Lectures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Scientific laboratory practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Dispensing or clinical practicals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Tutorials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Workshops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Seminars.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Directed study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Problem based learning (PBL).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Computer aided learning packages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Case studies or presentations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	Community pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l)	Hospital pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m)	Industrial pharmacy placements/visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q6a. Does the undergraduate BSc Pharmacy degree course at your institution have a personal tutoring system?**

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

<i>If your answered 'No' to Q6</i>
<b>GO TO Q7 ⇒</b>

► **Q6b. In your opinion, how effective is the personal tutoring system at your university in providing:**

**TICK ONE ONLY WITHIN EACH ROW**

Support provided	Very effective	Effective	Neither effective nor ineffective	Ineffective	Very ineffective	Don't know
Pastoral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q7. The following questions relate to the level of control you exercise on the teaching methods used and on the choice of delivery of the BSc Pharmacy degree course at your institution.**

- a) How much control do you (as an individual) have over the choice of teaching/ learning methods used in module(s) you coordinate or do not coordinate but teach?

**TICK ONE ONLY WITHIN EACH ROW**

	Full control	Fair amount of control	Very little control	No control	Not applicable
i) Modules I coordinate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Modules I teach but do not coordinate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) Thinking about the undergraduate BSc Pharmacy degree course at your institution, as a whole, how would you like to see the following changed?

**TICK ONE ONLY WITHIN EACH ROW**

	More	About the same	Less
i) Formal teaching (non-interactive)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Student centred teaching (interactive)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Directed learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c) On a scale of 1 to 5, where 1 represents very good and 5 represents very poor how would you rate the relationship between staff and students in your School of Pharmacy?

**TICK ONE ONLY**

1 Very good	2	3	4	5 Very poor
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q8. Next, please consider your experience of using information technology (IT) to support student learning. Please state how useful you find the following in your teaching (if you have not used any of the methods listed, please select "Have not used").**

**TICK ONE ONLY WITHIN EACH ROW**

		Very useful	Fairly useful	Not very useful	Not at all useful	Have not used
a)	On-line access to copies of lecture notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	On-line access to e-learning material (in addition to lecture notes).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	On-line delivery of lectures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Podcasts and vodcasts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Release of coursework on-line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Submission of coursework on-line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Computer aided learning (CAL) packages.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h)	Formative assessments e.g. on-line tests or quizzes to assist learning (i.e. the marks do not count).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i)	Summative assessment e.g. formal assessment on-line (for example, on-line examinations).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Use of on-line collaboration (for example, discussion boards, wikis, etc).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k)	On-line portfolios and blogs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q9. Referring to Q8, from your experience, please would you state the advantages and disadvantages of using IT to support learning. Please relate your answers to specific methods.**

a) Advantage: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b) Disadvantage: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

► Q10a. How strongly to do you agree or disagree that your institution rewards:

TICK ONE ONLY

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
Quality of teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovation of teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q10b. Please could you describe where you have used innovative teaching methods to enhance or improve the quality of the students' learning experience.

Answer

### SECTION C: ASSESSMENT

► Q11. This question explores your opinions on the assessment methods used on the undergraduate BSc Pharmacy degree course at your institution and whether assessments measure the ability to perform as a pharmacist.

a) I consider that the amount of formal assessment (summative) is:

TICK ONE ONLY

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'About right' to Q11a  
GO TO Q11c ⇒

b) If your response to the previous question was "Too little" or "Too much", we would be interested in your opinions as to why you gave that answer.

Answer:

c) I consider that the balance between exams and continuous assessments (i.e. coursework, practicals) is:

TICK ONE ONLY

Too much of an emphasis on continuous assessments	About right	Too much of an emphasis on examination marks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'About right' to Q11c  
GO TO Q11e ⇒

- d) If your response to the previous question was "too much emphasis" on either continuous assessments/examinations, we would be interested in your opinion on how the assessment balance could be altered.

**Answer:**

- e) I consider that the focus on memorised knowledge in the degree assessment process is:

**TICK ONE ONLY**

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If your answered 'About right' to Q11e
<b>GO TO Q11g ⇒</b>

- f) If your response to the above was "too little" or "too much", we would be interested in your opinions.

**Answer:**

- g) We would be interested in your views on whether or not the assessment methods used, measure the ability to perform as a pharmacist.

**Answer:**

## **SECTION D: FEEDBACK ON ASSESSMENTS**

- **Q12.** This question explores your practice of providing feedback to students on assessments in the module(s) you teach.

- a) Feedback is provided on:

**TICK ALL THAT APPLY**

		Routinely		Upon request	
		To all students	Only to students who have failed	To all students	Only to students who have failed
i)	Exams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Coursework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



b) Thinking about the module(s) you teach, please indicate how strongly you agree or disagree with the following statements:

**TICK ONE ONLY WITHIN EACH ROW**

		Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
i)	I am satisfied with the amount of feedback I provide.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	Lack of time prevents me from providing feedback to all students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SECTION E: INTER-PROFESSIONAL LEARNING

Inter-professional learning involves students learning from students, as well as learning with students from other professions. This is different from inter-professional teaching where members of different healthcare professions simply attend the same shared teaching sessions (for example, lectures).

► Q13. In the module(s) you teach, do students learn with other health professional students?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'No' to Q13

GO TO Q15 ⇒

► Q14. Thinking about inter-professional learning (IPL), please indicate the format in which students have experienced IPL with other health professional students:

**TICK ONE ONLY WITHIN EACH ROW**

		Yes	No
a)	Large lecture style format.	<input type="checkbox"/>	<input type="checkbox"/>
b)	Small-group workshop/tutorial style format.	<input type="checkbox"/>	<input type="checkbox"/>

► Q15. Irrespective of whether you have experience of delivering inter-professional learning (IPL), in your opinion:

a) To what extent do you consider inter-professional learning (IPL) a useful method to enhance learning that teaching pharmacy students on their own would not achieve?

**TICK ONE ONLY**

Useful	No opinion	Not useful
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) When would you consider it to be the best time for inter-professional learning for pharmacy students?

**TICK ALL THAT APPLY**

1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) What do you think is the one major advantage and the one major disadvantage of inter-professional learning?

i) **Advantage: (please specify)** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ii) **Disadvantage: (please specify)** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

d) How strongly do you agree or disagree with the statement that “inter-professional learning (IPL) with other health professional students should be a requirement within all undergraduate degree programmes in Ireland”?

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### ***SECTION F: PHARMACEUTICAL SOCIETY OF IRELAND***

► Q16. The following questions are about the Pharmaceutical Society of Ireland (PSI).

a) Do you think that pharmacy students should have to register with the PSI during their time at university?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

b) Can you explain your reason for your answer to the previous question i.e. Q16(a)?

**Answer**

### **SECTION G: OPTIONS**

► Q17. Some degree courses allow students to choose options from outside the main subject area. We are interested in your opinion on whether such options should be available in the undergraduate BSc Pharmacy degree course at your institution. Please select one statement below that best summarises your opinions on option availability.

a) Regarding options, I think that the undergraduate BSc Pharmacy degree course should:

**TICK ONE ONLY**

i)	Comprise entirely of core, set subjects with no element of choice.	<input type="checkbox"/>
ii)	Have options available, but only pharmacy subjects.	<input type="checkbox"/>
iii)	Have options available, but only from non-pharmacy subjects.	<input type="checkbox"/>
iv)	Have options available from both pharmacy and non-pharmacy subjects.	<input type="checkbox"/>
v)	Other (please specify):	<input type="checkbox"/>

### **SECTION H: RESEARCH PROJECTS**

► Q18. In your opinion how important is it that the undergraduate BSc Pharmacy degree course at your institution includes a research project?

**TICK ONE ONLY**

<b>Very important</b>	<b>Fairly important</b>	<b>Not very important</b>	<b>Not at all important</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q19. Do you consider that the undergraduate BSc Pharmacy degree course at your institution provides students with the necessary skills and knowledge to undertake the project?

**TICK ONE ONLY**

<b>Yes</b>	<b>Not sure</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **SECTION I: PLACEMENTS**

► Q20. The following questions refer to work placements i.e. a period of work experience that students are required to undertake as part of the curriculum during and outside term-time while a university student.

a) Do students undertake compulsory work placements as part of the BSc Pharmacy degree course at your institution?

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

**If you answered 'No' to Q20(a)**

**GO TO Q22 →**

b) When do these compulsory placements take place?

**TICK ALL THAT APPLY**

During term-time (in the academic year)	In student's own time (outside of term-time)
<input type="checkbox"/>	<input type="checkbox"/>

c) How strongly do you agree or disagree that these compulsory work placements:

**TICK ONE ONLY WITHIN EACH ROW**

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
i)	provide a meaningful experience of the workplace?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	provide an opportunity for the development of professional behaviour and values?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	provide an opportunity for the application of knowledge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) Are students assessed whilst they are on placements?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'No' to Q20(d)
GO TO Q21 →

e) What form does the assessment take?

