European Statements of Hospital Pharmacy
Survey Results 2017

Statements Sections 2, 5, 6

Contents

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Executive summary

The European Statements of Hospital Pharmacy express commonly agreed objectives which every European health system should aim for in the delivery of hospital pharmacy services. They were formulated via a methodological consultation process with EAHP's 34 member country associations and 34 patient and healthcare professional organisations. Keele University were commissioned to conduct an annual survey amongst European hospital pharmacists to measure progress of the implementation of the Statements and to identify the key barriers and drivers of this. The baseline survey was conducted from January 2015 to March 2015, the 2015 EAHP Statements Survey was conducted between October and, December 2015, while the 2016 EAHP Statements Survey was from October 2016 to November 2016. The 2017 EAHP Statements Survey repeated the survey from 2015 and was conducted across 35 countries from October 2017 to November 2017 with the focus on the statements from the following sections:

- Section 2: Selection, Procurement and Distribution
- Section 5: Patient Safety and Quality Assurance
- Section 6: Education and Research

As with previous surveys, the 2017 EAHP Statements Survey consisted of three sections:

- Section A: general questions about the participant's hospital pharmacy, such as workforce skill-mix and number of beds served
- Section B: questions about the current activity of pharmacists around each statement
- Section C: questions about the hospital's readiness and ability to implement the statements

In section B, a value was allocated to each response to rate the degree to which they were able to comply with each statement (where 1=never able to comply, 5=always complied). In section C, they were asked to what degree they agreed with the question (1 for strongly disagree, 5 for strongly agree). A response of 3, 4 or 5 was deemed to indicate less difficulty in complying with that statement – a 'positive response'. Where this was **not** the case, the participant was asked the reasons for their difficulty for complying with the statement.

The overall response rate to the 2017 survey was 17.4%, with wide variation across different countries. 19 of the 35 countries had a response rate of over 30%. The survey had more people complete the entire survey than any of the previous surveys with 783 complete responses. Similar to last year, around 80% of participants completed the survey.

The 5 questions from sections 2, 5 and 6 where implementation of the statement in question seems to provide the greatest challenge were:

S 6.4 The pharmacists in our hospital routinely publish hospital pharmacy practice research

S5.5.2 Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors

S6.4.4 Have you or your pharmacists engaged in development of local/national guidelines?

S2.5.2 Have you had reason to contact the medicines authority in your country because of medicines shortages?

S5.7 The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated

Hospital pharmacists continue to have difficulty participating in and publishing practice research – 75% of responses indicate that they have produced less than 2 external presentations/papers/posters in the past year. Almost half of all respondents said they had produced none in the past year, a worrying pattern. The reasons given for this difficulty were lack of capacity or capability and that it isn't considered to be a priority for their managers. Like with previous surveys, engaging in activities to reduce medication errors such as the use of computer decision support or having processes to reduce transcribing errors appear to be a challenge to pharmacists. In contrast, procurement, supply, labelling and traceability of medicines are dealt with by the majority of pharmacists without any apparent problem. As with previous surveys, there was considerable variation across the different countries, reflecting the role of pharmacists in those countries.

By far the most common reason given for being unable to implement those statements is capacity and that other medical or nursing professionals currently perform these activities. A lack of support from hospital managers is also a commonly cited reason.

As in previous survey reports, much work can be done to share business cases where successful investment in pharmacy services has been achieved, winning the hearts and minds of other clinicians and managers to invest in pharmacy services to improve patient care (and save money in the longer term). There would also appear to be a role for EAHP in encouraging pharmacy teams to publish their practice research and present posters at Congress by helping support such activities within individual countries.

As this year's survey contained three data points (baseline, 2015 and 2017), it was possible to do a statistical comparison to detect any significant changes in the responses seen. A paired samples t-test indicated that the mean percentage of positive responses for countries has significantly increased from the baseline survey ((M = 0.398, SD = 0.251) compared to the 2017 survey (M = 0.485, SD = 0.244), $t(27)$ = -2.859, p = 0.008, d = -0.540). Compared with the baseline survey, awareness has increased in 26 countries. Of the 34 countries taking part in the survey, 26 show an increase in awareness when compared to the baseline.

It would appear that awareness and the importance given to the statements is beginning to increase significantly. The role of the EAHP Statement Ambassadors in this is important and their influence may well continue to grow across Europe. The EAHP now has a published implementation strategy for the statements and the statements are central to the structure of the content for the annual congress which is the flagship event for the EAHP. The data generated from this latest iteration of the survey allow the individual countries who participated in the survey to compare their activities with others around Europe. A set of recommendations are suggested at the end of this report.

Introduction and background

The European Statements of Hospital Pharmacy are designed to assist European health systems in ensuring safe, effective and optimal use of medicines in collaboration with multi-disciplinary teams.[1]

The statements were formulated following an 18-month review process, which included two rounds of online Delphi consultation with EAHP's 34 member country associations and patient and healthcare professional organisations and a 'World Café'.[2] As outlined by Horak et al in their report on the future of the EAHP survey[3], implementation of the Statements remains a challenge. Generally, the biggest challenges in implementing the Statements are perceived to be around the varying levels of practice, the different healthcare systems, and problems with staffing (capacity and capability). In order to facilitate better implementation of the Statements, it is essential to capture a baseline of where different countries are now in relation to each Statement and then measure their progress on a regular basis. Based on previous feedback and the Summit, EAHP decided to change its data collection tool, the EAHP Survey, by designing a shorter annual survey, optimising data collection while minimising workload for survey respondents. The primary focus of the annual survey is to identify the barriers to the implementation of the Statements.

Keele University were commissioned to conduct an annual survey amongst European hospital pharmacists to assess the progress of each country with the implementation of the Statements and to identify the common barriers and drivers of success. The initial baseline survey was conducted from January 2015 to March 2015, spanning 16 languages and 34 countries. The results from that survey can be found on the EAHP website.

The 2015 EAHP Statements Survey was conducted from October 2015 to December 2015 and focused on the statements from Section 2: Selection, procurement and distribution, Section 5: Patient safety and quality assurance and Section 6: Education and research. The results from that survey can be found here. The 2016 EAHP Statements Survey was conducted from October 2016 to November 2016 with the focus on the statements from Section 1: Introductory Statements and Governance, Section 3: Production and Compounding, Section 4: Clinical Pharmacy Services. The results from the 2016 survey can be found here.

The 2017 EAHP Statements Survey was conducted from October 2017 to November 2017 with the focus on the same statement sections as the 2015 survey, i.e.:
- Section 2: Selection, procurement and distribution
- Section 5: Patient safety and quality
- Section 6 Education and research

This document focuses on the results of the 2017 EAHP Statements Survey across 34 participating member countries, focusing on the Statements identified as being those being the largest barriers to implementation across the whole of Europe. There are also appendix documents which contain the full survey results and anonymised free text responses.

Note: The survey asked questions regarding most of the 23 European Statements of Hospital Pharmacy from sections 2, 5 and 6, but not all of them. The questions asked were based on statements that had a resonance at an individual hospital level.

Method

The survey was drafted using the same questions as the 2015 survey and then conducted from October 2017 to November 2017, spanning 34 countries.

As with previous surveys, the 2017 EAHP Statements Survey (see appendix 1) consisted of three sections:

• Section A: general questions about the participant's hospital pharmacy, such as workforce skill-mix and number of beds served
• Section B: questions about the current activity of pharmacists around each statement from Sections 2, 5 and 6
• Section C: questions about the hospital's readiness and ability to implement the statements

The questions in Section B of the survey were to identify if the participant thought that the statements of hospital pharmacy are already being implementing within their hospital. To achieve this aim, the pharmacists who participated in the survey were asked to rate the degree to which they were able to comply with each statement. A value was allocated to each response using a scale of 1-5, where a 1 indicated that they were never able to comply with the statement, while a 5 indicated that they always complied with the statement. For some questions in the survey a Yes/No option was used, as it deemed more appropriate to use rather than a scale of 1-5 in those cases. In section C, they were asked to what degree they agreed with the question and the same Likert scale was used (1 for strongly disagree, 5 for strongly agree).

For the purposes of identifying those statements where the barriers to implementation were greatest, a response of 3, 4 or 5 was deemed to indicate less difficulty in complying with that statement – a 'positive response'. Where this was **not** the case, the participant was asked a follow up question to identify the barriers in implementing the statement.

In order to improve the efficiency in the analysis of the results and provide greater insight into the key drivers and barriers to implementation of the statements, for the 2015 EAHP Statements Survey, the respondent was given a range of pre-selected options to choose from in their response. These options were based on the most frequent answers given in the baseline survey. Five standard pre-selected options were used for every question, although some questions have additional specific options. This approach proved successful, and the same approach was decided to be repeated for both the 2016 and 2017 EAHP Statements Surveys. The five main options were:

1. We are prevented by national policy and/or legislation
2. Not considered to be a priority by my managers
3. Not considered to be a priority by me
4. We would like to do this but we have limited capacity
5. We would like to do this but we have limited capability.

There was also has an 'Other' option, where the respondent could still give a free-text response if they have a unique answer to give. Respondents were given the ability to select multiple options. In order to gain further insight into particular topics, participants were also asked additional questions for certain statements. For example, in addition to asking a participant if medication errors are reported in their hospital, and then, if not, why not, they are also asked how many medication errors were reported in the last year and what have they done with the results of any medication error reports.

As with the most recent EAHP Statement surveys, the 2017 EAHP Statements Survey was conducted in English only. The baseline survey was translated into 15 languages, which carried a significant logistical and financial burden to the EAHP. A large amount of time was required to provide the translated text for the surveys, and to create 15 separate surveys containing each translated text. When the survey was completed, the free text responses required translating back for analysis which increased the analysis time further. In light of this, the General Assembly of the EAHP in 2015 decided to conduct future EAHP Statements Survey in English only, with an option for individual country co-ordinators to provide translations of the survey questions and responses if required.

The survey was created using the online survey software SurveyMonkey, which allowed the survey to incorporate a variety of question formats and necessary logic, whilst also incorporating EAHP branding and logos. It was distributed using a SurveyMonkey email collector. A coordinator for each country participating provided a list of emails for the hospital pharmacists in their country (one per hospital), which were added to the mailing list. The SurveyMonkey email collector meant each person was sent an email containing a personal link to their own copy of the survey. The benefits of this approach meant that the responses were automatically monitored, and reminder emails could easily be sent to those who had not yet responded. These reminders were sent out weekly over the duration of the survey.

There were a small number of countries who did not wish to share the emails of their countries pharmacists. In those cases, a weblink version of the survey was created. This meant a single link was given to a coordinator to distribute to the hospital pharmacists in their country. The weblink version of the survey began by asking for a unique code to identify the respondent. This method was comparatively much more time intensive to implement, as the tracking of respondents was a much more manual process.

When the 2017 EAHP Statements Survey closed, there were a total of 979 responses, the results of which were exported from SurveyMonkey for further analysis and reporting. As was done in previous years, if an incomplete survey was submitted, the quantitative data was not used in the results.

Significance testing was performed to compare the results of some of the survey questions to the same question asked in previous years surveys. The survey questions from section B were identical for the 2017 and 2015 surveys but slightly different from the baseline survey which did not contain as many questions, so not every survey question had three points of data.

Testing was performed to compare the 2017 survey data with the baseline data, or the 2015 survey data in the event of there being no baseline data for a given question. To limit the effect of outliers on the result, countries with less than 5 responses were excluded from testing. Testing was performed using IBM SPSS software, and firstly the Shapiro Wilk's test was performed to check for normality. In most cases the differences between the distributions of data were considered to be approximately normal so paired t-tests were performed to test for significance between 2 years of survey data. For the few cases where a parametric test was not appropriate, the Wilcoxon signed rank test was used instead.

Some testing was also done to compare the results of statement survey questions to staffing levels (Results of the question G4, 'How many fully qualified pharmacists are employed by your hospital?'). For Likert scale survey questions a Kruskal-Wallis test was performed after checking for normality, and for the categorical (Yes/No) survey questions Pearson's chi-squared test was used.

Results: EAHP Survey Response Rates

The response rates for 2017 EAHP Statements Survey are listed in the table below, broken down by country. The response rates from the 2015 baseline survey are given in the final column for comparison. If an incomplete survey was submitted it was not used in the results.

Country	Responded (This year)	Requests	Percentage	Baseline
Austria	35	46	76%	49%
Belgium	70	173	41%	25%
Bosnia	10	21	48%	48%
Bulgaria	16	72	22%	17%
Croatia	31	48	65%	82%
Czech Republic	52	97	54%	61%
Denmark	8	9	89%	88%
Estonia	11	25	44%	45%
Finland	20	80	25%	27%
France	46	1808	3%	8%
FYROM	13	31	42%	58%
Germany	100	374	27%	24%
Greece	52	122	43%	30%
Hungary	39	109	36%	64%
Iceland	0	2	0%	100%
Ireland	42	70	60%	53%
Italy	37	561	7%	6%
Latvia	2	45	4%	13%
Lithuania	12	36	33%	13%
Luxembourg	1	5	20%	50%
Malta	4	5	80%	66%
Montenegro	3	6	50%	N/A
Netherlands	25	99	25%	35%
Norway	15	30	50%	66%
Poland	22	82	27%	6%
Portugal	26	93	28%	19%
Romania	29	102	28%	44%
Serbia	38	65	59%	63%
Slovakia	25	72	35%	48%
Slovenia	23	28	82%	68%
Spain	22	250	9%	18%
Sweden	18	35	51%	47%
Switzerland	29	60	48%	48%
Turkey	64	694	9%	9%
UK	33	212	16%	38%
Total	**970**	**5561**	**17%**	**18%**

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Section A: Results of the General Questions Regarding Hospital Activity

