

Nowadays, when hospital pharmacists strive for professional recognition of this profession at all relevant levels, it is important to be fully acquainted with it, its performance and its development. We should be able to present it as an advanced and progressive profession in the health care system of individual European countries.

In the year 2005, EAHP performed the third Pan European survey on the state of the art and development of hospital pharmacy which is managed by more than 17,000 hospital pharmacists throughout Europe.

22 out of 26 EAHP members participated in the latest survey and provided data from 825 hospitals. The analysis of the results is presented as a comparison between the countries and, where possible also the comparison between the results of previous surveys that took place in the years 2000 and 1995.

Some countries are very well presented within the total scope of activities of hospital pharmacies shown in this analysis, some of them are somewhat less well presented, which should be taken into account when using and evaluating the given data.

The way hospital pharmacists take care of hospitalised patients throughout Europe in view of the drug supply, counselling to the patients and medical staff doubtlessly differ from country to country. Therefore it is important to be aware of these differences and to recognise them in order to achieve further improvement of our professional knowledge and everyday practice and to recognise improved knowledge of our colleagues and introduce it into our practice, thus diminishing the differences between different parts of Europe.

Here are the results of the survey which will enable evaluation and comparison of our professional work. They will also be an incentive of our professional and personal development and will help promote the values of our profession within our working environment and general society.



Jacqueline Surugue
EAHP President



Tajda Miharija Gala
EAHP Director of Professional
and Practice Aspects

In May 2004 the European Union was enlarged by 10 new member states. Five of these countries: Estonia, the Czech Republic, Hungary, Slovakia and Slovenia had already been members of the EAHP at that time. Latvia, Lithuania and Poland joined the EAHP later and they participated in the EAHP Survey 2005 as equal member states of the association. Croatia, Norway and Switzerland participated in the survey as non EU member states of the EAHP while Malta was invited to participate in the survey as non EAHP member state.

In the year 2000, 16 out of 22 member states of the EAHP took part in the EAHP Survey 2000.

In 2005 the participants of the EAHP Survey filled in the electronic questionnaire. The access codes were sent to hospital pharmacy managers in 25 countries out of 26 member states of the EAHP. Hospital pharmacists from 22 European countries participated in the EAHP survey 2005 and 3517 access codes were distributed in total.

The response rate to the EAHP Survey 2005 is in total 24%, the total number of respondents, who completed the questionnaires, is 825. The response rate of the United Kingdom (3%) and Sweden (4%) was too low to be included in the presentation of the survey results.

Final response rate is 26%; the study comprised 815 questionnaires duly filled in.

Slovakia and Slovenia have again reached the highest response rates, 97% and 96%, respectively. The Czech Republic (82%) as well as Estonia (75%) and Lithuania (49%) participated in the survey for the first time with very good response rate from the hospital pharmacy managers. Ireland participated in the surveys in 1995 and 2005 and improved the response rate from 70% to 90%.

Germany is a country with the highest number of filled in questionnaires in all EAHP surveys, conducted in 1995, 2000 and 2005.

Also Austria, Denmark, Hungary and Switzerland have participated in all EAHP surveys with high response rates, over 50%.

EAHP is an association of national associations including 26 countries:

European Association of Hospital Pharmacists

Austria
Belgium
Croatia
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxembourg
Netherlands
Norway
Portugal
Poland
Slovakia
Slovenia
Spain
Sweden
Switzerland
United Kingdom



EAHP Survey 2005



Survey responses

Country	1995			2000			2005		
	Surveyed	Response	% Response	Surveyed	Response	% Response	Surveyed	Response	% Response
Austria	51	46	90	50	18	36	47	31	66
Belgium	300	76	25	90	36	40	192	14	7
Croatia							52	15	29
Czech Republic							82	67	82
Denmark	21	16	76	17	10	59	15	10	67
Estonia							20	15	75
Finland	315	76	24	272	62	23	206	35	17
France	800	130	14	387	75	19	458	24	5
Germany	650	239	36	560	94	17	520	137	26
Greece	140	14	10	40	10	25	127	14	11
Hungary	148	72	49	145	68	47	119	61	51
Ireland	85	60	70	0	0	0	51	46	90
Italy	650	142	22	0	0	0	310	55	18
Lithuania							45	23	51
Luxembourg	8	7	88	0	0	0	9	4	44
Netherlands	100	46	46	82	48	59	77	27	35
Norway	81	21	26	48	34	71	31	8	26
Poland							200	44	22
Portugal	120	33	38	0	0	0	0	0	0
Slovakia	80	25	30	63	63	100	63	61	97
Slovenia	0	0	0	26	25	96	26	25	96
Spain	0	0	0	447	64	14	450	71	16
Sweden	84	45	54	91	26	29	77	3	4
Switzerland	49	43	88	43	35	81	40	28	70
United Kingdom	600	253	42	478	80	17	292	10	3
Total	4282	1344	28	2825	748	27	3509	828	24

EAHP Survey 2005

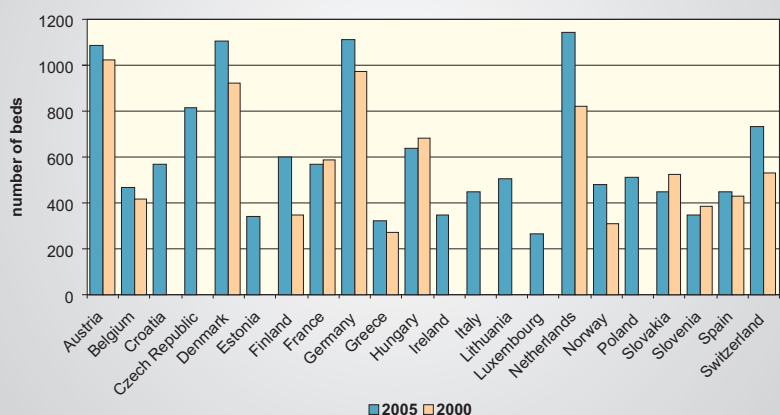
The average number of beds in complete hospitalisation served by the pharmacy in 2005 is 680, which is 13% more than in the year 2000. Standard deviation is 696. In 2000, Austria was the only country where hospital pharmacy served more than 1000 beds. In 2005, hospital pharmacies which served more than 1000 beds were also in Denmark (1107), Germany (1115) and in the Netherlands (1142) besides Austria (1085). In France, Slovakia and Slovenia the average number of beds served by a hospital pharmacy is lower than in 2000.

The average number of beds in partial hospitalisation has increased by 96%; in the year 2000 there were 46 beds and in the year 2005 as many as 90 beds. In 2000, Danish hospital pharmacies served the highest number of partial hospitalisation beds (537), while in 2005 they served about 15 times less. The average number of beds in partial hospitalisation served by hospital pharmacy has decreased also in France by 21%, Greece by 18%, Slovakia by 49% and Switzerland by 60%.

In the year 2005 a hospital pharmacy on the average supplied 680 beds in complete hospitalisation, and 90 beds in partial hospitalisation. The 21-% and 181-% increase in the number of supplied beds per a hospital pharmacy means also increased pressure on hospital pharmacists since their number on general did not increase in the last five years. The number of FTE pharmacists did not alter from five years ago.

Average number of beds served by the pharmacy in complete hospitalisation

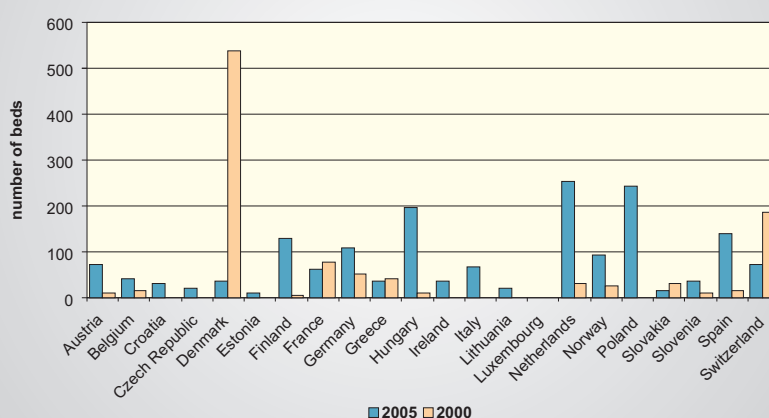
n₂₀₀₅=748



EAHP Survey 2005

Average number of beds served by the pharmacy in partial hospitalisation

n₂₀₀₅=748



EAHP Survey 2005

Beds served by pharmacy

	2000			2005		
	n	Mean	Std. Deviation	n	Mean	Std. Deviation
In complete hospitalisation	738	564	448	808	680	696
In partial hospitalisation	746	32	121	447	90	358

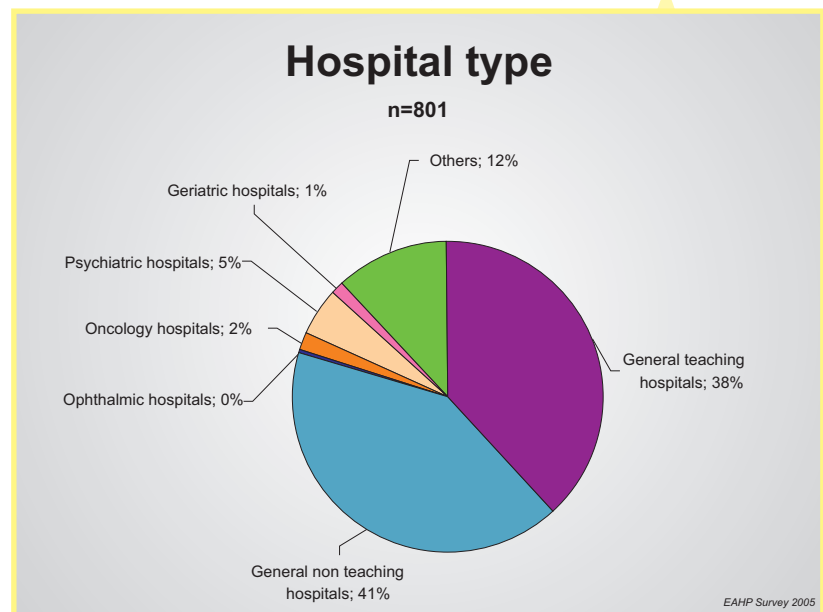
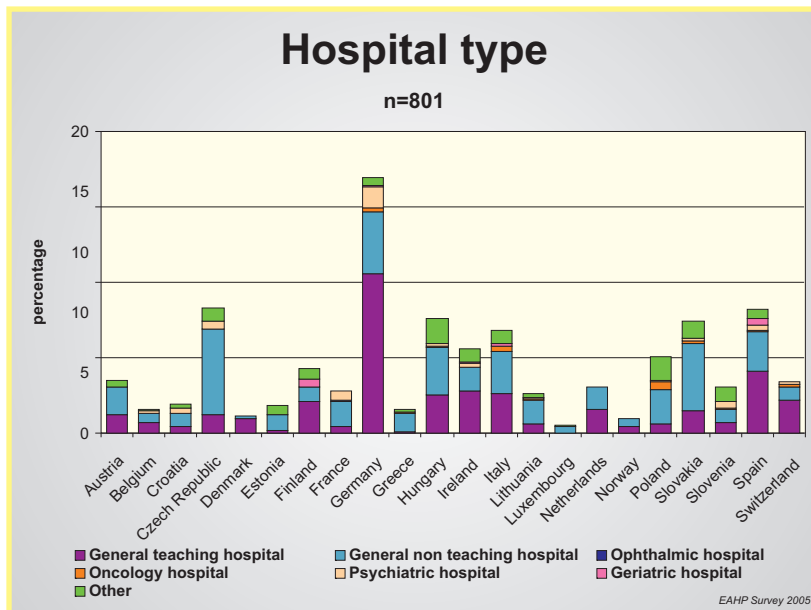
EAHP Survey 2005

In 22 countries, which participated in the survey, the questionnaires were filled in by hospital pharmacy managers coming from different types of hospitals. The graph shows a proportion of different types of hospitals represented in the survey. The delegates from individual countries confirmed the proportion of representation of different hospital types to be characteristic of the situation, i.e. the sample was representative for their country.

The number of individual types of hospitals in Europe is not known. General non teaching hospitals and general teaching hospital had the biggest representation in the survey 2005 and make up for three quarters of the respondents. All the results of this survey should therefore be considered from this aspect, especially when comparing the activities of hospital pharmacies in individual countries.

In the survey 2005 the respondents to the questionnaire were mostly from general non teaching hospitals (41%). This score is very similar to that of the previous survey. 38% of the respondents are from general teaching hospitals and this score exceeds that of the survey 2000 by 4%.

In 2005 there were 5% less respondents from psychiatric hospitals and 3% less respondents from geriatric hospitals..



Hospital type

n=801

	2000	2005
General teaching hospitals	34,9	38,4
General non teaching hospitals	46,4	41,4
Ophthalmic hospitals	0,4	0,1
Oncology hospitals	2,0	2,1
Psychiatric hospitals	9,8	4,9
Geriatric hospitals	4,5	1,2
Other	12,1	11,9

EAHP Survey 2005

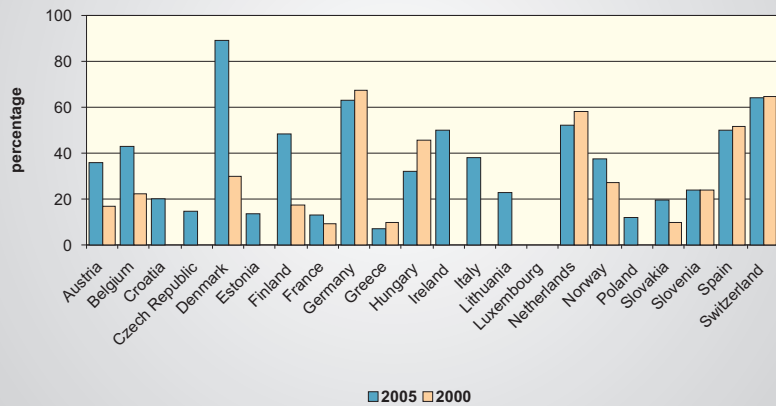
The biggest percent of responses from general teaching hospitals were collected from Denmark, and the biggest number from Germany. The impact of German general teaching hospitals on the survey is 27%, and that of Spanish 11%. 52% of Dutch respondents come from general teaching hospitals and their impact on the entire survey is 4%.

The biggest percent of responses from general non teaching hospitals came from Greece and Luxembourg, and the biggest number from the Czech Republic. The impact of the Czech general non teaching hospitals on the survey is the greatest - 14%, Slovakian 11%, and German 10%.

The average bed occupancy has increased from 74% in 2000 to 80% in 2005 (a 7% increase in total). In Austria, Finland, France, Hungary, the Netherlands, Norway, Spain and Switzerland the increase varied between 5% and 29%. In Belgium, Denmark, Germany, Greece, Slovakia and Slovenia the average bed occupancy decreased by 1% to 9%.

General teaching hospitals

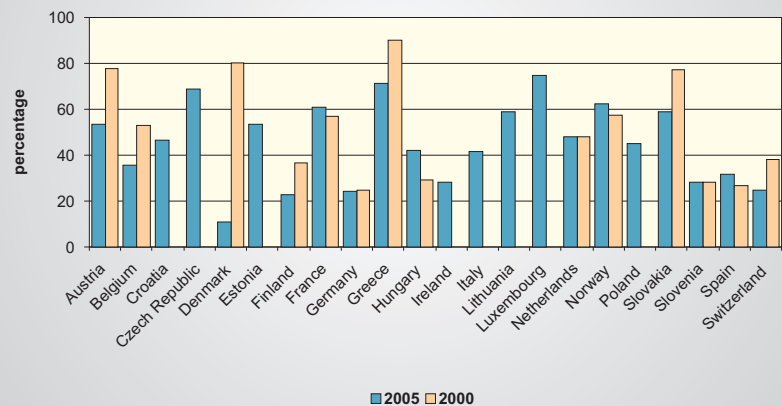
n₂₀₀₅=801



EAHP Survey 2005

General non teaching hospitals

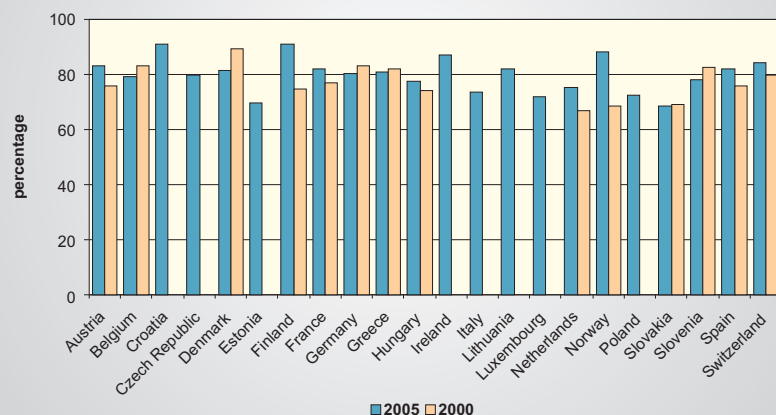
n₂₀₀₅=801



EAHP Survey 2005

Average bed occupancy in hospitals

n₂₀₀₅=642



EAHP Survey 2005

The average duration of stay for inpatients has decreased by 25% compared to the results of the survey 2000. The shortest average duration of stay is in Denmark and Greece (4.6 days) while Croatia has the highest average duration of stay: 27 days. With the exception of Austria, Belgium and Switzerland, all the countries decreased the average duration of stay for the inpatients.

On the other hand, the average duration of stay at other sites increased:

- at first site from 5 days to 22 days,
- at second site from 3 days to 27 days and
- at third site from 2 days to 26 days.

The majority of the respondents to the questionnaire are from public hospitals, i.e. hospitals owned by the government: 79% in 2005 and 84% in 2000.

Like in the previous survey, 5% of those who participated in the survey 2005 come from church or religious affiliated hospitals.

Private hospitals participate in the survey with 8%.

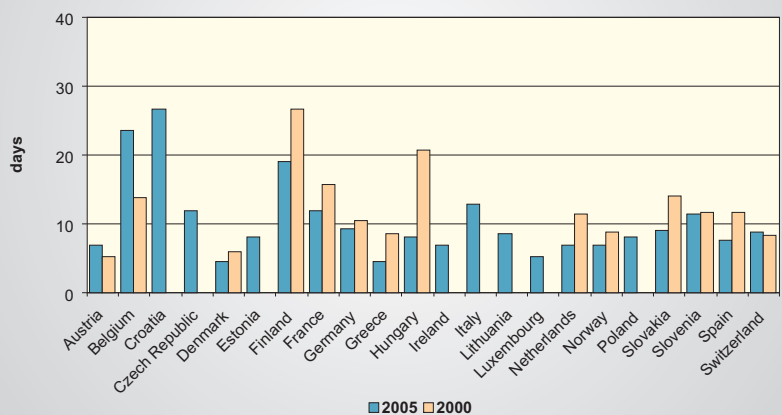
All hospital pharmacy managers, who filled in the questionnaires from Croatia, Denmark, France and Greece, are from public hospitals. In the previous survey Slovakia participated with public hospitals only, while in the survey 2005 the percentage of public hospitals has been reduced by 44%, and 38% of Slovakian hospitals declared themselves as others. Hungary increased the share of public sector by 25% in the last survey.

Church or religious affiliated hospitals are mostly from Norway (25% of respondents), Austria (23% of respondents) and Germany (17% of respondents). Compared to the previous survey, the share of church hospitals was significantly increased in Norway (by 22%).

The biggest number of responses from private hospitals came from Luxembourg, Belgium, the Netherlands, Ireland, Spain, the Czech Republic and Germany. Like in the survey 2000, one third of Belgian responses came from private hospitals. 50% of the filled in questionnaires from Luxembourg belong to the private sector.

Average duration of stay for inpatients

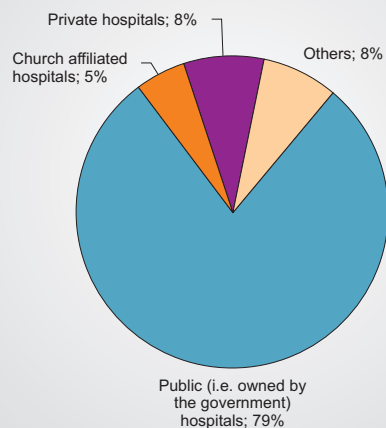
n₂₀₀₅=748



EAHP Survey 2005

Hospital ownership

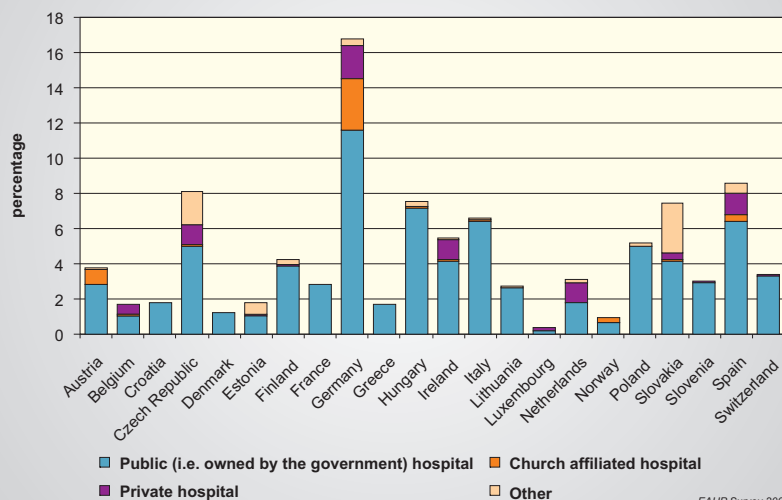
n=813



EAHP Survey 2005

Hospital ownership

n=813



EAHP Survey 2005

In the survey 2005 profit making institutions are represented by 13%, i.e. 8% more than in the survey 2000. 33% of the answers received were from Italy, 28% from Germany, 26% from Czech Republic, 11% from each Finland and Ireland.

Germany has decreased the representation of non profit making institution by 17%.

A Full Time Equivalent (FTE) is a criterion for the number of hospital staff including also the employees who do not work 8 hours per day.

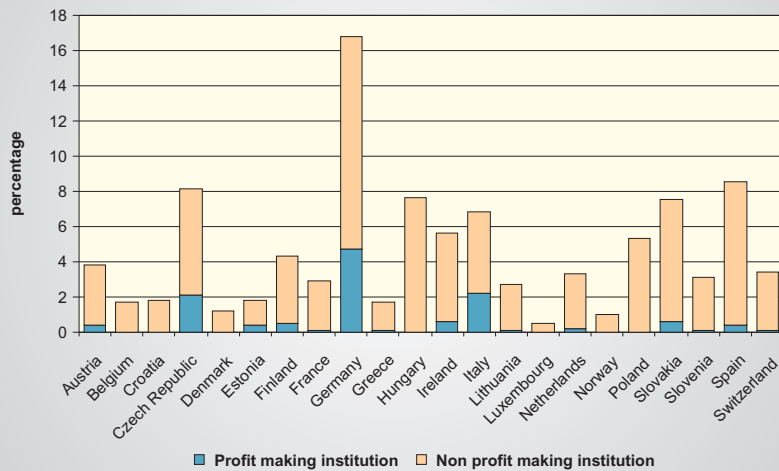
The number of FTE medical nurses has increased in the majority of European countries, on the average by 18%, the most in the Netherlands - by 139% and in Denmark - by 101%.

In Greece, Hungary, Slovakia and Slovenia the number of FTE nurses decreased on the average, the most in Slovakia - by 63%.

The number of FTE physicians increased in the majority of European countries, by 8% on the average. It decreased only in Denmark, Hungary and Slovakia. In Slovakia the number of FTE physicians is now six times smaller than it used to be five years ago.

Financial type of hospitals

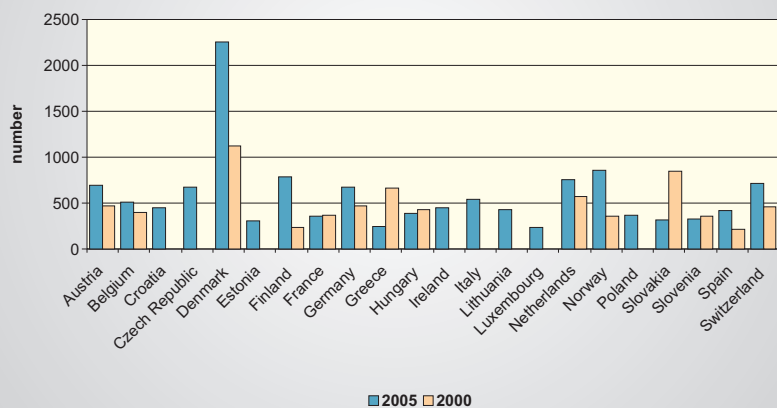
n=810



EAHP Survey 2005

Personnel: FTE nurses (average)

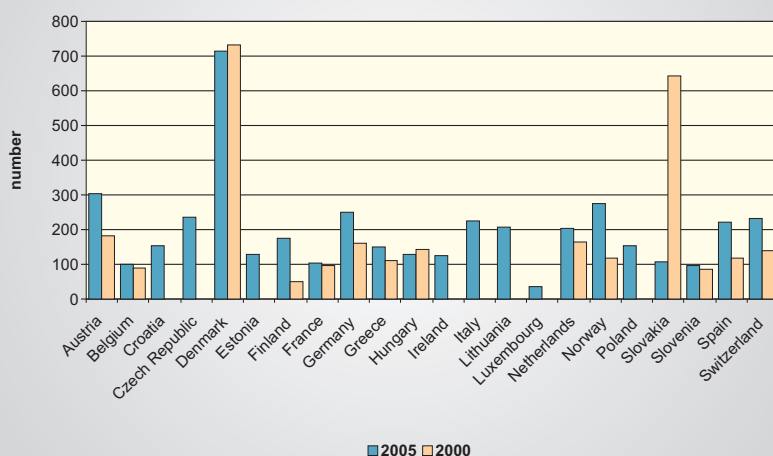
n₂₀₀₅=656



EAHP Survey 2005

Personnel: FTE doctors (average)

n₂₀₀₅=670



EAHP Survey 2005

On the average the number of pharmacists in hospital pharmacies increased in all the countries which participated in the survey, except in Slovakia. The most numerous staff in hospital pharmacies is in Denmark - 10.3 pharmacists on the average, and in Norway 9.1 where the increase of FTE in hospital pharmacies was the greatest. Luxembourg and Slovakia, on the contrary have the smallest number of pharmacy staff - on the average 2.3 and 2.2 pharmacists, respectively.