**Answer:**

► **Q21. The following questions refer to the administration and quality assurance of compulsory work placements.**

a) Are you involved in any support activity related to student placements (e.g. sourcing, organising, etc)?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'No' to Q21(a)
GO TO Q22 →

b) How are compulsory work placements in the undergraduate BSc Pharmacy degree course at your institution arranged?

**TICK ALL THAT APPLY**

i)	The school takes full responsibility for arranging work placements.	<input type="checkbox"/>
ii)	The school provides a list of pharmacy tutors but students are expected to arrange their own placements.	<input type="checkbox"/>
iii)	Students take full responsibility for arranging their placements.	<input type="checkbox"/>
iv)	Don't know.	<input type="checkbox"/>
v)	Other (please specify)	<input type="checkbox"/>

c) Thinking about pharmacists who provide compulsory work placement experience (for your students) and the location in which the work placement takes place, do/does:

**TICK ONE ONLY FROM EACH ROW**

		Yes	No	Don't know
i)	They receive training from the university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	The university provide support, upon request.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	The university inform them of the skills/learning objectives to be achieved by the student during the placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	They provide formal feedback to the university on a student's performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v)	The university set standards of quality for the teaching to be provided by the pharmacist.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi)	The university set standards of quality for the premises in which work placement experience is to be provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) To what extent do you agree or disagree that the measures taken by the university to ensure students benefit from their work placement learning experience, are effective?

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q22. What do you think is the one major advantage and the one major disadvantage of placement education?

a) Advantage: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b) Disadvantage: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

► Q23. How strongly do you agree or disagree with the following statements?

a) Work placements should be compulsory in at least one year of study.

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) Work placements should be compulsory in all years of study.

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION J: THE PRE-REGISTRATION YEAR; OLD FORMAT**

► Q24. The aim of the following questions is to determine your opinions on the old pre-registration year, i.e. predating the National Pharmacy Internship Programme 2009-2010.

a) How strongly would you agree or disagree that the undergraduate BSc Pharmacy degree course at your institution provided students with the necessary knowledge and skills to confidently enter the pre-registration year (old format) in:

TICK ONE ONLY FROM EACH ROW

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
Community pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) How strongly would you agree or disagree that prior to the commencement of the pre-registration year (old format), students were made aware of the criteria they would have to meet in their pre-registration year to successfully qualify as a pharmacist?

TICK ONE ONLY FROM EACH ROW

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION K: THE PRE-REGISTRATION YEAR; NEW FORMAT**

► Q25. The following set of questions is about the new National Pharmacy Internship Programme 2009-2010.

a) How strongly would you agree or disagree with the statement "I feel that I am well informed of the structure of the new National Pharmacy Internship Programme 2009-2010"?

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) Recognising that the PSI will set standards for the internship year, how strongly do you agree or disagree that each of the following models can provide effective educational/training to develop a student from the intern stage to becoming a registered pharmacist in Ireland?

**TICK ONE ONLY WITHIN EACH ROW**

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
i)	4-year undergraduate BSc degree course and the pre-registration year <b>run by the PSI.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii)	4-year undergraduate BSc degree course and the pre-registration year <b>run by a university under contract with the PSI.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii)	4-year undergraduate BSc degree course and the pre-registration year <b>run in partnership with all schools of pharmacy in Ireland.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv)	4-year undergraduate BSc degree course and the pre-registration year <b>run by an independent body.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v)	Full integration of the pre-registration year into a 5-year programme <b>run by the individual universities.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c) Taking into account all circumstances (e.g. economic climate, logistics, cost, time etc.) of the five options listed below, please would you select the option that in your opinion best represents the model for the future pharmacy education in Ireland.

**TICK ONE ONLY**

i)	4-year undergraduate BSc degree course and the pre-registration year <b>run by the PSI.</b>	<input type="checkbox"/>
ii)	4-year undergraduate BSc degree course and the pre-registration year <b>run a university under contract with the PSI.</b>	<input type="checkbox"/>
iii)	4-year undergraduate BSc degree course and the pre-registration year <b>run in partnership with all schools of pharmacy in Ireland.</b>	<input type="checkbox"/>
iv)	4-year undergraduate BSc degree course and the pre-registration year <b>run by an independent body.</b>	<input type="checkbox"/>
v)	Full integration of the pre-registration year into a 5-year programme <b>run by the individual universities.</b>	<input type="checkbox"/>

- d) Regardless of how you answered the previous question Q25(c), how strongly do you agree or disagree that the successful completion of the 5-year programme should lead to a Masters qualification?

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) What in your opinion are the future challenges, should the 5-year integrated programme be implemented?

**Answer:**

### **SECTION L: PERSONAL CAREER DEVELOPMENT**

- **Q26.** The following questions refer to processes and activities linked to your career development.

**TICK ONE ONLY WITHIN EACH ROW**

		Yes	No
a)	Are you satisfied with the level of support received from your institution to enable your career to progress?	<input type="checkbox"/>	<input type="checkbox"/>
b)	Do you have a formal appraisal system?	<input type="checkbox"/>	<input type="checkbox"/>

If you answered 'No' to Q26b

**GO TO Q27 ⇒**

**TICK ONE ONLY WITHIN EACH ROW**

		Yes	No
c)	Is your appraisal linked to a career development plan?	<input type="checkbox"/>	<input type="checkbox"/>
d)	Is your appraisal linked to performance related pay?	<input type="checkbox"/>	<input type="checkbox"/>

- **Q27.** Considering your future career plan, how important are the following to ensure progression at your institution:

**TICK ONE ONLY WITHIN EACH ROW**

		Very important	Fairly important	Important	Not very important	Un-important
a)	Demonstrating commitment to research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Demonstrating commitment to development of innovative teaching/ learning methodologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Demonstrating leadership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- **Q28.** In your opinion, do you think there should be two separate career tracks for academic staff, one for research and another for teaching?

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>



- Q29. Thinking about job satisfaction, on a scale of 1 to 5 (where 1 represents high job satisfaction and 5 represents low job satisfaction), how would you rate the level of job satisfaction gained from teaching/research? If you do not undertake research or teaching, please select the 'Not applicable' option.

TICK ONE ONLY WITHIN EACH ROW

		1 High job satisfaction	2	3	4	5 Low job satisfaction	Not applicable
a)	Teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q30. What incentives are provided to follow a career path in research/teaching?

*Answer:* a(i) Incentives to follow a career in research.

*Answer:* a(ii) Incentives to follow a career in teaching.

*Answer:* b(i) Barriers to follow a career in research.

*Answer:* b(ii) Barriers to follow a career in teaching.

### SECTION M: ABOUT YOU

- Q31. Are you:

TICK ONE ONLY

Female	Male
<input type="checkbox"/>	<input type="checkbox"/>

- Q32. Are you an Irish citizen, an EU/EEA citizen (except Irish) or from outside the EU/EEA?

TICK ONE ONLY

I am an Irish citizen	I am an EU/EEA Citizen (except Irish)	I am from outside the EU/EEA
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q33. What is your job title?

TICK ONE ONLY

Professor	<input type="checkbox"/>	Associate Professor	<input type="checkbox"/>	Adjunct Professor	<input type="checkbox"/>
Senior Lecturer	<input type="checkbox"/>	Lecturer	<input type="checkbox"/>	Service Teaching Lecturer	<input type="checkbox"/>
Teacher Practitioner	<input type="checkbox"/>	Teacher Researcher	<input type="checkbox"/>	Teaching Fellow	<input type="checkbox"/>
Other (please specify)					

► Q34. Please indicate below the discipline you teach under.

TICK ALL THAT APPLY

Medicinal Chemistry	<input type="checkbox"/>	Microbiology/Cell Biology	<input type="checkbox"/>	Pharmacognosy	<input type="checkbox"/>
Pharmaceutics	<input type="checkbox"/>	Pharmacology	<input type="checkbox"/>	Pharmacy Practice/ Clinical Pharmacy	<input type="checkbox"/>
Other (please specify)					

► Q35. What are your hours of work at your HE institution?

TICK ONE ONLY

<b>Full time</b>	<b>Part time</b>
<input type="checkbox"/>	<input type="checkbox"/>

► Q36. Do you possess a teaching qualification?

TICK ONE ONLY

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

► Q37. How many HE institutions have you worked in?

TICK ONE ONLY

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q38. How many years experience do you have working in HE institutions?

TICK ONE ONLY

<b>0-5</b>	<b>6-10</b>	<b>11-15</b>	<b>16-20</b>	<b>Over 20 years</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q39. Which country are you a registered pharmacist in?

TICK ALL THAT APPLY

I am a registered pharmacist in:			<b>I am not a registered pharmacist</b>	<b>Other (please specify)</b>
Ireland	Great Britain	Northern Ireland		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

► Q40. At which school of pharmacy do you teach?

TICK ALL THAT APPLY

Royal College of Surgeons in Ireland	Trinity College, Dublin	University College Cork
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► Q41. Thank you for your time and cooperation. If you have any further comments that you would like to make about pharmacy undergraduate education, please enter them below.