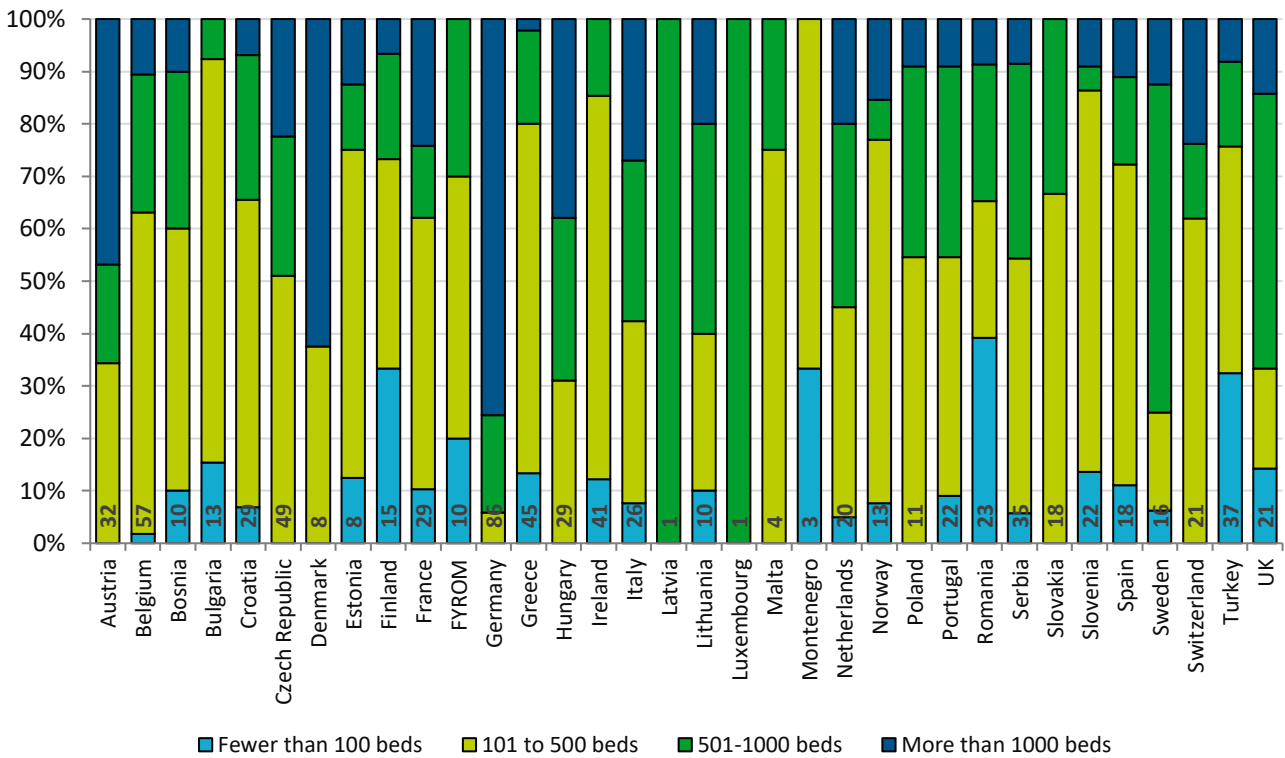### G1 Is your pharmacy within a teaching hospital?
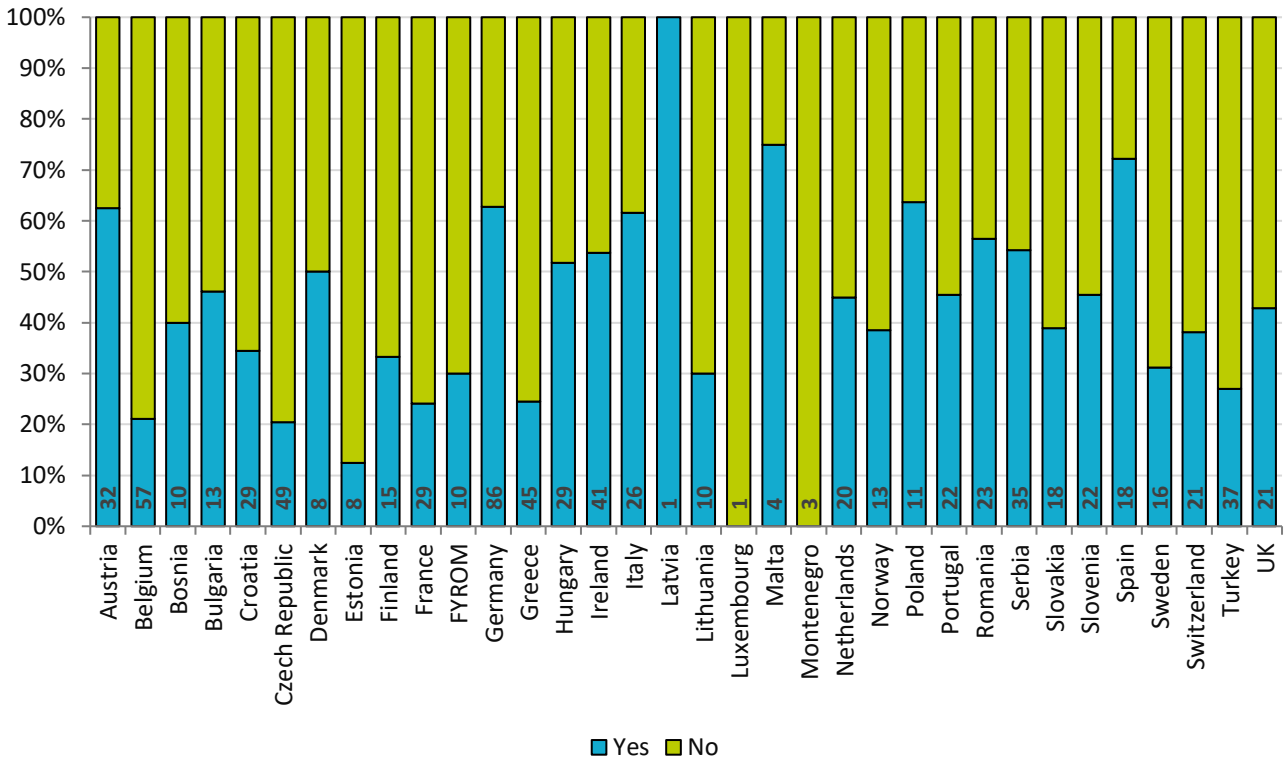
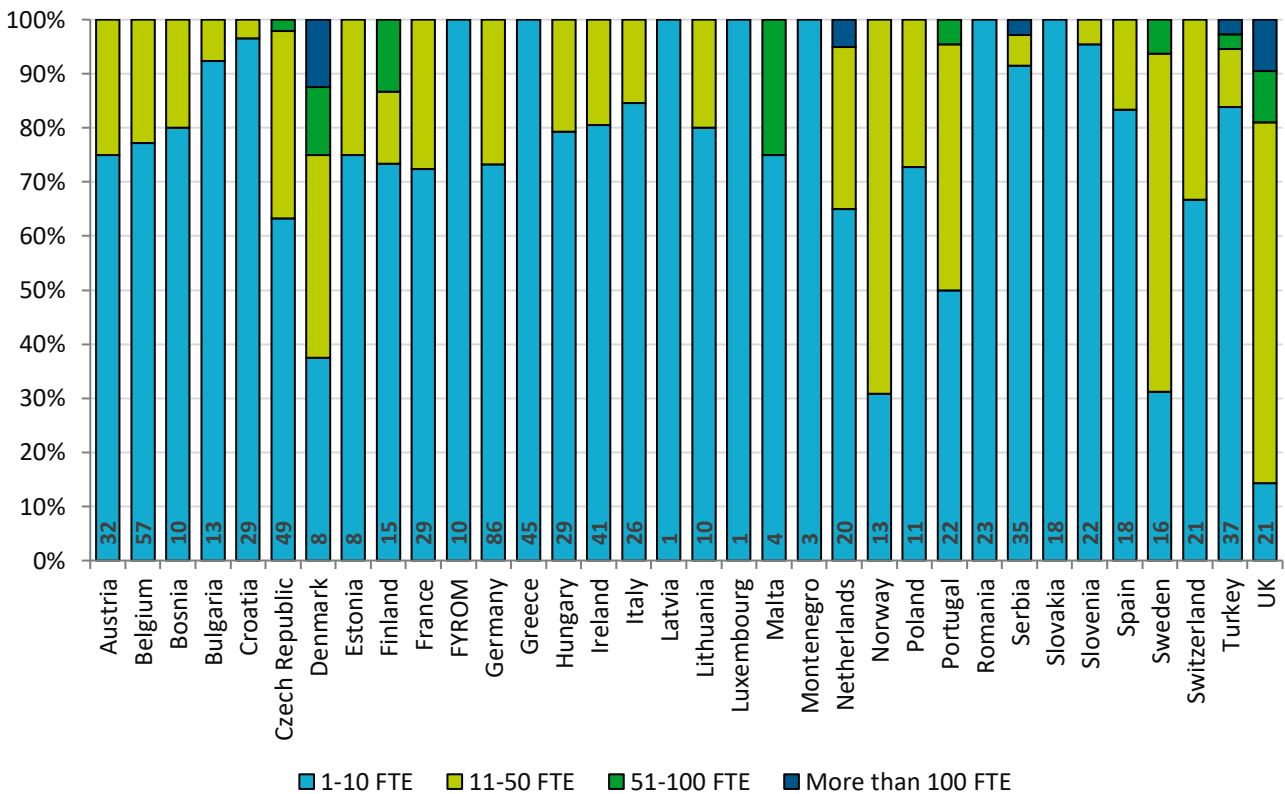
G2 What type of hospital is your pharmacy within?
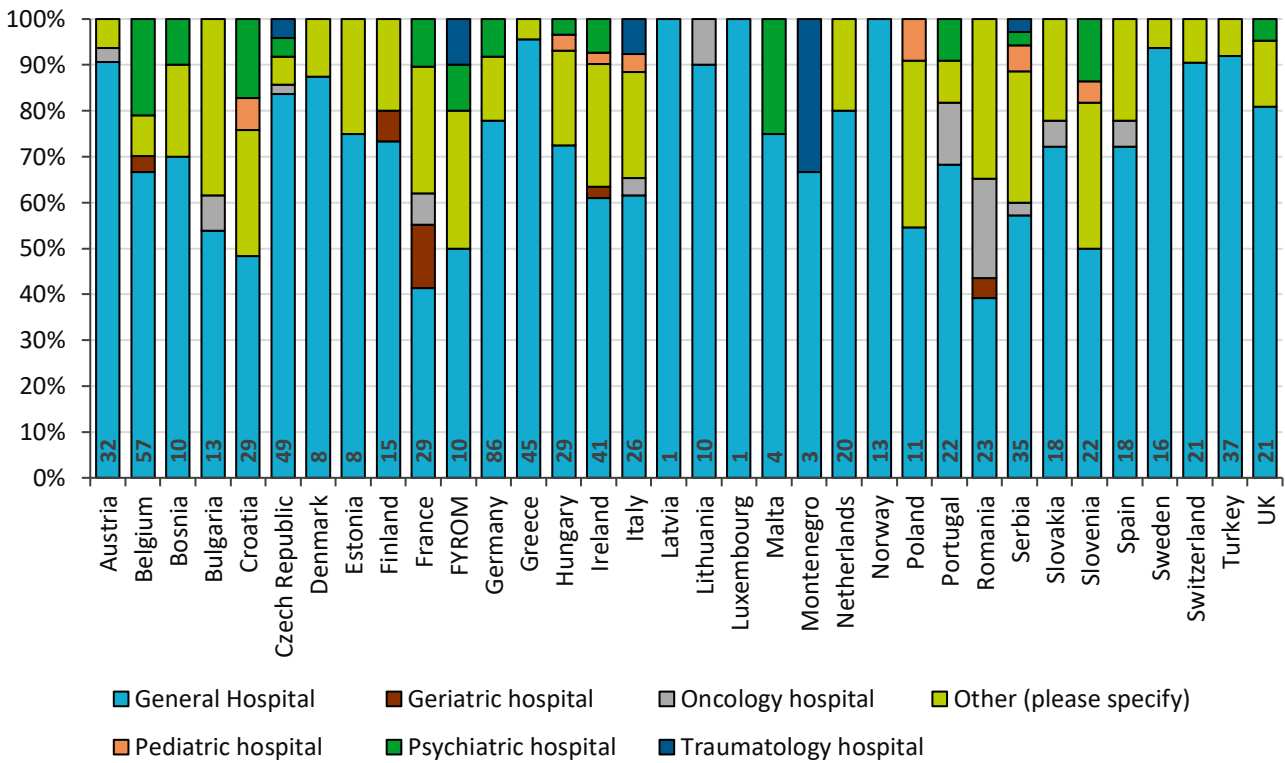
The most common responses relating to 'Other' were University hospital, Cardiology hospitals, Rehabilitation hospitals, or multidisciplinary hospitals.

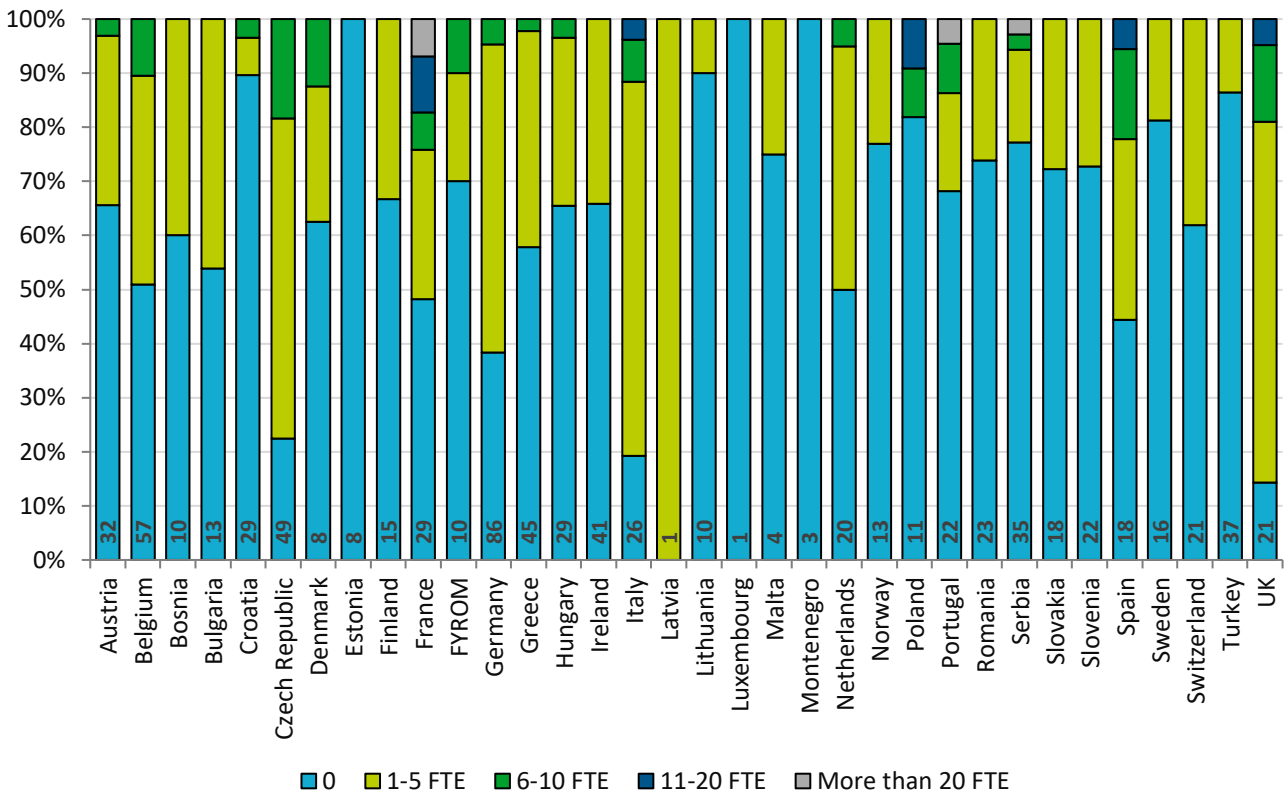*The numbers in the base of each bar show the number of responses from that country*
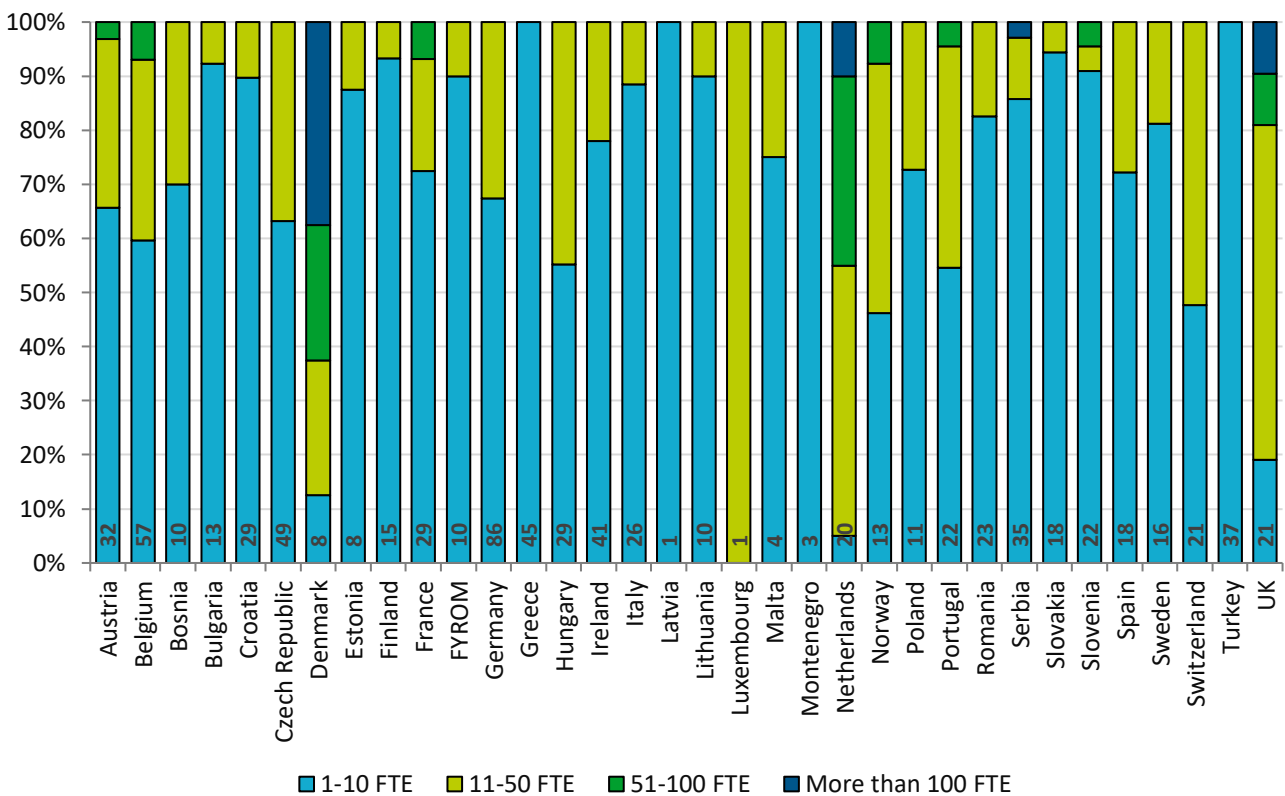
G3 How many beds are served by your pharmacy?

Legend: ■ Fewer than 100 beds ■ 101 to 500 beds ■ 501-1000 beds ■ More than 1000 beds

G4 How many fully qualified pharmacists are employed by your hospital?

Legend: ■ 1-10 FTE ■ 11-50 FTE ■ 51-100 FTE ■ More than 100 FTE

G5 How many trainee pharmacists are employed by your hospital?

Legend: ☐ 0 ☐ 1-5 FTE ☐ 6-10 FTE ☐ 11-20 FTE ☐ More than 20 FTE

G6 How many technicians are employed by your hospital?

Legend: ☐ 1-10 FTE ☐ 11-50 FTE ☐ 51-100 FTE ☐ More than 100 FTE

G7 To whom is the pharmacy director responsible?

- ■ To the hospital chief executive officer (hospital director)
- ■ To an outside pharmacy director
- ■ To a clinical medical director
- ■ To a local authority
- ■ To nobody
- ■ Other (please specify)
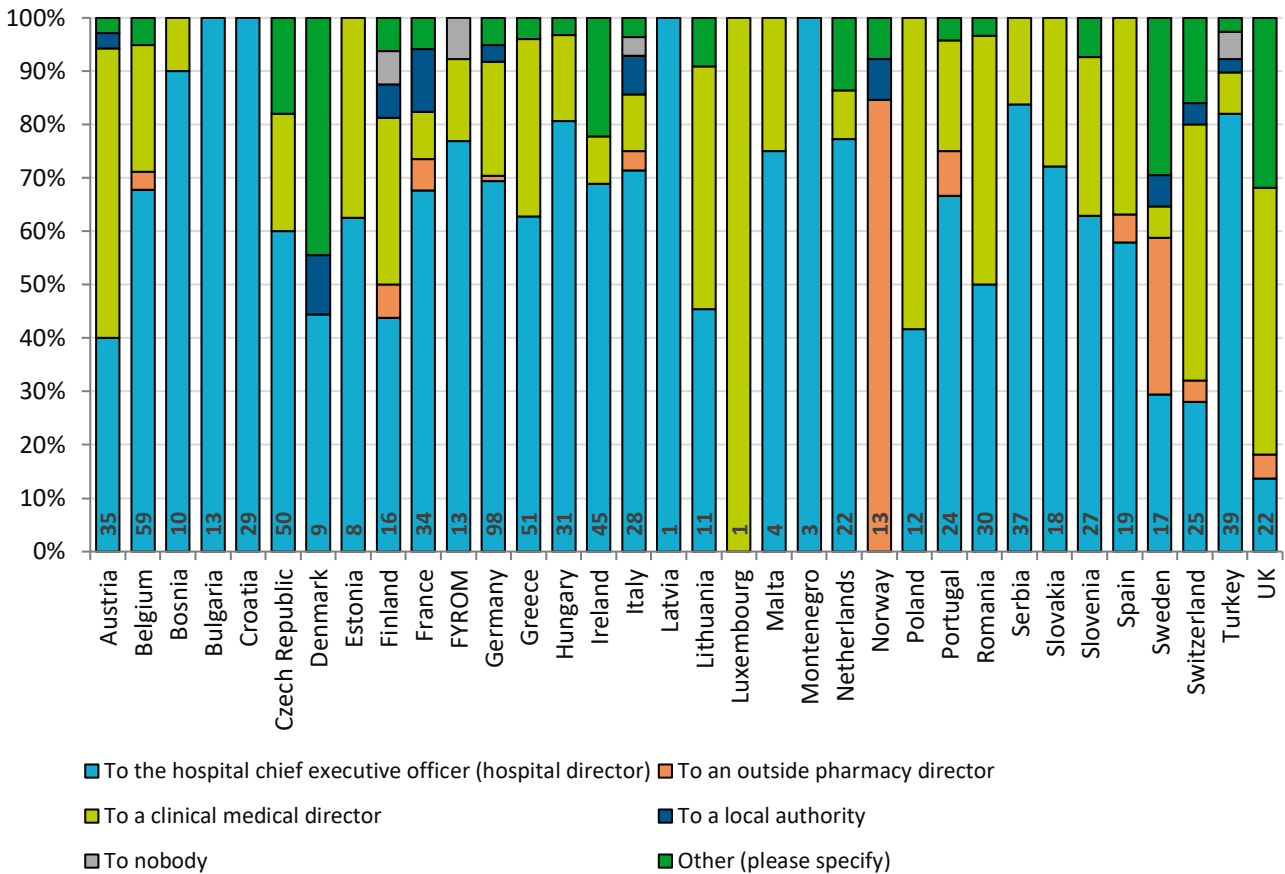
G8 Is your pharmacy involved with the procurement, supply or supervision of medical devices?