The average number of FTE for pharmacists in the European hospitals is 4.7.

Denmark and the Netherlands have the biggest number of FTE pharmacy technicians / assistants, 28.2 and 26.2 FTE per pharmacy. In these two countries the number of FTE technicians increased the most in the last five years, by 36% and 17% respectively.

A big number of FTE technicians can be observed in Norway -13.2, Belgium 9 and in the Czech Republic 9.3 per pharmacy.

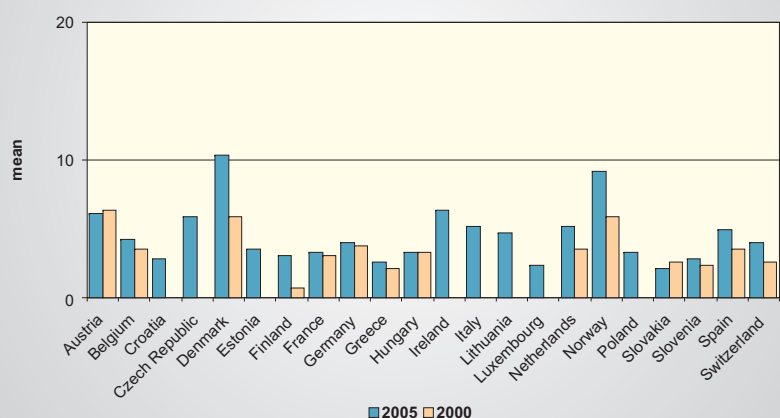
In Estonia, Italy, Luxembourg, Lithuania and Slovakia there are less than 3 pharmacy technicians per pharmacy on the average.

On the average five years ago there were 423 FTE nurses, 179 FTE physicians in European hospitals and only 5 FTE pharmacists and 6 FTE pharmacy technicians in hospital pharmacies. In five years the average number of FTE nurses increased by 18%, that of FTE physicians by 8%, while the number of FTE pharmacists and pharmacy technicians did not change.

The average number of staff in the European hospital pharmacy in 2000 was 19 persons and it is the same in 2005.

Personnel: FTE pharmacists (average)

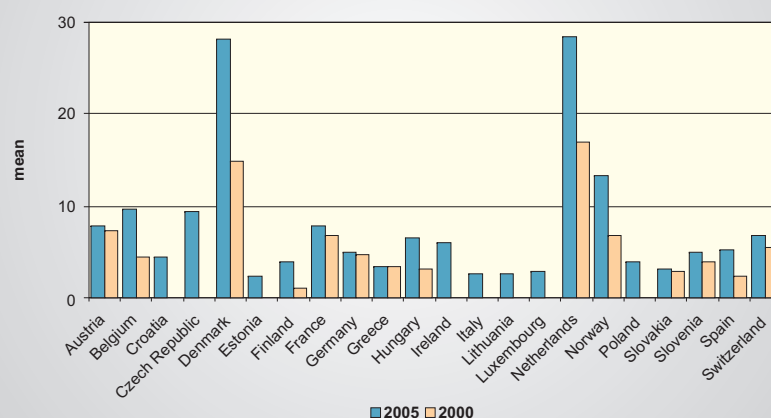
$n_{2005}=798$



EAHP Survey 2005

Personnel: FTE technicians (average)

$n_{2005}=798$



EAHP Survey 2005

Number of nurses, doctors and pharmacy staff

	2000			2005		
	n	Mean	Std. Deviation	n	Mean	Std. Deviation
Nurses FTE	741	423	488	656	549	650
Doctors FTE	738	179	166	670	193	259
Pharmacists FTE	748	5	7	798	5	7
Pharmacy technicians FTE	748	6	9	734	6	10

EAHP Survey 2005

The hospital pharmacy directors are responsible for other hospital departments in 37% of the European hospitals which is 2% less than in the year 2000.

Responsibility of pharmacists for other departments diminished in the majority of countries, the most in Switzerland - by 38%, in the Netherlands and Norway by 22%, in Belgium by 11% and in Denmark by 10 %.

The scope of pharmacists' responsibility increased in Greece and in Slovakia - by more than 20%.

In Luxembourg all hospital pharmacy managers participating in the survey are involved in management of medical devices, while in Estonia and Norway the hospital pharmacy managers are not responsible for any other hospital department.

In Austria, Croatia, Denmark, Finland, Germany, Hungary, Ireland, and in Spain hospital pharmacists are rarely involved in any work in other hospital departments (in less than 20% of hospitals).

In 2005, the responsibility of the hospital pharmacists for sterilisation departments decreased by 23%, the most in Slovenia by 27%.

But in France, Belgium and Switzerland hospital pharmacists have more responsibility for sterilisation; their responsibility increased by more than 6%, 7 % and 3%, respectively.

All hospital pharmacists in Belgium, who participated in the survey, are responsible for sterilisation in their respective hospitals. The percentage of hospitals where the hospital pharmacist supervises sterilisation department is also big in France, the Netherlands and in Denmark i.e. 91%, 67% and 50% respectively.

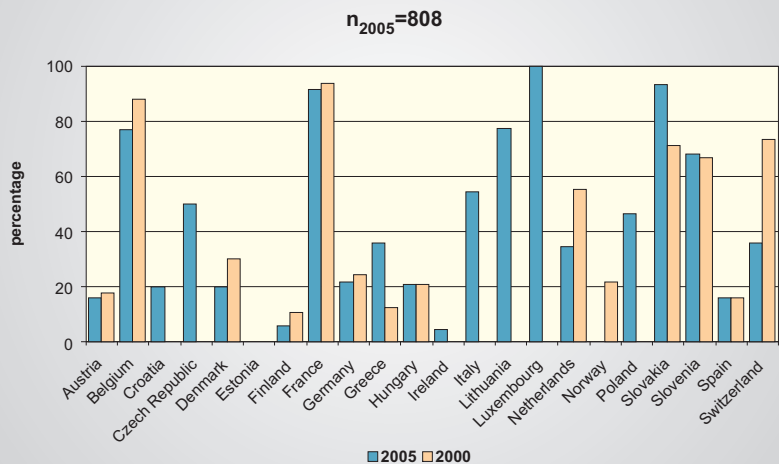
In comparison with the survey 2000, we can observe a 4-% increased responsibility for infection control, the highest increase is in Greece - 80% and in Austria - 67%.

The pharmacists in Switzerland take responsibility for infection control in 50% of hospitals. This is 38% more than five years ago.

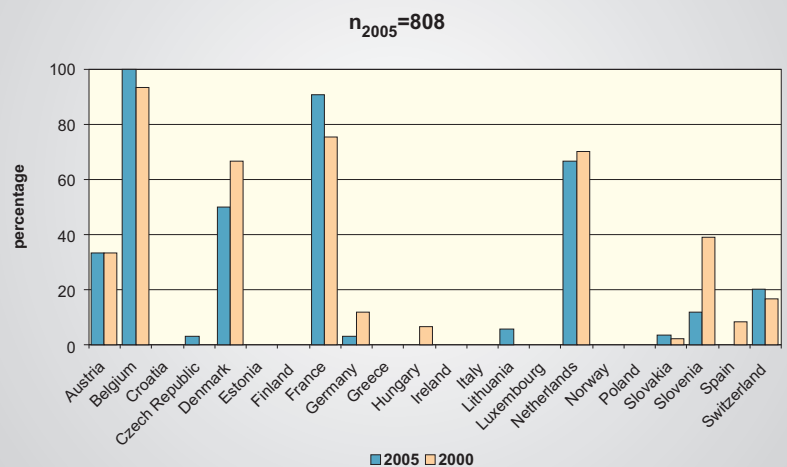
The pharmacists in Croatia are involved in infection control in 33%, and in Poland in 25% of hospitals participating in the survey.

In Slovenia, Norway and in the Netherlands hospital pharmacists have lost some responsibility for infection control, their responsibility was diminished by 16%, 14% and 19%, respectively.

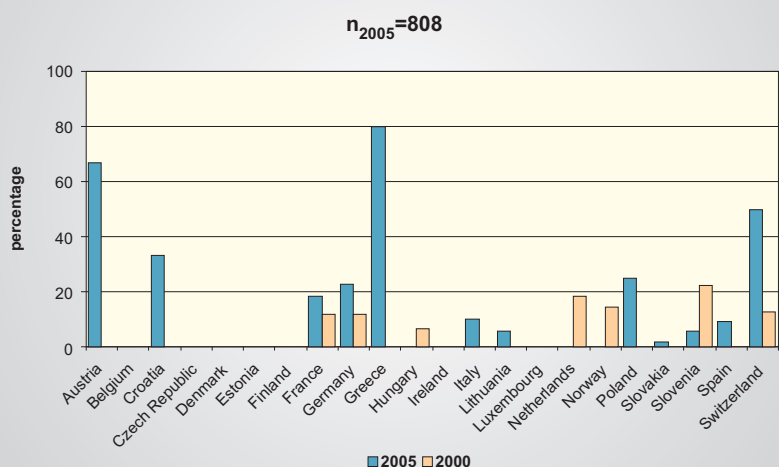
Responsibility of pharmacy directors for other departments in the hospital



Responsibility of pharmacy director for sterilisation



Responsibility of pharmacy director for infection control



Hospital pharmacists are responsible for medical analysis laboratories in their hospitals only in 10% and they extended the responsibility in the last five years, totally by 2%. In the survey 2000 only 7 countries reported that the hospital pharmacy managers are responsible also for this department. In 2005, 13 countries reported that the medical analysis laboratory is under control of the hospital pharmacy.

In 73% of European hospitals a pharmacist is responsible also for management of medical devices. This means a 15-% higher responsibility compared to that five years ago. The 2005 survey shows that all hospital pharmacists participating in the survey in Croatia, Luxembourg and Slovakia are responsible for medical devices. In the Czech Republic, Italy, Lithuania and Slovenia the percentage of the hospital pharmacists responsible for medical devices is also very high - over 90%.

The hospital pharmacists in Denmark, Estonia, Greece, Ireland and Norway are not in any way involved in the management of medical devices, although five years ago in Norway a pharmacist was responsible for this area in 57% of hospitals.

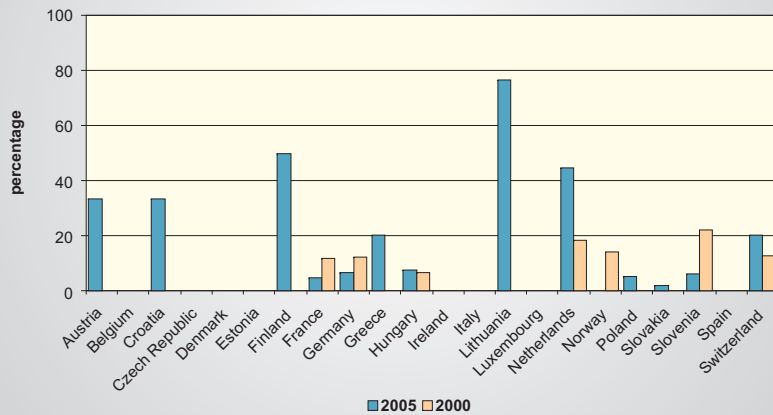
In the last five years hospital pharmacists have lost some responsibilities for waste management, totally by 7%.

But there are also countries where hospital pharmacies gained new responsibilities for waste management: in Austria in 33% of the hospitals, in Denmark in 17% of the hospitals and in Greece in 40% of the hospitals.

In Austria, Denmark, Finland, Switzerland more than 50% of hospitals have a pharmacist responsible for waste management. The highest number of hospitals with a hospital pharmacist responsible for waste management is in Lithuania where 94% of hospital pharmacies, which participated in the survey, provide such service.

Responsibility of pharmacy director for medical laboratory

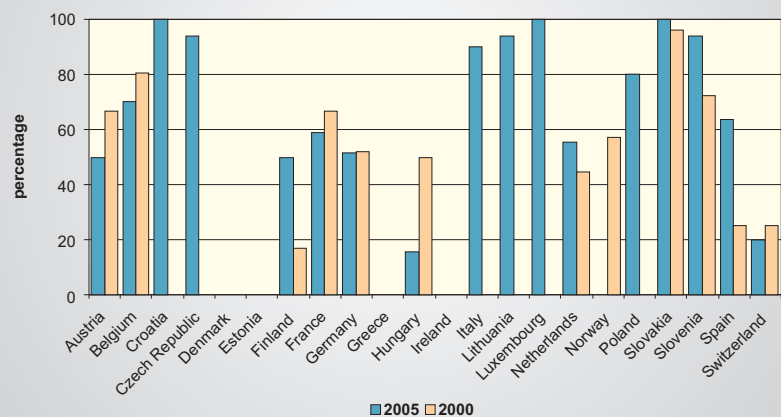
n₂₀₀₅=808



EAHP Survey 2005

Responsibility of pharmacy director for medical devices

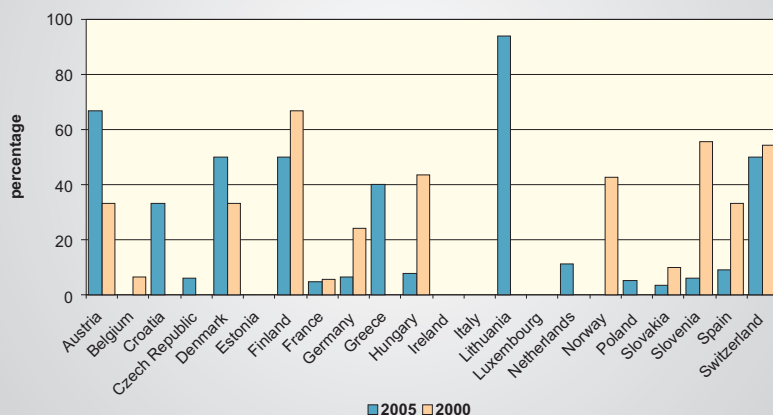
n₂₀₀₅=808



EAHP Survey 2005

Responsibility of pharmacy director for waste management

n₂₀₀₅=808



EAHP Survey 2005

Of all the hospitals participating in the survey the pharmacy director is accountable to hospital chief executive (100%) only in Croatia and Greece. A high percentage of accountability to hospital chief executive was noted in Belgium, Denmark, Ireland, Lithuania, the Netherlands and in Slovenia - in more than 80% of hospitals.

In Luxembourg, a pharmacy director is accountable to clinical medical director in all hospitals.

A high percentage of accountability to a clinical medical director exists in Poland, Italy, Estonia, and Austria - in more than 50% of hospitals which participated in the survey.

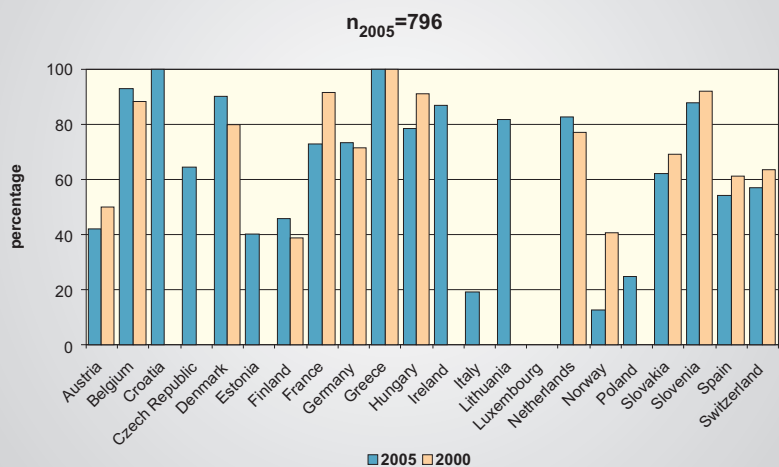
In Belgium, Denmark, France, Croatia, Greece, the Netherlands and in Norway a pharmacy director is not accountable to a clinical medical director in any of the hospitals which participated in the survey.

According to the survey 2005 the operating expenses of hospital pharmacies in the total hospital budget increased by 11%, this means a 2.5-fold average increase in the last five years.

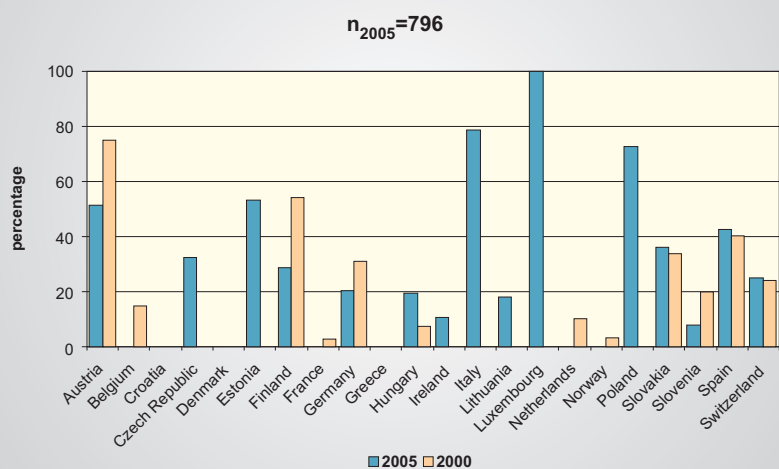
On the average 8% of the total hospital budget is earmarked for the medicines. In the last five years, the share of hospital budget earmarked for the drugs increased by 60%.

As five years ago, the Scandinavian countries still have the lowest percent of budgets assigned to drugs, nonetheless in the last five years this percent significantly increased in Norway and Finland - by 79% and 131%, respectively. An enormous increase was observed also in Greece and Spain - by more than 100%. The percent of total hospital budget earmarked for drugs was reduced only in the Netherlands and Hungary - by 12% and 35%, respectively.

Responsibility of pharmacy director to hospital chief executive officer



Responsibility of pharmacy director to clinical medical director



Part of the drug budget in the total hospital budget

	Part of the drug budget in the hospital budget (1999)	Standard Deviation	Part of the drug budget in the hospital budget (2004)	Standard Deviation
Austria	4.25	3.72	6.3	4.9
Belgium	6.22	6.06	7.9	3.6
Croatia			9.6	2.7
Czech Republic			11.6	5.9
Denmark	3.23	1.85	5.2	2.1
Estonia			7.8	4.2
Finland	1.6	1.95	3.7	2.3
France	3.22	3.16	4.9	3.6
Germany	4.07	8.16	5.1	3.7
Greece	9.6	10.8	25	7.6
Hungary	12.1	17.3	7.9	3.5
Ireland			5.3	2.9
Italy			7.3	5.6
Lithuania			8.9	7.2
Luxembourg			7.7	0.9
Netherlands	3.86	5.84	3.4	1.3
Norway	1.56	1.94	2.8	0.4
Poland			12.5	9.3
Slovakia	8.55	6.16	9.1	4.1
Slovenia	8.96	11.9	9.7	7.3
Spain	5.14	4.54	11.5	9.9
Switzerland	3.83	1.83	5.6	1.7
TOTAL	5	7.93	8	6.2

EAHP Survey 2005

A pharmacy director has the freedom to allocate some resources within the hospital budget to his department in 23% of the surveyed hospitals only. In Switzerland as many as 56% of the hospitals which responded to this question have such freedom. In Luxembourg and Belgium there are 50% of such hospitals.

The influence of a pharmacy director on a hospital budget has diminished in all countries except in Finland, Slovakia and Belgium.

In all countries where a pharmacy director has the freedom to use hospital resources, the budget for pharmacy equipment increased, except in France. The increase was the biggest in Hungary - 39%.

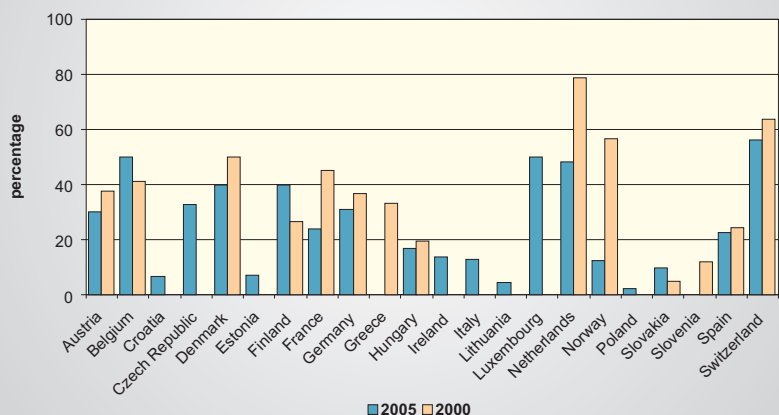
On the average, hospital pharmacies are opened 12 hours from Monday to Friday, which is on the average 3 hours (33%) more than in the year 2000.

On Saturdays, hospital pharmacies on the average operate 4 hours which is 1 hour more than in the year 2000 and on Sundays 3 hours which is 1 hour more than in the year 2000, i.e. the increase of 33% and 50%, respectively.

The 2005 survey shows that the daily opening hours have increased in Denmark, the Netherlands, Greece and Switzerland while in Austria, Finland, Germany, Spain and Slovakia the opening hours were reduced.

Budget for pharmacy – allocation from hospital budget

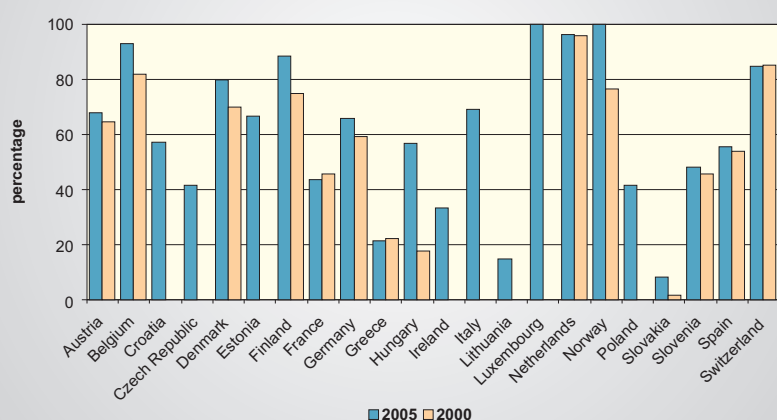
n₂₀₀₅=774



EAHP Survey 2005

The budget for pharmacy equipment

n₂₀₀₅=786



EAHP Survey 2005

Hospital pharmacy hours of service

	2000				2005			
	no	Mean	Max	Std. Deviation	no	Mean	Max	Std. Deviation
Monday to Friday	614	9	18	2	806	12	19	11
Saturday	748	3	24	5	537	4	17	6
Sunday	748	2	24	5	471	3	17	6

EAHP Survey 2005

On the average, less than 40% of the European hospital pharmacies provide a 24-hour on call service. This means nearly 10% less hospitals than shown by the 2000 survey.

In Denmark and in the Netherlands hospital pharmacists are available around the clock in all hospitals participating in the survey, in Greece the 24-hour on call hospital pharmacy service was reduced by 14 %.

The survey 2005 demonstrated that that the 24-hour on call service of a pharmacist is provided by 8-15% more hospitals in Austria, Germany, Hungary and Switzerland compared to the previous survey.

On call service of a resident pharmacist is organised in less than 6% of the European hospitals on the average. This average did not change in the last 5 years. Only 13 out of 22 countries have reported that some of their hospitals provide such a service.

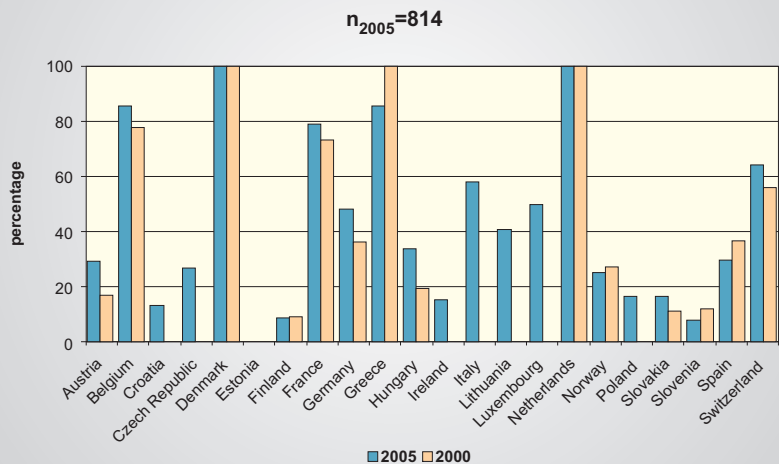
In Greece and in the Czech Republic a resident pharmacist is on call during the night in more than 20% of the hospitals, although this service was diminished in Greece by 39%.