*Additional Comments:*

Do Not Write Below this line – for administrative use only.

## Appendix 3 Data collection instruments for the review of the pre-registration year in Ireland

### A3.1 Pre-registration student focus group interview schedule

1. Introduction of focus group facilitator.
2. “Can you please introduce yourself and tell us whether you are a pre-registration student or a pharmacist, your branch of pharmacy and the school of pharmacy you attended”.
3. “We are interested in how you chose your pre-registration employment and of your experiences of the application process”.
  - a. “Did you get your pre-registration placement of choice?”
  - b. “Was it where you wanted to be geographically?”
  - c. “How did the process of application work for you?”
4. “How well did you feel you were prepared for your pre-registration period”?
  - a. “How were you informed about the process?”
  - b. “What was the nature of your contact with the PSI?”
  - c. “Did your academic degree prepare you for the work you had to do?”
5. “We are interested in your interactions with your pre-registration tutor. What support did you get? How did you get on generally with your tutor?”
6. “We would like to know what resources were available to you during your pre-registration period. These can include physical resources available to you, time, support from your employer or from the PSI.”
7. “How did you find the process of application for a job at the end of the pre-registration employment?”
  - a. “Did you get a position in the sector of your choice?”
  - b. “Did you change sector and if so, was it your choice to do so?”
8. “How well do you think the pre-registration process prepared you for the Registration examination?”
  - a. “How useful were the educational seminars and assessment tests, undertaken during your pre-registration year?”
  - b. “Did you undertake a project during the pre-registration year?”
  - c. “Did the seminars, tests and/or project help you in developing skills or highlight gaps in your training?”
9. “Now if you take an overall perspective – how beneficial was the pre-registration year?”
10. “Two final related questions – firstly what were the best things about your experience?”

11. “And finally – what were the things that you really would like to see changed – things that did not work for you or were problematic?”

### A3.2 Interview schedule – PSI Staff

This interview is about the pre-registration year for pharmacy graduates in Ireland. We are interested in experiences of the current system and views to the future following the passing of the Pharmacy Act in Ireland.

Q1. I would like to start by asking you to explain your involvement with the pre-registration process.

Q2. Many of the questions I will ask will be about detailed elements of the pre-registration year. But before that I would like to ask you what you think is the purpose of the pre-registration year?

**1. The first group of questions are about the information provided by the PSI to pre-registration students at the start of their pre-registration year.**

- a. How do you identify the pre-registrations students and when? (For example, is this via schools?)
- b. What is the first contact that a new pre-registration student has with the PSI?
- c. Does the PSI speak to students at any stages during their undergraduate degree?
- d. What information is provided by the PSI to pre-registration students and how is it sent to students? (e.g. direct, via college, via tutor; email, internet, post)
- e. When is this information sent out?
- f. Is the information in a standard format or does it cater for the different sectors in which a pre-registration student may work?
- g. What are your perceptions of the effectiveness of the information provided?
- h. Are any changes planned? We are interested in any experiences that might suggest the need to change the procedures.
- i. Are you aware of any problems or issues that have arisen and if so, how were they dealt with?

**2. Now we would like to explore the interactions between the PSI and pre-registration tutors – again at the beginning of the pre-registration year. We understand that the PSI maintains a database of pre-registration tutors.**

- a. How would a tutor get included on the data base of tutors?
- b. What process or by which criteria does the PSI decide that a tutor should be approved to supervise a pre-registration student?
- c. How does the PSI update and maintain its list of pre-registration tutors?
- d. What communications does the PSI have with tutors – for example if a pre-registration student is employed by a company and there is an identified tutor, what is the process by which the PSI is informed of this tutor?
- e. What communications take place between the PSI and the tutor up to the point of commencement of employment of the pre-registration student?

- f. What training or other support is provided to the tutor prior to the start of the pre-registration period?
- g. How does the PSI assure the quality of the pre-registration workplace and the appropriateness of the tutor?
- h. What communications take place between the PSI and the employer of the tutor prior to commencement of the pre-registration placement?
- i. What are your views of the overall system of pre-registration tutor support for pre-registration students – any strengths or weaknesses? Are there any aspects you think should be changed and why?

**3. Moving on, we now have a few questions about the role of the PSI during the course of the pre-registration year?**

- a. Can you talk me through your understanding of the assessment role of the PSI during the pre-registration year and before the final examinations at the end of the year? (BNF tests, project, etc)
- b. What interactions does the PSI have with the pre-registration student during the course of the pre-registration year? Does this work?
- c. What interactions does the PSI have with the tutor during the course of the pre-registration year? Does this work?
- d. Does the PSI organize any training days or events for students or tutors? Are these organised centrally (in Dublin) or regionally?
- e. What role does the PSI play when problems arise between a pre-registration student and their tutor?
- f. What are your perceptions of the role and involvement of the PSI with pre-registration trainees during the pre-registration year? Any good points or points of weakness about the current process?

**4. Moving on again, we have a few questions about the role of the PSI at the end of the pre-registration year.**

- a. We understand that there is a final examination based assessment at the end of the pre-registration year? What is your view of the purpose of this examination?
- b. What does it measure that was not measured by the end of course examinations (end of degree)?
- c. The bigger question - with a rigorous accreditation scheme for schools of pharmacy and clear requirements for accreditation, do you see any continuing need for theory examinations within the pre-registration year?
- d. Can you talk me through the way in which the examination is administered? Who is on the Board of Examiners, who sets the papers, who does the marking?
- e. How is the examination's quality assured on a year to year basis – is there use of “marker” questions, what statistics are used to ensure validity and reliability of the examination process?
- f. What appeals process is there in place? How often is it used?

- g. What happens when a student fails – can they repeat the examination?
- h. What are your overall views on the examination – do you think it is measuring the qualities that need to be measured? What do you think of the governance processes for the examination?
- i. When are the results sent out and how?
- j. We are interested in the overall process – timing of the examination, the turnaround time for marking and communication to students. Can you talk through these aspects for me?

**5. Finally, we have a number of more general questions about the pre-registration training process and the role of the PSI.**

- a. Do you think that as it is currently run, the pre-registration year integrates with or extends the undergraduate degree? If so how?
- b. We have talked a lot about assessment in the pre-registration year. Leaving aside current practices, what are the most important qualities that need to be assessed following graduation?
- c. What are your views on the length of the pre-registration year? Given that the EU requires a minimum of 6 months at the end of the academic education, do you think the current requirement for a full year is desirable?
- d. Do you feel that there should be any differences in the structure or assessment of the pre-registration year in different sectors of the profession?
- e. What do you perceive are the major concerns about the current pre-registration process from the viewpoint of the PSI?
- f. What do you think are the key strengths that you would like to see captured within any new pre-registration and educational process?
- g. What are your views about the potential involvement of the Schools of pharmacy in the pre-registration process?
- h. What do you see as the key issues for pre-registration training that arise from the enabling of the new Pharmacy Act in Ireland?
- i. What are your views on a national “clearing scheme” for entry to pre-registration training? Do you see this as offering any advantages – and what do you see as the disadvantages?



### A3.3 Interview schedule – PSI Staff – Registrar

This interview is about the pre-registration year for pharmacy graduates in Ireland. We are interested in experiences of the current system and views to the future following the passing of the Pharmacy Act in Ireland.

- Q1. I would like to start by asking you to describe as registrar for the society, your involvement with the pre-registration process.
- Q2. Many of the questions I will ask will be about detailed elements of the pre-registration year. But before that I would like to ask you what you think is the purpose of the pre-registration year?
- Q3. When do you think the PSI should become involved with undergraduate students? Should there be formal interaction during the degree – for example student registration? Or should it wait until after graduation and the start of the pre-registration year?
- Q4. Have you any views on how effective the current system is for communication between PSI and the pre-registration students at the start of the pre-registration year?
- Q5. Are you aware of any planned changes planned in communication between the PSI and pre-registration students?
- Q6. As registrar, we are interested in your views about the current PSI system for selection and training of pre-registration tutors? Are there any aspects you would like to see changed – is so which?
- Q7. What do you think is the major role of the pre-registration tutor?
- Q8. How does the PSI assure the quality of the pre-registration workplace and the appropriateness of the tutor? Are you satisfied with this system?
- Q9. What communications take place between the PSI and the employer of the tutor prior to commencement of the pre-registration placement?
- Q10. What are your views of the overall system of pre-registration tutor support for pre-registration students – any strengths or weaknesses? Are there any aspects you think should be changed and why?
- Q11. I understand that the PSI runs a number of examinations both within the pre-registration year and at the end of the year. From your perspective of registrar, what do you see as the purpose of these assessments? (Knowledge checking, added professional skills, equity check on schools).
- Q12. What does it measure that was not measured by the end of course examinations (end of degree)?