■ Yes ■ No

Keele University
Centre for Medicines Optimisation

eahp
european association
of hospital pharmacists
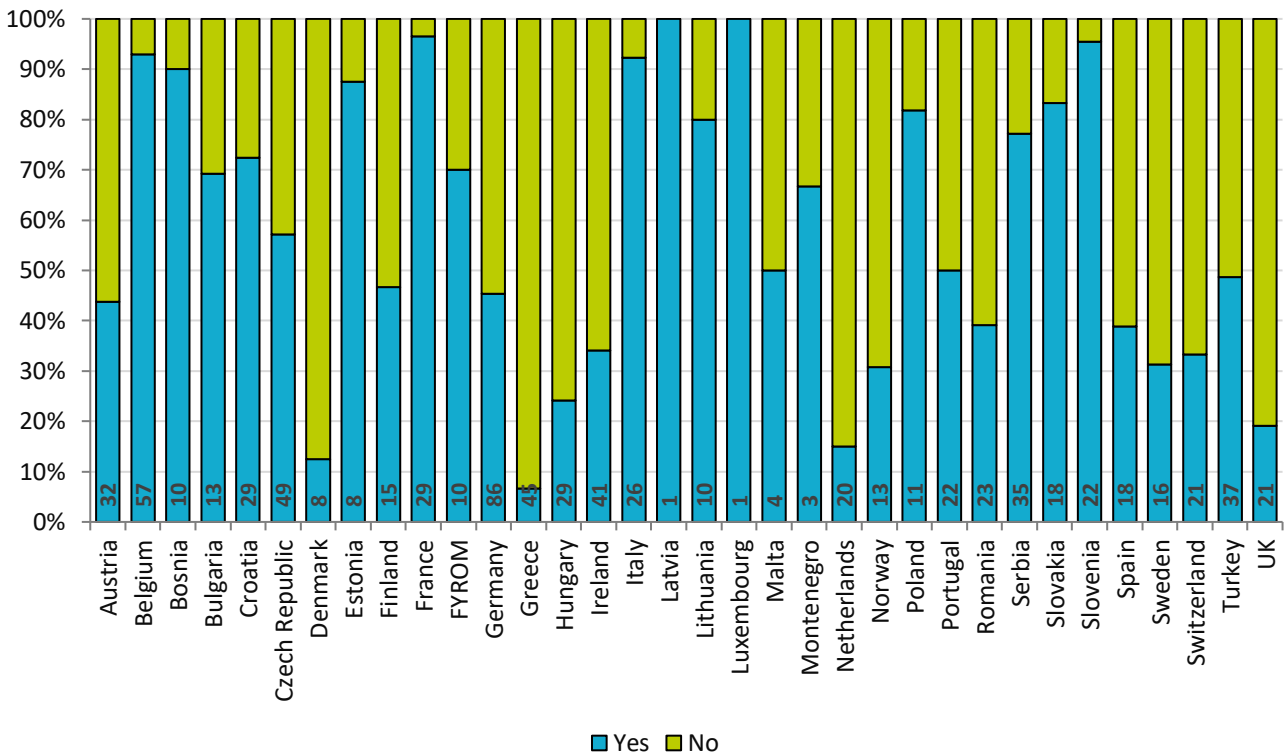
Section B

B1: Results of the EAHP Statement Questions: All of Europe's results combined

Figure 1 shows the results of the questions relating to each of the statements in sections 2, 5 and 6, for all of the surveyed countries. As the focus of the survey was to identify barriers and drivers to implementation, the data have been presented as showing the percentage of respondents who indicated they did not have difficulty complying with the particular statement in question ('positive responses'). Therefore, **a higher bar means** responders are saying **they are not having difficulty complying**. A more in depth look may be required to address any issues in the implementation of the statements with a lower bar.
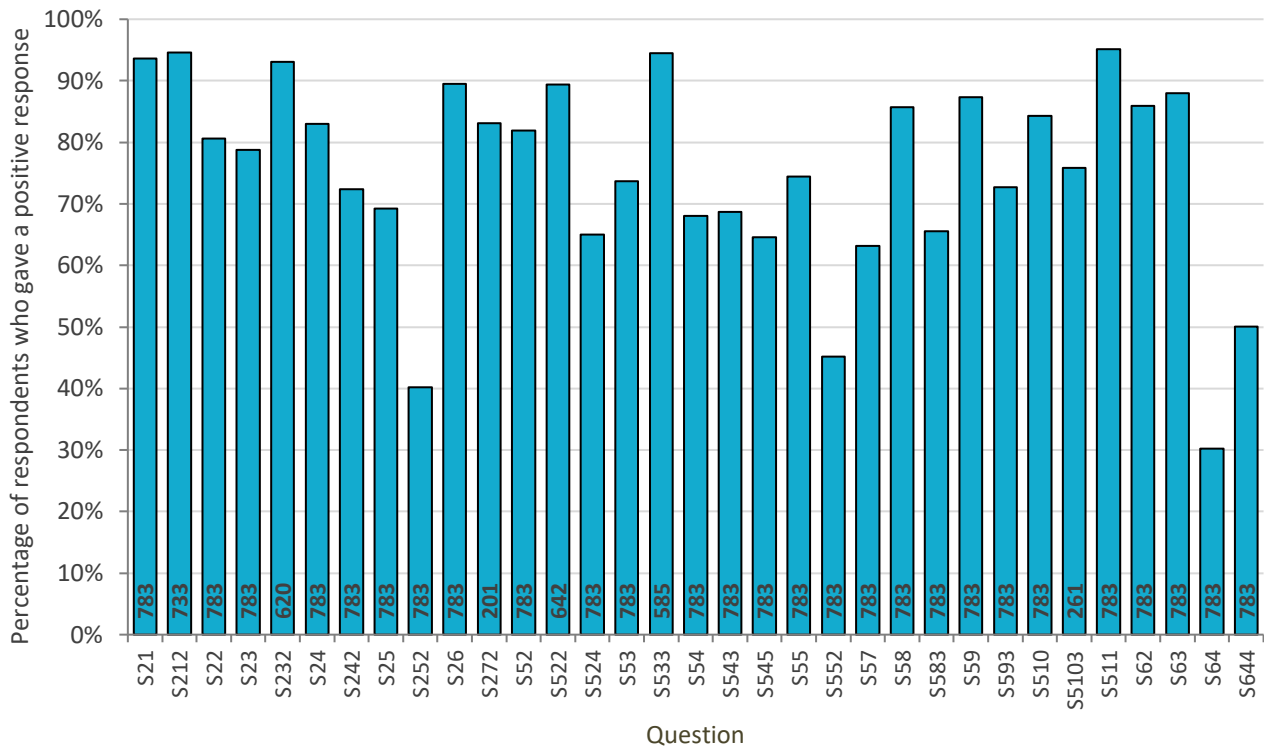
Figure 1 Mean percentage of positive responses from countries in the 2017 EAHP Statements survey. Numbers at the base of the bars represent how many responses the question had. (Differences are due to question logic)

Responses across all three of the sections surveyed were mostly positive, 18 of the 33 questions returned a positive response percentage of 75% or greater. Each section contained questions that were answered very positively and questions that not answered positively. For example in section 2 (Selection, Procurement and Distribution) answers for question S2.1.2 were 95% positive but for question S2.5.2 answers were only 40% positive.

The five questions which received the least positive responses were identified, and subjected to a more in-depth analysis on the subsequent pages. This includes a breakdown of the results by country, as well as an analysis of the free text responses and any associated questions. The percentage of respondents giving a positive response was calculated for each question, broken down by country. The mean value across all countries was calculated for each question, and then ranked in ascending order to determine the questions receiving the least positive response. This method was done to ensure the views of each country were considered equally, regardless of how many responses were received. The five questions are:

	Question	Mean* (2017)	Mean* (2015)	Mean* (Baseline)
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice research	30.3%	32.7%	44.2%
S5.5.2	Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors	45.2%	44.3%	N/A
S6.4.4	Have you or your pharmacists engaged in development of local/national guidelines?	50.1%	55.7%	N/A
S2.5.2	Have you had reason to contact the medicines authority in your country because of medicines shortages?	59.8%^	57.8%^	N/A
S5.7	The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated	63.2%	66.7%	67.9%

Mean: The mean percentage of positive responses to a question across all respondent countries.

^ *Respondents did have a reason to contact the medicines authority.*

The individual question with the least positive response was S6.4, which was 'Hospital pharmacists should actively engage in and publish research, particularly on hospital pharmacy practice. Research methods should be part of undergraduate and postgraduate training programmes for hospital pharmacists'. This question received a very poor response (only 30% of responses were positive), which was also observed in previous year's surveys. Question S5.5.2 'Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors' also received a poor response with 45% of responses being positive, although this was a slight improvement on the 2015 survey.

Figure 2 shows the results of the 2017 EAHP Statements survey alongside the results of the 2015 survey. The numbers in brackets on the bottom axis are the number of responses by country for the 2017 survey. It can be seen that generally for each question the mean number of positive responses from countries remains similar but in most cases the percentage has decreased slightly. Out of the 33 questions surveyed, 20 showed a decrease in positive responses, 9 showed an increase, and 4 remained the same. This indicates that the barriers to implementing the statements that countries were reporting in 2015 are still in place.
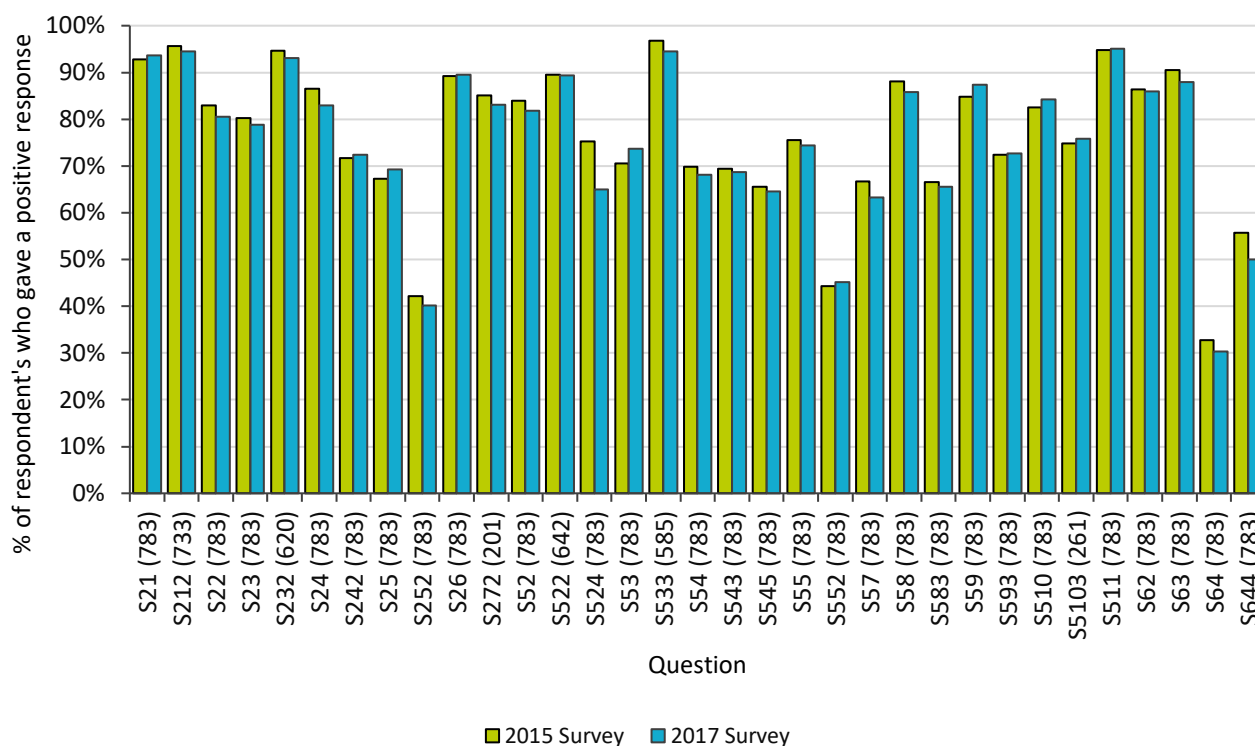
Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Figure 2 Comparative data: Overall percentage of positive responses from the 2017 EAHP Statements survey and 2015 survey.

The results of the 2017 EAHP Statements were also compared to both the 2015 survey and the baseline survey, so change in responses can be tracked over time. Since this is a lot of information to display on a single graph, the results have been split to show the results of questions from Sections 2, 5 and 6 separately (**Figure 3**, **Figure 4** and **Figure 5** respectively). Note that several new questions were introduced in the 2015 survey, and hence no baseline data exists for them. The numbers in brackets on the bottom axis are the total number of responses for the 2017 survey.

All eight of the Section 2 questions asked in both the baseline and 2017 surveys show a decrease in the number of positive responses. Results are slightly more encouraging for the questions from Section 5, which had number of positive responses increasing for 4 questions, and decreasing for 7 questions when compared to the baseline survey. All three of the questions from Section 6 saw a decrease in the percentage of positive responses when compared to the baseline.

A major theme that emerged from previous surveys was the biggest barrier to implementing the statements was a lack of capacity to implement the statements. A possible broad explanation for the decrease in positive responses could be that the overall capacity of hospital pharmacists has been further stretched since the baseline survey. Another possible explanation for this increase in negative responses could be that some respondents may now be familiar enough with the EAHP Statements surveys to know that if they give a negative response to a question they are then offered the opportunity to provide further feedback on an issue, which they wish to do.
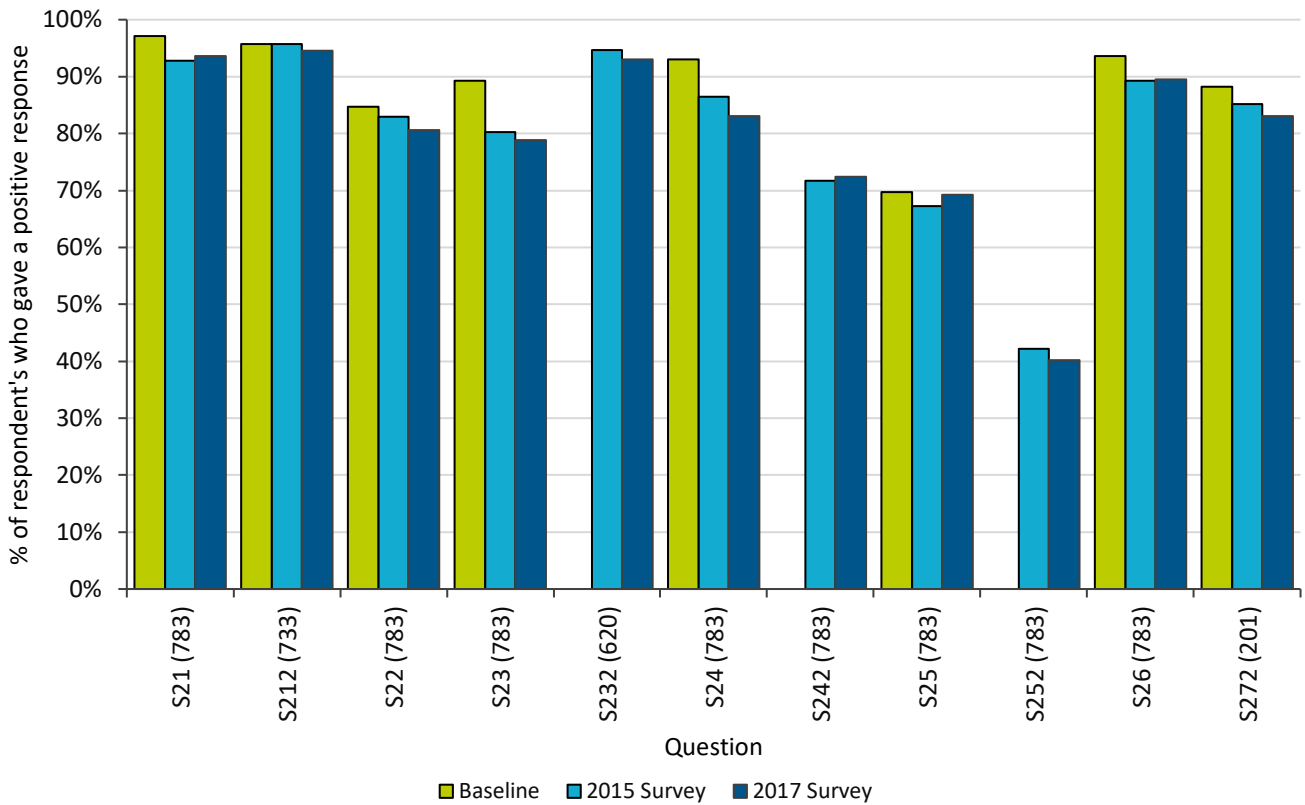
Figure 3 Comparative data: Mean percentage of positive responses from countries in the 2017 EAHP Statements survey, 2015 survey and baseline survey for questions from Section 2: Selection, procurement and distribution.
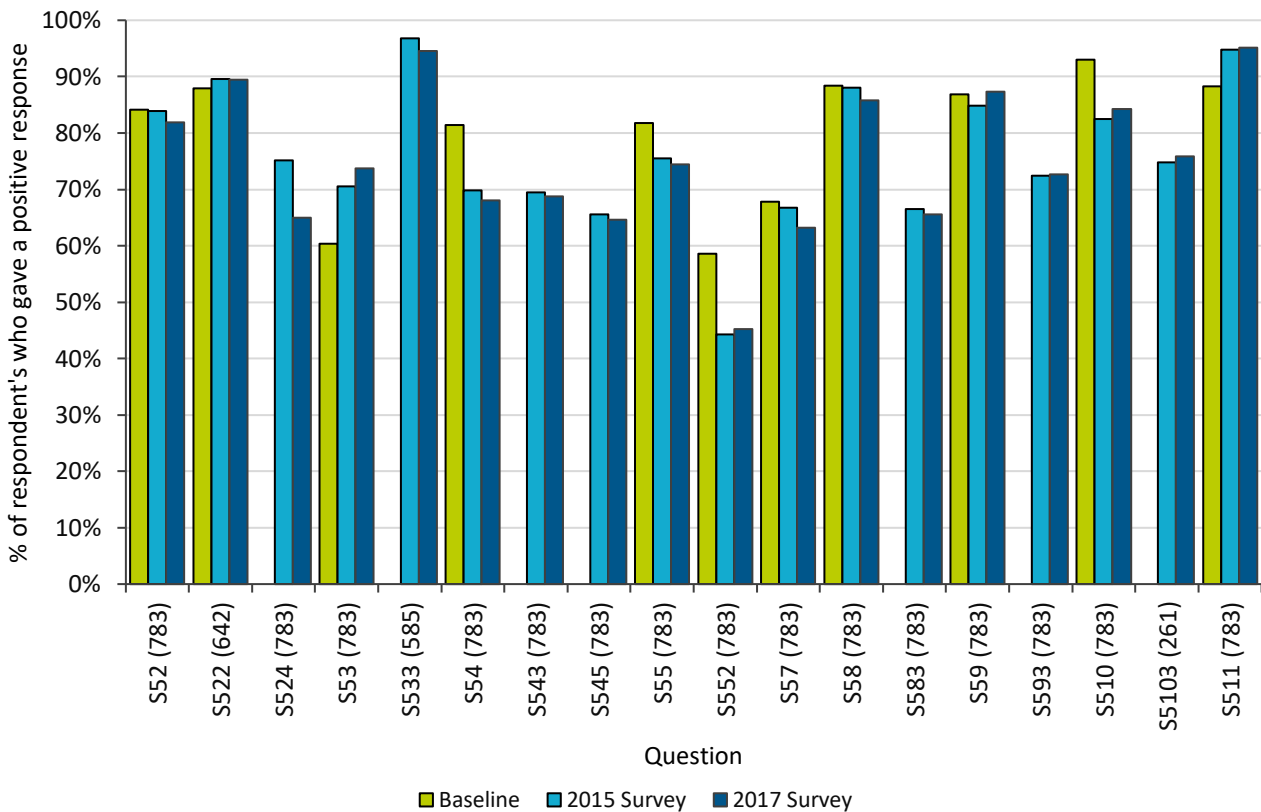