In Austria the number of hospitals with on call pharmacist during the night also diminished by 10% in the last five years.

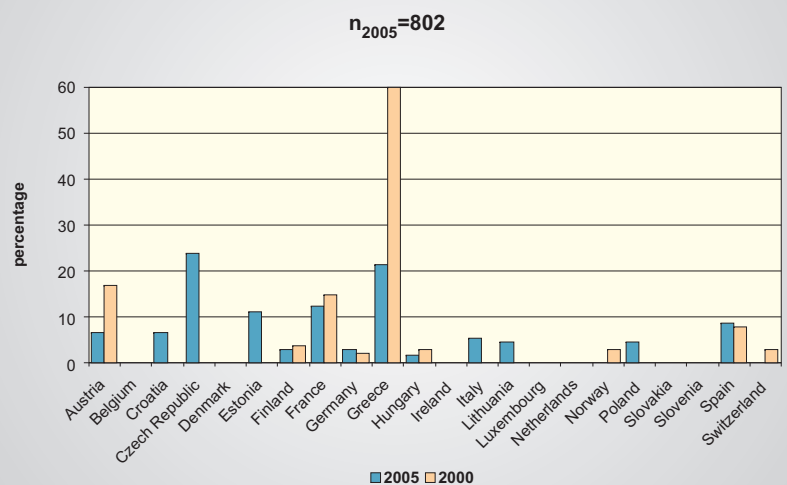
On the average 90% of the European hospital pharmacies provide centralised distribution of medicinal products. In 5 countries: Belgium, Croatia, Greece, Norway and Poland all the hospital pharmacies participating in the survey (100%) operate a centralised distribution service, in Hungary there are even 15 % more hospitals with such a service than five years ago.

Compared to the year 2000, a reduction was observed in the percent of hospital pharmacies operating such a service in Denmark by 10%, Finland by 13%, Slovenia by 8% and in Switzerland by 5%.

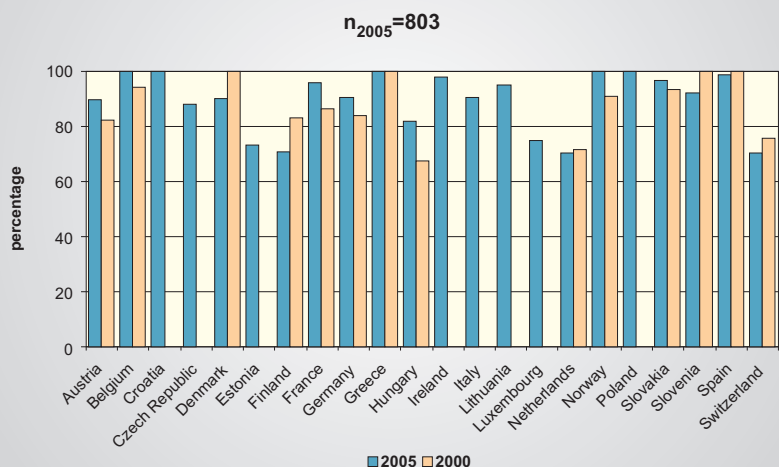
24-hour on call service



Resident pharmacy services



Centralised distribution of medicinal products



Besides centralised pharmacy service there are also 17% of hospitals with a decentralised distribution of medicinal products: drug distribution is made by satellites, i.e. ward based pharmacy outlets, supplied by central pharmacy. This is 7% less than 5 years ago.

The majority of hospitals with a decentralised distribution service are in the Netherlands: 81% of those that participated in the 2005 survey. In the last five years the percent of those increased by 33 %. In Switzerland there are 58% of such hospitals on the average and in Estonia 46%.

In Greece, Belgium and Hungary the percent of hospitals with a decentralised pharmacy service decreased by 23% to 45%.

Although a modern hospital pharmacy tends toward patient oriented distribution in order to minimise the medication errors, the results of the survey nonetheless show that only 23 % of hospitals perform unit dose drug distribution in practice, which is 10% less than five years ago.

A large percentage of hospitals distributing drugs to individual patients are in Belgium 79%, the Netherlands 96%, Spain 96% and in France 58%.

Denmark, which showed 40 % of hospitals with patient oriented distribution in the survey five years ago, now reports about abandoning such way of drug distribution.

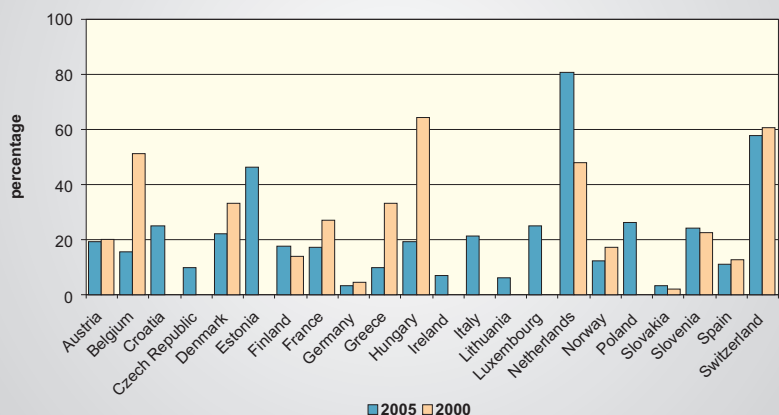
In the majority of the European hospitals bar codes are not used in everyday practice. They are used in stock management of the medicinal products in 28% of hospital pharmacies, mostly in the Czech Republic - 89%, Luxembourg - 75%, Norway - 63%, in the Netherlands - 62%, Italy - 58%, while in Croatia, Slovakia and Greece the bar codes are not used at all.

Bar codes are used in stock management of medical devices in less than 16% of hospital pharmacies, mostly in Norway 50%, the Czech Republic 37% and in the Netherlands 32%. Belgium, Croatia, Poland and Greece do not use bar codes in this field.

13% of hospital pharmacies use bar codes for labelling the in-house produced drugs, mostly in the Czech Republic 57% and in the Netherlands 42%. Croatia, Estonia, Greece, Hungary, Lithuania, Luxembourg and Slovenia do not use bar codes for their own products, most probably because hospital pharmacies do not produce drugs in house or they produce a very limited quantity of them.

Decentralised distribution of medicinal products

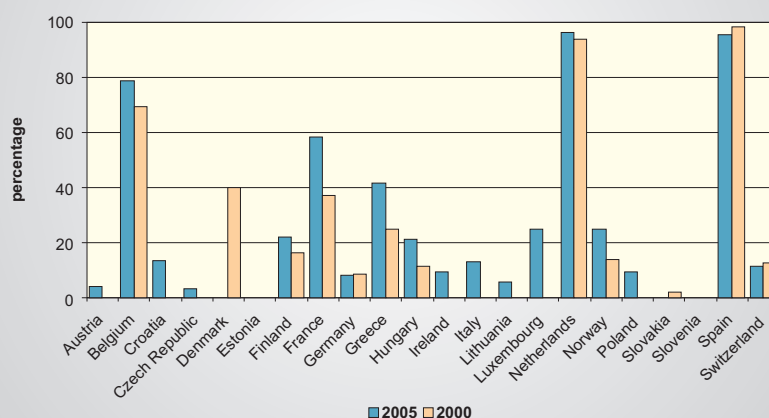
n₂₀₀₅=803



EAHP Survey 2005

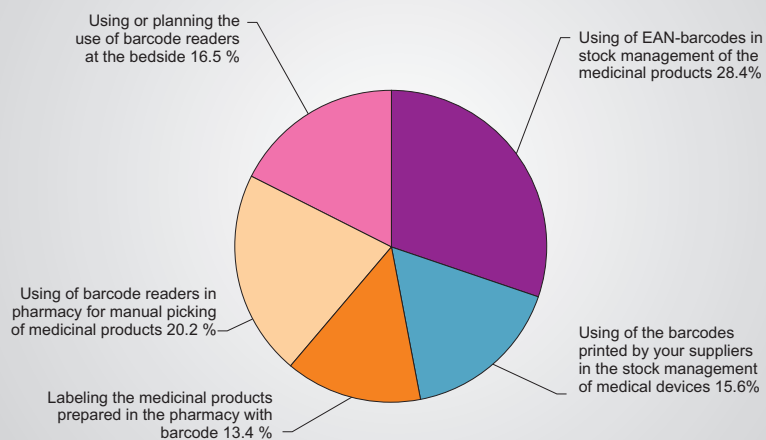
Distribution to individual patients

n₂₀₀₅=803



EAHP Survey 2005

Use of barcodes in the drug distribution



EAHP Survey 2005

20% of hospital pharmacies use bar codes when manually picking medicinal products for distribution to hospital wards: Luxembourg 75%, France 50%, Italy 47% and the Netherlands 46%. In Croatia, Greece, Estonia, Lithuania, Norway and Slovenia no such procedure is performed.

16% of hospitals use or plan to use bars codes at the bedside to capture the information about the medicinal product given to the patient. In the Netherlands and in Luxembourg such method is more widely used - on the average in more than 50% of hospitals.

19_1

Individual patient supply has been reduced in the last five years by 13%.

A large percent of hospitals with individual patient supply is in Belgium 79%, the Netherlands 58%, France 58% and in Spain 50%. In Norway the percent of hospitals which introduced individual patient supply increased during the last five years by 34% and amounted to 38% in the year 2005.

In the year 2000 hospital pharmacies were supplying the average of 63 beds using the method of individual patient supply. In the year 2005 the hospital pharmacies ensured such supply to 10 beds (Slovenia) and up to 750 beds (The Netherlands) - the average of 445 beds (standard deviation being 993).

19_2

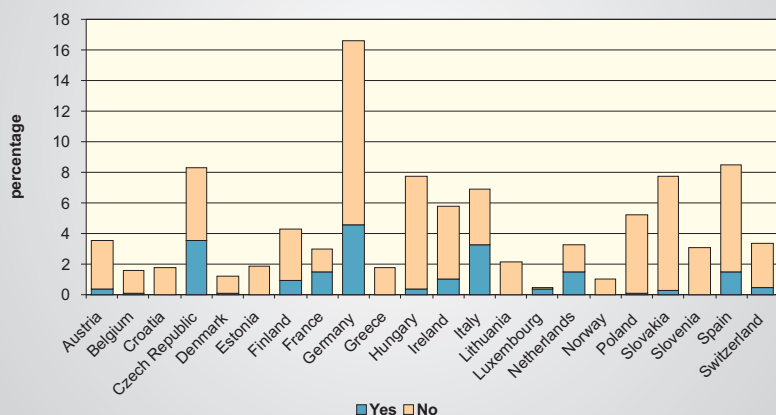
24-hour unit dose dispensing system has been introduced to 15% of hospital pharmacies, out of this 94% in Spain and 77% in the Netherlands, where the introduction of this system increased by 2% and 7%, respectively.

The 2005 survey demonstrated that the implementation of 24-hour unit dose dispensing system increased during the last five years by 16% in Belgium, 13% in France and by 6% in Norway. In the above mentioned countries hospital pharmacies provide such drug supply for 393 beds on the average (SD being 320). The biggest number of hospitals using this system is in the Netherlands where 711 beds (SD=449) in 18 hospitals are provided for. 63 Spanish hospitals report a 24-hour unit dose dispensing system providing for the average of 356 beds (SD =247).

71% of hospitals have a ward stock system.

Use of barcode readers in distribution

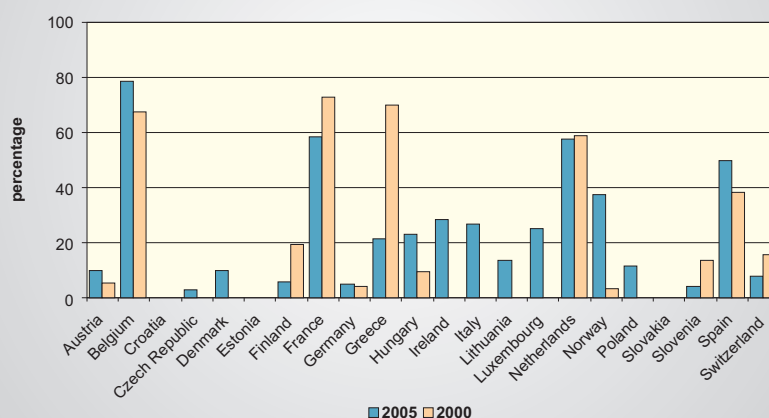
n₂₀₀₅=799



EAHP Survey 2005

Individual patient supply system

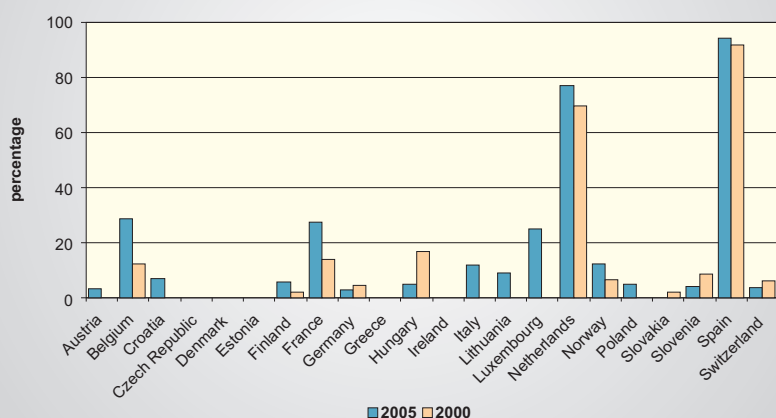
n₂₀₀₅=800



EAHP Survey 2005

24-hour unit dose dispensing system

n₂₀₀₅=797



EAHP Survey 2005

97% of hospitals distribute drugs with manual picking. Nonetheless the automation of drug distribution in hospitals increased.

In the Netherlands (by 16%) and in Norway (by 13%) the use of ATC machines increased the most, while in Belgium (by 17%) and in Hungary (by 43%) the use of Rowa machines increased.

In Spain, Norway and Belgium the use of the integrated computer system - Pyxis significantly increased, by 23%, 25% and 10%, respectively.

21_1

Clinical pharmacy services increased significantly in all countries during the last five years. In 85% of the hospitals, participating in the 2005 survey, the pharmacists perform centralised clinical services, i.e. pharmacists occasionally visit patients in the ward. In Germany and Spain the average number of visits to the hospital wards increased the most by 19% and 13%, respectively.

In 12% of hospitals only, a pharmacist visits patients on a daily basis: in Ireland in 45% of hospitals, in Belgium in 38%, in Greece in 20% and in Spain and the Netherlands in 16%.

Decentralised clinical service means that a pharmacist spends at least half of his working hours on a hospital ward. This is mostly done in Poland and Norway, where 40 to 50% of hospitals operate such system of clinical pharmacy.

21_2

In the majority of European hospitals which participated in the survey there is an established centralised clinical service and the pharmacists do not visit the wards on a daily basis. This has been reported from all participating hospitals in Denmark, Estonia, France, Greece, Hungary, Lithuania, Luxembourg, Slovakia and Switzerland.

A hospital pharmacist visits hospital wards at least once daily in as few as 13% of hospitals. The percent of these hospitals has been slightly reduced, compared to the survey 2000. The majority of such hospitals are in Ireland - 45% , Belgium 38% and in Greece 20%.

Decentralised clinical services are provided in more hospitals than five years ago. The most numerous hospitals with the established system are hospitals in Poland - 50% of participating hospitals, in Norway 40% of hospitals, in the Czech Republic 27% and in Croatia 25% of hospitals.

Pharmacy automation

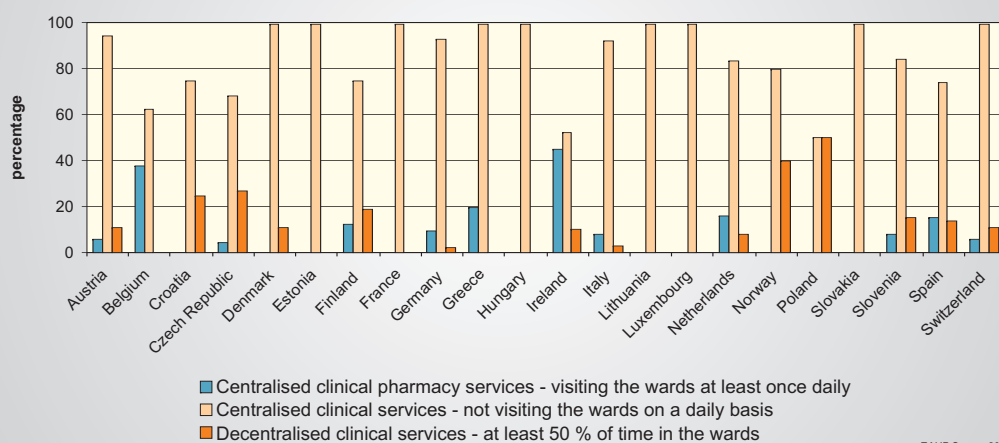
n=721

	2000		2005	
	Number of hospitals	%	Number of hospitals	%
Manual picking	607	95.7	698	96.7
Computer dispensing for doses for individuals (ATC)	18	2.4	25	3.4
Computer picking for stock doses (Rowa)	11	1.5	33	4.5
Robotic picking for individuals (APS)	1	0.1	2	0.5
Integrated computerised system (Pixis)	27	3.6	51	7.0

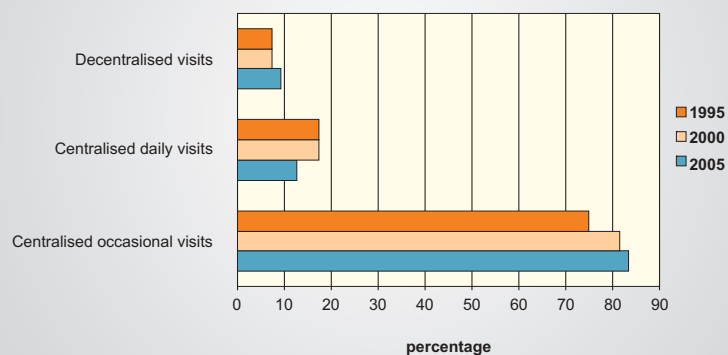
EAHP Survey 2005

Clinical pharmacy services

n=444



Clinical pharmacy visits



Due to a lack of pharmacists or for economic reasons 35% of hospitals participating in the survey assign clinical services to pharmacy technicians.

In all Danish hospitals which responded to the survey, pharmacy technicians participate in the ward activities, whereas in Slovakia in 98% of hospitals.

A large percent of hospitals with pharmacy technicians involved in clinical work is also in the Netherlands 93% and in Lithuania 59%.

In Estonia technicians do not participate in clinical work in any hospitals included in the survey. In the majority of hospitals in Poland, Hungary, Finland and Belgium, the technicians are not involved in clinical activities either.

Pharmacy technicians mainly take care of:

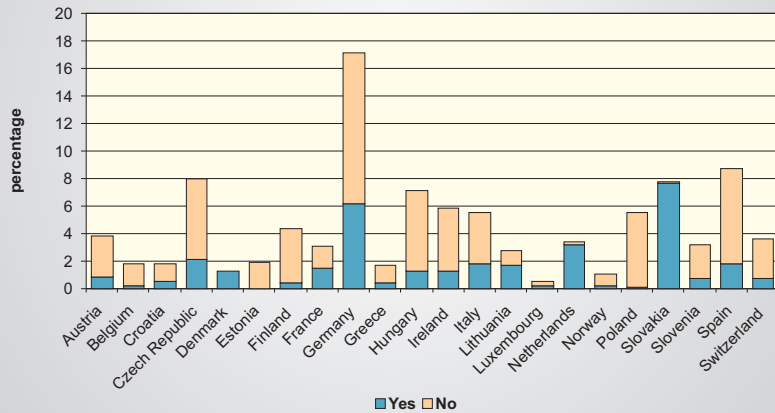
- drug supply on hospitals wards - in 87% of hospitals: the duty of technicians in all the hospitals participating in the survey from 12 out of 22 countries includes taking care of drug stock at the hospital wards
- information on the drugs - in 44% of hospitals, the majority of them being in the Netherlands and Denmark - in 80% of hospitals, and in more than 50% of hospitals in France, Germany, Norway, Slovakia and Switzerland.
- patient counselling in 15% of European hospitals: in all hospitals in Greece (100%) in 50% of Norwegian hospitals responding to this question
- members of committees in 15% of hospitals and audits in 14% of hospitals: in France the technicians take part in various committees and audits in more than 50% of hospitals and in Ireland they are members of supervising committees in more than 50% of hospitals.

In the majority of European hospitals, medical nurses order the medicinal products needed in their wards (78%), most frequently in Lithuania, where nurses order the medicinal products in all the hospitals which participated in the 2005 survey.

Medical staff orders drugs in 44% of hospitals, while pharmacists are responsible for drug ordering in 18% of hospitals only.

Assigning clinical services to pharmacy technicians

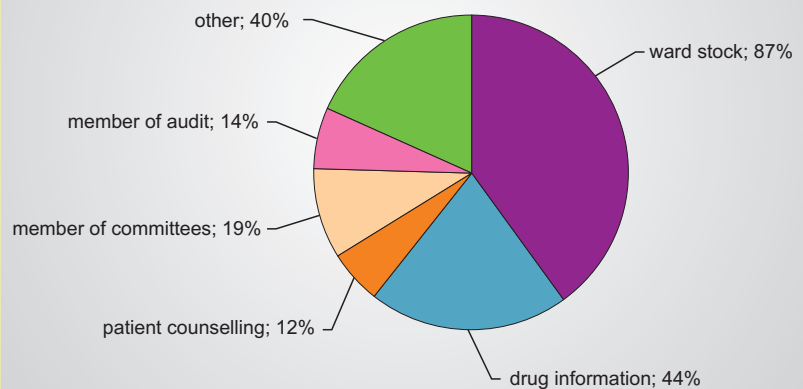
n=781



EAHP Survey 2005

Clinical tasks assigned to pharmacy technicians

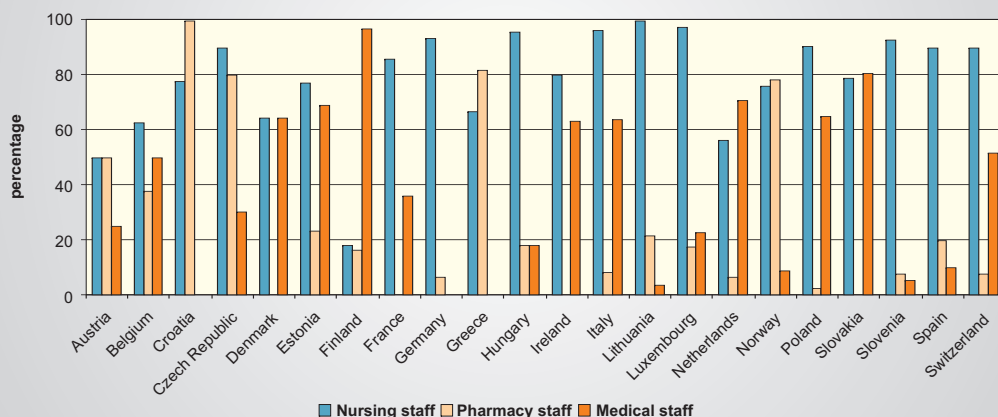
n=266



EAHP Survey 2005

Ward stock ordering

n=796



EAHP Survey 2005

Out of 814 hospital pharmacies surveyed, 52% of them do not prepare parenteral therapy for individual patients; the result is the same as that shown by the 2000 survey. Most probably the majority of hospitals cannot organise central preparation of drugs under aseptic conditions in pharmacies which would meet all the GMP standards due to high costs.

By increasing the preparation of total parenteral nutrition in pharmacies by 2 % in the last five years, the Netherlands achieved an enviable level of quality at the preparation of TNP. In all Dutch hospitals TNP is exclusively prepared in the hospital pharmacies. In Denmark and Spain the percentage of hospitals where the TPN is prepared in hospital pharmacies is also high - over 80%.

There are still some countries where the hospital pharmacists do not deal with TPN at all. Among the hospitals participating in the 2005 survey such hospitals are in Croatia, Estonia, France, Lithuania and Luxemburg.