- Q13. With a rigorous accreditation scheme for schools of pharmacy and clear requirements for accreditation, do you see any continuing need for theory examinations within the pre-registration year?
- Q14. To extend this a little, I am interested in the area of standards setting and their assessment. At the moment it appears that the PSI does both. Would you agree with this and do you think this is a sustainable position?
- Q15. What role does the PSI play when problems arise between a pre-registration student and their tutor? How are these arbitrated?
- Q16. I am interested in the governance of the end of year examinations. How is the examination's quality assured on a year to year basis – is there use of “marker” questions, what statistics are used to ensure validity and reliability of the examination process?
- Q17. What are your overall views on the examination – do you think it is measuring the qualities that need to be measured? What do you think of the governance processes for the examination?

**Finally, we have a number of more general questions about the pre-registration training process and the role of the PSI.**

- Q18. Do you think that as it is currently run, the pre-registration year integrates with or extends the undergraduate degree? If so how?
- Q19. We have talked a lot about assessment in the pre-registration year. Leaving aside current practices, what are the most important qualities that need to be assessed following graduation?
- Q20. What are your views on the length of the pre-registration year? Given that the EU requires a minimum of 6 months at the end of the academic education, do you think the current requirement for a full year is desirable?
- Q21. Do you feel that there should be any differences in the structure or assessment of the pre-registration year in different sectors of the profession?
- Q22. What do you perceive are the major concerns about the current pre-registration process from the viewpoint of the PSI?
- Q23. What do you think are the key strengths that you would like to see captured within any new pre-registration and educational process?
- Q24. What are your views about the potential involvement of the Schools of pharmacy in the pre-registration process?
- Q25. What do you see as the key issues for pre-registration training that arise from the enabling of the new Pharmacy Act in Ireland?

Q26. What are your views on a national “clearing scheme” for entry to pre-registration training? Do you see this as offering any advantages – and what do you see as the disadvantages?

## A3.4 Pre-registration student questionnaire



# A REVIEW OF PHARMACY PRE-REGISTRATION TRAINING WITHIN IRELAND

## THE STUDENT EXPERIENCE OF THE PRE-REGISTRATION YEAR

### **About This Survey**

This questionnaire is part of a larger study of pharmacy education within Ireland commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) – PEARs Project. The work is being conducted by the Pharmacy Practice Research Group at Aston University in the United Kingdom.

**The aim of this research is to inform future educational planning and this questionnaire is an opportunity for you to influence this agenda and express your views.**

Any responses you give will be anonymous – we are using codes in distribution only for the purpose of response tracking so that we can complete follow-ups.

### **What To Do**

Most of the questions simply require you to tick a reply box. The whole questionnaire can be completed in less than 15 minutes and we hope that you will help us with this important research.

**In the event of queries, please contact:  
Dr Chris Langley on [c.a.langley@aston.ac.uk](mailto:c.a.langley@aston.ac.uk).  
Pharmacy Practice Research Group, Aston University, Birmingham, UK.**

The Pharmacy Education and Accreditation Reviews (PEARs) Project is commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) in accordance with section 9 of the Pharmacy Act, 2007.



## SECTION A: CHOICE OF PRE-REGISTRATION POSITION

The following questions are about your experience of choosing and securing a pre-registration position.

**Q1. Questions 1(a) to 1(c) below relate to your pre-registration position.**

**a) *Within which sector(s) of the profession did you undertake your pre-registration training?***

**TICK ONE ONLY**

a)	Entirely within community pharmacy.	<input type="checkbox"/>
b)	Entirely within hospital pharmacy.	<input type="checkbox"/>
c)	A split position between community and hospital pharmacy.	<input type="checkbox"/>
d)	A split position between community and industry.	<input type="checkbox"/>
e)	A split position between hospital and industry.	<input type="checkbox"/>
f)	A split position between community and a school of pharmacy.	<input type="checkbox"/>
g)	A split position between hospital and a school of pharmacy.	<input type="checkbox"/>

### **QUESTIONNAIRE INSTRUCTIONS**

- **If you answered (a) or (b)** to Question 1(a) above, please move straight to Question 1(b) below.
- **If you answered (c)** to Question 1(a) above, please state here which sector of your split pre-registration experience you would like to answer this questionnaire about and then move to Question 1(b) below.

**TICK ONE ONLY**

Community	Hospital
<input type="checkbox"/>	<input type="checkbox"/>

- **If you answered (d) to (g)** to Question 1(a) above, please answer this questionnaire based on your **community or hospital experience**. In addition, if you would be prepared to answer a short follow-up questionnaire on the portion of your pre-registration experience within industry or academia, please tick here:

**b) *Did you have a preference as to the sector(s) of the profession you undertook your pre-registration training within?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'

GO TO Q2 ⇒

c) ***If your answer to Question 1(b) is 'Yes', what was/were your preference(s) as to the sector(s) of the profession for your pre-registration year?***

**TICK ALL THAT APPLY**

a)	Entirely within community pharmacy.	<input type="checkbox"/>
b)	Entirely within hospital pharmacy.	<input type="checkbox"/>
c)	A split position between community and hospital pharmacy.	<input type="checkbox"/>
d)	A split position between community and industry.	<input type="checkbox"/>
e)	A split position between hospital and industry.	<input type="checkbox"/>
f)	A split position between community and a school of pharmacy.	<input type="checkbox"/>
g)	A split position between hospital and a school of pharmacy.	<input type="checkbox"/>

**Q2. Questions 2(a) to 2(b) below relate to the geographical location of your pre-registration position.**

a) ***Was your pre-registration position located geographically where you wanted it to be?***

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>	<b>I had no preference</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>If answer is 'I had no preference'</b>
<b>GO TO Q3 ⇒</b>

b) ***If your answer to Question 2(a) is 'Yes' or 'No', which factors influenced your choice of location?***

**TICK ALL THAT APPLY**

a)	Proximity to family home.	<input type="checkbox"/>
b)	Proximity to existing accommodation.	<input type="checkbox"/>
c)	Location of preferred placement.	<input type="checkbox"/>
d)	Any other reason (please specify): _____	<input type="checkbox"/>

**Q3. The following question is about your experiences in applying for a pre-registration position and relates to the application process.**

**a) Before making any applications for pre-registration positions, did you receive any information from the following and if so, how much information was available?**

**TICK ONE ONLY WITHIN EACH ROW**

		Far too much	Too much	About right	Not enough	Nowhere near enough	Did not receive any
a)	From the PSI about the application process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	From your school of pharmacy about the application process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	From your school of pharmacy about community employers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	From your school of pharmacy about hospital employers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Directly from any community employers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Directly from any hospital employers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	From any other source (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**For Questions 3(b) to 3(d), please state how strongly you agree or disagree with the following statements:**

**b) Recruitment notifications of, or advertisements for, pre-registration positions should all be released at the same time.**

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**c) I felt pressurised to accept a pre-registration position even though I wanted to wait to hear about other applications.**

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) ***The current application system results in students accepting positions they may subsequently decline if they later receive a more favourable offer.***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) ***Do you have any further comments on the availability of placements and your experiences of applying for pre-registration training?***

Additional comments:

## SECTION B: YOUR PRE-REGISTRATION YEAR

**This section explores your experience of how well prepared you were for your pre-registration year and the year itself.**

- Q4. Questions 4(a) and 4(b) are about how well prepared you were for your pre-registration year.**

- a) ***How much information on the structure and requirements of the pre-registration year did you receive from the PSI before the year started?***

**TICK ONE ONLY**

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) ***If your answer to Question 4(a) was 'Too little' or 'Too much', please explain why you gave this answer (i.e. what was lacking that you required or what was superfluous).***

Answer:



**Q5. Questions 5(a) to 5(k) below are about your pre-registration year.**

**a) How useful did you find the pre-registration manual provided by the PSI?**

**TICK ONE ONLY**

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**b) When did the pre-registration manual provided by the PSI arrive?**

**TICK ONE ONLY**

Before my pre-registration year started	At the start of my pre-registration year	After my pre-registration year had started
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**c) How strongly do you agree or disagree with the sentence: “My pharmacy degree course provided me with the necessary skills and knowledge to undertake a pre-registration year”?**

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**d) From your experience, did you consider that the degree and the pre-registration training year were two parts of a single learning experience?**

**TICK ONE ONLY**

The degree and pre-registration were like two parts of a single learning experience	The degree and pre-registration were somewhat like two parts of a single learning experience	The degree and pre-registration were like two separate learning experiences
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**e) Do you think that the current pre-registration period is:**

**TICK ONE ONLY**

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**f) Based on your experience as a pre-registration pharmacist and assuming there was no difference financially and the overall time to qualify was the same (EU required minimum of 5 years), which of the following models would produce the best learning experience to qualify as a pharmacist?**

**TICK ONE ONLY**

I would prefer a pre-registration period of training after a four-year university-level course (as currently)	I would prefer the current portion of pre-registration training to be included as extended placements within the degree, extending the degree to five years	No preference for either model
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

g) **How much interaction did you have with other pre-registration students during your pre-registration year?**

**TICK ONE ONLY**

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

h) **At any point during your pre-registration year, did you have any questions about student support and counselling, assessment and examination process, learning processes and outcomes, feedback processes, etc?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'

GO TO Q5 (j) ⇒

i) **If your answer to Question 5(h) is 'Yes', who did you go to answer the question(s) and did they provide the necessary answer(s)?**

**TICK ONE ONLY WITHIN EACH ROW**

		Yes, they provided the right answers	No, they did not provide the right answers	Not approached for information
a)	Your pre-registration tutor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Your pre-registration employer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Fellow pre-registration student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	The PSI.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	School of pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Other (please state): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

j) **Did you encounter any personal difficulties during the course of the pre-registration year (for example, housing, relationships within the workplace, etc)?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'

GO TO Q6 (Section C) ⇒

- k) *If you answered 'Yes' to Question 5(j), please provide in the space below a brief description as to what the problem was and how you went about tackling it?*

Answer:

### SECTION C: YOUR PRE-REGISTRATION TUTOR

We are interested in your relationship with your pre-registration tutor during your pre-registration year.