Figure 4 Comparative data: Mean percentage of positive responses from countries in the 2017 EAHP Statements survey, 2015 survey and baseline survey for questions from Section 5: Patient safety and quality assurance.
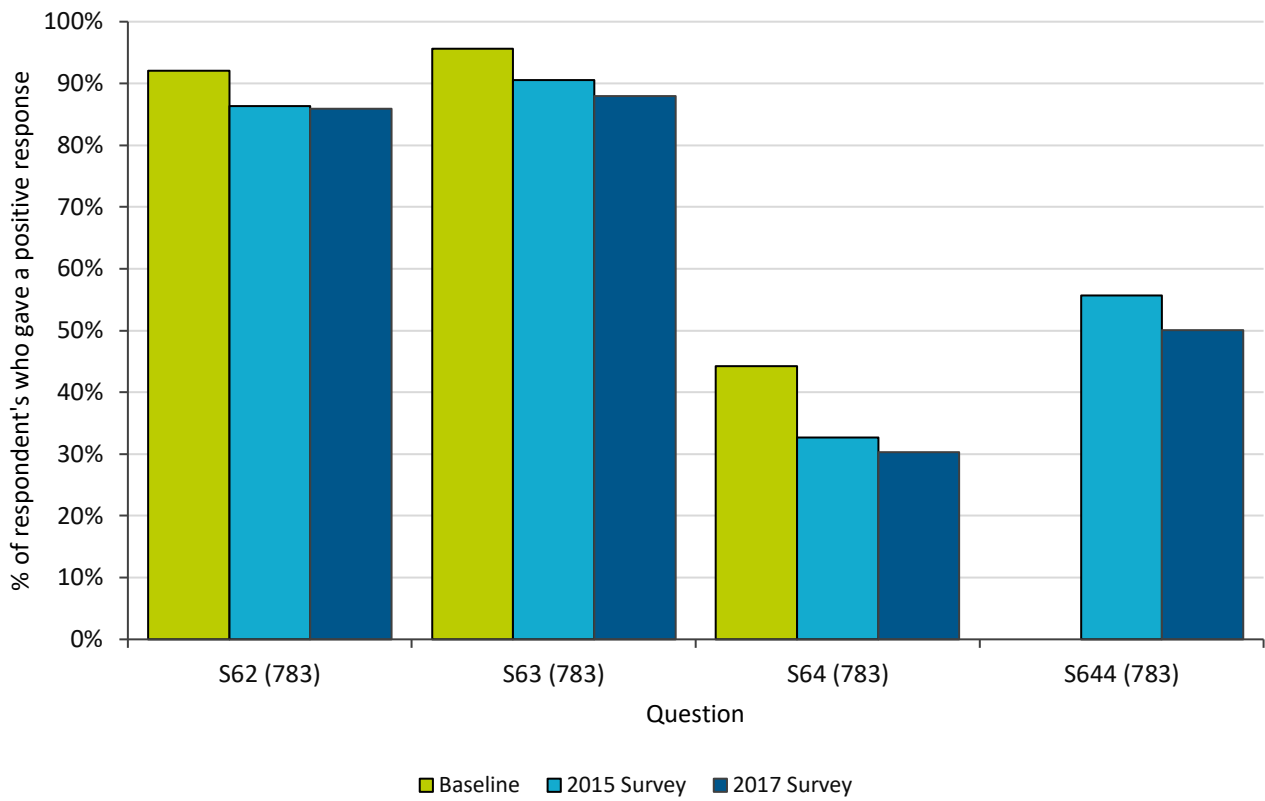
Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Figure 5 Comparative data: Mean percentage of positive responses from countries in the 2017 EAHP Statements survey, 2015 survey and baseline survey for questions from Section 6: Education and research.

B2: Questions asked in the survey

The table below shows **all** of the questions asked in the survey regarding the 21 European Statements of Hospital Pharmacy from Sections 2, 5 and 6, and where applicable, the overall percentage of participants who gave a 'positive response' to the question. Whenever a participant gave a negative response to a question, there was usually a follow up question of 'What is preventing this?'

Questions where less than 50% of participants gave a positive response have been highlighted as red, and questions where more than 75% of participants gave a positive response have been highlighted as green.

EAHP Survey Questions	
Section 2: Selection, Procurement and Distribution	
S21 Our hospital has clear processes in place around the procurement of medicines	**94% of responses were positive**
S212 Were hospital pharmacists involved in the development of procurement processes?	**95% of responses were positive**
S22 The pharmacists in our hospital take the lead in developing, monitoring, reviewing and improving medicine use processes and the use of medicine related technologies	**81% of responses were positive**
S23 Do you have a formulary in place in your hospital?	**79% of responses were positive**
S232 The pharmacists in our hospital coordinate the development, maintenance and use of our formulary	**93% of responses were positive**
S24 Procurement of non-formulary medicines in our hospital is done to a robust process	**83% of responses were positive**
S242 Has a written complaint ever been made to your hospital about a patient missing a dose of a critical medicine?	72% of responses were positive
S25 The pharmacy in our hospital has contingency plans for medicines shortages	69% of responses were positive
S252 Have you had reason to contact the medicines authority in your country because of medicines shortages?	**40% of responses were positive**
S26 The pharmacy in our hospital takes responsibility for all medicines logistics, including for investigational medicines	**90% of responses were positive**
S272 Were pharmacists involved in producing this policy? (Hospital pharmacists should be involved in the development of policies regarding the use of medicines brought into the hospital by patients.)	**83% of responses were positive**

Section 5: Patient Safety and Quality Assurance	
S52 Our hospital has appropriate strategies to detect errors and identify priorities for improvement in medicines use processes	**82% of responses were positive**
S522 Were pharmacists involved in approving these procedures?	**89% of responses were positive**
S524 In the past three years have you undertaken an audit to identify priorities for improvement in medicines use processes?	65% of responses were positive
S53 Does your hospital have a quality assessment programme?	74% of responses were positive
S533 Our hospital acts on these reports to improve the quality and safety of our medicines use processes	**95% of responses were positive**
S54 The pharmacists in our hospital report adverse drug reactions	68% of responses were positive
S543 Our hospital has a process for reporting adverse drug reactions and the staff report these regularly	69% of responses were positive
S545 The pharmacists in our hospital report medication errors	65% of responses were positive
S55 The pharmacists in our hospital use evidence-based approaches to reduce the risk of medication errors	74% of responses were positive
S552 Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors	**45% of responses were positive**
S57 The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated	63% of responses were positive
S58 Our patient's health records accurately record all allergy and other relevant medicine-related information	**86% of responses were positive**
S583 Have there have been incidents resulting in patient harm that may have been prevented if the pharmacist had been able to access the patient records/medication charts?	66% of responses were positive
S59 The pharmacists in our hospital ensure that the information needed for safe medicines use is accessible at the point of care	**87% of responses were positive**
S593 Have there have been incidents resulting in patient harm that may have been prevented if the information provided at the point of care had been improved?	73% of responses were positive

S510 Medicines in our hospital are packaged and labelled to assure they are safely optimised for administration	**84% of responses were positive**
S5103 Hospital pharmacists are involved in processes of secure stocking and dispensing of drugs on wards, including a policy for LASA (look-alike, sound-alike) drugs and regular inspections	**76% of responses were positive**
S511 Which best describes the traceability of medicines dispensed by our pharmacy?	**95% of responses were positive**
Section 6: Education and Research	
S62 The pharmacists in our hospital are able to demonstrate their competency in performing their roles	**86% of responses were positive**
S63 The pharmacists in our hospital engage in relevant educational opportunities	**88% of responses were positive**
S64 The pharmacists in our hospital routinely publish hospital pharmacy practice research	**30% of responses were positive**
S644 Have you or your pharmacists engaged in development of local/national guidelines?	**50% of responses were positive**

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

B3: Focus on those statements where the barriers to implementation were greatest

1. **EAHP Statement 6.4**

EAHP 6.4: Hospital pharmacists should actively engage in and publish research, particularly on hospital pharmacy practice. Research methods should be part of undergraduate and postgraduate training programmes for hospital pharmacists.

Figure 6Figure 6 shows the percentage of respondents who gave a positive response when asked if pharmacists routinely publish hospital pharmacy practice research. Overall, only 30% of responses were positive to this question. In every country surveyed less than half of the respondents gave a positive response, except for FYROM, Italy, Spain, Netherlands and Latvia (which only had a single response). When looking at the responses from individual countries who participated in both surveys the results show more promise, as the percentage of positive responses increased in 16 countries, decreased in 14 countries and stayed the same in 2 countries.
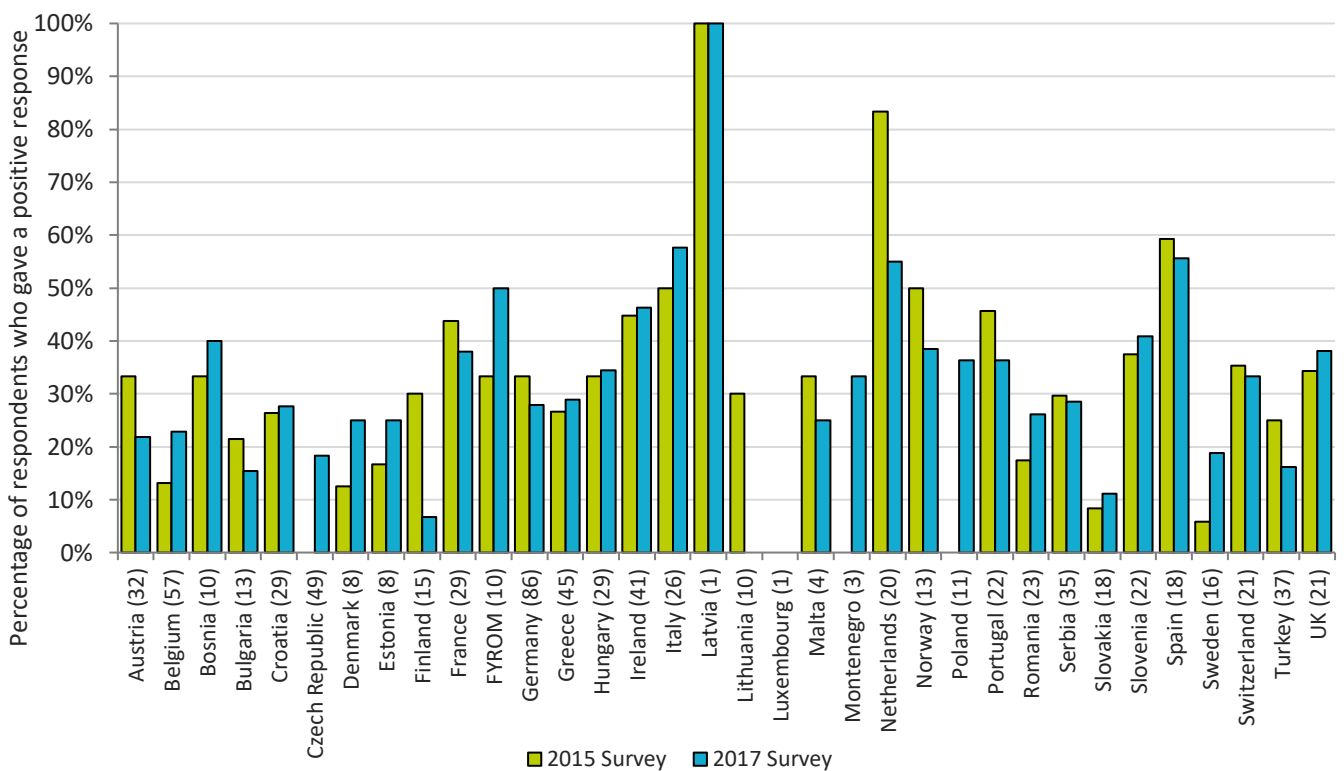
Figure 6 Percentage of respondents who gave a positive response to the statement "The pharmacists in our hospital routinely publish hospital pharmacy practice research."

A paired samples t-test indicated that the mean percentage of positive responses for countries significantly decreased between the baseline survey ($M = 0.433$, $SD = 0.198$) and the 2017 survey ($M = 0.316$, $SD = 0.135$), $t(27)$ = 4.154, $p < 0.01$, $d = 0.785$.

Following on from the initial question, respondents were also asked 'How many external presentations/papers/posters were submitted last year by your pharmacy?' and 'How often are internal presentations given by your pharmacy?'. The results are shown in Figure 7 and Figure 8 respectively in the form of stacked bar charts showing the differences between individual countries.
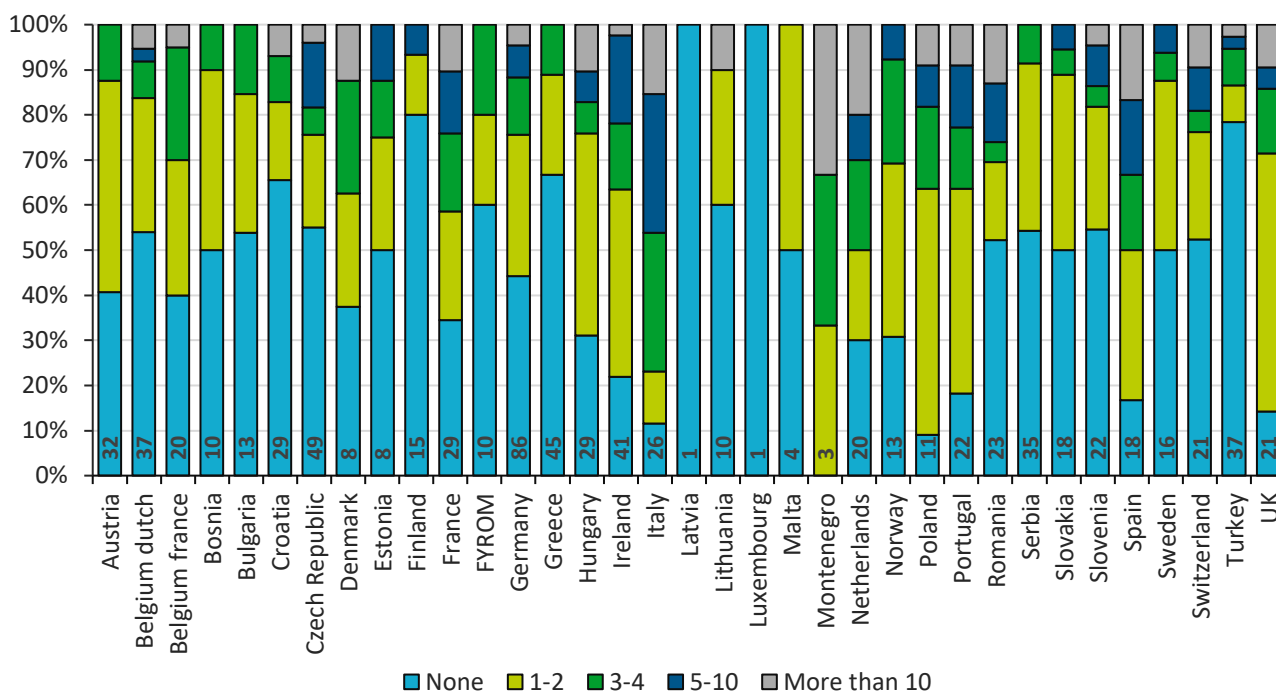
Figure 7 Results from the question S6.4.1 'How many external presentations/papers/posters were submitted last year by your pharmacy?'

The most frequent responses to question S6.4.1 was 'none' (354 responses across all countries) and '1 to 2' (233 responses across all countries). These two categories of response account for 75% of total responses to the question. The proportion of responses indicating 3 or more publications is generally low although there is variance across different countries, for instance results from Italy showed 20 out of 26 respondents answered 3 or more publications.
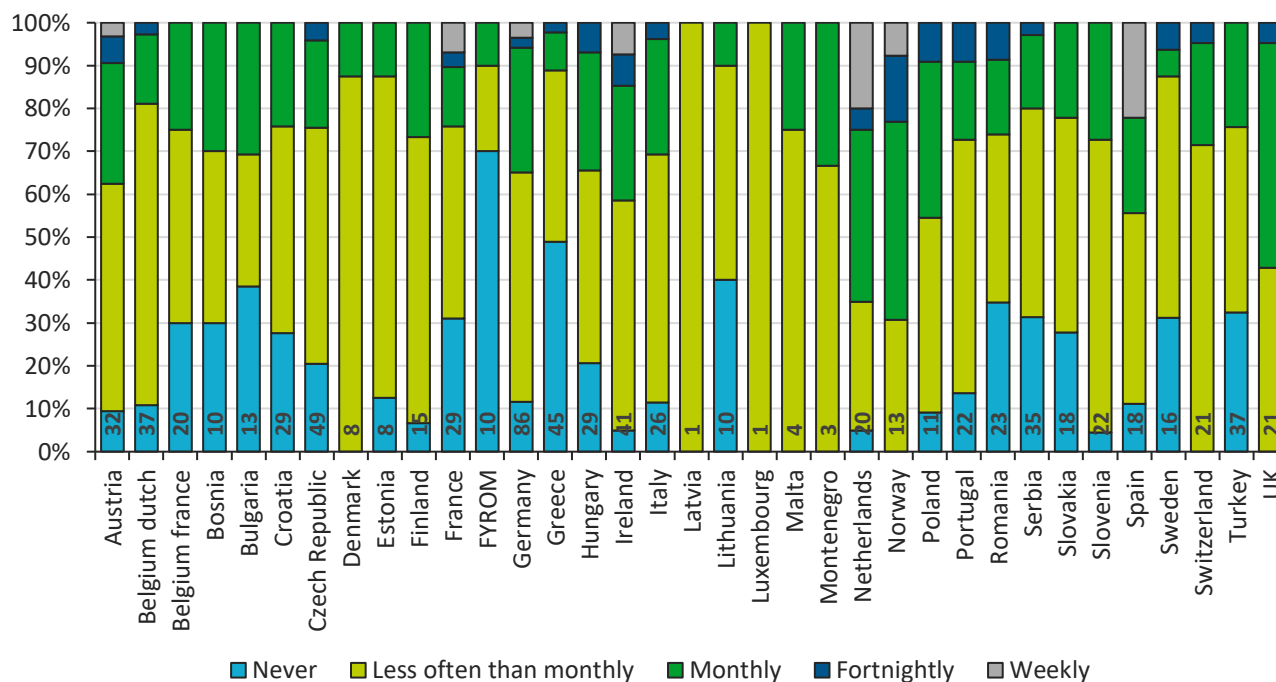
Figure 8 Results from the question S6.4.2 'How often are internal presentations given by your pharmacy?'

The most common response for S6.4.2 (how often are internal presentation given by your pharmacy?) was 'less often than monthly' (400 responses across all countries). This was significantly higher than the next most popular response 'monthly' (185 responses across all countries). 153 responses indicated that their pharmacy never gives internal presentations with just 18 responses stating that they do this weekly. Countries who indicate that they are involved in internal presentations more frequently (e.g. Netherlands or Spain as seen in **Figure 8**) also show in Figure 6 they are experiencing fewer barriers to publishing research.

To further understand this, respondents were asked what the barriers to publishing more were, the overall results of which are shown in **Figure 9**. The most frequent overall response was lack of capacity, with 570 responses in total, suggesting many pharmacists do not have time to perform this activity. Another major barrier identified was lack of capability with 247 responses. Not being considered to be a priority by managers was also raised as a barrier with 186 responses. The most common freetext responses in the 'other 'category were lack of time/capacity (9 responses) and lack of experience/no previous research culture (5 responses).