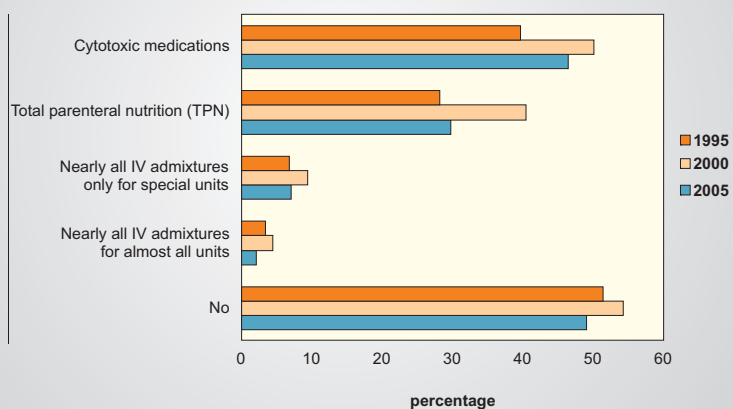
The 2000 survey showed that all hospital pharmacies in the Netherlands prepare cytostatic therapies according to a centralised procedure in the pharmacy; the same was shown in the 2005 survey.

As to the quality of preparation of cytostatic therapies, a gradual improvement of preparation conditions and establishment of aseptic units were observed in the majority of countries during the last five years. In Austria, hospital pharmacists are involved in the preparation of cytostatic therapies in 90% of hospitals, in Germany in 89%, in Norway in 88% and in Spain and Luxembourg in more than 75% of hospitals participating in the survey.

Croatian, Estonian and Lithuanian pharmacists have so far not been involved in the preparation of cytostatic treatments in the hospital pharmacies.

Pharmacy I.V. admixture services

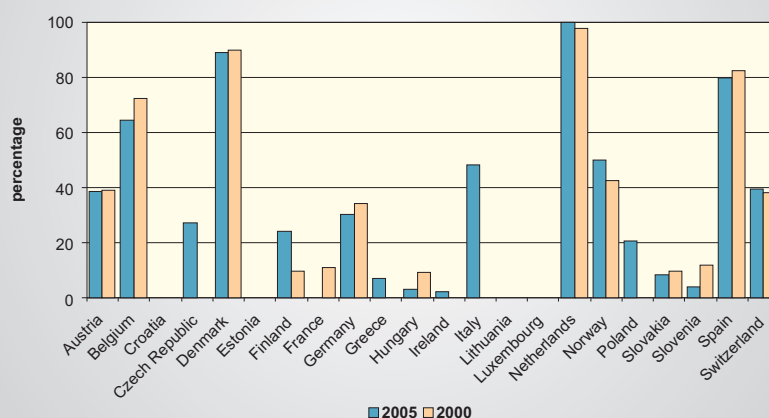
n₂₀₀₅=805



EAHP Survey 2005

I.V. admixture services - total parenteral nutrition (TPN)

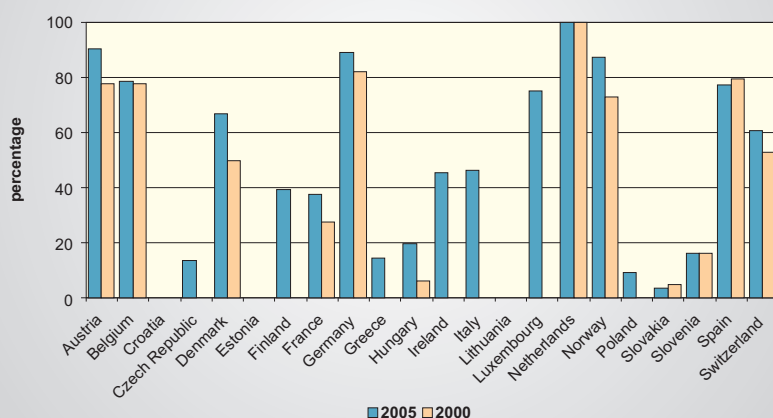
n₂₀₀₅=805



EAHP Survey 2005

I.V. admixture services - cytotoxic medications

n₂₀₀₅=805



EAHP Survey 2005

Hospital pharmacies in Europe usually attend to the supply of drugs and intravenous fluids. They also take care of special groups of drugs and medicinal materials: in 70% to 90% of hospitals, which participated in the survey, hospital pharmacies take care of general anaesthetics, radiographic contrast materials, tax free alcohol, enteral nutrition products and cytotoxic drugs.

Very few hospital pharmacies attend to radio pharmaceuticals (20%), infusion pumps (23%), surgical instruments (27%), I.V. fluid administration sets (42%) and medical gases (42%).

As expected, an increase in the use of pharmacy computing system in hospital pharmacies has been observed in all aspects of pharmacy activities, particularly in obtaining the prescriptions from the wards, which increased by 18% , compounding by 11% and drug information by 6%.

27_1

The use of pharmacy computing systems in collecting prescriptions from the wards was increased by more than 30% in Belgium, Denmark and Germany. The percent of hospitals with established computer controlled collection of the prescriptions from the wards exceeds 60% in Austria, Belgium, Denmark, Finland, Italy, Luxembourg and the Netherlands.

In Denmark, Luxembourg and Norway all the surveyed pharmacies use computer system for drug information. Countries, where the use of computing systems in drug information is very modest are Croatia, Lithuania, Estonia and Poland.

Computerization used for compounding was increased in all countries except in Belgium. In Hungary, Denmark, Finland and in the Netherlands it was increased by more than 20%.

28_1

On the average 98% of the hospital pharmacies participating in the 2005 survey, use computer system. The average of 34% of hospitals have a stand alone system which interfaces with other departments and/or with the mainframe system in the hospital.

The number of hospitals with computing systems that do not interface with other departments has been reduced.

92% of computer systems in hospital pharmacies are linked to the internet.

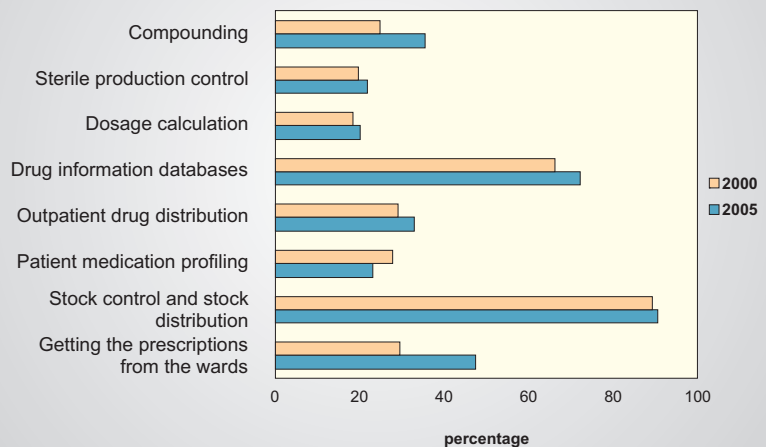
Controlled by pharmacy

	% of hospitals	
	2000	2005
Medicines	94	96
Intravenous fluids	91	91
General anaesthetics	75	81
Cytotoxic drugs	82	78
Enteral nutrition products	75	78
Radiographic contrast materials	71	73
Tax free alcohol	74	72
Wound care products	64	68
Irrigation fluids	72	63
In vitro diagnostic tests	60	62
Premixed I.V. solutions	59	59
Stable blood derivatives	58	59
Chemical reagents	48	58
Investigational drugs	53	57
Haemodialysis fluids	51	50

EAHP Survey 2005

Pharmacy computing (1)

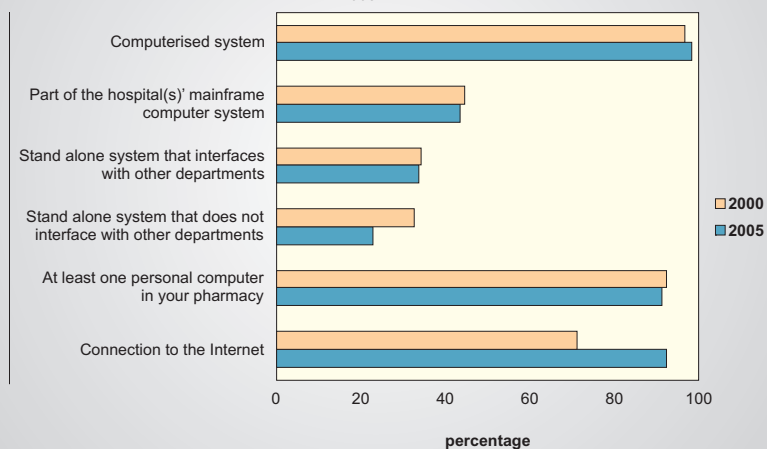
n₂₀₀₅=808



EAHP Survey 2005

Pharmacy computing (2)

n₂₀₀₅=801



EAHP Survey 2005

580 hospital pharmacies produce sterile or non-sterile medicinal products for the use in their hospitals or sale to other hospitals. 68% of hospital pharmacies hold a government licence for the manufacture of sterile pharmaceuticals and 96% for manufacture of non-sterile pharmaceuticals for in-house use. Only 21% hospital pharmacies have the government licence for selling their sterile products to other hospitals and 23% for selling their non-sterile products.

Compared to the year 2000, the hospital pharmacies hold on the average 9% fewer government licences for the manufacture of sterile pharmaceuticals for the in-house use.

In Denmark and in the Netherlands all hospital pharmacies participating in the 2005 survey that manufacture sterile pharmaceuticals are the holders of government licence. In France and in Greece the percent of hospital pharmacies that were granted government licence increased by more than 50% in the last five years.

In Slovenia hospital pharmacies do not have the licence for manufacture of sterile pharmaceuticals for the in-house use or for the sale.

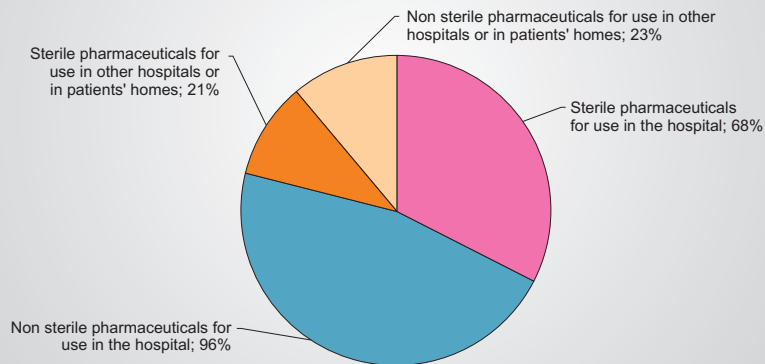
In Hungary, the percent of such pharmacies decreased by 26%.

The situation in the manufacture of non-sterile medicinal products is somewhat better. 96% of pharmacies are government licence holders for the manufacture of non-sterile pharmaceuticals for the in-house use, but only 23% of them can sell their products to other hospitals.

Hospital pharmacies in Slovenia do not hold the licence for the manufacture and sale of non-sterile pharmaceuticals.

Government licence for the manufacture of

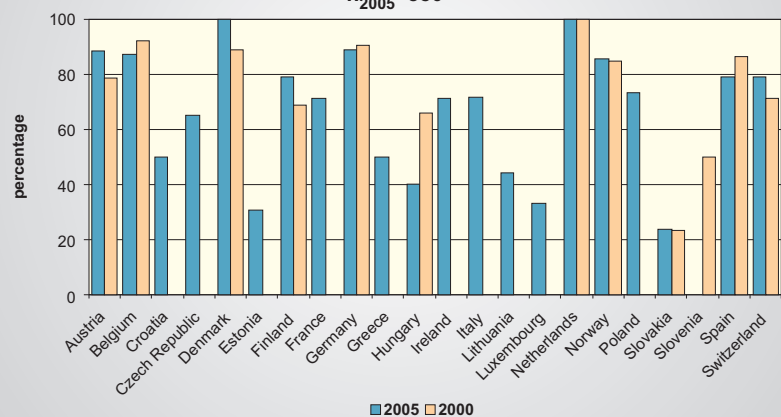
n=580



EAHP Survey 2005

Government licence for the manufacture of sterile pharmaceuticals

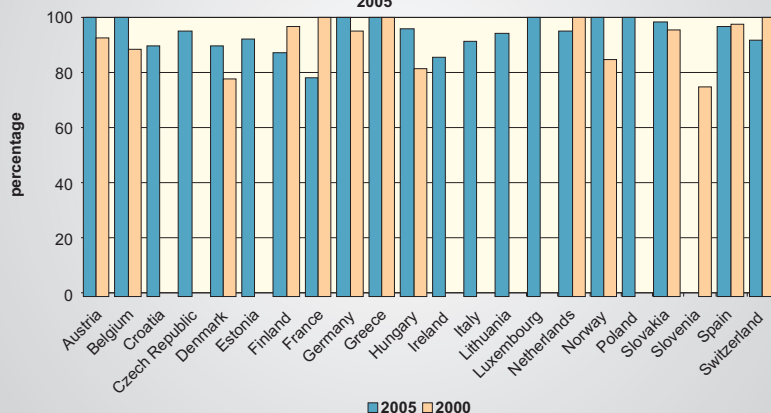
n₂₀₀₅=580



EAHP Survey 2005

Government licence for the manufacture of non sterile pharmaceuticals

n₂₀₀₅=580



EAHP Survey 2005

Preparation of batches of sterile pharmaceuticals for storage decreased on the average by 13 % compared to the year 2000 and is carried out in 54% of hospital pharmacies. In Denmark, Luxembourg and in the Netherlands the batches of sterile pharmaceuticals for storage are prepared in all the surveyed pharmacies.

Preparation of batches of non-sterile pharmaceuticals for storage is carried out in 93% of hospital pharmacies. During the last five years this percent decreased in all countries except in Slovenia and in the Netherlands.

Preparation of laboratory reagents also decreased and is now being performed in 31% of hospital pharmacies, only.

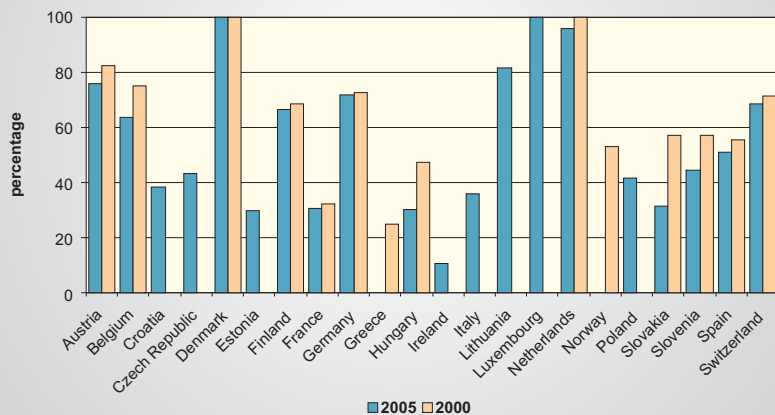
Preparation of sterile pharmaceuticals on prescription for individual patients in hospital pharmacies decreased in the last five years by 5% and so did the preparation of non-sterile pharmaceuticals (by 1%). Denmark and the Netherlands are the only countries where all hospital pharmacies surveyed manufacture sterile and non-sterile pharmaceuticals for individual patients.

By reducing the manufacture of sterile and non-sterile pharmaceuticals in the hospital pharmacies participating in the 2005 survey the quality control and analytical procedures were also reduced:

- chemical stability on the average by 10%,
- physical stability by 10% and
- microbiological safety by 2%.

Preparation of batches for storage – sterile pharmaceuticals

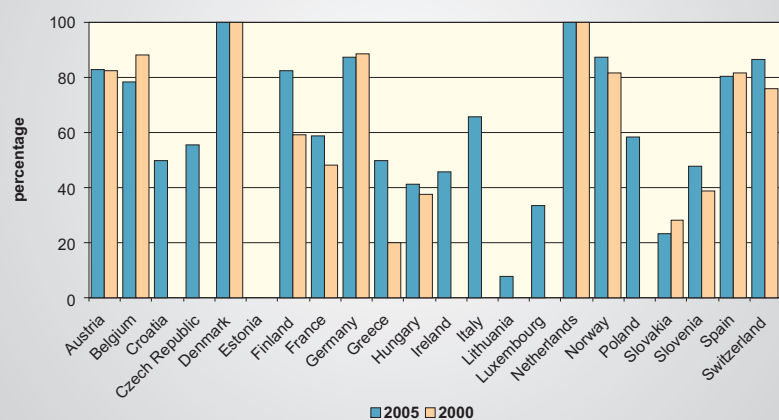
n₂₀₀₅=528



EAHP Survey 2005

Preparation of sterile pharmaceuticals on prescription for individual patients

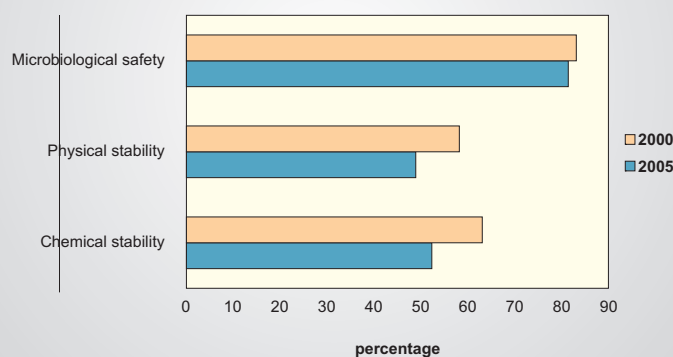
n₂₀₀₅=654



EAHP Survey 2005

Performing (internal or external) quality control and analytical procedures for

n₂₀₀₅=397



EAHP Survey 2005

On the average, 74% of hospital pharmacies use the written Standard Operating Procedures (SOPs) for the manufacture of all products.

In Denmark this is true for all the hospital pharmacies which participated in the 2005 survey. In more than 90% of pharmacies SOPs are used in Spain, the Netherlands and in Ireland while the SOPs are used in more than average percent of hospital pharmacies in Austria, Finland, Germany, Italy, Slovakia, Switzerland and in Norway. In the last five years the use of SOPs was increased by more than 20% in Norway, Finland and in Belgium.

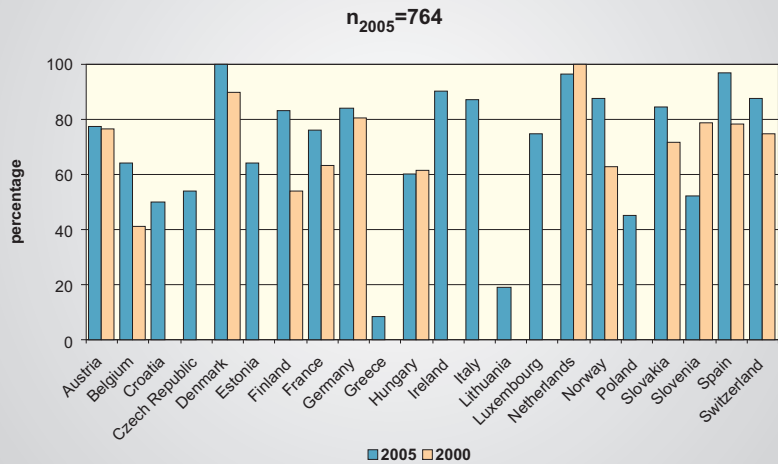
After increasing the use of SOPs in the last five years by 2 % in the Netherlands, a written procedure for the recall of all potentially defective batches is used in all the hospital pharmacies participating in the 2005 survey.

In Denmark, Finland and Italy the SOPs are used in more than 80% of the hospital pharmacies.

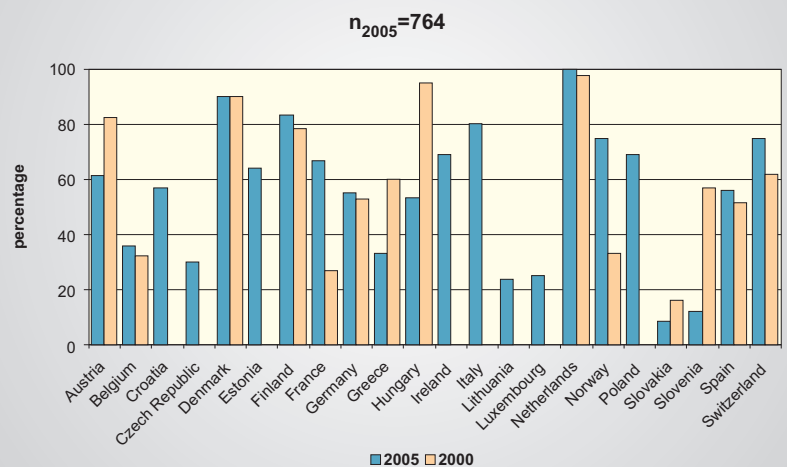
In Norway the use of SOPs for the recall of all batches produced in the pharmacy was increased during five years by 42% so that the average use of SOPs in 75% of the pharmacies manufacturing pharmaceuticals was achieved.

The price formation of drugs manufactured in a hospital pharmacy consists of raw material costs, labour costs, depreciation of equipment and quality control costs. All the pharmacies include raw material costs in the price of their pharmaceuticals, whereas other expenses are included in the end price to a lesser extent: labour cost in 49%, depreciation of equipment in 24% and quality control costs in 29%. In the last five years the percent of pharmacies including labour costs, depreciation costs and quality control costs in the end price of their products decreased on the average by up to 10%, except in Norway and in France.

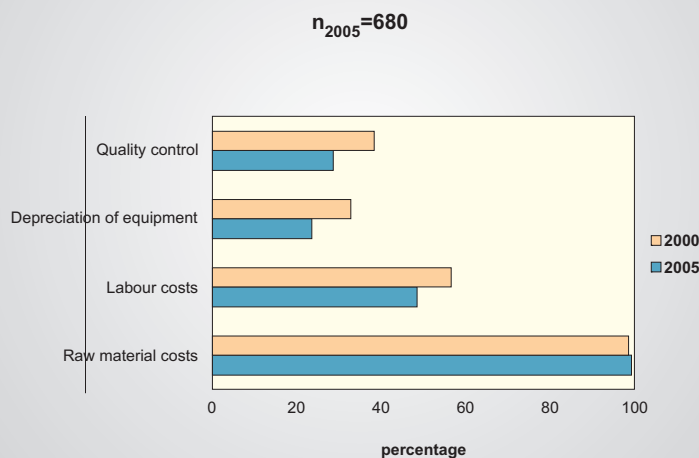
Use of written Standard Operating Procedures (SOP) for the manufacture of all products



Use of written procedure for the recall of all batches



Calculation of production costs



The average of 25% of hospital pharmacies sell their products to other hospitals and pharmacies. This percent has not changed since the year 2000. The majority of pharmacies selling their products to others are in Denmark - 60% and in the Netherlands - 74% - in the two countries with the best regulations in the field of drug manufacture in view of meeting the GMP requirements and quality control.

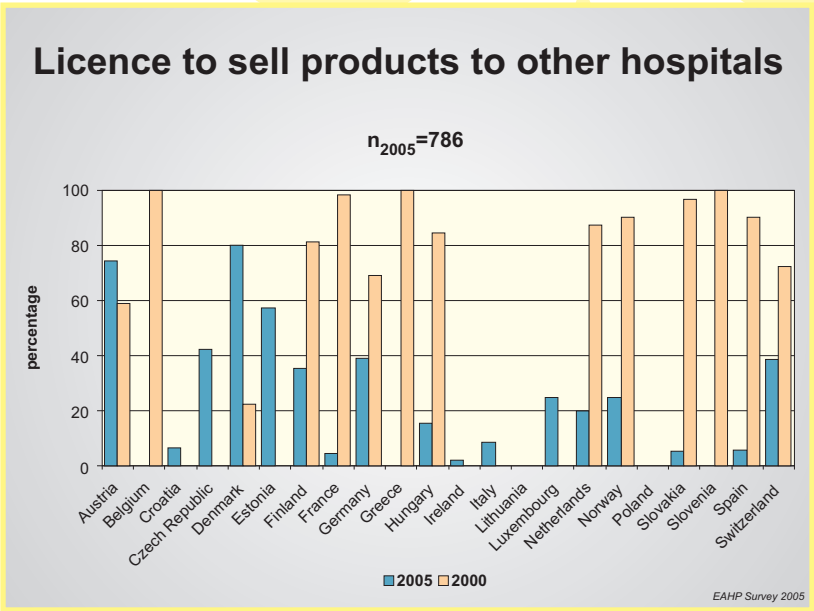
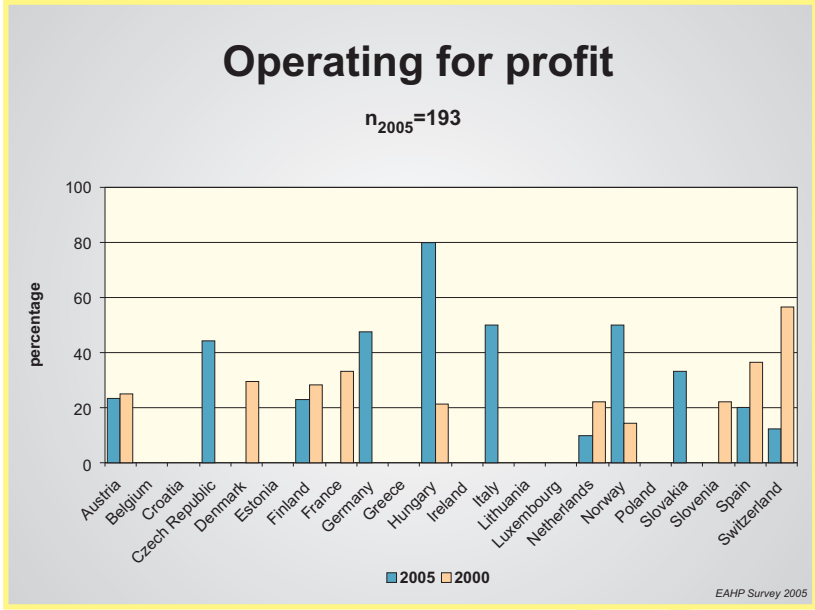
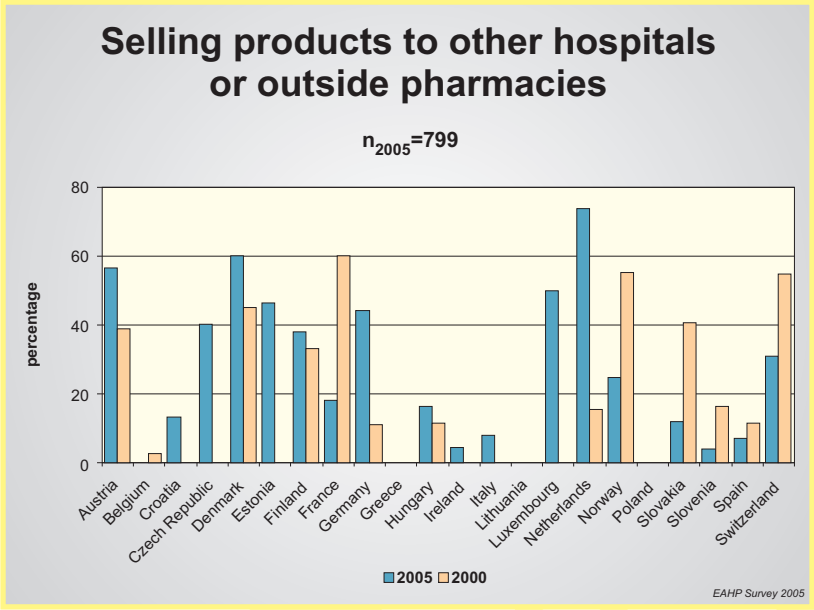
In Austria and Luxembourg the percent of pharmacies supplying other pharmacies and hospitals also exceeds the average of 50%.