Q6.

- a) *In your opinion, was your interaction with your named pre-registration tutor:*

TICK ONE ONLY

Too little	About right	Too much
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) *The PSI states that pre-registration students must have at least three full days contact per week with their tutor pharmacist. Was this the case during your pre-registration year?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- c) *How useful was the feedback provided by your named pre-registration tutor on your progress during your pre-registration year?*

TICK ONE ONLY

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) ***Did you seek advice and help in connection with your pre-registration year from other individuals during the year, in addition to your named pre-registration tutor?***

**TICK ALL THAT APPLY**

		Yes; questions about the <i>process</i> of the pre-registration year	Yes; <i>general</i> questions about pharmacy
a)	Other pharmacists within your organisation.	<input type="checkbox"/>	<input type="checkbox"/>
b)	Other employees (e.g. technicians) within your organisation.	<input type="checkbox"/>	<input type="checkbox"/>
c)	Pharmacists from other organisations.	<input type="checkbox"/>	<input type="checkbox"/>
d)	Fellow pre-registration students.	<input type="checkbox"/>	<input type="checkbox"/>
e)	Other individuals (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

- e) ***How strongly do you agree or disagree with the sentence: "My pre-registration tutor supported my progress as a pre-registration trainee"?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- f) ***How did you consider the balance was between being an employee and training to be a pharmacist during your pre-registration period?***

**TICK ONE ONLY**

I felt like a regular employee rather than a pre-registration pharmacist	I felt that the balance between employee and pre-registration pharmacist was right	I felt like a pre-registration pharmacist rather than an employee
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) ***Were you issued with a contract of employment for your pre-registration year?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

## SECTION D: RESOURCES

**We are interested in the available resources during your pre-registration year.**

**Q7.**

**a) State how sufficient each of the following resources, were during your pre-registration year:**

**TICK ONE ONLY WITHIN EACH ROW**

		Sufficient	Somewhat sufficient	Somewhat insufficient	Insufficient
a)	Structured time during the working day to undertake personal learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Support from your tutor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Support from your fellow employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Support from your employing organisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	Support from the PSI.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Flexibility to allow you to attend organised study days or assessments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Access to books and on-line resources at your employing organisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**b) How useful were the manuals provided by the PSI (PSI Core Manual; Guide on ethics and practice; consolidated legislation for attendees at Forensic Pharmacy Course)?**

**TICK ONE ONLY**

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**c) Is/are there any other printed resource(s) that you would recommend were available to all pre-registration students?**

Answer:

**d) Did you have access to resources during your pre-registration year from your school of pharmacy?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

## SECTION E: EMPLOYMENT AS A PHARMACIST

**This section asks questions about your experience of applying for positions as a pharmacist at the end of your pre-registration year.**

**Q8.**

- a) *Have you worked as a pharmacist after completing your pre-registration training?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is No,
GO TO Q9 (Section F) ⇒

- b) *Did you obtain initial employment in your preferred sector of pharmacy?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- c) *Which sector of the profession was your preference?*

TICK ONE ONLY

a)	Community pharmacy	<input type="checkbox"/>
b)	Hospital pharmacy.	<input type="checkbox"/>
c)	Industrial pharmacy.	<input type="checkbox"/>
d)	Other pharmacy(please state): _____	<input type="checkbox"/>

- d) *How strongly do you agree or disagree with the sentence: “The timing of the pre-registration examination made applying for jobs as a pharmacist difficult”?*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) *How long did you have to wait after the pre-registration examination before the publication of the results?*

TICK ONE ONLY

Within two weeks	More than two weeks but within three weeks	More than three weeks but within four weeks	More than four weeks but within five weeks	Five weeks or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- f) *What is your view on the length of time between the pre-registration examination and the publication of the results?*

TICK ONE ONLY

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) *How long did you have to wait after the publication of the results from the pre-registration examination before your application for registration was processed (i.e. you were registered and able to practise as a pharmacist)?*

TICK ONE ONLY

Within one week	More than one week but within two weeks	More than two weeks but within three weeks	More than three weeks but within four weeks	Four weeks or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- h) *What is your view on the length of time between the publication of the results from the pre-registration examination and when your application for registration was processed?*

TICK ONE ONLY

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SECTION F: THE PRE-REGISTRATION ASSESSMENT PROCESS

This section of the questionnaire asks only about your experience with the compulsory assessments you were required to undertake by the PSI. It does not include any additional assessment that your employer(s) may have required you to undertake.

- Q9. Indicate your agreement with each of the statements (a) to (c):

- a) *The open-book continuous assessments were a useful part of the pre-registration training process.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- b) *The Licence Examination – Final Examination (forensic examination) was a useful part of the pre-registration training process.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- c) ***The (non-compulsory) Forensic Pharmacy course prepared me for the Licence Examination – Final Examination (forensic examination).***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I did not do it
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q10. The following questions relate to the pre-registration project.**

- a) ***Did you undertake a project as part of your pre-registration year?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is No, GO TO Q10(h) ⇒
------------------------------------

- b) ***Were you required to undertake the project by the PSI?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- c) ***How strongly do you agree or disagree with the sentence: “My named pre-registration tutor had the appropriate research skills to effectively supervise the project”?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) ***How strongly do you agree or disagree with the sentence: “My pharmacy degree course provided me with the necessary skills and knowledge to undertake the pre-registration project”?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) ***Were you required to apply for ethical permission to undertake your pre-registration project?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>



- f) *How strongly do you agree or disagree with the sentence: "I feel that undertaking a project as part of the pre-registration training process was a useful part of my professional development as a pharmacist"?*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) *Did you present as a poster/paper or publish any of your pre-registration project in / at any national or international journal / meeting?*

TICK ALL THAT APPLY

Oral presentation at a national or international conference	Poster presentation at a national or international conference	Published as a research abstract	Published as an academic paper	'Published' internally within the organisation I worked for.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- h) *Is/are there any other forms of assessment and evaluation that you would have considered useful as part of your pre-registration year?*

Answer:

## SECTION G: YOUR OVERALL IMPRESSION

This section of the questionnaire asks questions on your overall impression of the pre-registration year.

Q11. Indicate your agreement with each of the statements (a) to (d).

- a) *Taking everything into consideration, I feel that my pre-registration training enabled me to develop my knowledge, skills and overall competencies required for future independent practice as a pharmacist.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *I wish I had undertaken a pre-registration position with a different employer.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *I wish I had undertaken a pre-registration position within a different sector.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *Overall, I enjoyed my pre-registration year.*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) *What was the one best and one worst thing about your pre-registration year:*

<b>Best:</b>	
<b>Worst:</b>	

f) *Was there anything that you would like to see changed or that was particularly problematic?*

## SECTION H: ABOUT YOU

This final section of the questionnaire is designed to ask some questions about you.