The barriers identified in the 2017 survey, and the proportion of responses they account for, are very similar to the results from the 2015 survey. For example, lack of capacity represented 48% of the responses in the 2017 survey compared to 51% of the total responses in the 2015 survey. Lack of capability represented 21% of the responses in 2017 compared to 19% of the total responses in the 2015 survey, and not being considered a priority by managers represented 16% of the responses in both the 2015 and 2017 surveys.
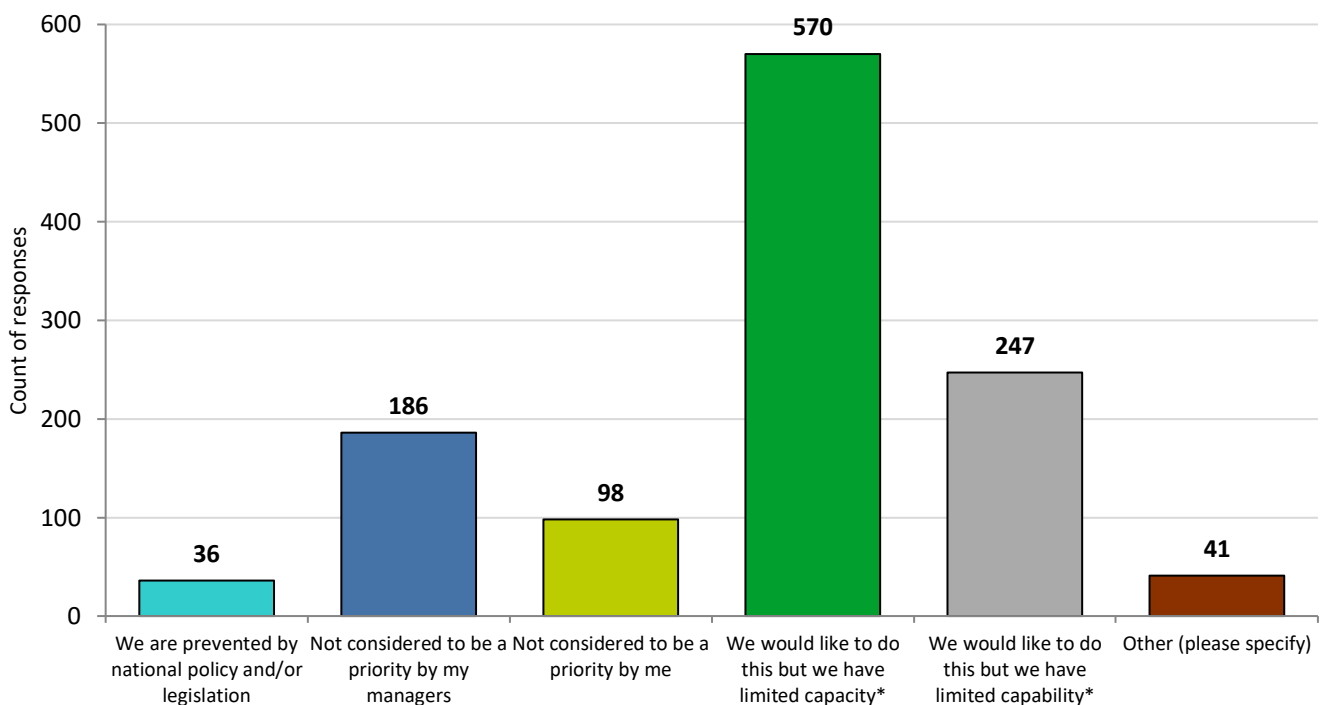

Figure 9 Overall results of the question "What are the barriers to being able to publish more often?"

Figure 10 shows the results of the question broken down by country. For most countries the main barrier is due to limited capacity, although there are a smaller number of countries that give another primary reason. For example Italy and Lithuania's most common response is 'we would like to do this but we have limited capability'. Figure 10 also shows that a number of countries find national policy or legislation a barrier to publishing research, 13 of the 34 countries taking part in the survey selected this option at least once.
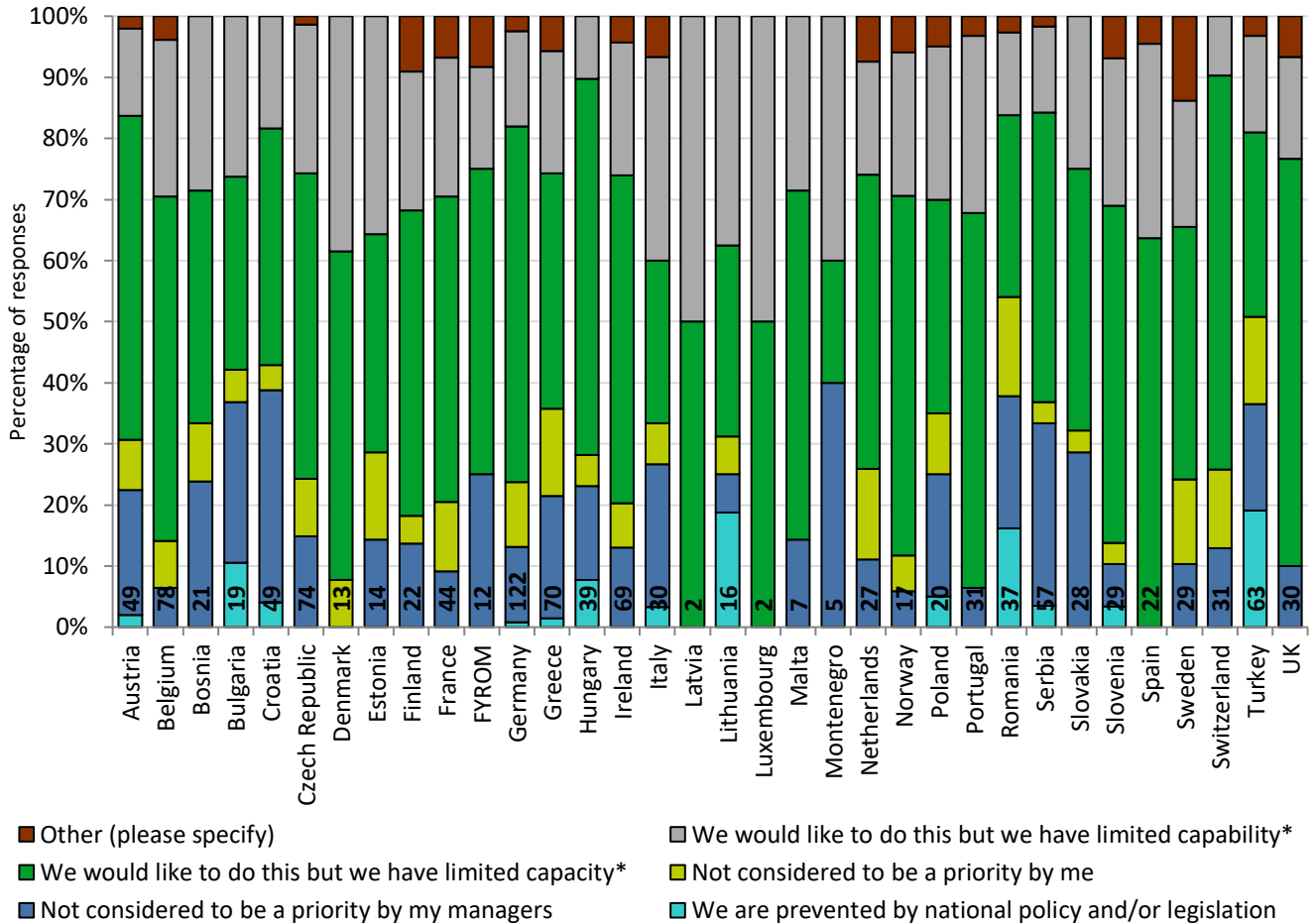
Figure 10 Overall results of the question "What are the barriers to being able to publish more often?" (Grouped by country)

As lack of capacity was cited as the biggest barrier to publishing by such a large amount, the relationship between pharmacist workforce and publishing ability was investigated further. The responses when asked if pharmacists routinely publish hospital pharmacy practice research are shown in Figure 11, where the results are grouped by the number of fully qualified pharmacists employed by the hospital. The proportion of more negative responses (1 or 2) is much higher for the lowest staffing level (1-10 pharmacists), although note that the total numbers of responses for the higher staffing levels are fairly small.

A Kruskal-Wallis H test showed that there was a statistically significant difference in responses to the amount of research published between the groupings of working pharmacist numbers, $\chi^2(3) = 96.6$, $p < 0.01$, with a mean rank of 350.0 for the '1 to 10 pharmacists' group, 528.3 for the '11 to 50 pharmacists' group, 498.1 for the '51 to 100 pharmacists' group and 557.5 for the 'More than 100 pharmacists' group.
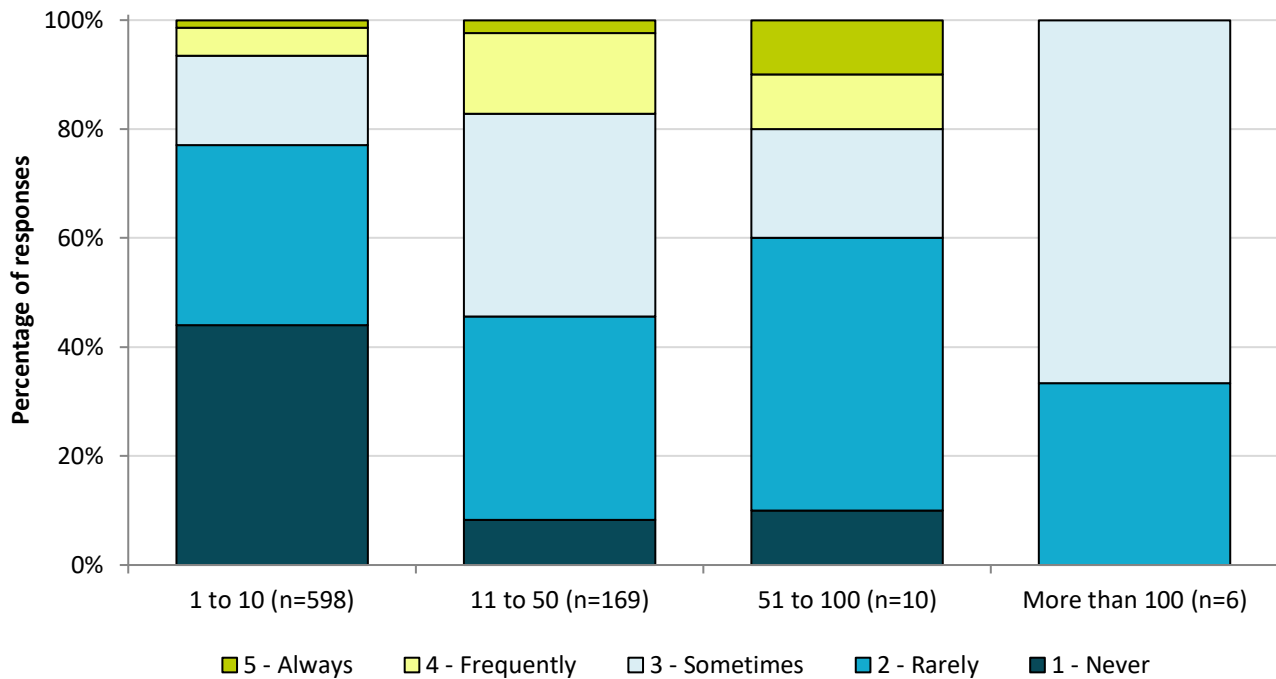
Figure 11 Overall results of responses to the statement "The pharmacists in our hospital routinely publish hospital pharmacy practice research." (Grouped by number of fully qualified pharmacists employed by the hospital)

An intuitive assumption may be that teaching or university hospitals would produce more research, as they may have more academic links or training available for writing papers and explaining the publishing process, and testing showed this assumption to be true. A Mann-Whitney test indicated that teaching/university hospitals reported more positive responses when asked if pharmacists in the hospital routinely publish their work than non-teaching hospitals (U = 49748, p < 0.01, r = 0.302), with a mean rank of 467.7 for teaching/university hospitals and 336.3 for non-teaching hospitals.

2. **EAHP Statement 5.5.2**

EAHP 5.5: Hospital pharmacists should help to decrease the risk of medication errors by disseminating evidence-based approaches to error reduction including computerised decision support. Survey statement 5.5.2 read "Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors".

The responses to the question 'Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors' are shown below in **Figure 12**. The mean response for countries was 45% positive, showing this statement is not currently implemented widely across European hospitals. This response is slightly higher than the result from the 2015 survey, which was 44%, indicating that progress on this issue is stagnant. The positive response rate between countries was variable, in 19 countries less than half of the respondents gave a positive response but 6 countries gave an average positive response of 75% or greater.
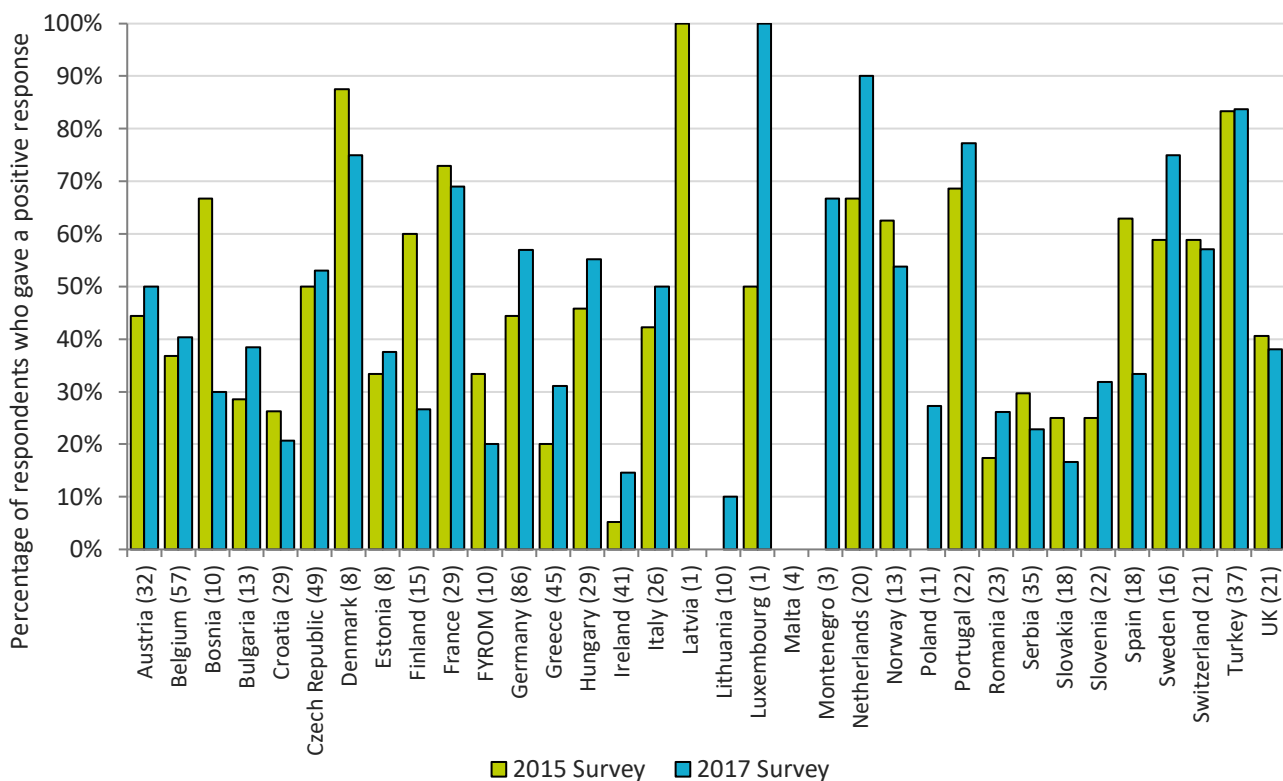
Figure 12 Percentage of respondents who gave a positive response to the statement "Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors".

The median percentage of positive responses for countries was 44% in 2015 and 38% in 2017, but a Wilcoxon signed-rank test showed that the change was not statistically significant (Z = -0.703, p = 0.482, r=-0.064).