In Belgium, Greece, Lithuania and Poland the manufacture of pharmaceuticals is still carried out but the products are not sold to other hospitals and pharmacies.

The survey demonstrated that 33% of hospital pharmacies which sell their products operate for profit. This is 5% more than in the year 2000. In Hungary as much as 80% of hospitals operate for profit, in Italy and Norway 50%, and in Germany and the Czech Republic about 45%.

In the last five years the percent of hospital pharmacies operating for profit increased by 47% in Germany, by 59% in Hungary, and by more than 30% in Norway and Slovakia; in Switzerland however a decrease of 44 % was observed, in France 33% and in Denmark 29%.

In general, the majority of hospital pharmacies lost the licence for sale of pharmaceuticals manufactured in pharmacies. As few as 23% of hospital pharmacies still hold this licence. The exceptions are Denmark and Austria. In Denmark the average of 80 % of hospital pharmacies and in Austria 75% of hospitals sell their products and are licence holders.



Hospital pharmacies manufacturing pharmaceuticals assure their quality with quality control of chemical raw materials, packaging materials and by testing the finished batches. The average percentage of pharmacies carrying out the mentioned testing has decreased with the decreased percentage of pharmacies which manufacture sterile pharmaceuticals. The majority of hospitals perform the control of chemical raw materials (80%) and finished batches (60%).

In Croatia, the Czech Republic, Luxembourg and Slovakia all the surveyed hospital pharmacies test chemical raw materials (100%).

In Denmark all hospital pharmacies test finished batches.

In the last five years hospital pharmacies in Denmark increased the testing of chemical raw materials, packaging materials and finished batches by 17%.

Compared to the year 2000, the testing of packaging materials increased by 23% in the Netherlands and by 70% in Switzerland.

Testing is done either in a hospital pharmacy (81%) or in other hospital departments (30%) or in an external laboratory (40%). On the average, the percentage of performed analyses increased.

The majority of hospital pharmacies perform the analyses in the pharmacies and the percentage of the performed analyses increased by 6% in the last five years. In Denmark and France all the analyses are performed in the pharmacies (100%), while in Luxembourg all the analyses are performed in external laboratories.

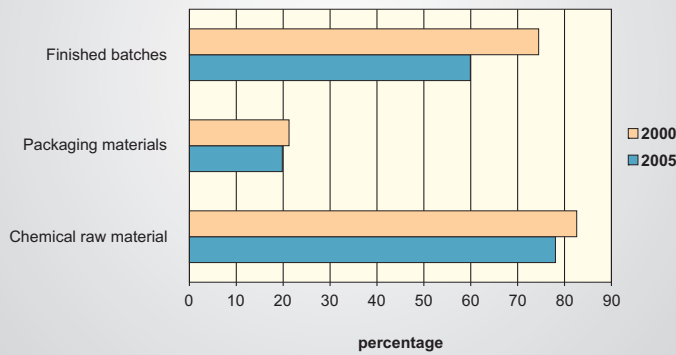
Denmark and Slovenia increased the percentage of analyses performed in their own laboratories by 33% and 22%, respectively, while Belgium and Spain increased the percentage of analyses performed in the external laboratories by 36% and 23%, respectively.

The majority of European hospital pharmacies use written standards for quality assurance of drug dispensing (78%), sterile product preparation (68%) and for clinical pharmacy services (55%).

Written standards are used in all hospital pharmacies participating in the survey for drug distribution in Norway and Luxembourg, for sterile product preparation in Denmark and Norway, and for clinical pharmacy services in the Netherlands.

Tests carried out for

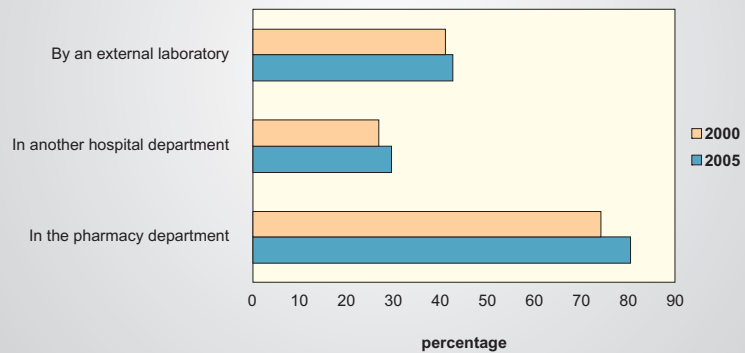
n₂₀₀₅=517



EAHP Survey 2005

Analyses performed

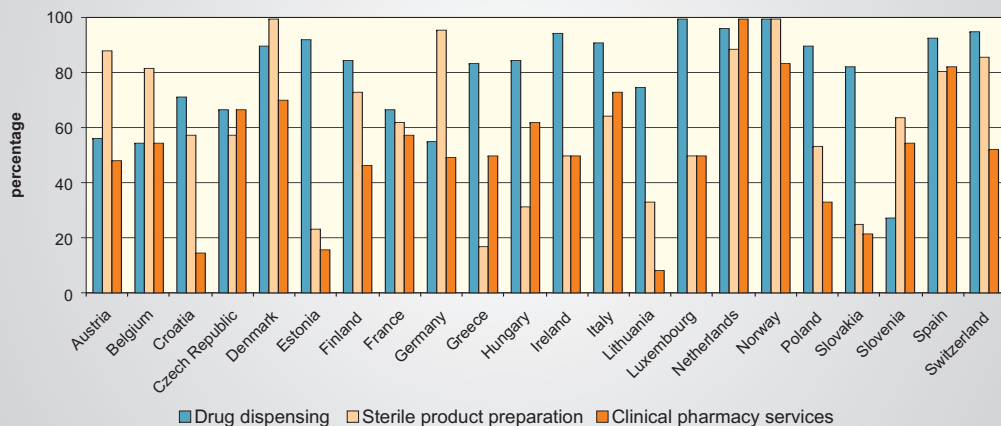
n₂₀₀₅=503



EAHP Survey 2005

Use of written standards for quality assurance

n=571



EAHP Survey 2005

10% of the European hospital pharmacies on average perform drug level analyses; the percentage of the hospitals engaged in this activity did not change in the last five years. This activity is most frequent in Lithuania (87%) and in the Netherlands (85%), less frequent in Luxembourg (25%), France (23%) and Greece (15%).

In Finland and Greece, where drug level analyses are carried out in hospital pharmacies, in 50% of cases blood samples are collected by pharmacy staff, and in France in 20%. In some countries such as Spain, Belgium, the Netherlands and Hungary where according to the survey 2000 blood samples were collected by pharmacy staff this activity was given up in last five years.

Only 280 hospital pharmacies out of 787 do not dispense the drugs to outpatients. Compared to the year 2000 providing pharmacy service to outpatients through the hospital inpatient pharmacy department has decreased on average by 5%, whereas the service through a separately licensed outpatient pharmacy was increased by 1%.

This service increased by 7% in the pharmacies with inpatient and outpatient pharmacy department.

The Czech Republic, Italy and France are countries with the highest average percentage of services offered to outpatients by the inpatient pharmacy (72%, 67% and 61%, respectively).

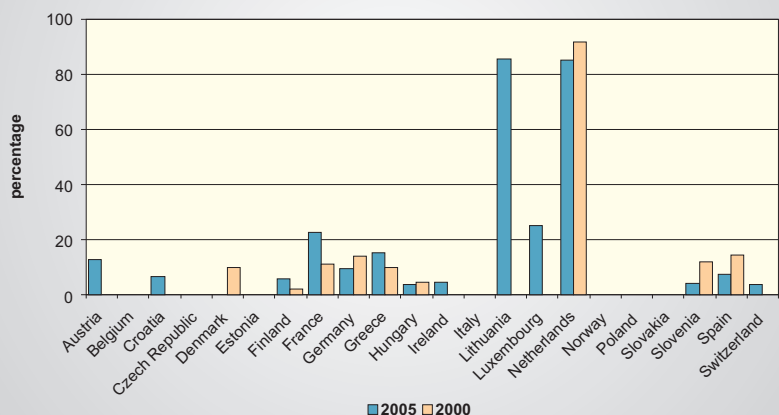
95% of Slovakian hospital pharmacies have licensed outpatient pharmacy, while in Norway and in Finland they exist only in 12% of hospitals.

Hospital pharmacies in Estonia, Finland, Austria, Lithuania and Croatia rarely dispense pharmaceuticals to outpatients, since there are more than 60 % of pharmacies which do not perform this service.

Compared to the year 2000, pharmacy services to outpatients increased in Hungary by 32%, in Denmark by 22%, in Slovenia by 20% and in the Netherlands by 19%.

Drug level analyses carried out in the pharmacy

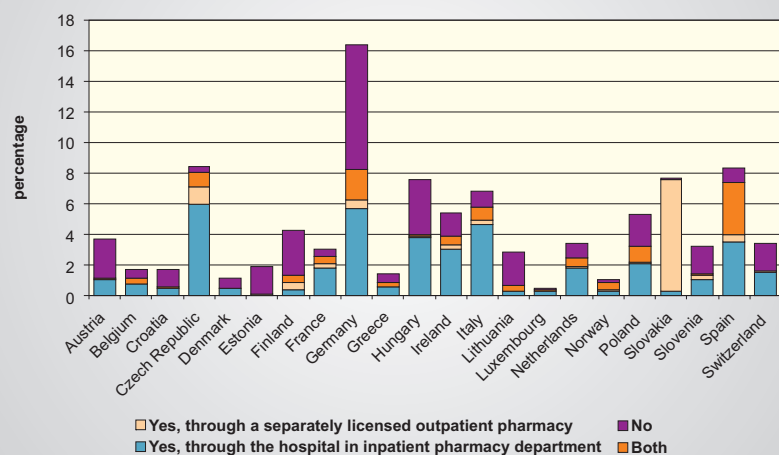
n₂₀₀₅=785



EAHP Survey 2005

Providing pharmacy service to outpatients

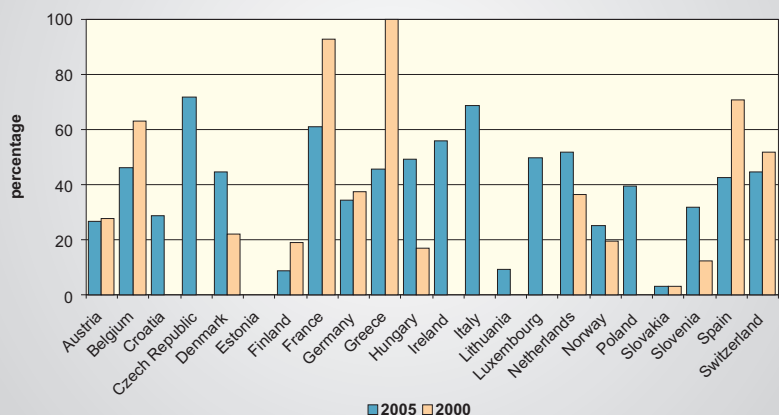
n=787



EAHP Survey 2005

Providing pharmacy service to outpatients through the inpatient pharmacy

n₂₀₀₅=787



EAHP Survey 2005

More than one third of the surveyed hospital pharmacies report that they provide patients with medications upon their discharge from the hospital; this is 5% less than five years ago. In Belgium, Finland, Greece, Hungary, Germany, the Netherlands and in Slovakia a trend towards increasing these services was observed within the last ten years. In Greece drug dispensing to patients at their discharge from the hospitals increased by 77% in the last five years, and in Slovenia by 32%.

On the contrary, the dispensing of medications to patients upon their discharge from the hospitals decreased in Austria (by 11%), France (by 18%) and in Spain (by 13%).

Upon discharge from the hospital, patients may get the medications for continuation of treatment at home in 57% of hospital pharmacies which participated in the survey. This is by 3% less than five years ago. In Estonia, Lithuania and Norway the patients can get the medications in every hospital pharmacy upon discharge from the hospital, regardless of their diagnosis.

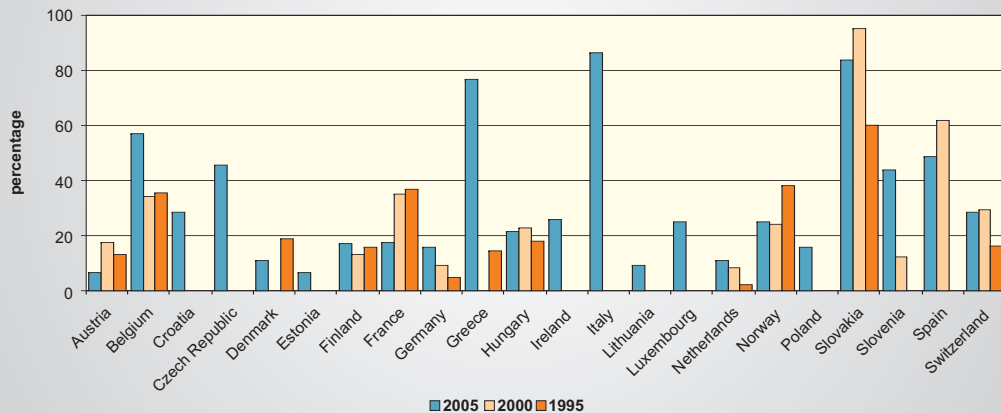
In some countries provision of medications upon discharge from the hospitals is limited to the patients with special diagnoses (such as HIV, cancer). These countries are Denmark, France, Greece, Luxembourg, the Netherlands and Poland.

A patient gets medications for a 16-day therapy (SD=23), whereas five years ago the same patient could get the medications for a five-day therapy, only. In Norway the patient gets medications for the longest therapy i.e. for 90 days, in Estonia and Slovenia for 60 days, but in Germany only for 2 days.

Hospital pharmacies provide patients with medications for treatment at home including routinely prescribed medications as well as individually prepared parenteral therapies in the pharmacy: cytostatic injections, total parenteral nutrition solutions, analgesic infusions and antibiotic infusions. In the last five years the provision of parenterally administered drugs diminished (by 7 to 11 %), only the provision of routinely prescribed medications increased (on the average by 8%).

Providing patients with medication upon discharge from the hospital

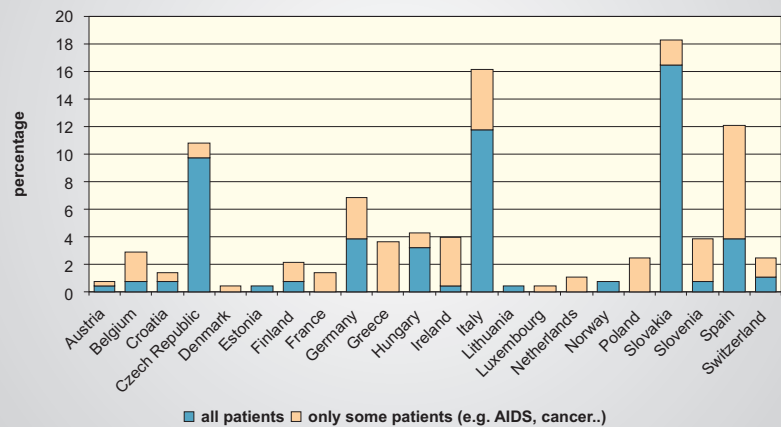
n₂₀₀₅=802



EAHP Survey 2005

Providing patients with medication upon discharge from the hospital

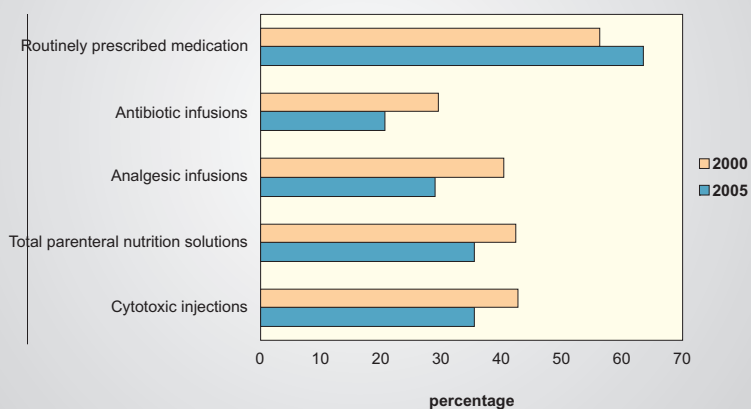
n=270



EAHP Survey 2005

Supplying outpatients for administration at home

n₂₀₀₅=367



EAHP Survey 2005

The supply of patients with cytotoxic preparations decreased by 7%, the most in Greece - by 35% and in France by 28%.

The supply of patients at home with the mentioned preparations increased in Austria - by 52%, in Switzerland by 25% and in Denmark by 23%, in Belgium and in Norway by 20%.

233 out of 367 surveyed hospitals supply routinely prescribed medications to patients for their treatment at home; this is 8% more than in the year 2000. In Greece there are 45% more such hospitals, in Denmark 40% more, in the Netherlands and Spain 21 % more than in the year 2000.

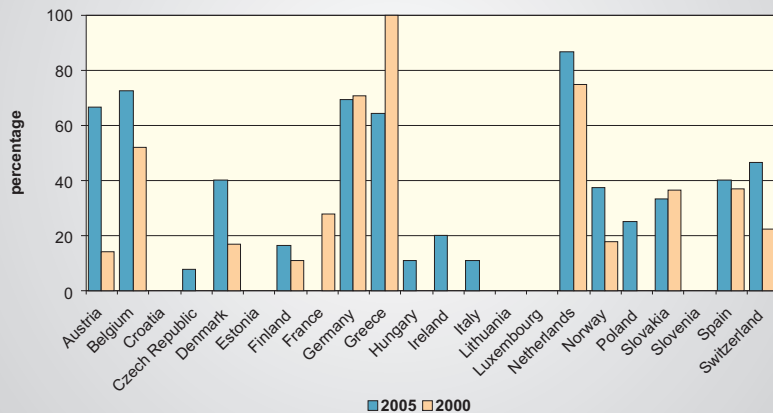
Austria reduced the supply of routinely prescribed medications by 46%.

Hospital pharmacies rarely charge the outpatients for the service, only in 13% of cases on average. Countries where the patients pay for the pharmacy services in hospital pharmacies are: the Netherlands 74%, Norway 57%, and France 41%.

In Croatia, Denmark, Italy and Slovakia the patients never pay for the pharmacy services (100%).

Supplying outpatients for administration at home – cytotoxic injections

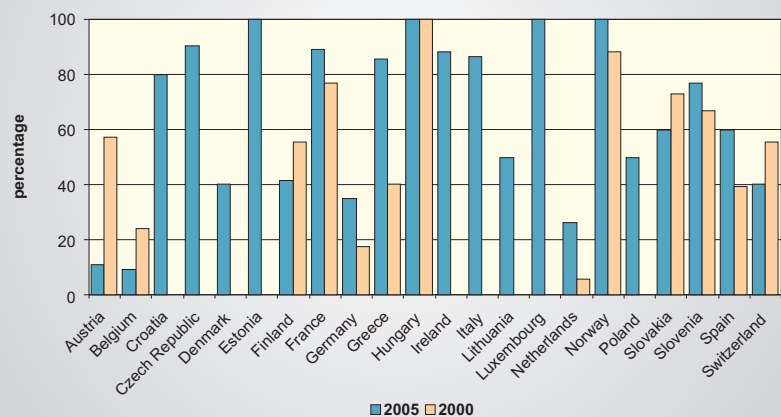
n₂₀₀₅=367



EAHP Survey 2005

Supplying outpatients for administration at home – routinely prescribed medication

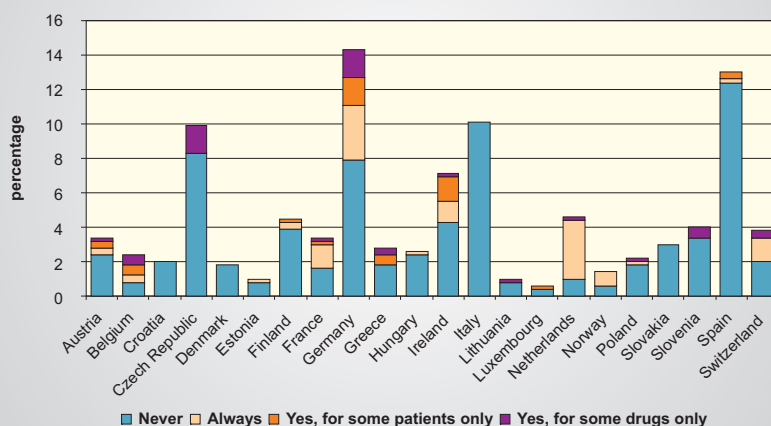
n₂₀₀₅=367



EAHP Survey 2005

Charging the outpatients for services

n=498



EAHP Survey 2005

The percentage of hospital pharmacies, where all the patients always have to pay for pharmacy services, increased on the average by 2%: in the Netherlands by 66%, in Norway by 57% and in France by 34%.

Nonetheless the percentage of hospitals where the patients do not pay for the services also increased by 14%, the increase was the highest in Denmark by 33%, in Hungary by 30% and in Greece by 24%.

52_1

347 (44%) out of 784 surveyed hospital pharmacies report on regular provision of patient care service in view of adverse drug reactions for inpatients and 17% for outpatients. In 51% of hospital pharmacies they do not provide patient care service for adverse drug reactions.

In Italy, 82% of hospital pharmacies included in the survey follow adverse drug reactions in inpatients; a large percentage of hospitals practising such activity is also in Ireland (73%), Spain (72%), the Netherlands (70%) and in Slovakia (53%)

Monitoring adverse drug reactions in outpatients is performed in Greece in 71% of hospitals, Spain in 60%, Norway in 50% and in France in 50% of hospitals..

52_2

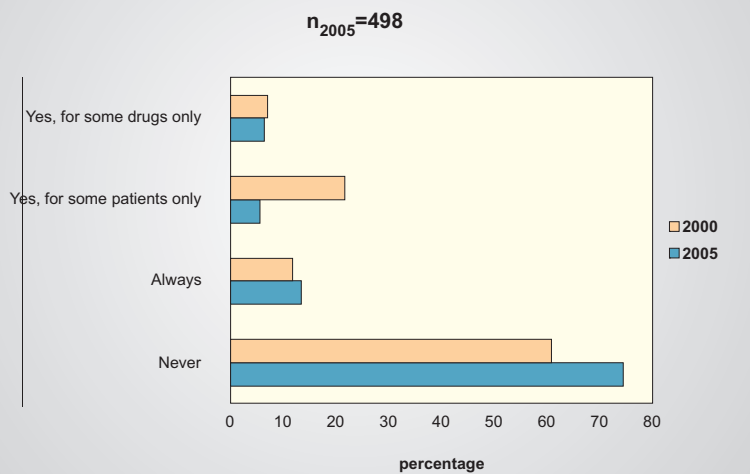
In the European hospital pharmacies the patient care in view of adverse drug reactions did not change/improve in the last five years.

Adverse drug reactions are monitored by pharmacists in 82% of Italian hospitals and in more than 70% of Irish, Spanish and Dutch hospitals.