**Q12. Are you:**

TICK ONE ONLY

Female	Male
<input type="checkbox"/>	<input type="checkbox"/>

**Q13. How old are you?**

TICK ONE ONLY

20	21	22	23	24-29	30-39	40-49	50+
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q14. Did you work as a pharmacy technician prior to starting your degree?**

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

**Q15. Did you have a primary degree or other third level or vocational/Post-Leaving Certificate qualification before starting your pharmacy degree?**

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

**Q16. Did you undertake work experience organised/arranged by yourself within pharmacy in your own time, in addition to any work experience required by your school of pharmacy as part of your degree course (for example, during the summer vacation) before starting your pre-registration year?**

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

**Q17. Within which sector(s) of the profession do you currently work?**

**TICK ALL THAT APPLY**

a)	Community pharmacy	<input type="checkbox"/>
b)	Hospital pharmacy.	<input type="checkbox"/>
c)	Industrial pharmacy.	<input type="checkbox"/>
d)	Other pharmacy (please state): _____	<input type="checkbox"/>
e)	I have just finished my pre-registration year and awaiting registration.	<input type="checkbox"/>
f)	I am not currently employed within pharmacy.	<input type="checkbox"/>

**Q18. What type of organisation was your pre-registration employer?**

**TICK ALL THAT APPLY**

a)	Community pharmacy multiple/large chain (more than 20 outlets).	<input type="checkbox"/>
b)	Community pharmacy small chain (20 outlets or less but more than 5).	<input type="checkbox"/>
c)	Community pharmacy independent (5 outlets or less).	<input type="checkbox"/>
d)	Hospital pharmacy.	<input type="checkbox"/>
e)	Industrial pharmacy.	<input type="checkbox"/>
f)	Other pharmacy (please state): _____	<input type="checkbox"/>

**Q19. Did your employing organisation have its own in-house training programme (i.e. a training programme you undertook in addition to that prescribed by the PSI)?**

**TICK ONE ONLY**

<b>Yes</b>	<b>No</b>
<input type="checkbox"/>	<input type="checkbox"/>

**Q20. When you were a pharmacy student, were you an Irish citizen, an EU/EEA citizen (except Irish) or from outside the EU/EEA?**

**TICK ONE ONLY**

<b>I was an Irish citizen</b>	<b>I was an EU/EEA Citizen (except Irish)</b>	<b>I was from outside the EU/EEA</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Q21. Which school of pharmacy did you attend?**

**TICK ONE ONLY**

Royal College of Surgeons in Ireland	<input type="checkbox"/>
Trinity College, Dublin	<input type="checkbox"/>
University College Cork	<input type="checkbox"/>

**Q22. When did/will you qualify as a pharmacist?**

**TICK ONE ONLY**

I am due to qualify this year (2008)	<input type="checkbox"/>
I qualified in 2007	<input type="checkbox"/>
I qualified in 2006	<input type="checkbox"/>
I qualified in 2005	<input type="checkbox"/>
I qualified in 2004	<input type="checkbox"/>
I qualified in 2003	<input type="checkbox"/>
Other: (please state): _____	<input type="checkbox"/>

**Q23. How would you best describe your ethnic background?**

**TICK ONE ONLY**

White or White Irish	<input type="checkbox"/>
Black or Black Irish	<input type="checkbox"/>
Asian or Asian Irish	<input type="checkbox"/>
Dual Heritage	<input type="checkbox"/>
Other Ethnic Group	<input type="checkbox"/>
Don't want to say	<input type="checkbox"/>

**Thank you for your time and cooperation. If you have any other comments that you would like to make about your pharmacy pre-registration year, enter them overleaf.**

**Additional Comments:**

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Please Do Not Write Below this line – for administrative use only.

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Pre-registration Student Questionnaire vFinal

### A3.5 Pre-registration tutor questionnaire



## A REVIEW OF PHARMACY PRE-REGISTRATION TRAINING WITHIN IRELAND

### THE PRE-REGISTRATION TUTOR'S EXPERIENCE OF THE PRE-REGISTRATION YEAR

#### **About This Survey**

This questionnaire is part of a larger study of pharmacy education within Ireland commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) – PEARs Project. The work is being conducted by the Pharmacy Practice Research Group at Aston University in the United Kingdom.

**The aim of this research is to inform future educational planning and this questionnaire is an opportunity for you to influence this agenda and express your views.**

- Any responses you give will be anonymous and **no individual responses will be passed to the PSI.**
- We are using codes in distribution only for the purpose of response tracking so that we can complete follow-ups.

#### **What To Do**

Most of the questions simply require you to tick a reply box. The whole questionnaire can be completed in less than 20 minutes and we hope that you will help us with this important research.

**In the event of queries, please contact:**

**Dr Chris Langley on [c.a.langley@aston.ac.uk](mailto:c.a.langley@aston.ac.uk).**

**Pharmacy Practice Research Group, Aston University, Birmingham, UK.**

The Pharmacy Education and Accreditation Reviews (PEARs) Project is commissioned and funded by the Pharmaceutical Society of Ireland (PSI – the Pharmacy Regulator) in accordance with section 9 of the Pharmacy Act, 2007.



**► Q1: Within which sector(s) of the pharmacy profession do you currently work and within which sector(s) have you worked since qualification (i.e. following your pre-registration year)?**

**TICK ALL THAT APPLY**

		Currently	Since qualification
a)	Community pharmacy multiple/large chain (more than 20 outlets).	<input type="checkbox"/>	<input type="checkbox"/>
b)	Community pharmacy small chain (20 outlets or less but more than 5).	<input type="checkbox"/>	<input type="checkbox"/>
c)	Community pharmacy independent (5 outlets or less).	<input type="checkbox"/>	<input type="checkbox"/>
d)	Hospital pharmacy.	<input type="checkbox"/>	<input type="checkbox"/>
e)	Industrial pharmacy.	<input type="checkbox"/>	<input type="checkbox"/>
f1)	Other pharmacy (please state all): _____	<input type="checkbox"/>	
f2)	Other pharmacy (please state all): _____		<input type="checkbox"/>
g)	I am not currently employed within pharmacy.	<input type="checkbox"/>	

**► Q2: Within which of the following academic (pre-registration) years did you supervise a pre-registration student (either for 6 months or for one year)? Please tick all the box(es) that apply.**

**TICK ALL THAT APPLY**

2002/3 <input type="checkbox"/>	2003/4 <input type="checkbox"/>	2004/5 <input type="checkbox"/>	2005/6 <input type="checkbox"/>	2006/7 <input type="checkbox"/>	2007/8 <input type="checkbox"/>
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**► Q3: If you have not supervised any pre-registration students since 2002/3, please give the reason(s) for this.**

**Answer:**



**► Q4: In which sector of pharmacy were you working when you last supervised a pre-registration student?**

**TICK ONE ONLY**

a)	Community pharmacy multiple/large chain (more than 20 outlets).	<input type="checkbox"/>
b)	Community pharmacy small chain (20 outlets or less but more than 5).	<input type="checkbox"/>
c)	Community pharmacy independent (5 outlets or less).	<input type="checkbox"/>
d)	Hospital pharmacy.	<input type="checkbox"/>
e)	Industrial pharmacy.	<input type="checkbox"/>
f)	Other pharmacy (please state): _____	<input type="checkbox"/>

**► Q5: Thinking of the last time you supervised a pre-registration student, why did you take this role on?**

**TICK ALL THAT APPLY**

a)	It was my own choice to become involved.	<input type="checkbox"/>
b)	I was given the option to become a tutor by my employer.	<input type="checkbox"/>
c)	I was required to become a tutor by my employer.	<input type="checkbox"/>
d)	Other (please specify): _____	<input type="checkbox"/>

**► Q6: This question is about selection of pre-registration students.**

a) ***What was your involvement in the selection of your last pre-registration student? Please tick any of the options below that apply.***

**TICK ALL THAT APPLY**

a)	I was in complete charge of the selection process (i.e. I was the selector) and made the selection decision.	<input type="checkbox"/>
b)	I was asked to look at written information about the applicant(s) (e.g. CV, application form) and provide feedback to the selector(s).	<input type="checkbox"/>
c)	I met the applicant(s) either formally or informally and provided feedback to the selector(s).	<input type="checkbox"/>
d)	I was involved in a formal interview of the prospective applicant(s).	<input type="checkbox"/>
e)	I was not involved in selection and was informed by my employer about the pre-registration student.	<input type="checkbox"/>
f)	Other (please specify): _____	<input type="checkbox"/>

b) ***In your view, should the pre-registration tutor have input into the selection process?***

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

► **Q7: Thinking again about the last pre-registration student that you supervised, did you receive written information about the process or of your responsibilities from any of the following and if so, was sufficient information provided?**

TICK ONE ONLY WITHIN EACH ROW

		Far too much	Too much	About right	Not enough	Nowhere near enough	Did not receive any	N/A
a)	From the PSI prior to the start of the year.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b)	From the PSI during the course of the year.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c)	Directly from your Employer. *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	From the pre-registration student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
e)	From any other source (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\*Please answer "Not applicable" ("N/A") if you are self-employed and don't have an employer.