When asked what is preventing the use of computerised decision support to reduce the risk of medication errors, the most frequent response was lack of capacity (223 responses), not considered to be a priority by my managers (168 responses) and lack of capability (126 responses), as seen in **Figure 13**. From the 'Other' category are several comments from different countries stating that they are in the process of setting up or developing a system but other respondents indicated IT infrastructure and lack of finance were problematic. A number of responses also indicated that documentation is paper based.
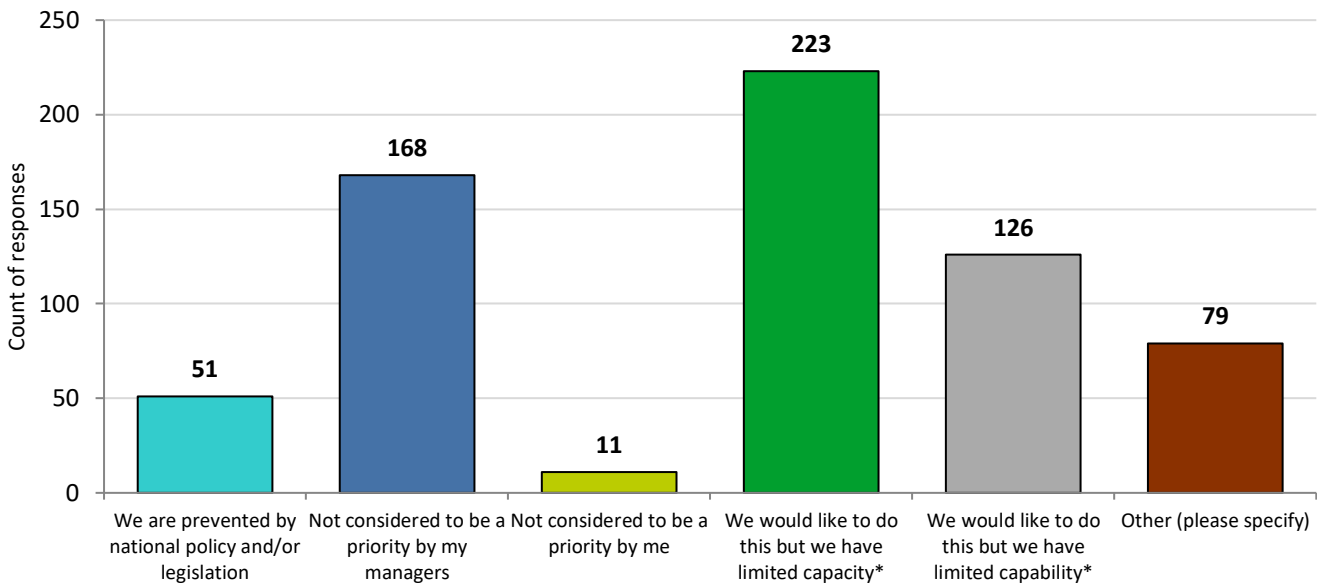
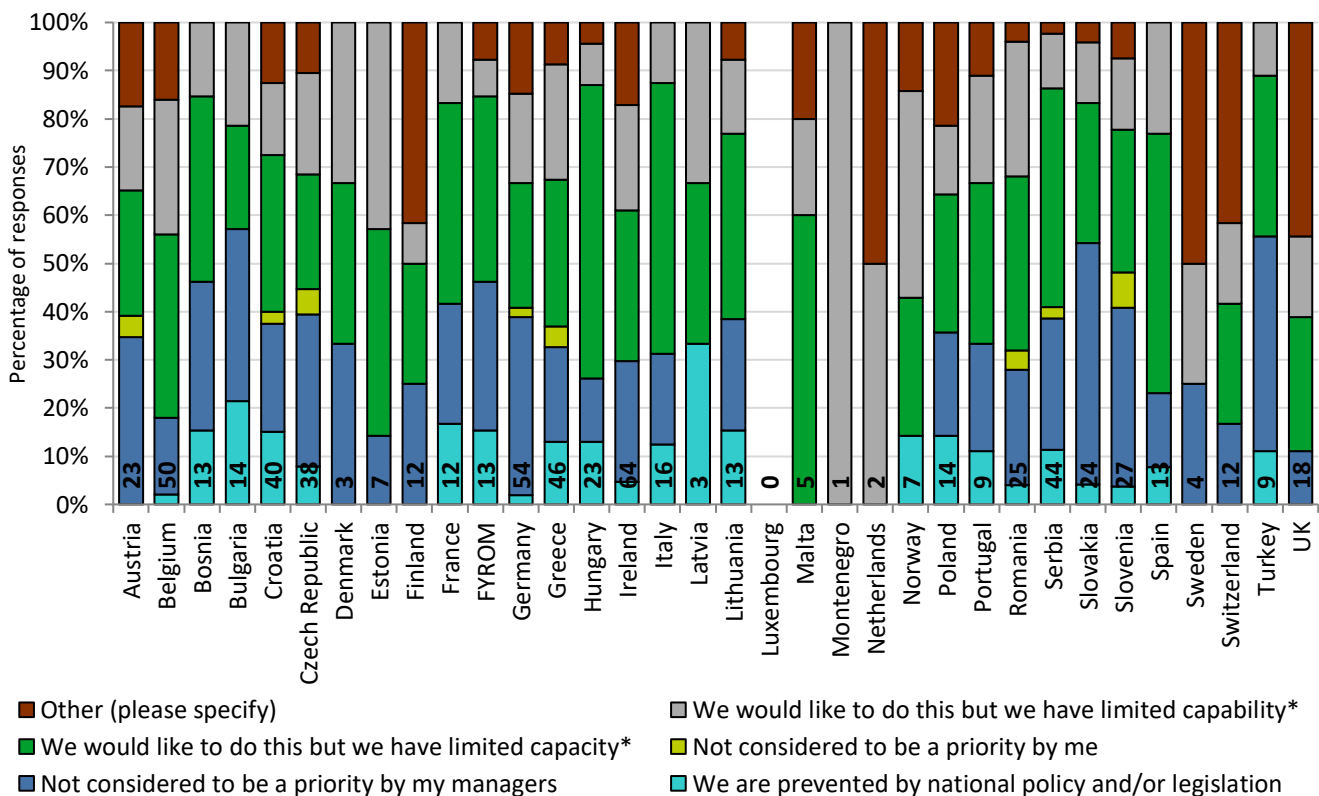**Figure 13** Overall results of the question 'What is preventing the hospital pharmacy from using computerised decision support to reduce the risk of medication errors'.

The results for the same question, grouped by country, are shown in **Figure 14**. From this it can be seen that 19 countries identified lack of capacity as the biggest barrier to implementation and 9 countries identified that this is not seen as a priority by my managers as the biggest barrier to implementation. Very few pharmacists responded with 'this is not considered to be a priority by me' (11 responses). Looking back at the reported barriers to publishing more research discussed previously (**Figure 9**), there were considerably more responses to that option (98 responses).

Figure 14 Results of the question "What is preventing the hospital pharmacy from using computerised decision support to reduce the risk of medication errors" (Grouped by country).

Figure 15 shows the overall results for this statement question grouped by the number of fully qualified pharmacists working at the hospital. As with the previous statement, the amount of positive responses was much lower for the lowest grouping of working pharmacists (40.6% for the 1-10 pharmacists group) compared to the groups with more working pharmacists (ranging from 50.0% - 66.7%). Unlike the case of publishing research where the interpretation was that smaller number of pharmacists may not find the time to publish as much research compared to hospitals employing more pharmacists, as seen in **Figure 11**, in this case a better interpretation would be that smaller hospitals which employ fewer pharmacists are less likely to have the capacity to implement computerised decision support.

A chi-square test of independence was performed to examine the relation between number of pharmacists employed in a hospital and the number of pharmacists using computerised decision support to reduce the risk of medication errors. The relation between these variables was significant, $\chi^2(3) = 21.9$, $p < 0.01$. Hospitals employing fewer pharmacists were less likely to use computerised decision support in their roles.
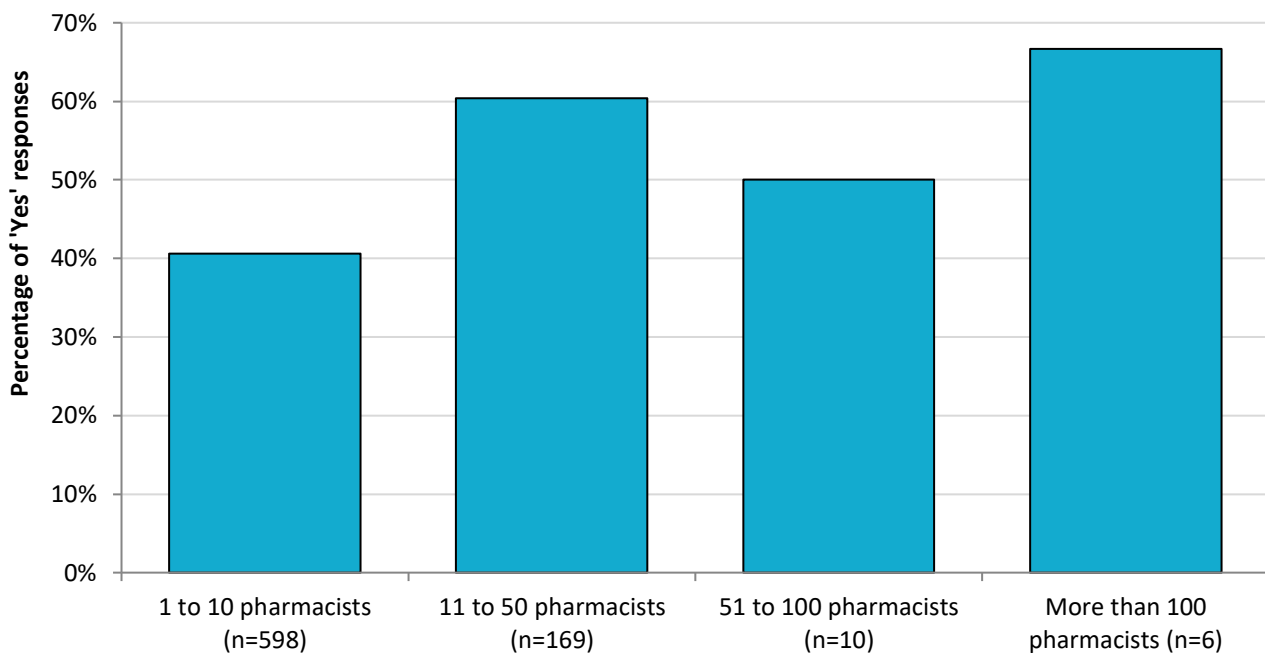

Figure 15 Overall results of responses to the statement "Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors" (Grouped by number of fully qualified pharmacists employed by the hospital)

3. EAHP Statement 6.4.4

EAHP Statement 6.4: Hospital pharmacists should actively engage in and publish research, particularly on hospital pharmacy practice. Research methods should be part of undergraduate and postgraduate training programmes for hospital pharmacists. Survey statement 6.4.4 read "Have you or your pharmacists engaged in development of local/national guidelines?".

Figure 16 Figure 16 shows the percentage of respondents who gave a positive response when asked "Have you or your pharmacists engaged in development of local/national guidelines". The overall positive response rate for this question was 50%, down from 58% from the 2015 survey. This particular question was not included in the original baseline survey. Responses between countries are highly varied for this question. Of the countries who participated in both 2015 and 2017 surveys, 20 saw a decrease in the percentage of positive responses, whilst 10 saw an increase and 2 remained the same.

A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the 2015 survey ($M = 0.560$, $SD = 0.216$) compared to the 2017 survey ($M = 0.548$, $SD = 0.210$), $t(27) = 0.419$, $p = 0.679$, $d = 0.0792$.
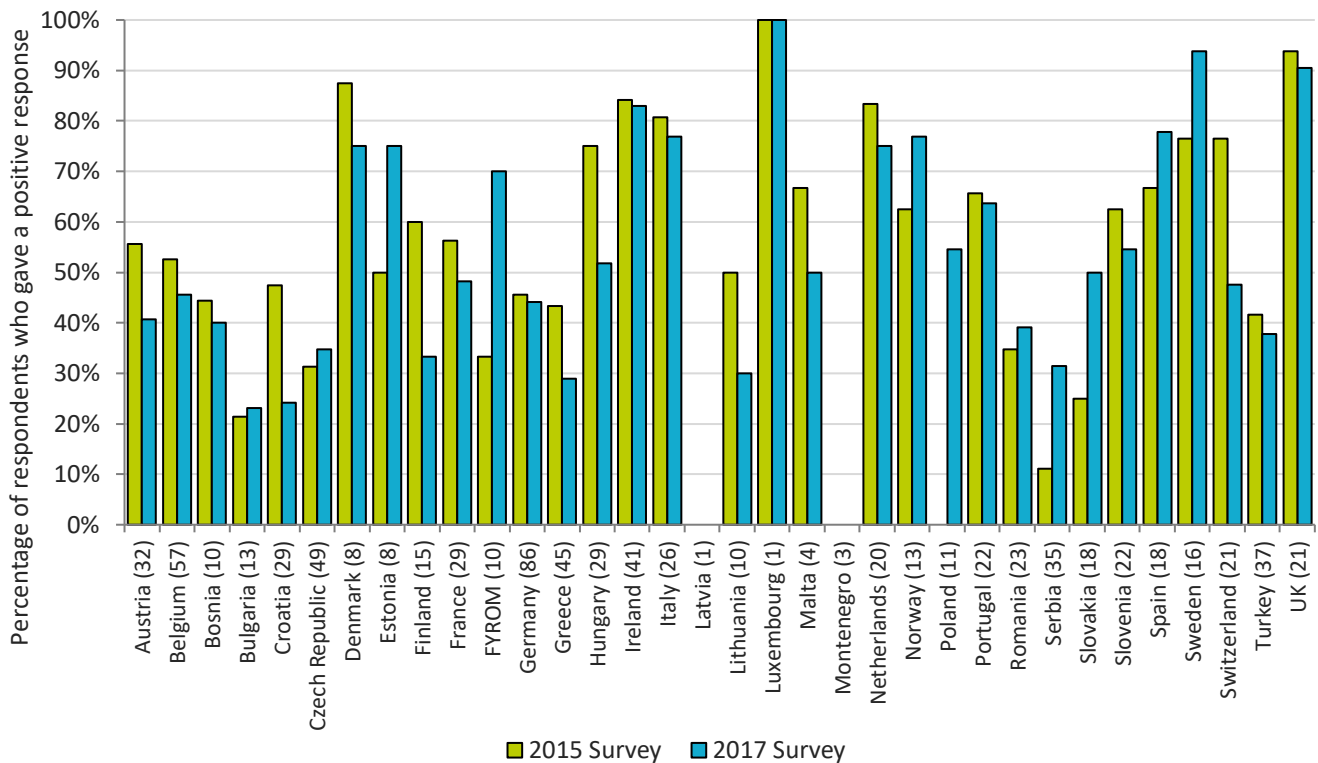

Figure 16 Percentage of respondents who gave a positive response to the statement "Have you or your pharmacists engaged in development of local/national guidelines?"

With more than twice as many responses as the next option, the main barrier to implementing this statement was identified to be 'limited capacity' (236 responses), followed by 'limited capability' (117 responses) and 'Not considered a priority by my manager (108 responses), as seen in **Figure 17**. There were 16 freetext responses from the 'Other' category which describe how pharmacists are not consulted in the process or have no opportunity to be engaged in the plans. **Figure 18** shows the results of the question grouped by country. The only countries that did not identify the biggest barrier as being limited capacity were Bulgaria, Estonia and Spain.
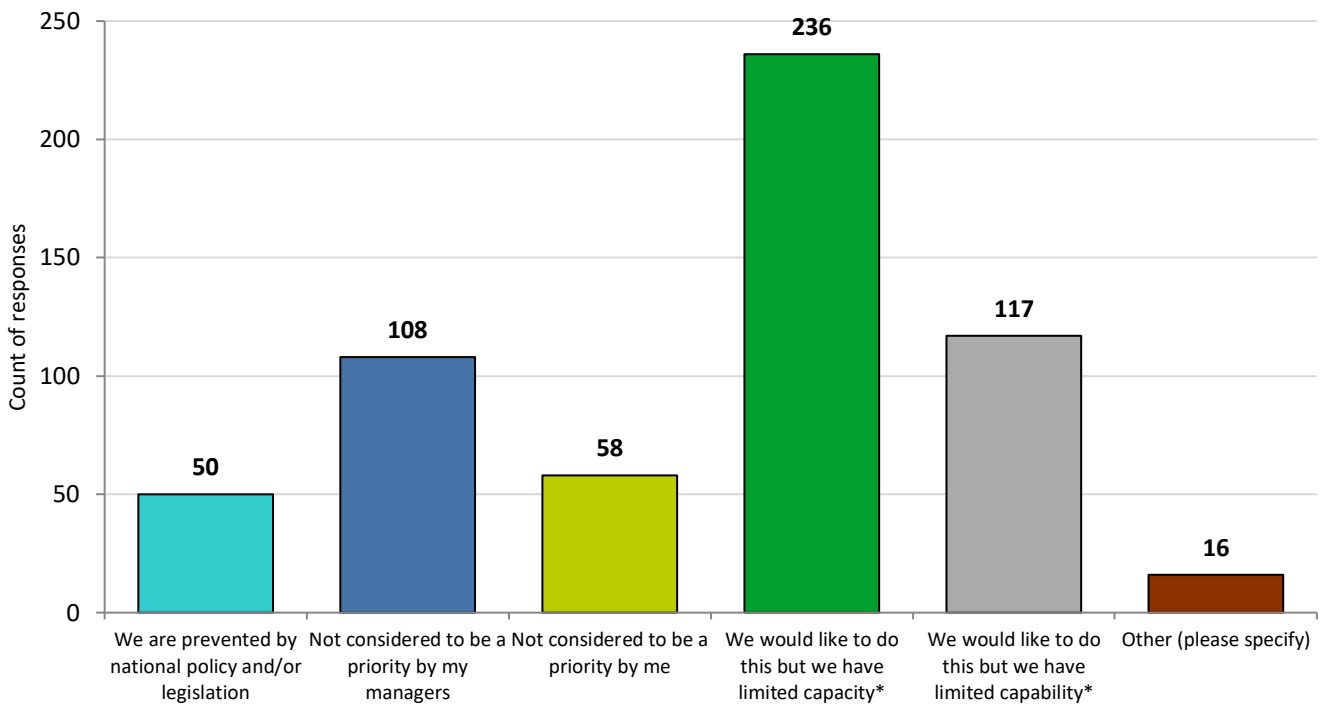
Figure 17 Overall results of the question "What is preventing you or your pharmacists engaging in development of local/national guidelines?"
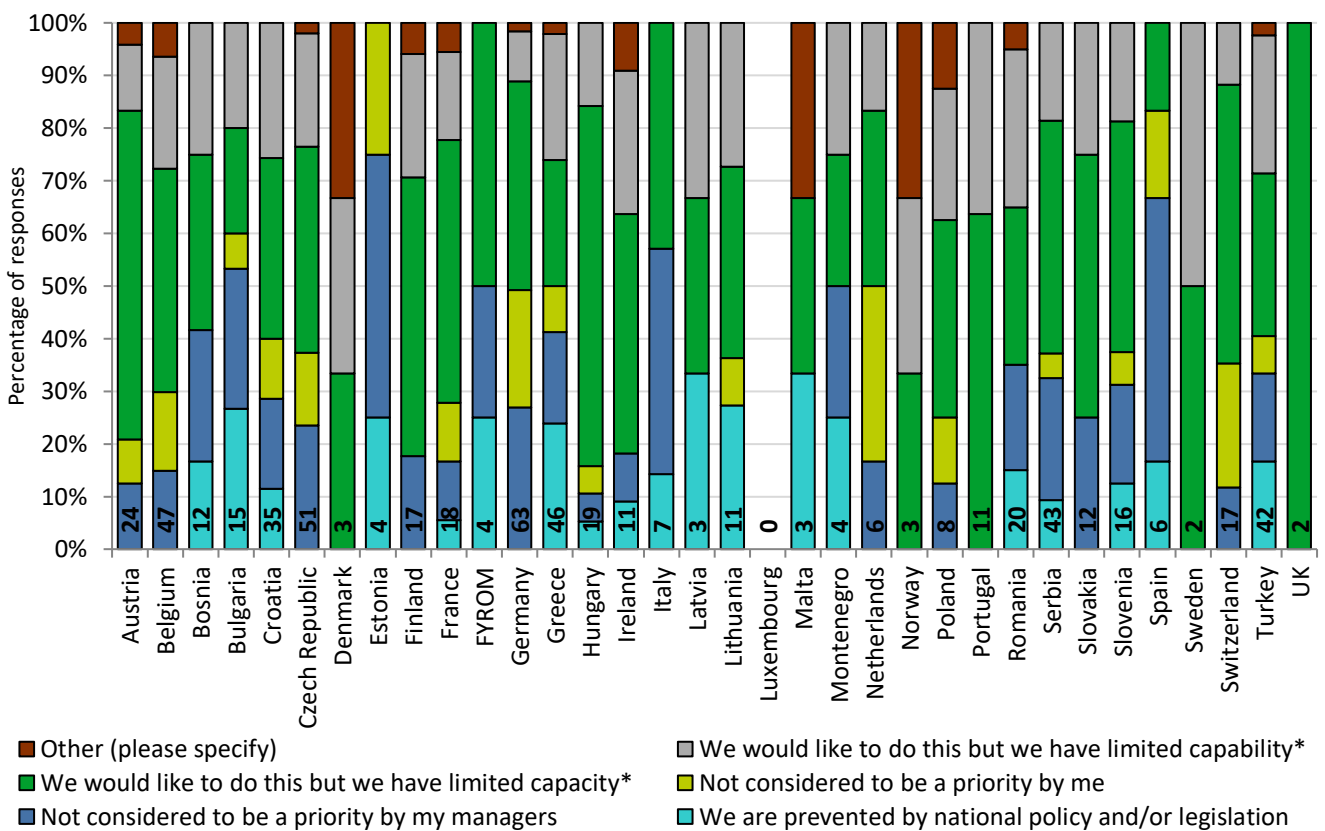

Figure 18 Results of the question "What is preventing you or your pharmacists engaging in development of local/national guidelines?" (Grouped by country).