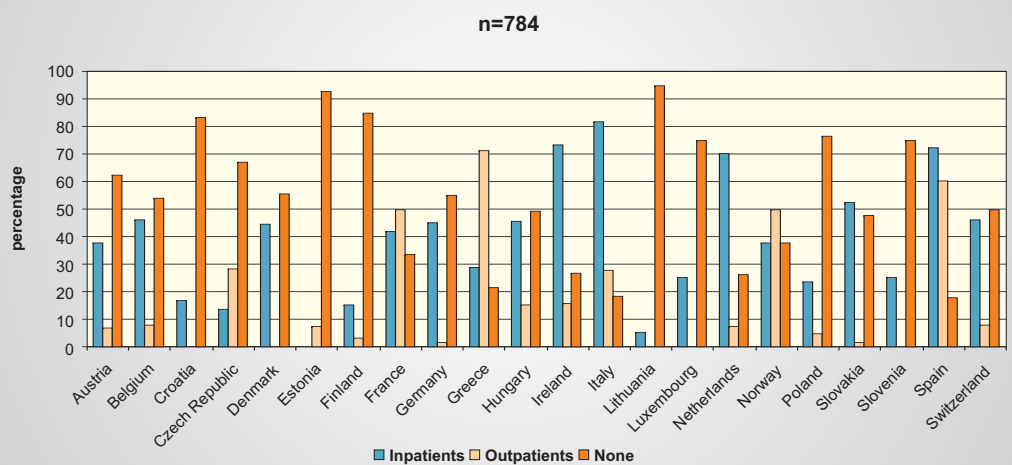
In Norway and Austria the percentage of hospital pharmacies investigating adverse drug reactions increased by more than 30%, in Greece and in Belgium by more than 20%.

In Hungary this activity is performed in 19% fewer hospital pharmacies.

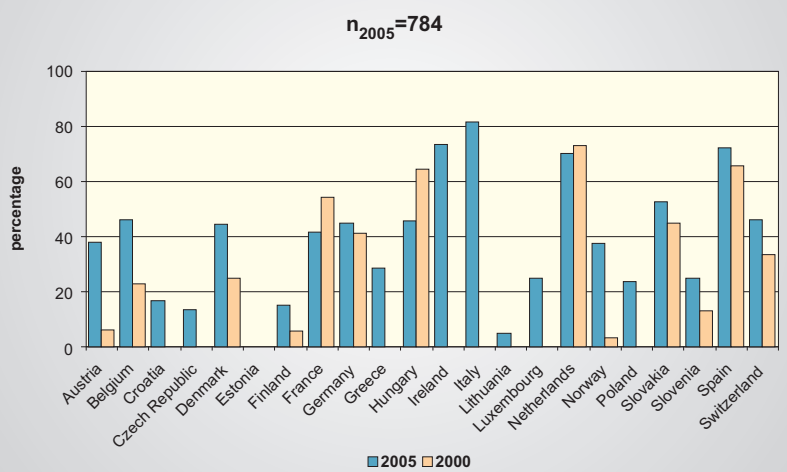
Charging the outpatients for services



Regular provision of patient care service – adverse drug reactions



Regular provision of patient care service – adverse drug reactions – inpatients



Monitoring adverse drug reactions in outpatients is poorer than in inpatients, and has even diminished compared to the year 2000 (by 3%). The biggest reduction of adverse drug reactions monitoring was noted in Greece (by 29%), in Spain, on the contrary, patient care was increased by 10%.

Hospital pharmacists monitor outpatients in view of adverse drug reactions in more than 50% of hospitals in France, Greece, Norway and in Spain.

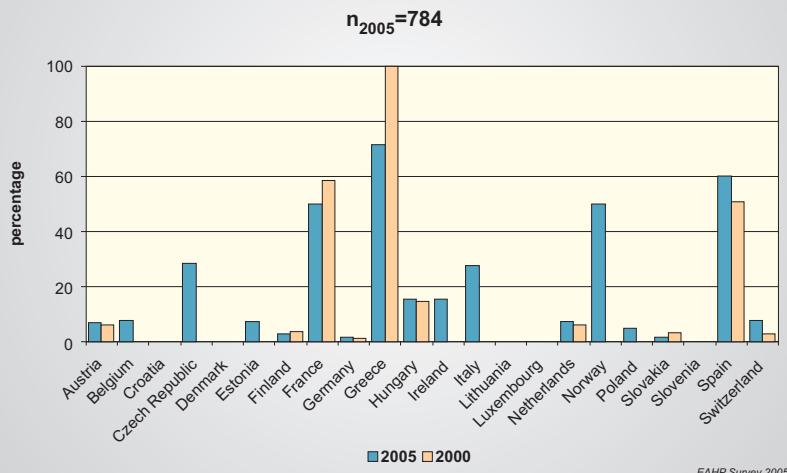
38% of hospital pharmacies, on the average, provide regular patient care service in view of medication errors for inpatients, 14% for outpatients, while 59% of hospital pharmacies do not provide such service.

The highest percentage of hospital pharmacies following medication errors are in the Netherlands (96%), Ireland (82%), Spain (78%), Denmark (60%) and in Belgium (58%). Hospital pharmacies in Estonia, Lithuania, the Czech Republic and Slovakia are rarely or never involved in this activity.

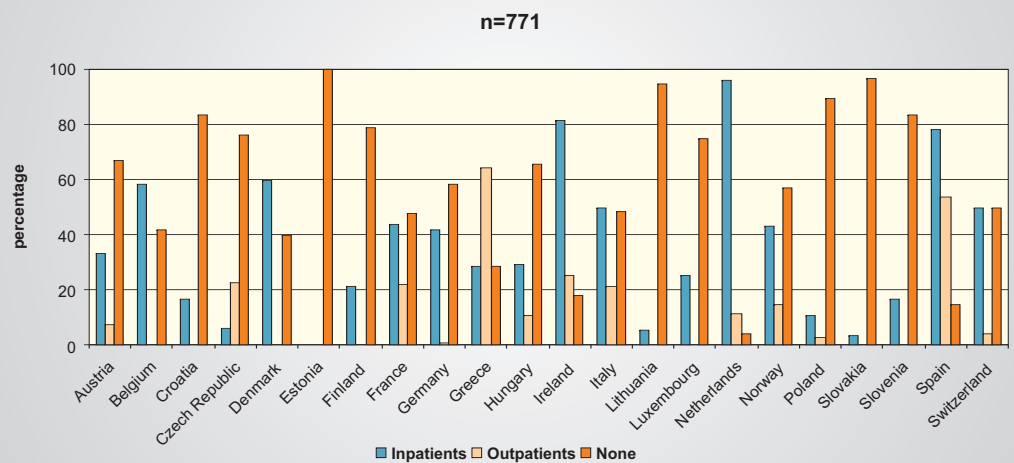
The survey has shown a 6-% decrease in the percentage of hospital pharmacies engaged in the follow up of medication errors. In France, Hungary and Slovakia the percentage of pharmacies providing regular patient care service in view of medication errors decreased by 5 to 16%.

Nonetheless in some countries pharmacists continue to be engaged in monitoring the medication errors in inpatients: in more than 50% of hospitals in Belgium, Denmark, Ireland, Italy, Spain, Switzerland and most frequently in the Netherlands - in 96% of hospitals. In these countries a progress in this field of activities has been observed: an increase of 10 to 38%.

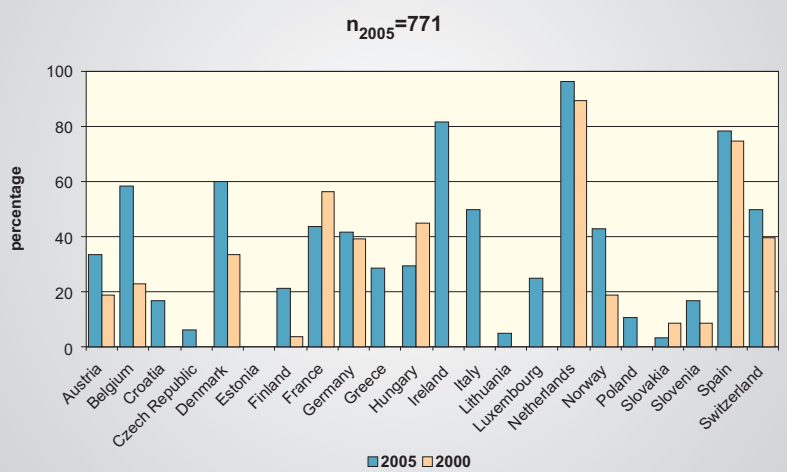
Regular provision of patient care service – adverse drug reactions – outpatients



Regular provision of patient care service – medication errors



Regular provision of patient care service – medication errors – inpatients



Not more than 13% of hospitals which have responded to this question offer patient service in view of medication errors to the outpatients. The majority of such hospitals are in Greece as many as 64%, although this is the country where such services diminished the most in the last five years (by 36%).

In the last five years an average of a 5-% decrease was also observed in the percent of hospital pharmacies monitoring medication errors in outpatients.

Spanish hospital pharmacists are highly active in the field of medication errors with prevention and extension of the scope of these activities to outpatients - in 54% of Spanish hospitals.

54_1

Less than half of the European hospital pharmacies provide patient care in view of medication errors and in view of adverse drug reactions for inpatients. A written report is filed in the patients' medical record for every intervention in as few as 17% of the surveyed hospital pharmacies. 82% of hospital pharmacies do not record pharmacist interventions at all.

In Denmark, France, Germany, Hungary, Ireland, the Netherlands and in Spain the hospital pharmacies providing this service are more numerous: between 20 and 40%.

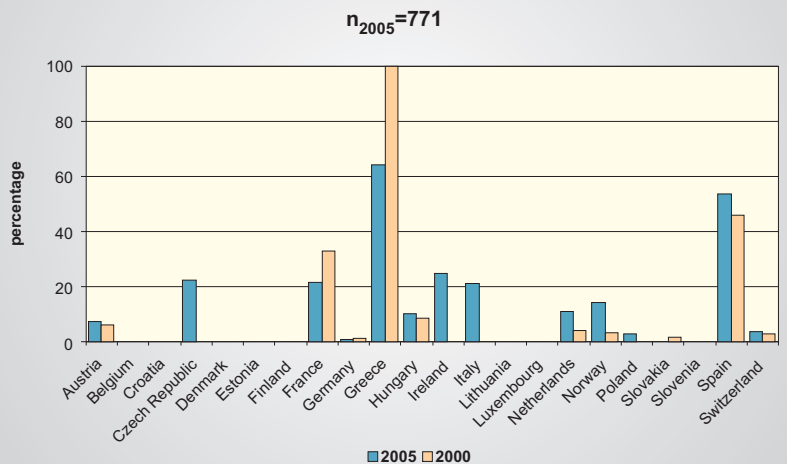
54_2

In as few as four countries the hospital pharmacists record pharmacist interventions in the patients' medical record in more than 30% of hospitals: in France, Hungary, the Netherlands and in Spain.

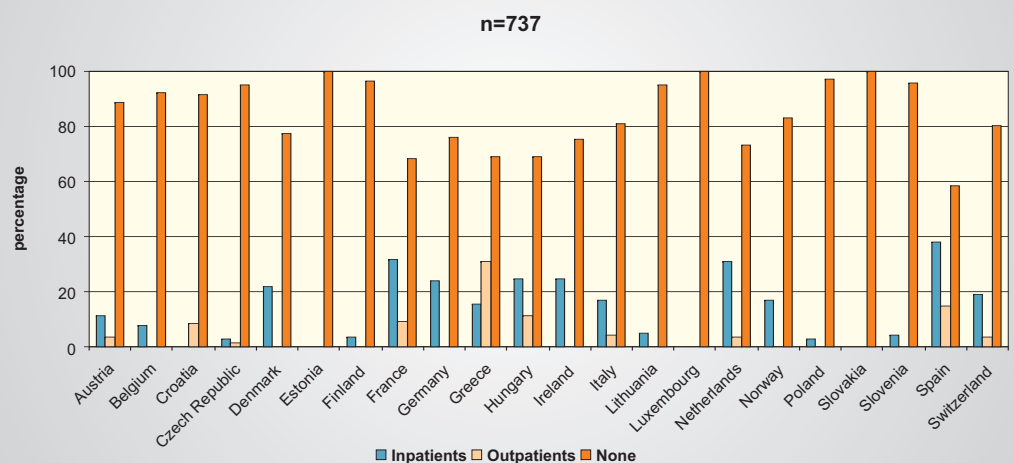
In the last five years the percentage of hospital pharmacies recording pharmacist interventions in the patients' medical record increased by 3%.

In France, Hungary, the Netherlands, Switzerland, Spain, Norway and Greece this activity was increased, yet by less than 20%.

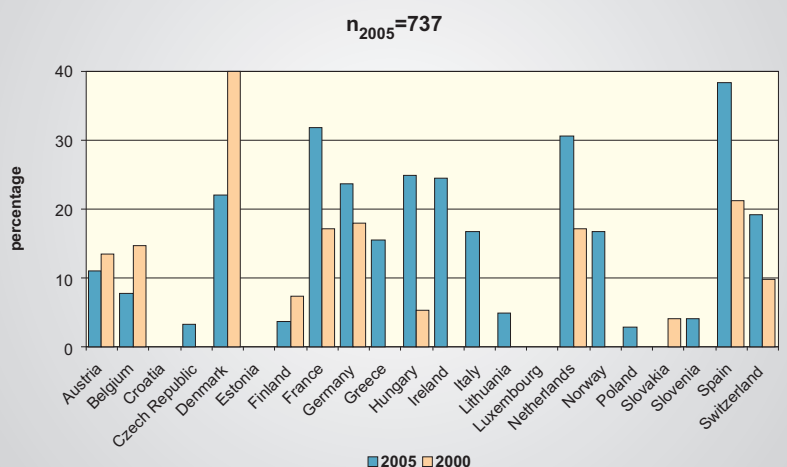
Regular provision of patient care service – medication errors – outpatients



Recording of pharmacist intervention



Recording of pharmacist intervention – inpatients



Pharmacist interventions in view of medication errors in outpatients are carried out and recorded even less frequently and did not increase in the last five years in the hospitals which participated in the survey. The biggest number of interventions, their recordings and filing in the patients' medical records is carried out in Greece - in 32% of hospitals, in Spain in 14% and in Hungary in 12% of hospitals.

In the last five years the biggest progress in this field was observed in Hungary and France where these activities increased by 10% and 7%, respectively.

55_1

In 31% of hospital pharmacies pharmacist intervention in inpatients is recorded in the pharmacy. The majority of such hospital pharmacies are in Spain (63%), the Netherlands (56%), Ireland (63%) and in Switzerland (58%).

44% of the surveyed hospital pharmacies in Spain, 30% in Greece and 23% in Hungary take care also of outpatients and record pharmacy intervention in the pharmacy.

In 68% of European hospital pharmacies this is not done.

55_2

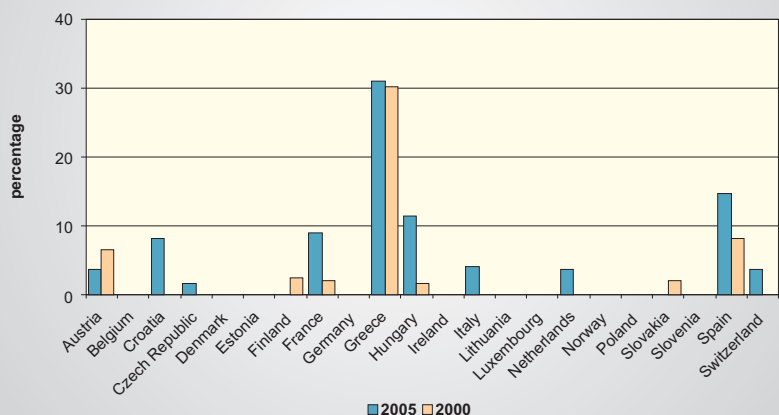
A written report on pharmacist intervention for inpatients is prepared and kept in the pharmacy - most frequently in Ireland and Spain - in 63 % of hospitals, Switzerland in 58% and in the Netherlands in 56% of hospitals. More than 30% of hospitals recording pharmacist interventions in their pharmacies are in Austria, Croatia, France, Germany, Hungary and Italy.

In Slovakia and Estonia the data on pharmacist interventions are not recorded in any pharmacy.

The biggest progress in this field was observed in Greece with the increase of 23%, Switzerland 22% and in Hungary 22%.

Recording of pharmacist intervention – outpatients

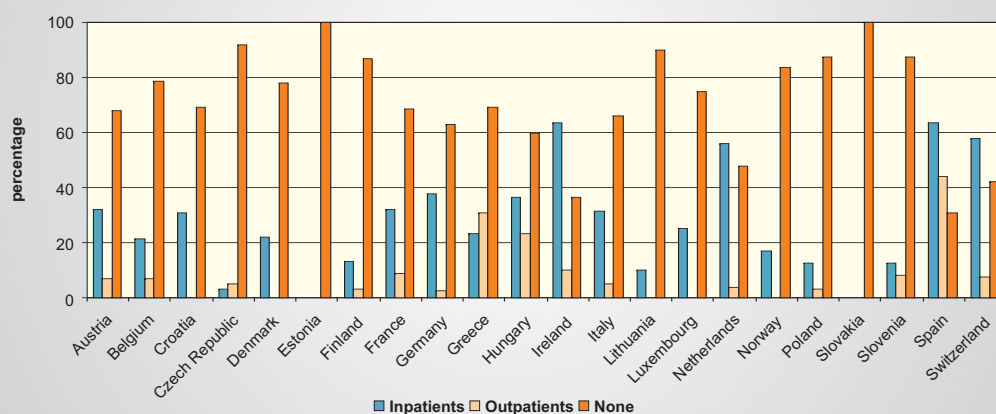
n₂₀₀₅=737



EAHP Survey 2005

Recording of pharmacist intervention in the pharmacy

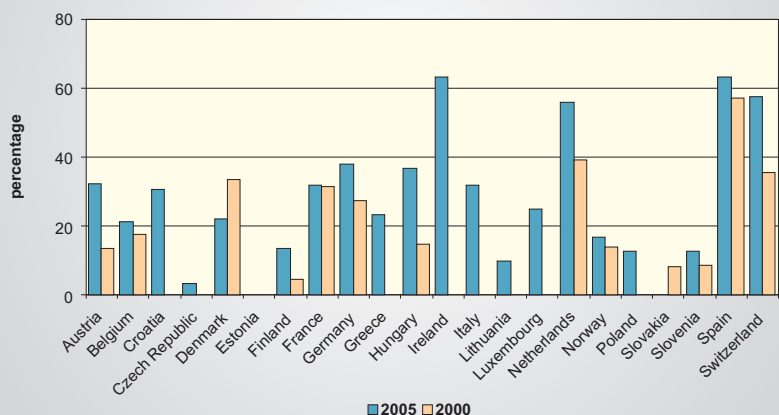
n=728



EAHP Survey 2005

Recording of pharmacist intervention in the pharmacy – inpatients

n₂₀₀₅=728



EAHP Survey 2005

A written report of pharmacist intervention for outpatients is even less frequently prepared in a hospital pharmacy – this is performed in as few as 10% of hospitals, the majority of them being in Greece – 31%.

In the last five years this situation did not improve.

The progress was observed in Hungary and Spain where compared to the year 2000, 21% and 17% more hospitals collect data on pharmacist intervention related to patient care.

56_1

In 51% hospital pharmacies participating in the survey, the pharmacists are involved in the research in inpatients and in 27% of hospital pharmacies in outpatients. The highest percentage of pharmacist involvement with the research in inpatients can be observed in Dutch (96%) and Danish pharmacies (80%), and in outpatients in Dutch (70%) and Spanish pharmacies (67%).

In Lithuania none of the hospital pharmacies reported on the participation of a pharmacist in the patient research.

57_1

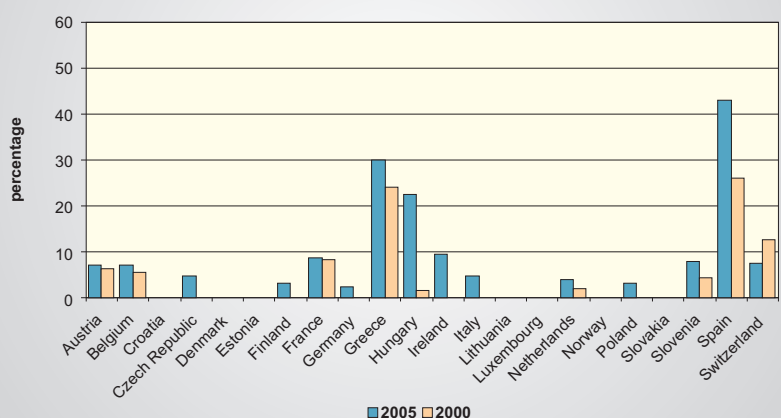
Hospital pharmacies participate in device management: in selection 78%, in evaluation 57%, in purchasing 77% and in vigilance 52%. In France, Norway and in Luxembourg all the pharmacies are involved in the selection. In Estonia, France, Norway and Luxembourg all the pharmacies are involved in purchasing.

The role of a hospital pharmacy in selection of medical devices has diminished compared to that observed in the year 2000 by 7% on the average: in Austria, Greece, the Netherlands, Slovenia and Switzerland. This role has often been taken by medical nurses.

In Denmark, Finland, Norway and Slovakia the role of a pharmacy in device management increased by 67%.

Recording of pharmacist intervention in the pharmacy – outpatients

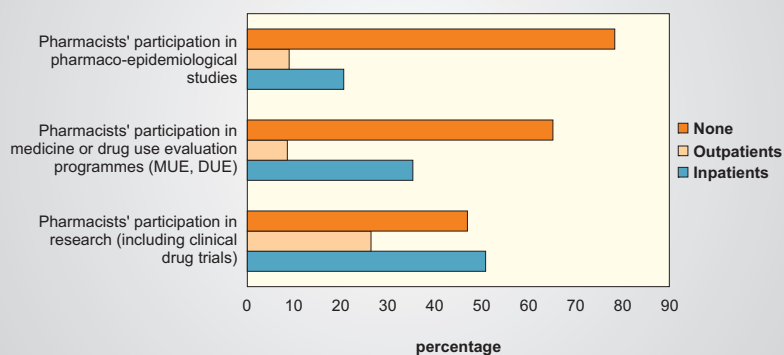
n₂₀₀₅=728



EAHP Survey 2005

Pharmacists' participation in research

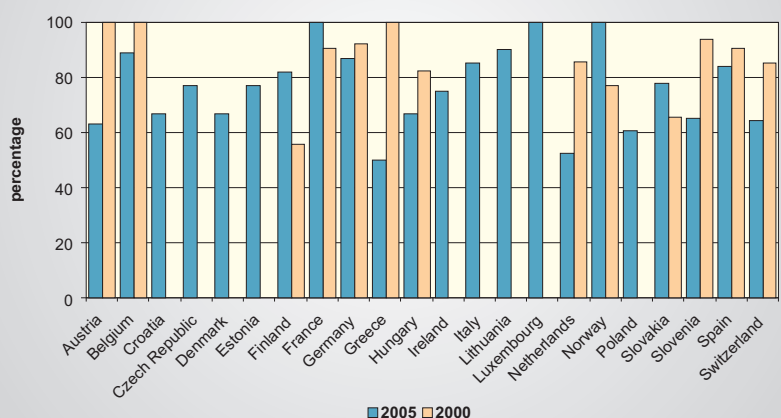
n=775



EAHP Survey 2005

Medical devices – selection

n₂₀₀₅=489



EAHP Survey 2005

Participation of pharmacies in the vigilance of medical devices diminished by 3%, nonetheless in France and Luxembourg all hospital pharmacies participate in vigilance control.

In 67% of Danish hospital pharmacies the participation of hospital pharmacist in vigilance of medical devices increased. In Finland and in Hungary the role of a pharmacist increased by more than 30%.

58_1

Participation of a hospital pharmacy and pharmacist in decision making about nutrition support exists in 48% of the European hospitals.

Pharmacists participate in a TPN team in 60% of hospitals in Denmark and in 48% of hospitals in the Netherlands. Their presence in TPN teams increased only in Denmark, while in other countries their presence was reduced, the most in Greece -by 25%.

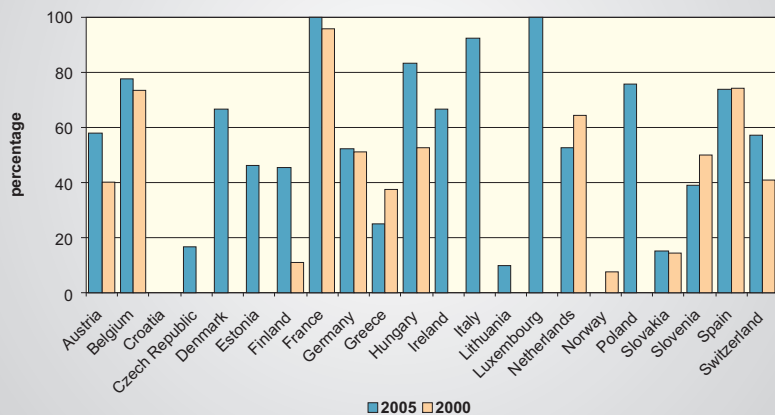
58_2

The role of the pharmacy in TPN/enteral nutrition team remained in 39% of the European hospitals. In 20% of hospitals in Finland, 17% in Norway and in 15% of hospitals in France the role of a pharmacist in the TPN/enteral nutrition team increased.