► **Q8: This question is about the PSI pre-registration manual.**

a) ***When you last supervised a pre-registration student, did you have a copy of the pre-registration manual provided by the PSI?***

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'
GO TO Q9 ⇒

b) ***How useful did you find the pre-registration manual provided by the PSI?***

TICK ONE ONLY

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) ***When did the pre-registration manual provided by the PSI arrive?***

TICK ONE ONLY

Before the pre-registration year started	At the start of the pre-registration year	After the pre-registration year had started
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q9: This question is about any training you received to become a pre-registration tutor.**

a) *How long ago did you undertake the PSI tutors' course?*

TICK ONE ONLY

Within the last year	One to two years ago	Three to five years ago	Six to ten years ago	Longer than ten years ago
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *How useful did you find the course at the time?*

TICK ONE ONLY

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *How useful was the course in supporting your role as a pre-registration tutor?*

TICK ONE ONLY

Very useful	Useful	Neither useful nor not useful	Not that useful	Not useful at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *Would you recommend any changes to the current PSI course?*

Answer:

e) *Do you feel that there is any better form of training and support which could be offered to become a pre-registration tutor?*

Answer:

f) *Do you think that there should be a compulsory refresher course at the start of every pre-registration year for all active tutors and if so, would you be willing to attend?*

TICK ONE ONLY

Yes, there should be one and I would be willing to attend	Yes there should be one but I would not be willing to attend	No, there should not be one
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**g) If there was wasn't a compulsory refresher course for pre-registration tutors at the start of every pre-registration year, how long do you think that a tutor should be able to remain on the tutor list without a refresher course?**

**TICK ONE ONLY**

Up to two years	Up to five years	Up to ten years	A refresher course is not needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**h) In addition to the PSI course, did you receive training from any other sources and if so, was this sufficient?**

**TICK ONE ONLY WITHIN EACH ROW**

		Sufficient	Insufficient	Did not receive any	Not applicable
a)	Directly from your employer. <i>(Please answer "Not applicable" if you are self-employed and don't have an employer.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	From other source (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**i) Based on your experience as a pre-registration tutor, in your opinion, what would encourage other pharmacists to become a tutor?**

**Answer:**

► **Q10: This question is about the pre-registration recruitment process.**

**a) Have any students you have worked with stated they have experienced pressure to accept a pre-registration position even though they may have wanted to wait to hear about other applications?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

**b) Have you experience of a student accepting a pre-registration position with you, only to turn it down at a later point to take up a different position?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

c) **Do you have any further comments on the availability of placements?**

Additional comments:

► **Q11: This question is about your experiences when you last supervised a pre-registration pharmacy student.**

a) **In relation to your last pre-registration student, how strongly do you agree or disagree with the sentence: “The student’s pharmacy degree course provided him/her with the necessary skills and knowledge to undertake the pre-registration year”?**

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) **In relation to your last pre-registration student, do you feel that they had sufficient experience within a practice environment prior to starting their pre-registration year to fully engage with the pre-registration learning experience?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

c) **The PSI states that pre-registration students must have at least three full days contact per week with their tutor pharmacist. Were you able to achieve this with your last pre-registration student?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

d) **If your answer to question c) above was “No”, please indicate the reason(s) why you were unable to achieve this target.**

Answer:

e) ***In your opinion, was your interaction with your last pre-registration student:***

**TICK ONE ONLY**

Too much	About right	Too little
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) ***Was your last pre-registration student issued with a contract of employment for their pre-registration year?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

g) ***Was your last pre-registration student remunerated during their pre-registration year?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

h) ***Did your employing organisation have its own in-house training programme to support your last pre-registration student?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

i) ***Considering your last pre-registration student, how would you describe the balance between them being an employee and training to be a pharmacist during their pre-registration period?***

**TICK ONE ONLY**

More like a regular employee than a pre-registration pharmacist	An appropriate balance between employee and pre-registration pharmacist	More like a pre-registration trainee than an employee
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

j) ***In your view, how much interaction did your last pre-registration student have with other pre-registration students during their pre-registration year?***

**TICK ONE ONLY**

Too much	About right	Too little
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

k) ***At any point during the year you last supervised a pre-registration student did you have any questions or concerns about your role as a pre-registration tutor that you could not answer yourself?***

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is 'No'
GO TO Q11(m) ⇒

**l) If your answer to Question 11(k) is 'Yes', to whom did you go to answer the question(s) and did they provide the necessary answer(s) or guidance?**

**TICK ALL THAT APPLY**

		Yes, they provided the right answers or guidance	No, they did not provide the right answers or guidance	Not approached for information	Not applicable
a)	The PSI.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Your employer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	A pharmacist colleague who was not a pre-registration tutor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Another pharmacist pre-registration tutor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e)	The pre-registration student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Other (please state): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**m) As far as you are aware, did your last pre-registration student encounter any personal difficulties during the course of the pre-registration year (for example, housing, relationships within the workplace, etc)?**

**TICK ONE ONLY**

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

**n) If you answered 'Yes' to Question 5(m), please provide in the space below a brief description of the nature of the problem.**

**Answer:**

**► Q12: The following questions are about your views on the pre-registration process in Ireland.**

**a) From your experience of supervising pre-registration students, do you consider that the degree and the pre-registration training year are two parts of a single learning experience?**

**TICK ONE ONLY**

The degree and pre-registration are like two parts of a single learning experience	The degree and pre-registration are somewhat like two parts of a single learning experience	The degree and pre-registration are like two separate learning experiences
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) **Do you think that the current pre-registration period is:**

TICK ONE ONLY

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) **Based on:**

- *your overall experience as a pharmacist and*
  - *assuming there was no difference financially and*
  - *the overall time to qualify was the same (EU required minimum of 5 years),*
- which of the following models do you think would produce the best learning experience to qualify as a pharmacist?**

TICK ONE ONLY

I would prefer a pre-registration period of training after a four-year university-level course (as currently)	I would prefer the current portion of pre-registration training to be included as extended placements within the degree, extending the degree to five years	No preference for either model	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) **How strongly do you agree or disagree with the sentence: “The timing of the pre-registration examination makes it difficult for newly registered pharmacists to apply for jobs as a pharmacist”?**

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) **What is your view on the length of time between the pre-registration examination and the publication of the results?**

TICK ONE ONLY

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) **What is your view on the length of time between the publication of the results from the pre-registration examination and when the application for registration is processed?**

TICK ONE ONLY

Far too long	Too long	About right	Too short	Far too short
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

g) **How strongly do you agree or disagree with the sentence: “The PSI is the appropriate organisation to supervise the pre-registration training processes”?**

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



- h) *Is there any additional support or resource that, if available, would enhance your role as a pre-registration tutor?*

Answer:

► Q13: The following questions relate to the pre-registration project.

- a) *The last time you supervised a pre-registration student did they undertake a project as part of their pre-registration year?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If answer is No,
GO TO Q14 ⇒

- b) *Were they required to undertake the project by the PSI?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- c) *Have you at any stage undertaken any formal research or research training?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- d) *How strongly do you agree or disagree with the sentence: "I feel equipped with the appropriate skills to supervise the research project"?*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) *In relation to your last pre-registration student, how strongly do you agree or disagree with the sentence: "The student's pharmacy degree course provided him/her with the necessary skills and knowledge to undertake the pre-registration project"?*

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- f) *Was your last pre-registration student required to apply for ethical permission to undertake the pre-registration project?*

TICK ONE ONLY

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- g) ***How strongly do you agree or disagree with the sentence: “I feel that undertaking a project as part of the pre-registration training process is a useful part of professional development as a pharmacist”?***

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q14:** The following questions are about your overall views of the pre-registration training year in Ireland.

- a) ***How strongly do you agree or disagree with the sentence: “Taking everything into consideration, I feel that the pre-registration year provides a sufficiently rounded experience in pharmacy practice as a foundation for the future”.***

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If answer is ‘Strongly agree’, or ‘Agree’,

GO TO Q14(c) ⇒

- b) ***If you answered ‘Neither agree nor disagree’, ‘Disagree’ or ‘Strongly disagree’ to Question 14(a), please provide in the space below a reason why you gave this answer.***

**Answer:**

- c) ***Do you agree or disagree that the current pre-registration training year in Ireland provides the opportunity for students to develop the knowledge required for future independent practice as a pharmacist in the following areas?***

TICK ONE ONLY WITHIN EACH ROW

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
a)	Clinical knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Professional knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Business knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Management knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- d) ***Do you agree or disagree that the current pre-registration training year in Ireland provides the opportunity for students to develop the skills required for future independent practice as a pharmacist in the following areas?***

**TICK ONE ONLY WITHIN EACH ROW**

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not applicable
a)	Clinical skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Professional skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Business skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Management skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) ***In addition to the acquisition of the necessary knowledge and skills, pre-registration students gain an appreciation of the behaviours, values and attitudes which are necessary to develop to become a successful pharmacist. How confident do you feel in mentoring a student in the development of their own behaviours, values and attitudes?***

**TICK ONE ONLY**

Confident	Fairly confident	Neither confident nor not confident	Not that confident	Not confident at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- f) ***How strongly do you agree or disagree with the sentence: “The open-book continuous assessments form a useful part of the pre-registration training process”?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) ***How strongly do you agree or disagree with the sentence: “The Licence Examination (forensic examination) form a useful part of the pre-registration training process”?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- h) ***How strongly do you agree or disagree with the sentence: “A student’s success or failure in the Licence Examination (forensic examination) correlates with my personal assessment of their ability as a pharmacist”?***

**TICK ONE ONLY**

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- i) ***How involved do you feel the pre-registration tutor should be in the assessment of the pre-registration student's performance? By 'formal assessment body' we mean a written or practical examination organised by the PSI (or other body).***

TICK ONE ONLY

All the assessment should be by the pre-registration tutor	A mixture, with more of the assessment by the pre-registration tutor	An even mixture of assessment by the pre-registration tutor and by a formal assessment body	A mixture, with more of the assessment by a formal assessment body	All the assessment should be by a formal assessment body
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- j) ***How confident do you feel that you have the necessary knowledge and skills to "sign-off" a pre-registration student at the end of their year to indicate the completion of a collection of learning requirements?***

TICK ONE ONLY

Confident	Fairly confident	Neither confident nor not confident	Not that confident	Not confident at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- k) ***If the pre-registration tutors were involved in the assessment process(es), what support and/or training do you feel you would need?***

Answer:

- l) ***Considering the last time you supervised a pre-registration student, to what extent would you agree or disagree with the statement "Overall, I enjoyed my year as a pre-registration tutor"?***

TICK ONE ONLY

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- m) ***What was the one best and one worst thing about your last experience as a pre-registration tutor?***

Best:

Worst:

- n) *Is there anything that you would like to see changed or that was particularly problematic about the pre-registration year process?*

Answer:

- o) *Is/are there any other forms of assessment and evaluation that you would have considered useful as part of the pre-registration year?*

Answer:

## ABOUT YOU

This final section of the questionnaire is designed to ask some questions about you.