The percentage of pharmacists responding that they are engaged in the development of local/national guidelines grouped by the number of fully qualified pharmacists working at the hospital is shown in **Figure 19**. Again it is seen that the amount of positive responses was much lower for the lowest grouping of working pharmacists (41.8% for the 1-10 pharmacists group) compared to the groups with more working pharmacists (ranging from 66.7% - 90.0%). An explanation could be that pharmacists working in hospitals employing fewer pharmacists do not have time to spare for additional responsibilities such as this. In previous surveys it was observed that many pharmacists do not work as part of a multidisciplinary team because managers and other medical staff are not aware of the skills that pharmacists may bring to the table.[4] This could explain the results, as hospitals employing fewer pharmacists may only be using them for procurement and preparation of medicines.

A chi-square test of independence was performed to examine the relation between number of pharmacists employed in a hospital and the number of pharmacists involved in the development of local/national guidelines. The relation between these variables was significant, $\chi^2(3) = 70.0$, $p < 0.01$. Hospitals employing fewer pharmacists were less likely to have pharmacists engaged in the development of local/national guidelines.
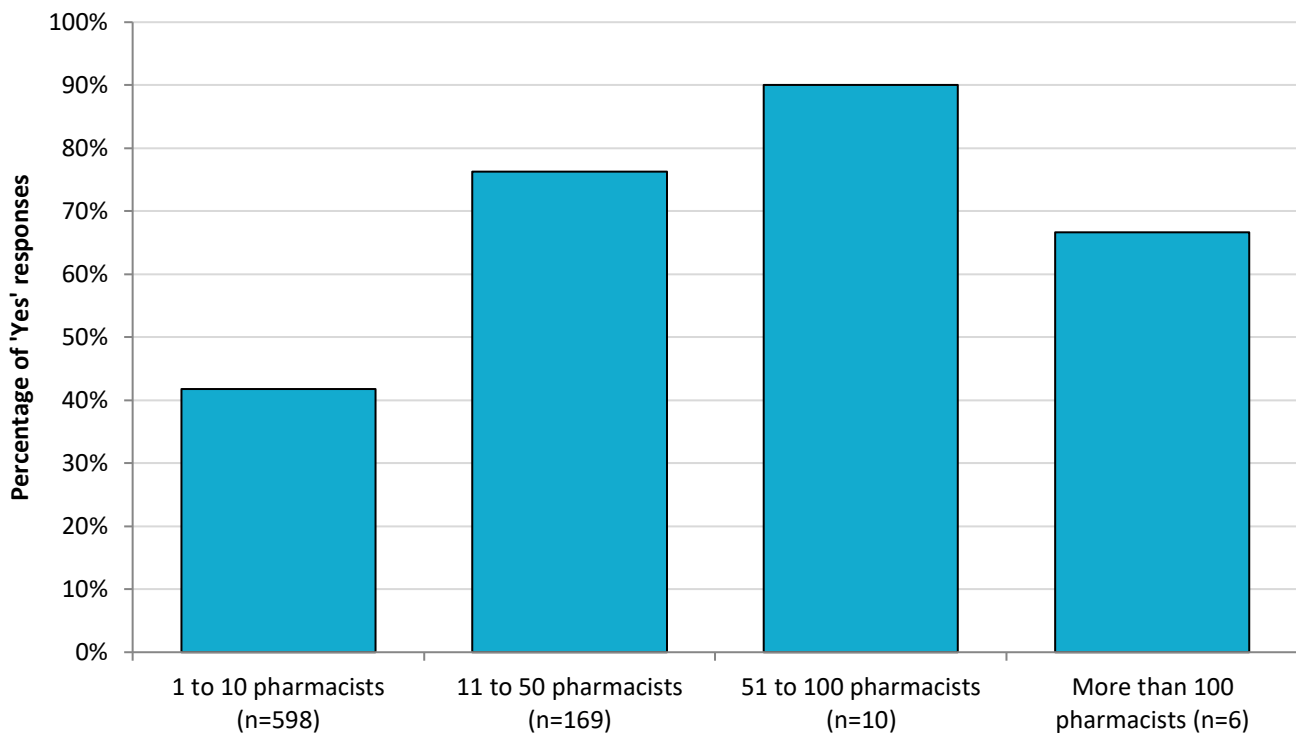

Figure 19 Overall results of responses to the statement "Have you or your pharmacists engaged in development of local/national guidelines?" (Grouped by number of fully qualified pharmacists employed by the hospital)

4.   **EAHP Statement 2.5.2**

EAHP 2.5: Each hospital pharmacy should have contingency plans for shortages of medicines that it procures. Survey question 2.5.2 read "Have you had reason to contact the medicines authority in your country because of medicines shortages?"

Figure 20 shows the percentage of respondents who indicated that they did have reason to contact the medicines authority because of a shortage. The overall percentage of 'Yes' responses was 60%, slightly higher than the 58% observed in the 2015 survey. A paired samples t-test indicated that the mean percentage of 'Yes' responses for countries was not significantly different for the 2015 survey (M = 0.617, SD = 0.202) compared to the 2017 survey (M = 0.620, SD = 0.188), $t(27)$ = -0.079, p = 0.938, d = -0.0149.
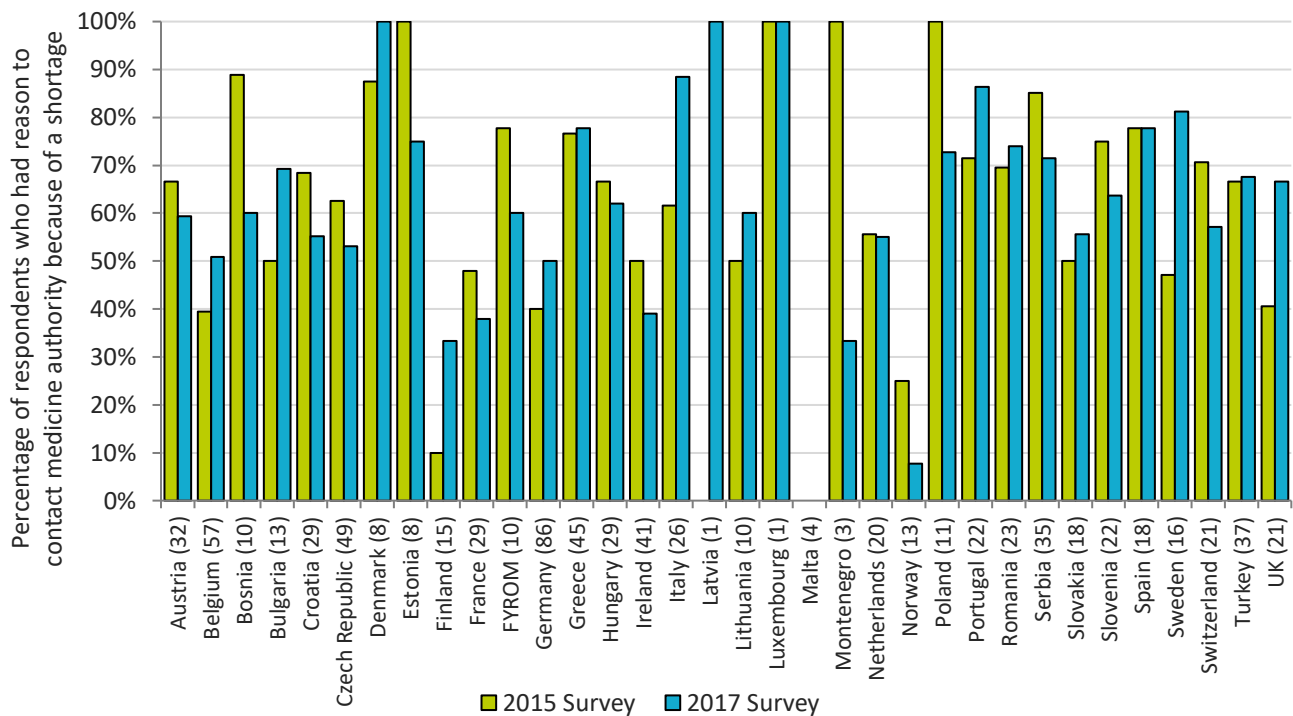

Figure 20 Percentage of respondents who gave a positive response to the statement "Have you had reason to contact the medicines authority in your country because of medicines shortages?"

Respondents who replied that they have had reason to contact the medicine authority due to a shortage were asked 'What was your reason to contact the medicines authority?', the overall results of which are shown in **Figure 21**. The results were split quite evenly with 'To inform them of a drug shortage (323 responses), 'To ask them for details about the reasons' (302 responses) and 'To enquire on a likely timeframe for shortage (292 responses). There were 160 respondents who selected all three options. Of the 58 responses in the other category the most common reasons were 'to get permission or guidance on importing drugs' and 'to enquire about what alternative drugs can be used instead'.

Figure 22 shows the same results broken down by country. Here it can be seen that reasons for contacting the medicines authority are largely consistent between countries.
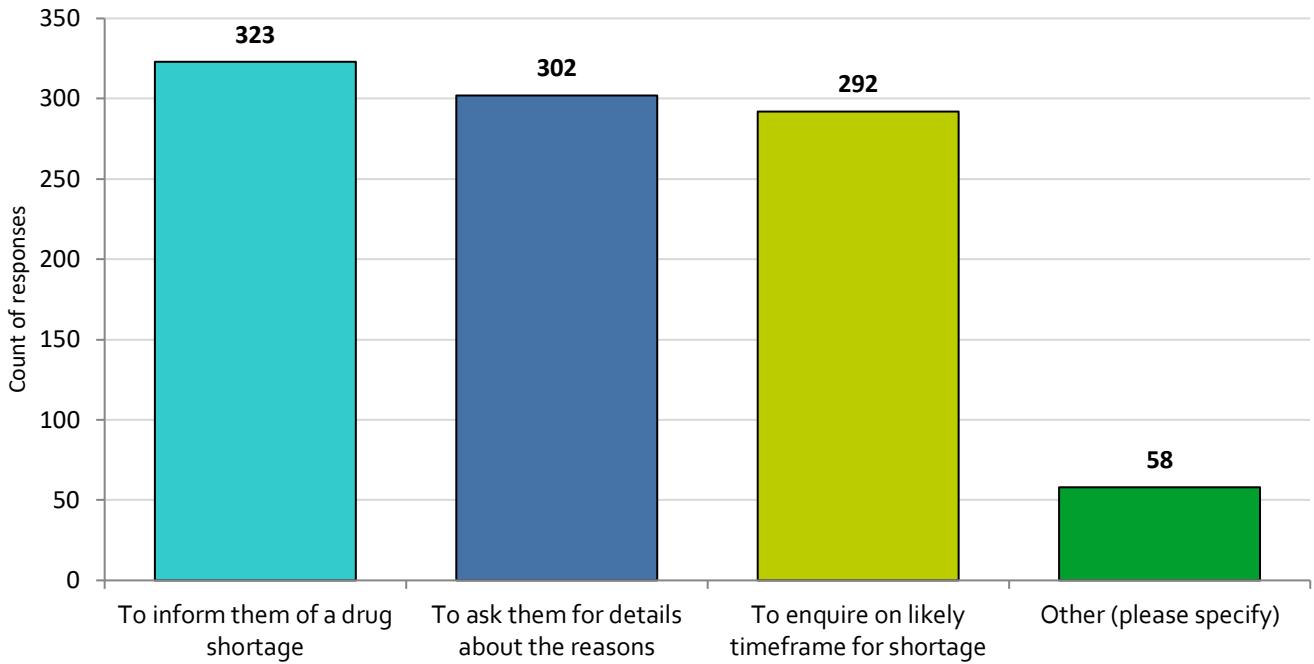
Figure 21 Overall results of the question "What was the nature of your reason to contact the medicines authority in your country because of medicines shortages?"
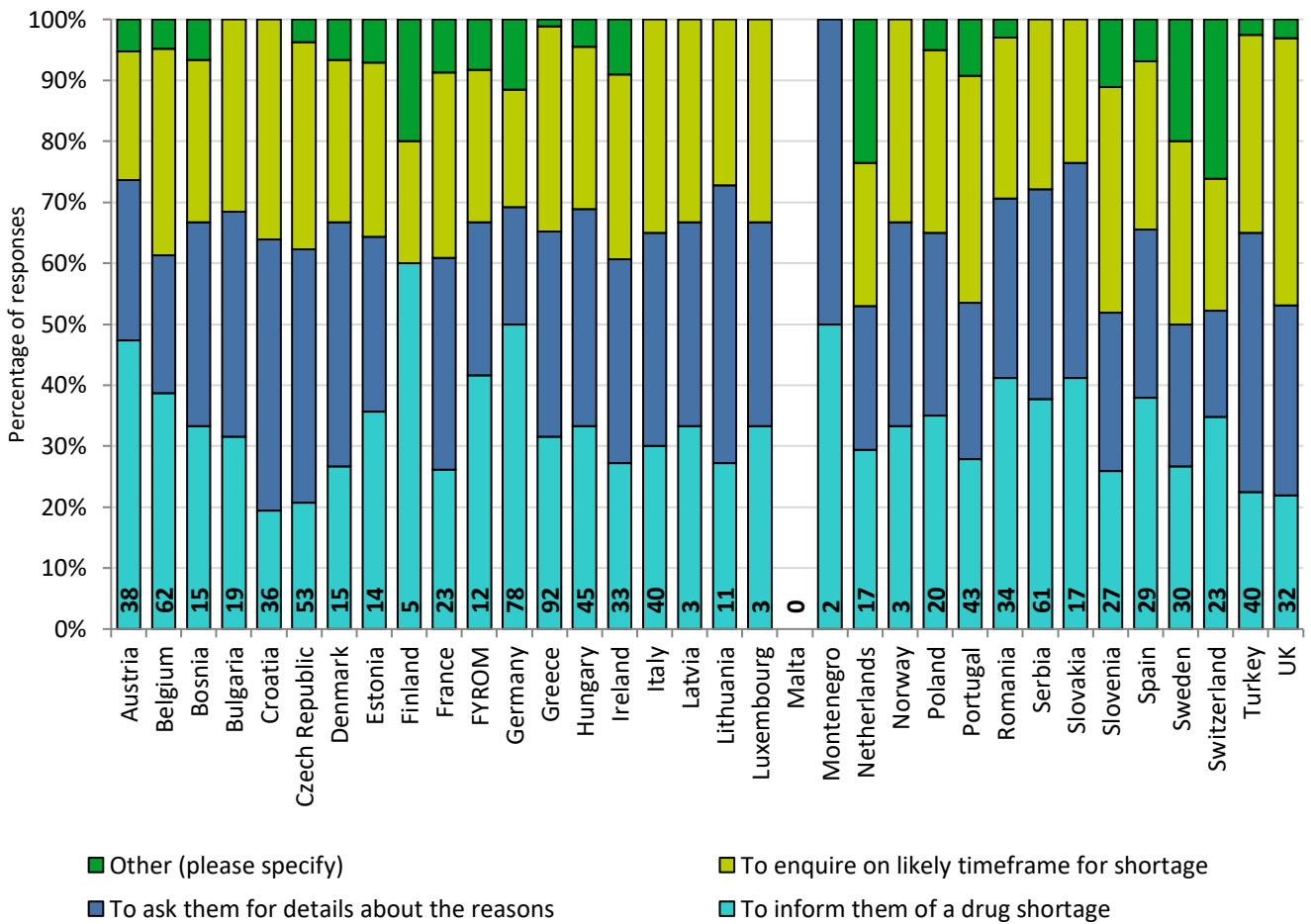

Figure 22 Results of the question "What was the nature of your reason to contact the medicines authority in your country because of medicines shortages?" (Grouped by country).

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Participants were also asked if the pharmacies in their hospital had contingency plans for medication shortages, as seen in **Figure 23**. A paired samples t-test indicated that the mean percentage of 'Yes' responses for countries was not significantly different for the 2015 survey (M = 0.679, SD = 0.211) compared to the 2017 survey (M = 0.700, SD = 0.170), $t(27)$ = -0.792, p = 0.435, d = -0.150.
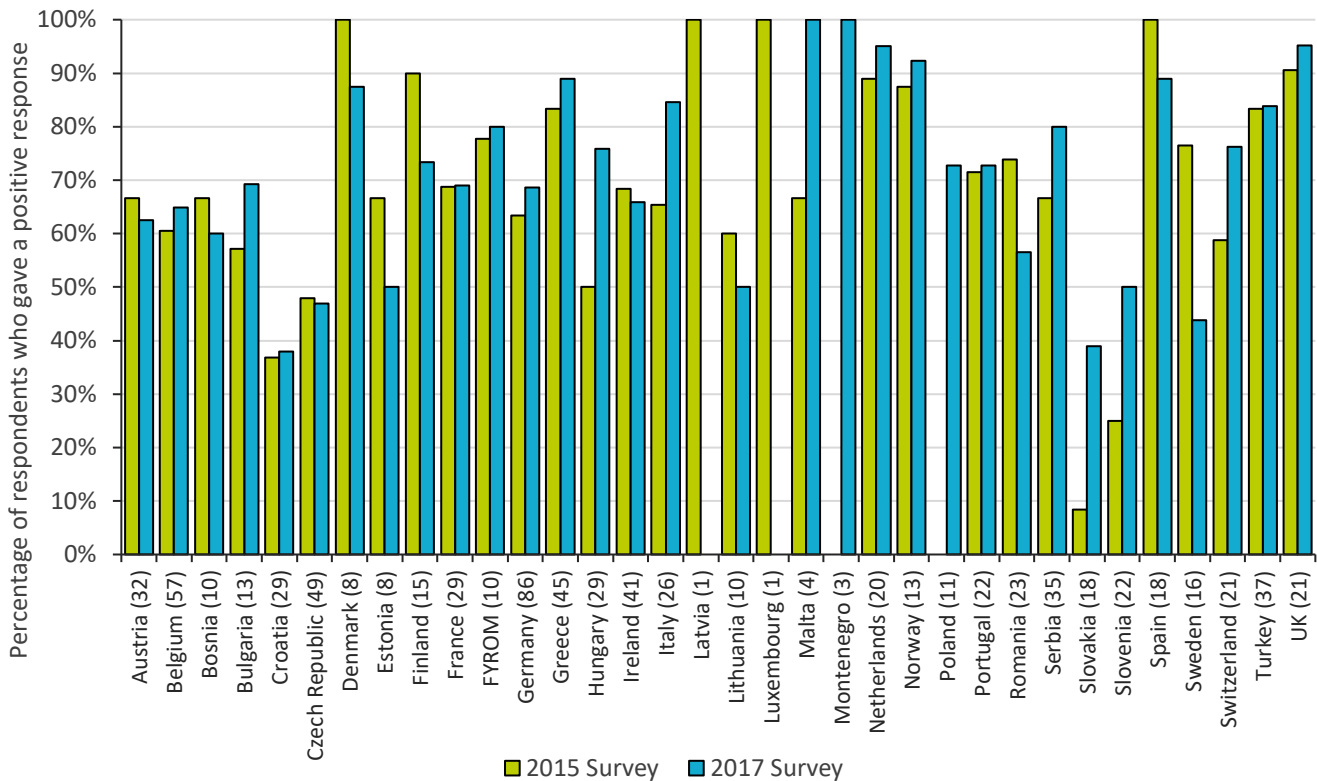

Figure 23 Percentage of respondents who gave a positive response to the statement 'The pharmacy in our hospital has contingency plans for medicines shortages'.