In Denmark and in Hungary, on the contrary, it diminished by 10%.

Medical devices – vigilance

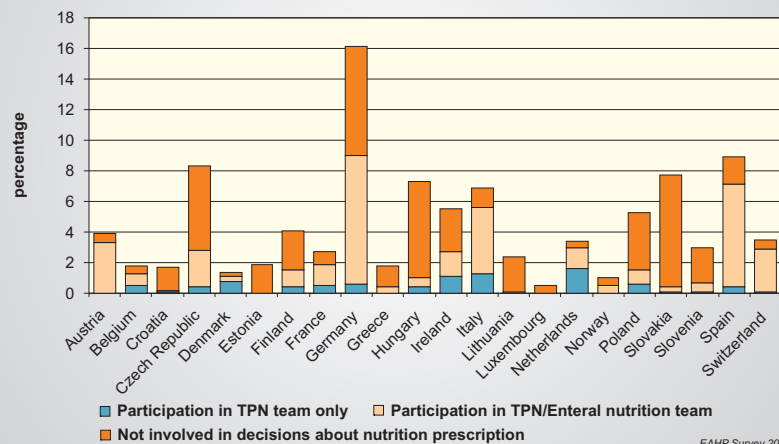
n₂₀₀₅=489



EAHP Survey 2005

Nutrition support

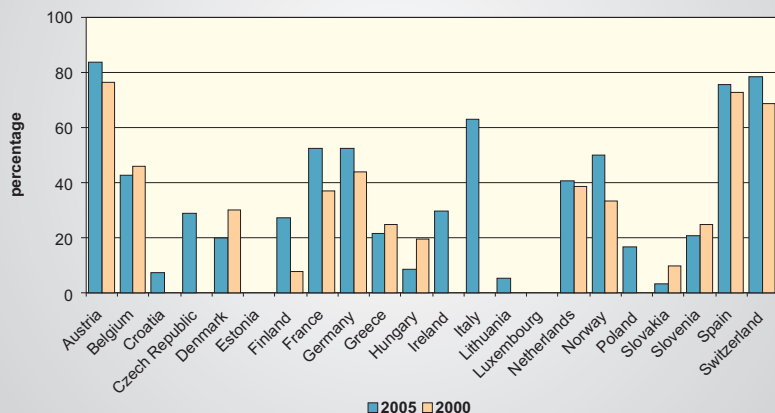
n=785



EAHP Survey 2005

Nutrition support – TPN / enteral nutrition team

n₂₀₀₅=785



EAHP Survey 2005

Pharmacokinetic consultations are provided in very few European hospital pharmacies: in 21% of hospitals for inpatients and in 6% of hospitals for outpatients. In the Netherlands pharmacokinetic consultations are provided by pharmacists in every hospital pharmacy, in Ireland in 54% of hospital pharmacies.

In Croatia, Estonia, Norway and in Luxembourg none of the hospitals participating in the survey reported on such activity.

79% of hospital pharmacies reported that the pharmacists do not provide pharmacokinetic consultations.

In the last five years the percentage of hospitals providing pharmacokinetic consultations decreased by 6% for inpatients, at the most in France and Spain - by 11 %.

133 hospital pharmacies report about routinely provided pharmacokinetic consultations for different drug therapies. Most frequently they participate and advise in the treatment with aminoglycosides - in 87% of hospital pharmacies, carbamazepine in 39%, digoxin in 50%, lithium in 32%, and phenobarbitone in 36% of hospital pharmacies. None of the surveyed hospital pharmacies reports on consulting in the treatment with phenytoin, theophylline, teicoplanin, vancomycin, warfarin and cyclosporine.

In Greece all hospital pharmacies, which participated in the survey, provide pharmacokinetic consultations for medical staff in the treatment with all the below mentioned drugs: aminoglycosides, carbamazepine, digoxin, lithium and phenobarbitone.

Consulting in the therapy is extensively performed in hospital pharmacies in France and Estonia where pharmacists participate in all hospital pharmacies in all forms of therapy as well as in the Netherlands, Luxembourg, Spain and Switzerland.

The involvement of hospital pharmacists in clinical consulting did not change significantly in the last five years.

The biggest part of consulting includes antibiotic therapy, which is practised in 86% of European hospitals.

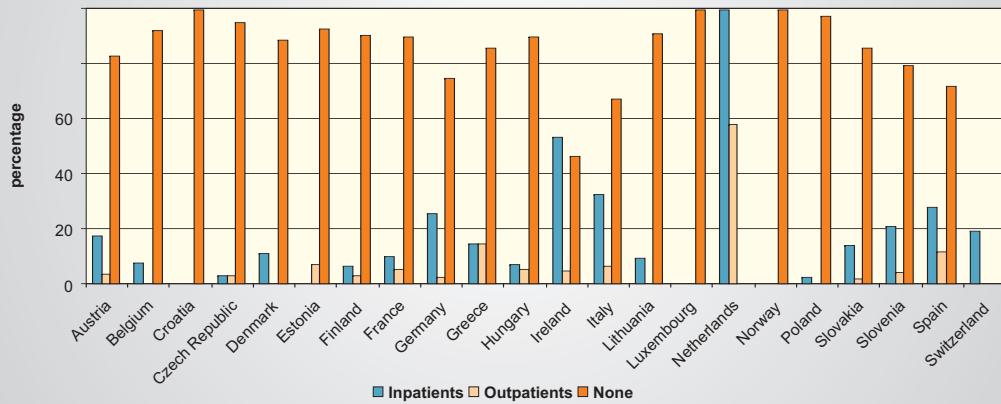
On the contrary, hospital pharmacies are significantly less involved in the anticoagulant prescribing and in lipid clinic prescribing, only in 19% and 8% of hospitals, respectively. .

60_1

61_4

Pharmacokinetic consulting

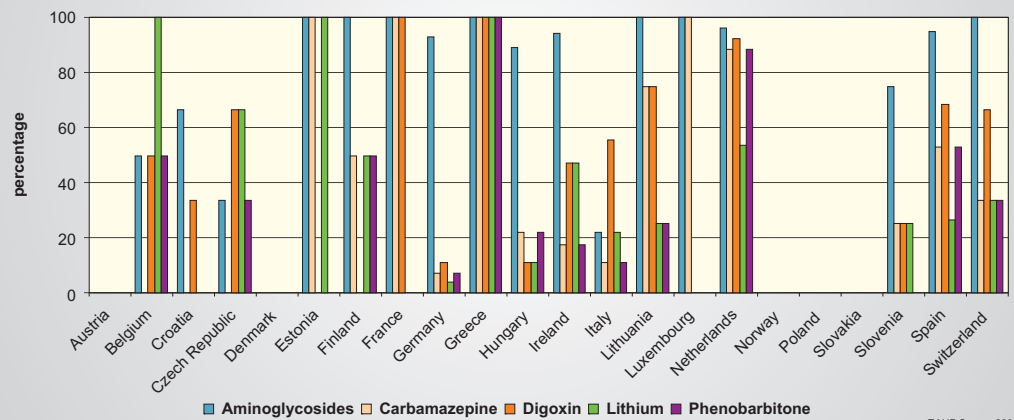
n=767



EAHP Survey 2005

Pharmacokinetic consulting

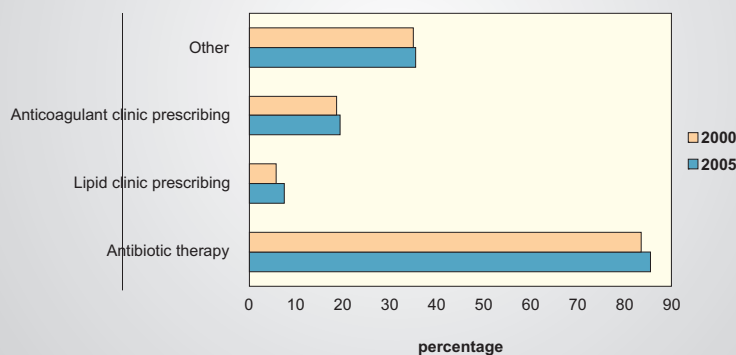
n=133



EAHP Survey 2005

Routine provision of additional clinical consulting

n₂₀₀₅=397



EAHP Survey 2005

Hospital pharmacists also provide additional clinical consulting for anticoagulant therapy, antibiotic therapy and lipid clinic prescribing.

The majority of 337 responding hospital pharmacies providing such service are engaged in consulting in antibiotic therapy - in 86% of hospital pharmacies. In all responding hospitals from Belgium, Denmark, Estonia, Greece, Hungary, Lithuania, Luxembourg and Poland, hospital pharmacies offer consultation in antibiotic therapy.

The role of hospital pharmacists in consulting in antibiotic therapy has been constantly increasing since 2000.

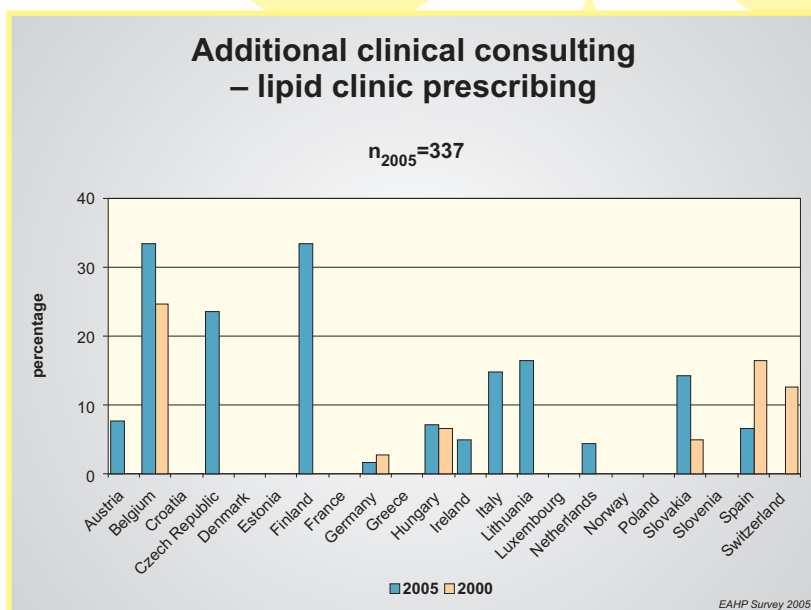
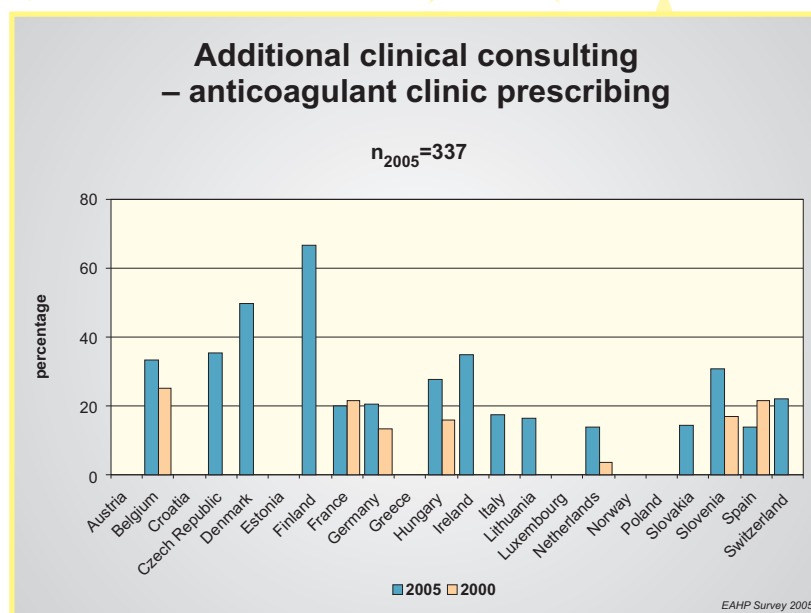
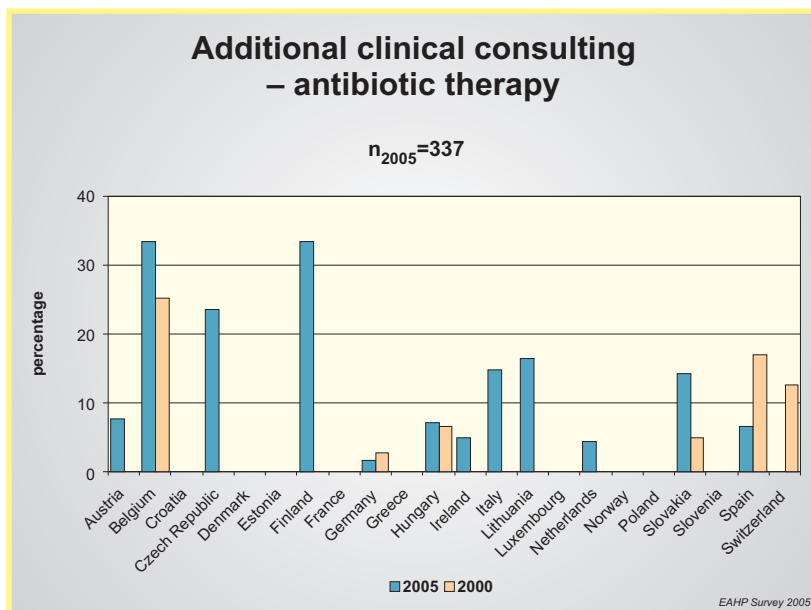
19% of hospital pharmacies report on the routine provision of additional consulting on anticoagulant prescribing. The most active in this field are in Finland and in Denmark in 67% and 50% of hospitals, respectively.

This activity was extended in some hospitals in Belgium, Germany, Hungary, the Netherlands and Slovenia or was introduced anew in the Czech Republic, Denmark, Finland, Ireland, Italy and Switzerland.

There are still many countries that do not report about such activities of hospital pharmacists

Only 8% of hospital pharmacies are involved in lipid clinic prescribing; the majority of them being in Belgium and Finland - in 33% of hospitals.

Hospital pharmacists are not involved in this activity in more than one half of countries which participated in the survey.



Drug information service is an extensive activity since more than one third of hospital pharmacies, which participated in the survey (230 out of 798 responses) have a special pharmacist dedicated to the provision of drug information service in their staff at the most in Italy and in Denmark in more than 60% of hospitals.

The countries which did not participate in the previous survey also report about a high percentage of hospital pharmacies with a pharmacist - information officer.

The number of FTE assigned to drug information service increased, mostly in Spain where 22 hospital pharmacies report about 6 hospital pharmacists being engaged in such activities on the average.

In 20% of hospital pharmacies drug information centre is organised as a formal division (or programme) within the pharmacy. The highest percentage of such hospitals is in Spain and Italy - 45% and in Denmark - 40%.

The majority of hospital pharmacies (64%) do not provide drug information service to persons outside the hospital, in 34% of hospital pharmacies this service is provided outside the hospital, free of charge.

Information service slightly diminished in the last five years, on the average by 6%, the decrease was the biggest in the Netherlands -15%. On the contrary in Slovenia, Denmark, Norway and Hungary it increased by more than 20%.

Very few hospital pharmacies in Norway, Finland, Belgium and Germany charge drug information service to subjects outside the hospitals.

Very few hospital pharmacies have agreement with other hospitals to obtain payable drug information service. The majority of them are in Finland.

Agreements for free of charge information service have hospitals in Denmark (40%), Austria (32%), Germany (20%) and Norway (25%).

Between 97% and 99% of hospital pharmacies which participated in the survey 2005 report that all the below enumerated committees operate in their hospitals. However the participation of hospital pharmacists in these bodies varies. Most frequently they participate in:

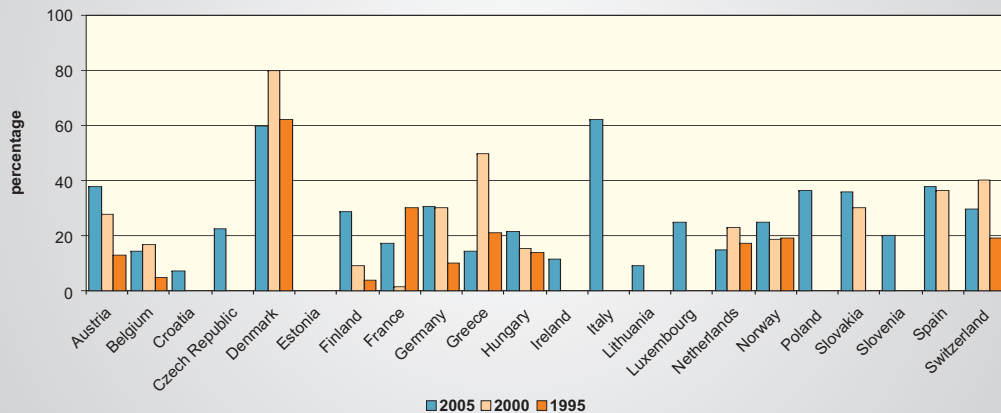
- Drug and therapeutics committee in 95% of hospitals,
- Infection control in 77% of hospitals,
- Nutrition support / TNP in 78% of hospitals,

Less frequently they participate in:

- Health and safety in 38% and
- Cardio-pulmonary resuscitation (CRP) in 29% of hospitals.

Pharmacist dedicated to the provision of drug information service

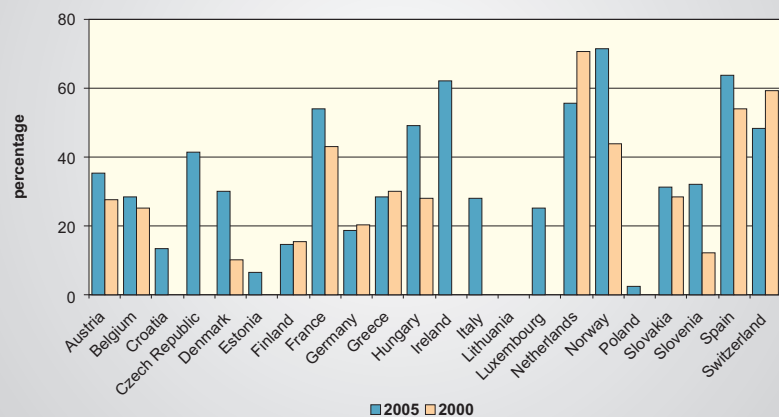
n₂₀₀₅=798



EAHP Survey 2005

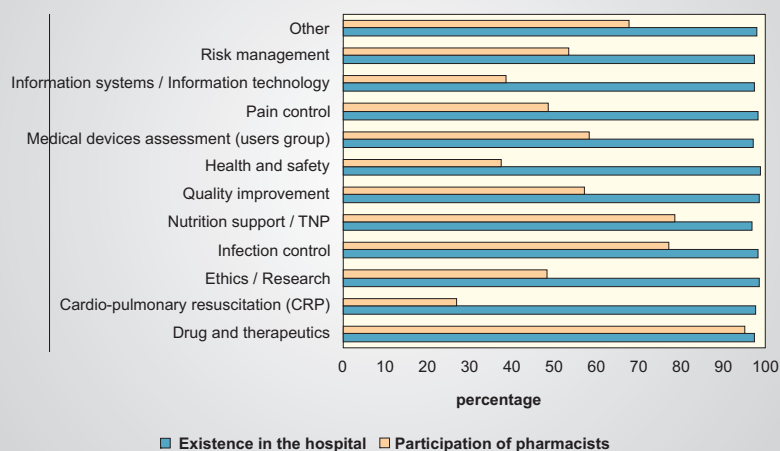
Drug information service – outside the hospital – no charge

n₂₀₀₅=794



EAHP Survey 2005

Existence of hospital committees and pharmacy's participation



EAHP Survey 2005

The survey 2005 shows that drug formulary exists in 82% of the European hospitals.

Within the last ten years the hospitals throughout Europe were highly active in arranging the selection of drugs for hospital use. Every survey shows a greater share of hospitals with an established drug formulary.

In Belgium, Denmark, Estonia, France, Luxembourg and Switzerland all the hospitals which participated in the survey have an established drug formulary (100%). A high percentage of hospitals with drug formulary are also in Spain, the Netherlands, Italy, Poland and Germany. A big progress in establishing the drug formulary was observed also in Austria, Finland and in Slovakia.

In all European hospitals drug formularies contain 694 chemical entities on the average, which is nearly twice the amount shown by the survey 2000. The biggest number of chemical entities is contained in the drug formularies of Greek hospitals (1551) and the smallest in Norwegian hospitals (225).

In all countries, except in Slovakia, the number of chemical entities in drug formularies was increased.

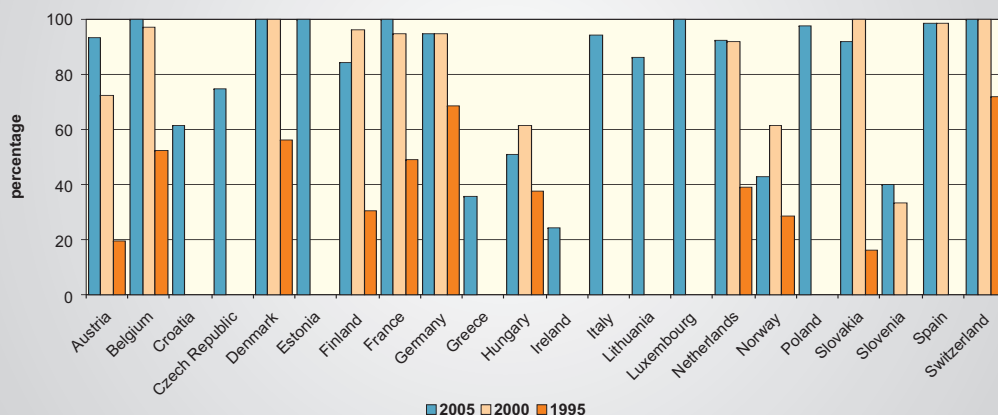
The average number of products in drug formularies is 1031, the biggest number of drugs included in drug formularies is in Austrian hospitals (1807), and the smallest in Norwegian hospitals (290).

In the last five years all countries, except Slovakia and Norway, increased the number of drugs in drug formularies.

In 67% of the surveyed hospital pharmacies the drug formulary is updated every year, in 19% every second year and in 14% of hospitals more than every two years. Hospitals tend to update drug formulary more often, since the number of hospitals updating their drug formularies every year increased by 19% compared to the year 2000.

Drug formulary in the hospital

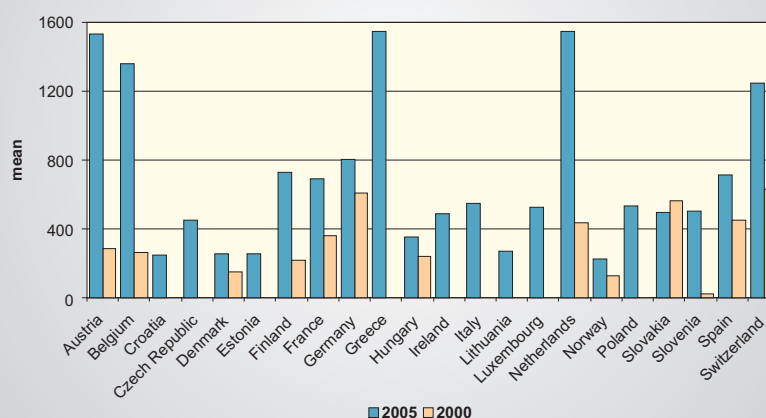
n₂₀₀₅=789



EAHP Survey 2005

Average number of chemical entities in the hospital formulary

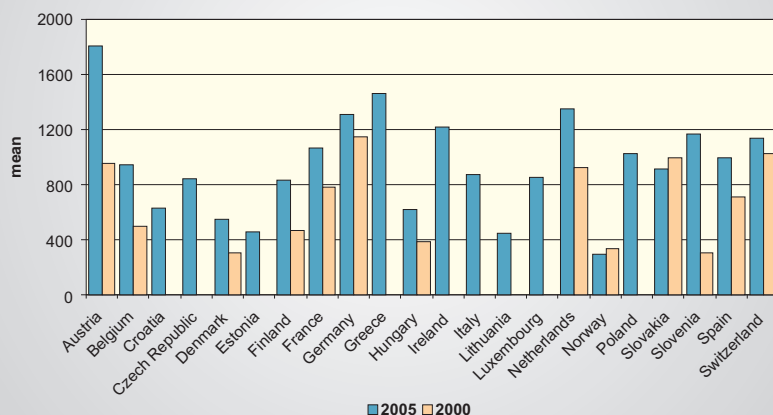
n₂₀₀₅=519



EAHP Survey 2005

Average number of products in the hospital formulary

n₂₀₀₅=748



EAHP Survey 2005

Drug formularies contain:

- hospital drug use policy in 66%,
- dosage/prescribing information in 58%,
- price information in 51%,
- antibiotic prescribing protocols for treatment of infections in 29%,
- antibiotic prescribing protocols for surgical prophylaxis in 28% and
- local bacterial sensitivity to antibiotics in 11%.

A comparison of the results with the results of the survey 2000 shows that drug formularies in the year 2005 contain from 2 to 7% more information about prices, dosage and hospital drug use policy.