- Q15: Are you:

TICK ONE ONLY

Female	Male
<input type="checkbox"/>	<input type="checkbox"/>

- Q16: How old are you?

TICK ONE ONLY

25-29	30-39	40-49	50-59	60-69	70 or older
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q17: How many years have you been on the PSI Register of Pharmacists?

TICK ONE ONLY

0-5	6-10	11-20	21-30	31-40	41 or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q18: Where did you study for your pharmacy degree?

TICK ONE ONLY

Within Ireland	Within the EU/EEA (except Ireland)	Outside the EU/EEA
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Q19: Where did undertake your pre-registration training?

TICK ONE ONLY

Within Ireland	Within the EU/EEA (except Ireland)	Outside the EU/EEA
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

► **Q20: How would you best describe your ethnic background?**

**TICK ONE ONLY**

White or White Irish	<input type="checkbox"/>	Dual Heritage	<input type="checkbox"/>
Black or Black Irish	<input type="checkbox"/>	Other Ethnic Group	<input type="checkbox"/>
Asian or Asian Irish	<input type="checkbox"/>	Don't want to say	<input type="checkbox"/>

**Thank you for your time and cooperation. If you have any other comments that you would like to make about the pharmacy pre-registration year, please enter them below.**

**Additional Comments:**

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Please do not write below this line – for administrative use only.

Pre-registration Tutor Questionnaire vFinal

## Appendix 4 PSI Tender Document

### Invitation to Tender

The Pharmaceutical Society of Ireland (PSI), the statutory regulator of the pharmacy sector in Ireland, invites tenders from suitably qualified organisations/individuals to provide services for the purpose of carrying out a number of education-related reviews as outlined hereunder.

#### Background

The PSI is the statutory body charged with the regulation of the pharmacy sector in Ireland. It acts in the public interest to regulate the profession. The Pharmacy Act, 2007 was commenced by the Minister for Health & Children on 22 May 2007. This replaced a number of old Acts and regulations that had been in place for a considerable number of years, the earliest dating back to 1875.

The main functions of the PSI include the registration of pharmacists and pharmacies, significant inspection and enforcement powers, the accreditation of educational regimes for pharmacists at different levels and the provision of advice to the Government on pharmacy care, treatment and service in Ireland.

The PSI has approximately 4,500 registered pharmacists, 550 pharmaceutical assistants and approximately 1,600 registered pharmacies.

The PSI is governed by a 21 member Council, appointed by the Minister and includes ten pharmacists. The primary role of the Council is the regulation of the profession and practice of pharmacy in the public interest. An executive staff of 18 at the PSI office in Dublin supports the work of the Council.

The PSI is currently implementing new pharmacy legislation which broadens the remit of the PSI and gives it increased powers to regulate pharmacists and pharmacies. Of the five principal functions of the PSI laid out in the Pharmacy Act, 2007, three are education-related, namely:

- To promote and ensure a high standard of education and training for persons seeking to become pharmacists
- To ensure that those persons and pharmacists obtain appropriate experience
- To ensure that pharmacists undertake appropriate continuing professional development, including the acquisition of specialisation

A core duty of the PSI, also laid out in the 2007 Act, provides that it must:

- Determine, approve and keep under review programmes of education and training suitable to enable persons applying for registration to meet those criteria and pharmacists to comply with those codes.

In view of these responsibilities arising from the 2007 Act, the PSI now seeks the assistance of suitably qualified organisations/individuals to conduct a number of

education-related reviews in order to ensure that the highest standards of education and training are delivered and to guide the development of the education, training and lifelong learning of pharmacists in Ireland over the coming years. The Council of the PSI has a strategic objective of becoming a high-performing regulator which applies evidence-based practice.

## Requirements

The Pharmaceutical Society of Ireland requires the following reviews to be carried out and completed by end 2009.

It should be noted that tenders may be submitted either jointly for the following two reviews (as the second will build on the first) or separately.

### **1. A root and branch review of the five year programme of education and training required to become a pharmacist**

The following are areas that the review must have regard to:

- Irish government policy regarding the separation of accreditation and awarding functions
- The National Qualifications Framework and the Bologna Process (NB: recognition of learning outcomes)
- International best practice
- The need for a professional's lifelong education and training to form a continuum

It is envisaged that this review will be undertaken in a series of phases. The following areas will constitute phase one:

- A baseline analysis of the current five year programme of education and training to review the curriculum and how it is assessed. This analysis may incorporate a survey of academics, employers, students, pharmacists.
- The baseline analysis should incorporate a quality review of the pre-registration training year (currently the fifth year of a student pharmacist's education and training). A full-scale survey of all trainees and tutor pharmacists who have been involved with the training programme over the past number of years will be required. This is an urgent requirement in the initial stage of the review.
- An overview of the various education and training models for healthcare professions both in Ireland and in other jurisdictions. This must include a consideration of the various approaches including the technical-rational model and the integrated theory/practice model.
- Best practice internationally in the delivery of the in-service training element (must comprise a minimum of six consecutive months according to EU law).
- The development of main principles underpinning pharmacy education and training. These principles will be subject to a wide consultation involving main stakeholders.



- Issues relating to the funding and governance of pharmacy education and training.
- Consideration as to whether pharmacy education and training in Ireland should follow a competence-based approach.

The second phase of the review will incorporate:

- Based on the outcome of phase one of this review, the second phase will develop proposals for the most appropriate form of pharmacy education and training in Ireland.
- The likely elements of the five year programme of pharmacy education and training (this may incorporate, for instance, learning outcome criteria, an indicative syllabus, desirable learning and assessment methods, etc.) which will depend on the outputs of phase one of the review.

## **2. Accreditation Models and Accreditation Criteria**

A review of models used to accredit undergraduate programmes of education with a particular focus on what is considered to be best practice internationally is required. The review should incorporate a survey of current stakeholders in the existing PSI accreditation process. This review will also involve the subsequent development of new accreditation criteria for the PSI in its statutory function as the accrediting body for the undergraduate programme in pharmacy in Ireland.

The following are areas that the review must have regard to:

- Standards and Guidelines for Quality Assurance in the European Higher Education Area (issued by the European Network for Quality Assurance in Higher Education – ENQA)
- Irish government policy regarding the separation of accreditation and awarding functions
- The National Qualifications Framework and the Bologna Process (NB: recognition of learning outcomes)
- The draft Global Framework for Quality Assurance of Pharmacy Education issued by the International Forum for Quality Assurance of Pharmacy Education
- International best practice
- Views of stakeholders as to how current accreditation process operates
- The outcomes of the review of the five year programme of education and training

### **Award Criteria**

- Only suitably qualified organisations/individuals with experience of pharmacy education, both in Ireland and internationally, will be eligible to apply. Applicants must demonstrate experience of similar work undertaken.
- Contract will be awarded on the basis of the most economically advantageous tender received in terms of:

- The approach and methodology to be taken in delivering the requirements and that guarantees the greatest degree of objectivity.
- Professional expertise relating to the scope of both reviews
- Professional experience relating to cognate projects
- Proposed timelines for deliverables (organisations must provide an outline in their submission of the likely timescales envisaged for conducting the various components of the reviews)
- The contract will be awarded on the basis of a fixed price (NB: all prices provided must be in Euro).
- A current tax clearance certificate from the Irish Revenue Commissioners will be required prior to award.

### **Closing Date**

The closing date for receipt of tenders is 17h00 on Friday, 4 April 2008.

### **Additional Information**

Additional information can be obtained from:

Lorraine Horgan

Pharmaceutical Society of Ireland

18 Shrewsbury Road

Ballsbridge

Dublin 4

Telephone: +353-1-218 4000

Email: [lhorgan@pharmaceuticalsociety.ie](mailto:lhorgan@pharmaceuticalsociety.ie)

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