Graph shows the proportion of information included in drug formularies in individual countries.

The majority (61%) of hospitals do not form groups for purchasing drugs. Those which participate in group purchasing are most frequently grouped regionally (23% of hospitals), although this type of drug purchasing decreases and is 14% smaller that that five years ago.

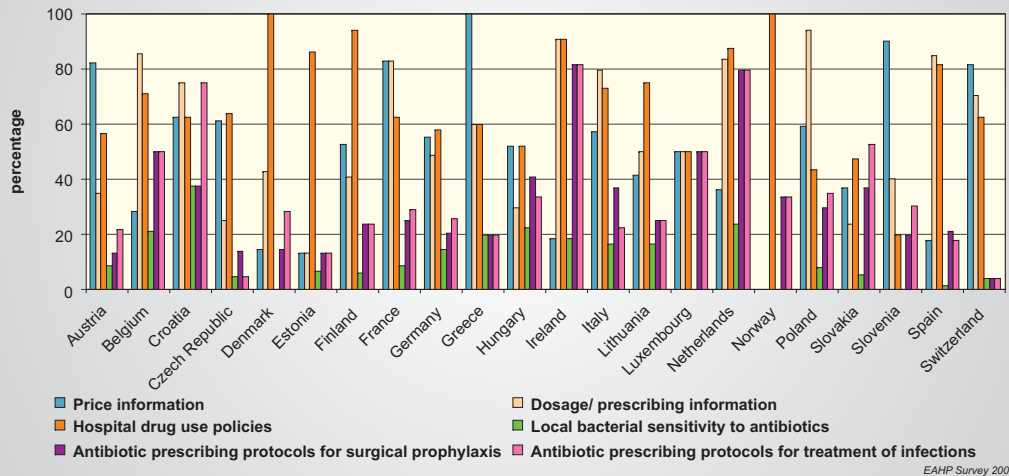
12% of hospitals participate in the national multi hospital alliances. The highest percentage of them is in Norway (88%), Denmark (80%), Slovenia (63%) and in Luxembourg (50%).

In the Netherlands, Austria, Switzerland and Finland hospitals form regional groups.

Hospitals purchase drugs at wholesalers in 54%, 47% directly from industry, 3 % of them from other hospitals, 3% manufacture their own drugs. In the last five years a direct purchasing from industry increased by 4%.

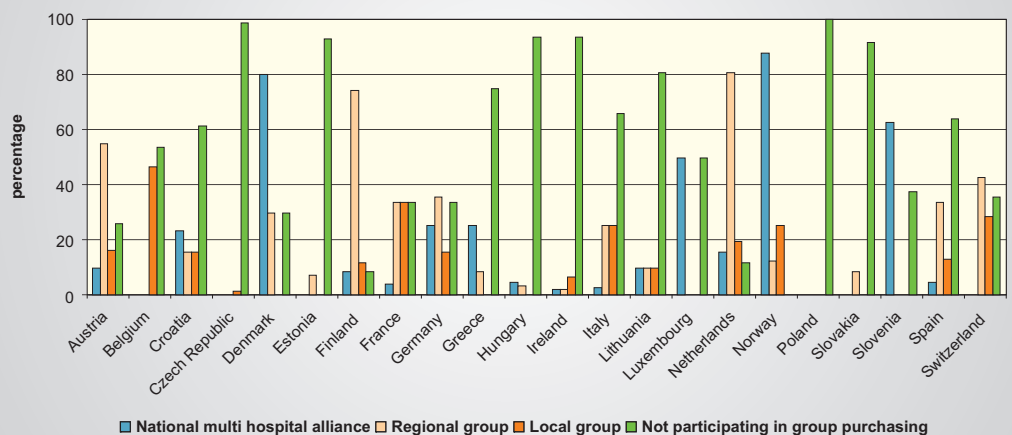
Contents of the formulary

n=557



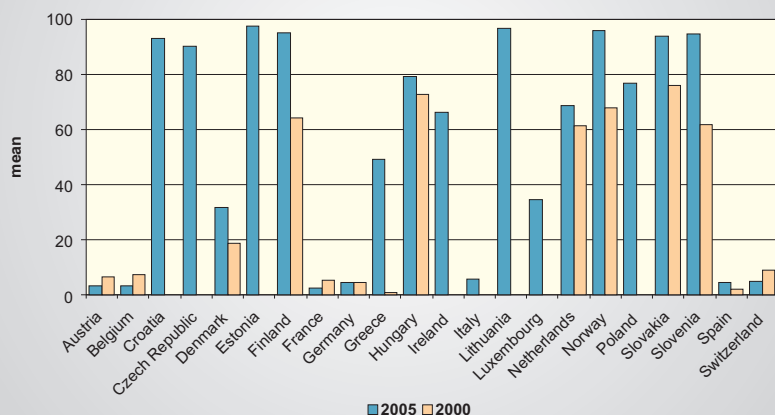
Type of buying group for drug purchase

n=778



Medicines purchased from wholesalers

n₂₀₀₅=709



Approximately half of the hospitals, which participated in the survey, purchase their drugs directly from the manufacturers, thus reducing costs of drugs. Compared to the 2000 survey, a direct purchase of drugs from the manufacturers increased. In Greece all the hospitals purchase the drugs directly from factories, more than 50 % of such hospitals are also in Austria, Belgium, Denmark, France, Germany, Italy, Luxembourg, Spain and Switzerland. The biggest increase in the number of hospitals purchasing directly from the manufacturers has been observed in France - more than 30%.

75_0

Hospitals are included in educational programmes for pharmacists in 39%, in nursing school in 52%, at university medical school in 38% and in secondary schools for pharmacy technicians in 25 % of the surveyed hospitals.

In the last five years the inclusion of hospitals into educational programmes increased: in the year 2000, 41% of those participating in the survey were not included in educational programmes, whereas in the survey 2005, there were only 23% of those which were not included in such programmes.

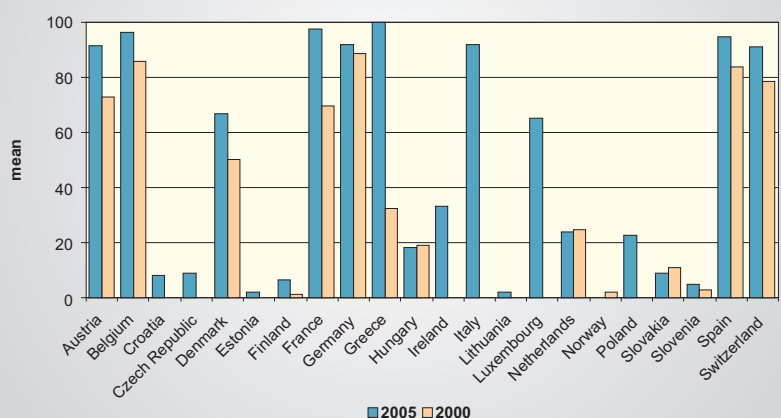
75_1

Inclusion of hospital pharmacies into education of the pharmacy cadre slightly increased from the year 2000 (by 4%, only). The biggest increase was observed in Denmark 38%, in Switzerland 22%, in Finland 21% and in Norway 17%.

The most active hospital pharmacists in the undergraduate programmes are the Italian pharmacists who participate with university pharmacy school in 89% of the surveyed hospital pharmacies, in Spain in 72% and in Denmark in 78% of them.

Medicines purchased from industry

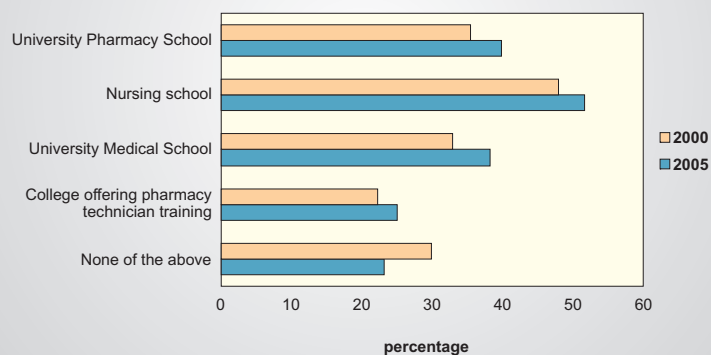
n₂₀₀₅=643



EAHP Survey 2005

Affiliation with teaching programmes

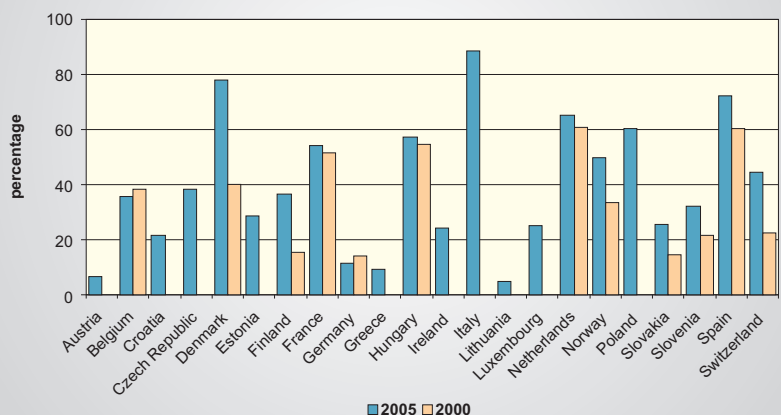
n₂₀₀₅=787



EAHP Survey 2005

Affiliation with the teaching programmes – University Pharmacy School

n₂₀₀₅=787



EAHP Survey 2005

In 300 out of 787 hospital pharmacies (39%), pharmacists participate in the undergraduate education by cooperating with university medical school, which is 6% more than in the year 2000.

The most active in this field are pharmacists from the Netherlands, Hungary and Slovenia (in more than 50% of hospitals).

76_1

Hospital pharmacists are involved in the educational programmes in 64% of the surveyed hospital pharmacies, most frequently in the education of students - 53%.

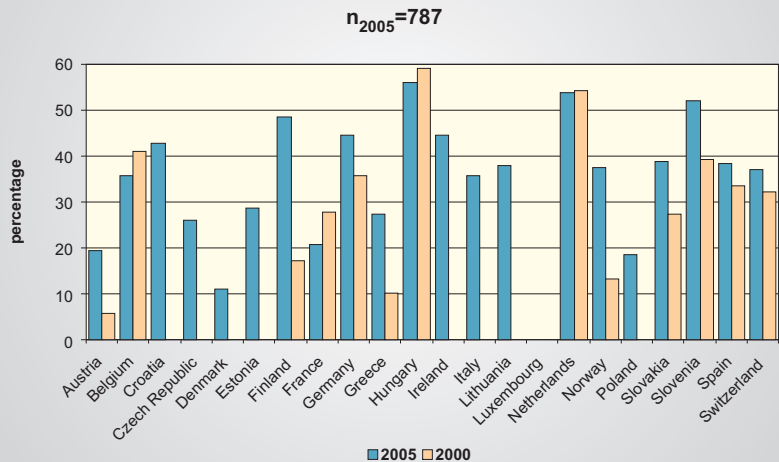
Compared to the year 2000, pharmacy activities in educational programmes increased: for pharmacy students by 5%, postgraduate programmes by 5% and for technician staff by 3%.

76_2

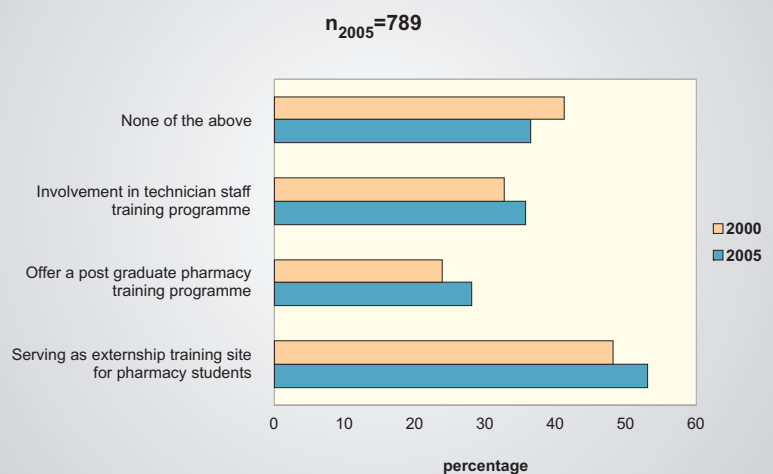
All hospital pharmacies in Denmark serve as externship training site for pharmacy students, since they doubled their activities in this field.

A large percent of hospital pharmacies in the Netherlands, Belgium, Italy and Spain (over 70%), also take care of education of new cadres. In the last five years a progress in this field was also observed in Austria, Finland, Norway, Slovenia and Hungary.

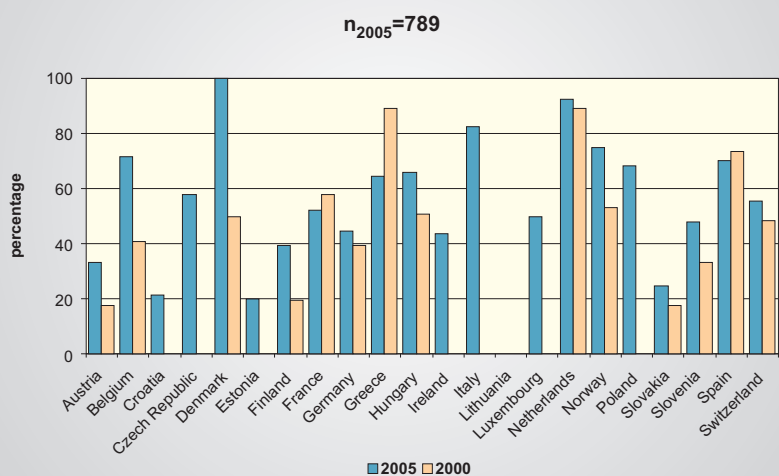
Affiliation with the teaching programmes - University Medical School



Pharmacy activities in educational programmes



Educational programmes – externship for pharmacy students



Half of the surveyed hospital pharmacies have internally organized continuing education programme designed to enhance the knowledge or skills: for pharmacists in 45%, for pharmacy technicians in 38% and for other pharmacy staff in 16%.

Hospital pharmacies, which provide the highest level of care for the development of professional personnel: pharmacists and pharmacy technicians are in Denmark, the Netherlands, Ireland, Norway, Hungary, Italy, Slovakia and in Spain where more than 50% of hospital pharmacies perform organised continuing education programmes.

The survey has also shown a decrease in the percent of pharmacies which enable participation of their personnel in continuing education programmes within their working hours (paid time) (by 4%) as well as those covering all the expenses of education (by 12%). There are 18% of hospitals which do not cover any expenses of education and do not enable their personnel to take courses during working hours.

In the majority of countries the percentage of hospital pharmacies with organised in-house continuing education for pharmacists increased: the biggest increase was observed in Norway and Denmark - by 45% and 30%, respectively.

Patient safety is an important issue in all European countries. Important events at the national level took place in some of them. Hospital pharmacists also participated in these events.

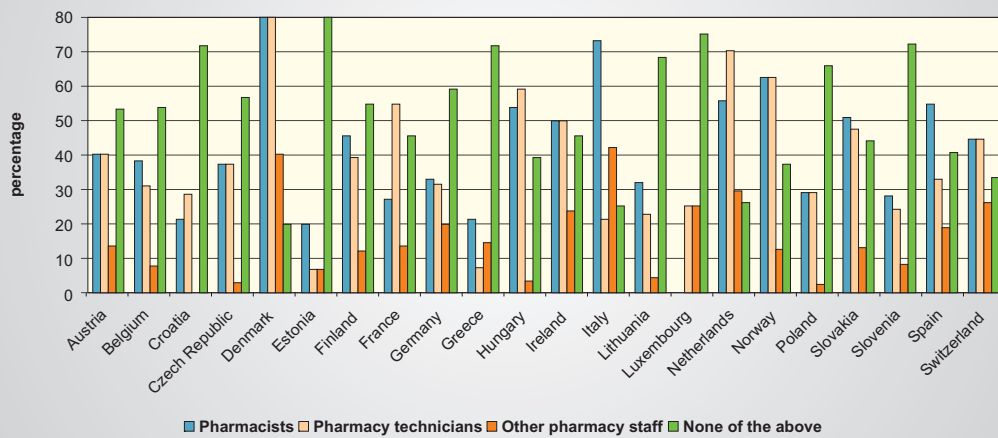
38% of the surveyed European hospital pharmacies participated in the national survey in hospitals, 46% in the national campaigns, and 35% in the regional campaigns.

The biggest percentage of hospitals participating in:

- national survey in hospitals is in Slovenia, the Netherlands and Denmark (more than 80%)
- national campaigns is in Belgium, Croatia, Denmark and Greece (more than 80%) and Norway (100%)
- regional campaigns is in Denmark, Spain, France (more than 60%)

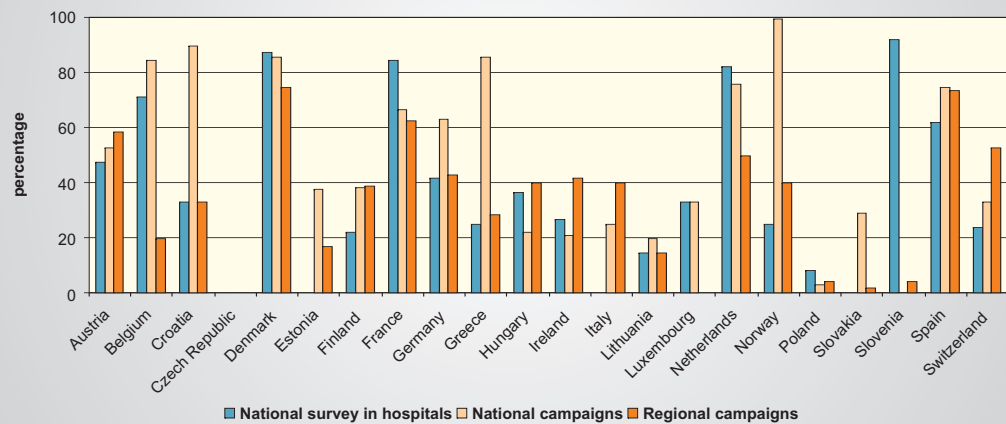
Internally organized continuing education programme

n=778



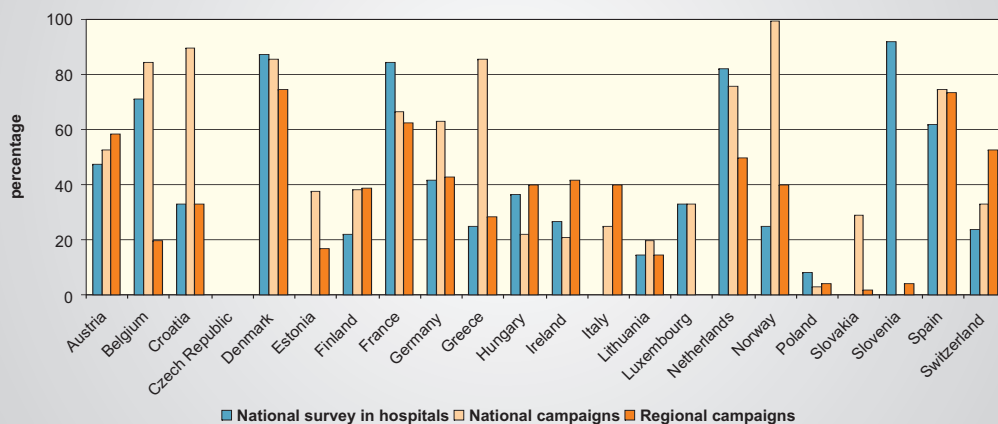
EAHP Survey 2005

Activities conducted in the field of patient safety in the last year



EAHP Survey 2005

Activities conducted in the field of patient safety in the last year



EAHP Survey 2005

In the majority of European countries, included in the survey 2005, training courses on patient safety were organised for hospital pharmacists: in Denmark, the Netherlands, Croatia, France, Italy, Germany, Poland and Spain national congresses were organised within the continuous professional development programmes.

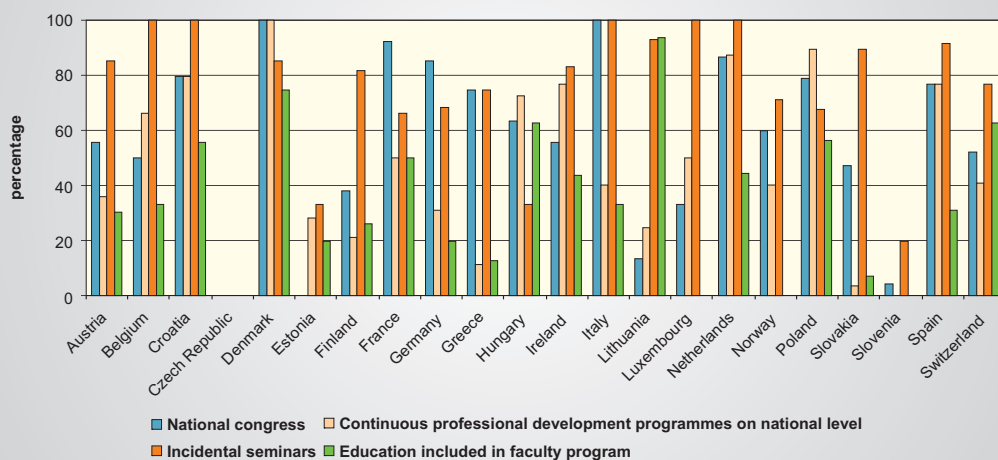
In view of sustaining the patients' safety, hospitals organised:

- policy on safe medication practice in 36% of hospitals: the most in Denmark, France, Hungary, Ireland, the Netherlands and in Norway - in more than 60% of the hospitals
- committee for safe medication practice in 29% of hospitals: the most in Denmark, France, Italy, Norway - in more than 60% of hospitals.
- teams doctor - pharmacist - nurse with defined system for medication errors reporting in 28% of hospitals - the most in Denmark, Greece, Ireland, the Netherlands and in Switzerland - in more than 50% of hospitals.

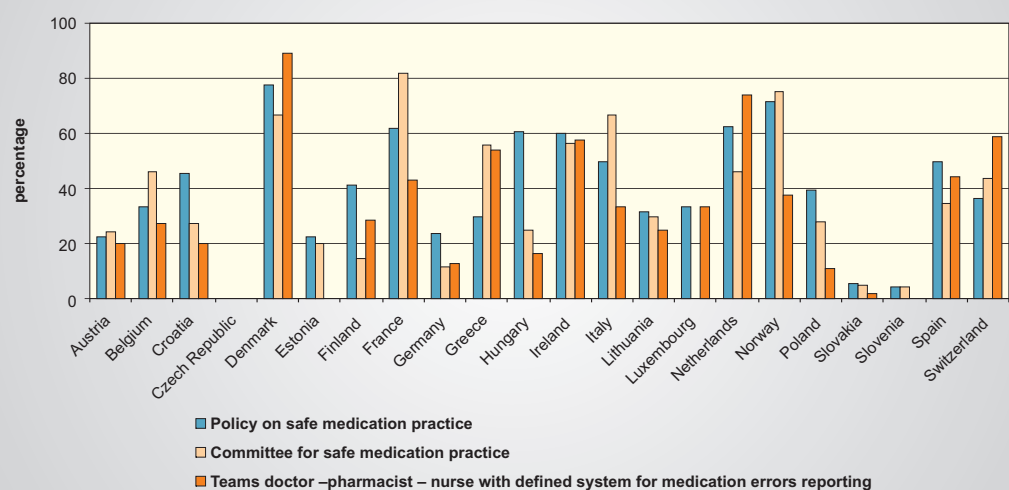
In order to provide safe medication, hospitals ensure the following activities in their pharmacies:

- Centralised preparation of parenteral drugs in a validated environment: in the Netherlands, Norway, Germany, Austria, Switzerland, Spain - in more than 80% of hospitals their pharmacies prepare cytostatic therapies. Preparation of other drugs for I.V. administration in hospital pharmacies is less frequent. Most often they are prepared in Danish (40 %) and Swiss (33%) hospitals.
- Unit dose dispensing: most frequently in the Netherlands - in more than 90% of hospitals and in Belgium - 69% of hospitals.
- Therapeutic drug monitoring: most frequent in the Netherlands - in 92%, and in Italy in 60% of hospitals.
- Drug information in 79% of European hospitals
- Patient counselling: upon admission to hospitals in Slovakia, Lithuania and Poland and upon discharge from the hospital - most frequently in Italy, Hungary and Norway.
- Computerized prescriber order entry - CPOE system is used in 12% of hospitals only. Most frequently in the Netherlands, Belgium, Luxembourg and Denmark.

Educational programmes on safe medication practice issues in the last year



Patient safety system in hospitals



Safe medication practice

	No. of responses	% of hospitals
Unit dose dispensing	142	26
Centralised cytotoxic reconstitution	358	65
Centralised I.V. admixture service	73	13
Therapeutic drug monitoring	139	25
Drug information	436	79
Patient visits at admission	91	17
Patient counselling at discharge	94	17
CPOE system	67	12

We hereby wish to thank the national coordinators from all the countries who participated in the EAHP 2005 survey for their kind cooperation and their contribution to a successful conclusion of the project.

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