The biggest barrier to having contingency plans for medicines was identified to be limited capacity (100 responses) but there were also a sizeable number of responses for not being considered a priority by managers (65 responses) and being prevented by national policy or legislation (62 responses) as seen in **Figure 24**. The majority of the 'Other' responses can be summarised that shortages are handled on a case by cases basis without a formal plan in place (22 of 42 responses).

Figure 25 shows the overall results for responses to the statement 'The pharmacy in our hospital has contingency plans for medicines shortages' grouped by the number of fully qualified pharmacists working at the hospital. Unlike most of the other statements investigated, the amount of positive responses was not the lowest for the lowest grouping of working pharmacists (66.6% for the 1-10 pharmacists group and 60.0% for the 51-100 pharmacists group). However, the response for the other groups was still much higher, with 78.1% for the 11-50 group and 100% for the >100 group.

A chi-square test of independence was performed to examine the relation between number of pharmacists employed in a hospital and the pharmacy in the hospital having contingency plans for medicines shortages. The relation between these variables was significant, $\chi^2(3)$ = 11.3, p = 0.01.
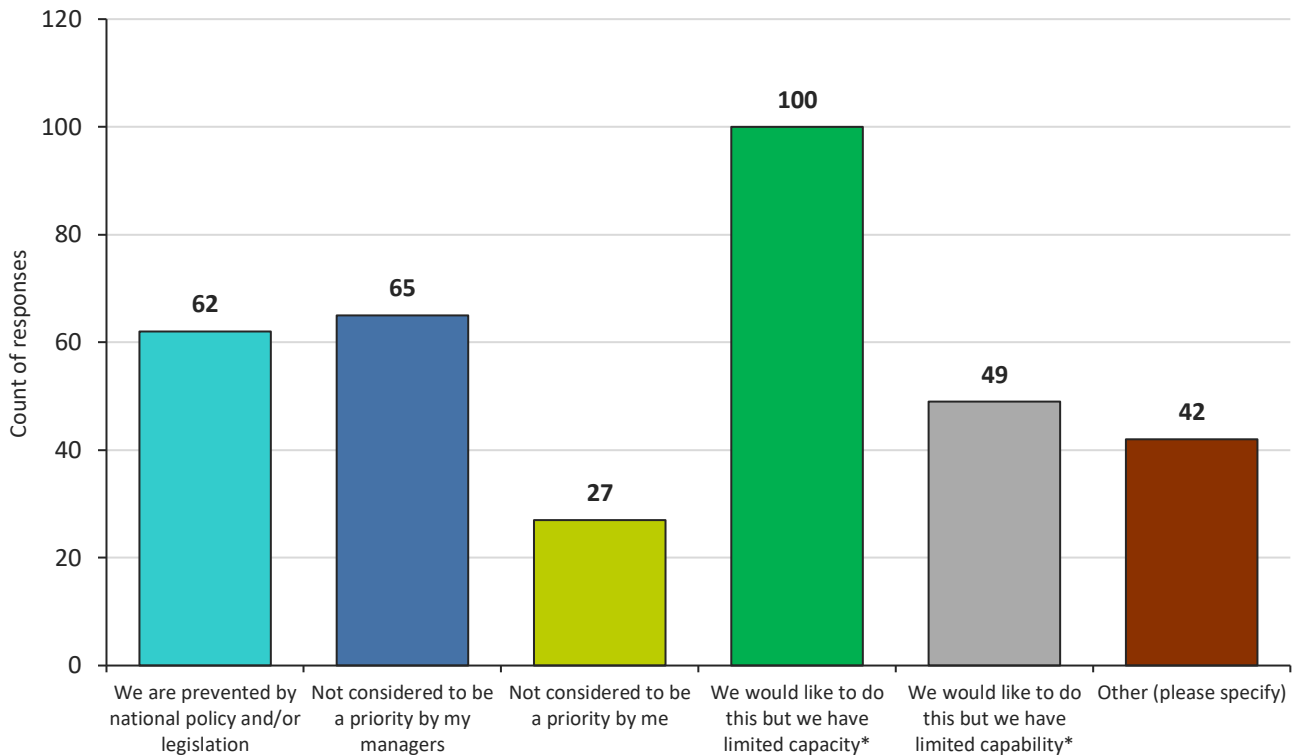
Figure 24 Overall results of the question "What is preventing you or your pharmacists engaging in development of local/national guidelines?"
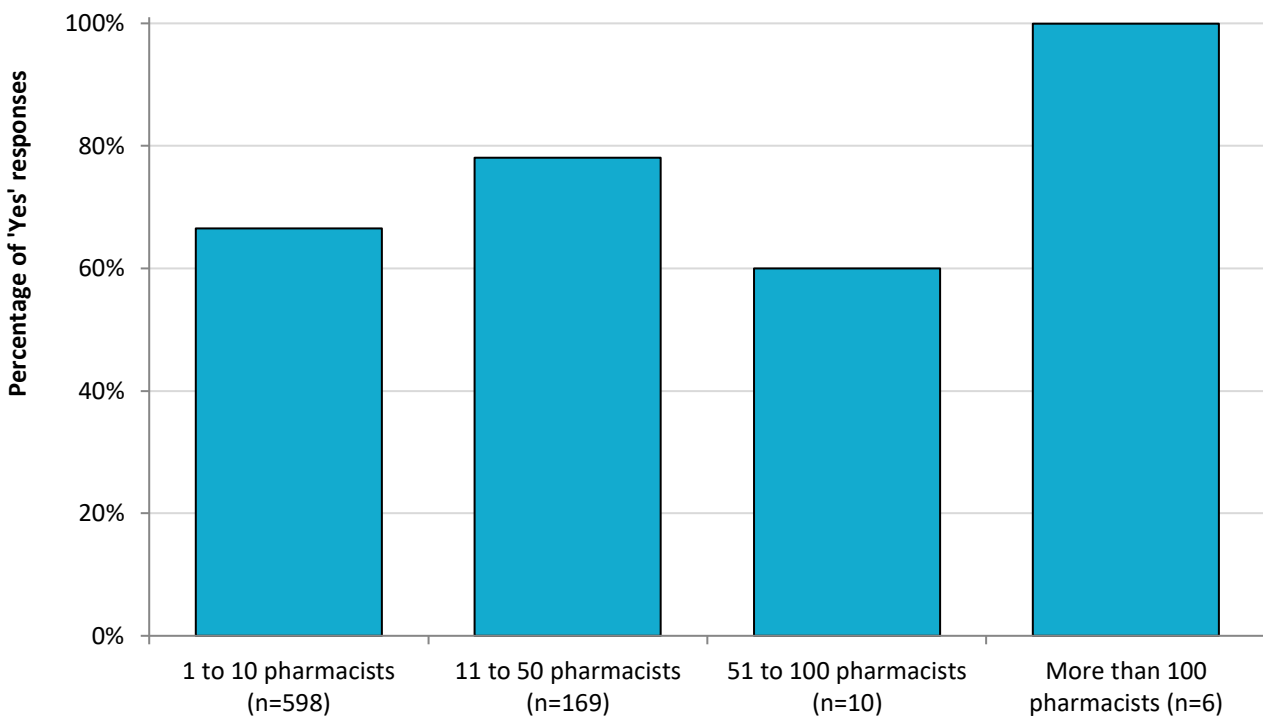

Figure 25 Overall results of responses to the statement "The pharmacy in our hospital has contingency plans for medicines shortages?" (Grouped by number of fully qualified pharmacists employed by the hospital)

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

5. **EAHP Statement 5.7**

EAHP Statement 5.7: Hospital pharmacists should ensure that the medicines administration process is designed such that transcription steps between the original prescription and the medicines administration record are eliminated.

When asked "The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated" the overall positive response rate for this question was 63%. This is a less positive response from when the question was asked two years ago in the 2015 survey (67% positive). **Figure 26** shows the results broken down by country, which shows that the response between countries is mixed, with a large range between results.
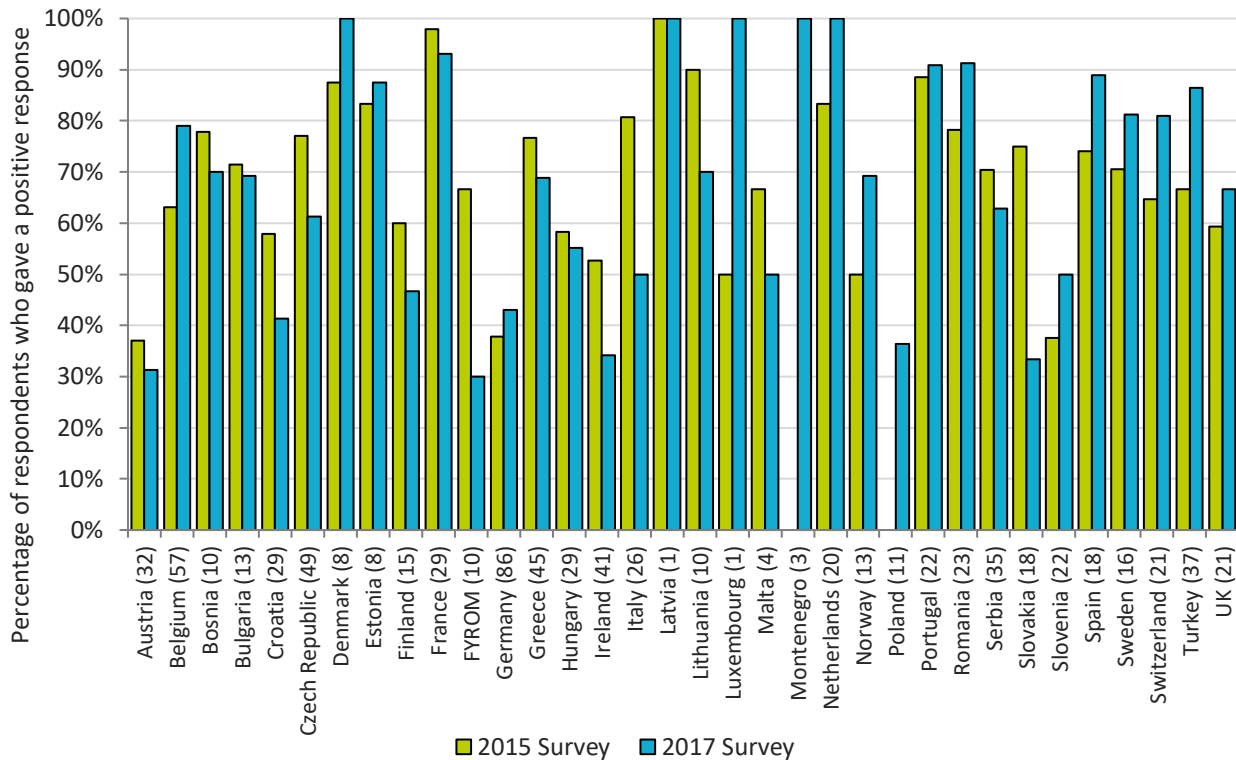

Figure 26 Percentage of respondents who gave a positive response to the statement "The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated".

As this question was also asked in the baseline survey, comparisons can be made to that data as well. A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey (M = 0.679, SD = 0.157) compared to the 2017 survey (M = 0.665, SD = 0.220), $t(27)$ = 0.383, p = 0.705, d = 0.0724.

Participants who gave a negative response to statement 5.7 were then asked what was preventing this. **Figure 27** shows the results of this, and it can be seen that the most common response was limited capacity with 150 responses. Not considered to be a priority by my managers (108 responses) and limited capability (75 responses) also had many responses. There were also a large number of 'Other' responses (53 responses), with 24 responses describing how electronic systems are not used, or paper records are still used mainly. 10 responses indicate work on implementing an electronic system is in progress.
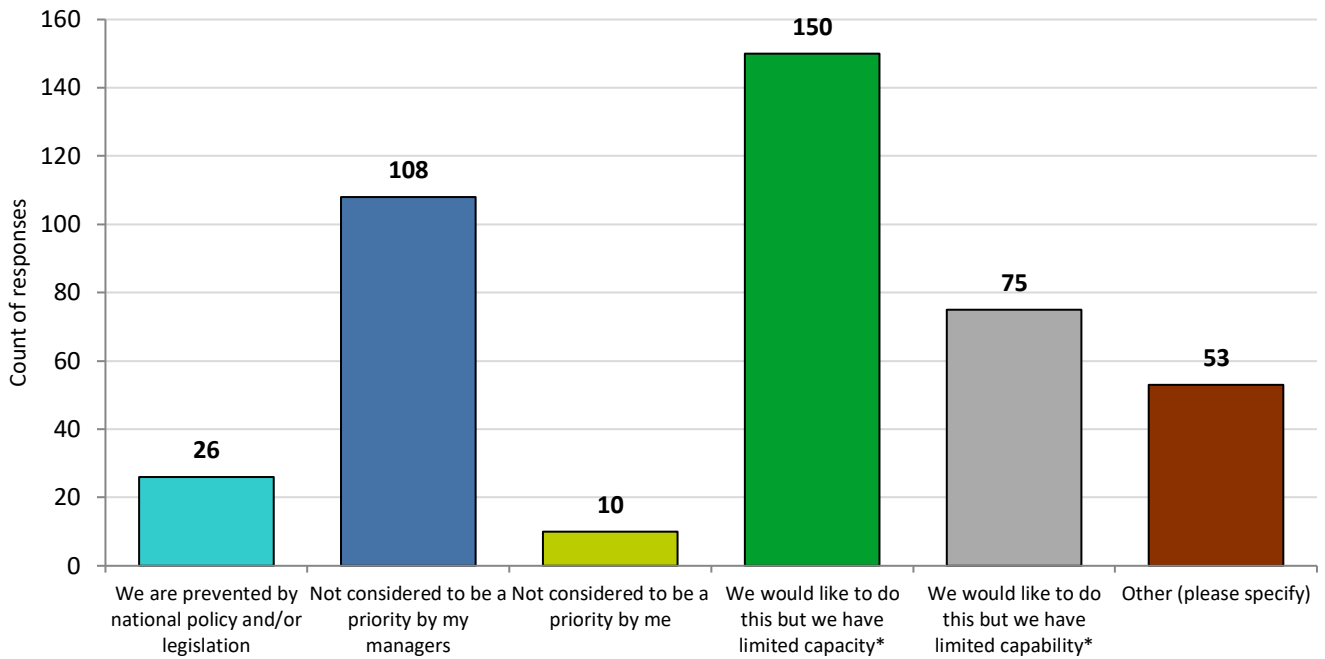
Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Figure 27 Overall results to the question "What is preventing the process in your hospital from ensuring that transcription steps between the original prescription and the medicines administration record are eliminated?"

Figure 28 shows that the results vary a lot by country, where each of the potential options (except 'not considered to be a priority by me') is identified as the main barrier for at least one country.
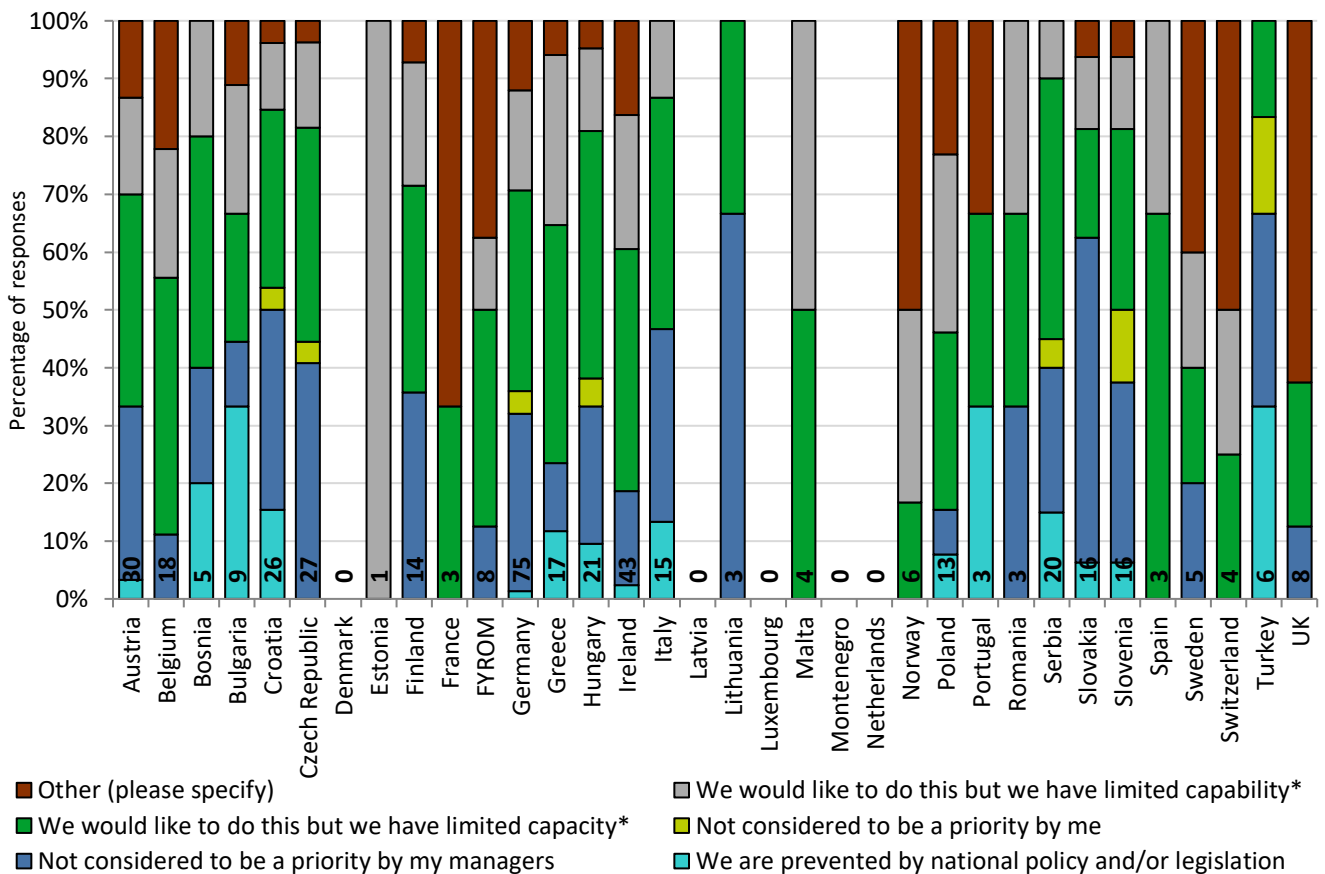

Figure 28 Results to the question "What is preventing the process in your hospital from ensuring that transcription steps between the original prescription and the medicines administration record are eliminated?"

Figure 29 shows the overall results for this statement question grouped by the number of fully qualified pharmacists working at the hospital. Unlike the other statement questions examined this way, the difference between the groups' responses is much smaller, with a range of 62.0%-70.0% between groups. Although lack of capacity was still given as the main barrier to implementing to this statement, this could be more to do with lack of funding for the necessary electronic systems to implement the statement rather than the capacity of the workforce.

A chi-square test of independence was performed to examine the relation between number of pharmacists employed in a hospital and whether the hospitals medicines administration process ensures transcription steps are eliminated. The relation between these variables was not significant, $\chi^2(3) = 1.55$, $p = 0.67$.
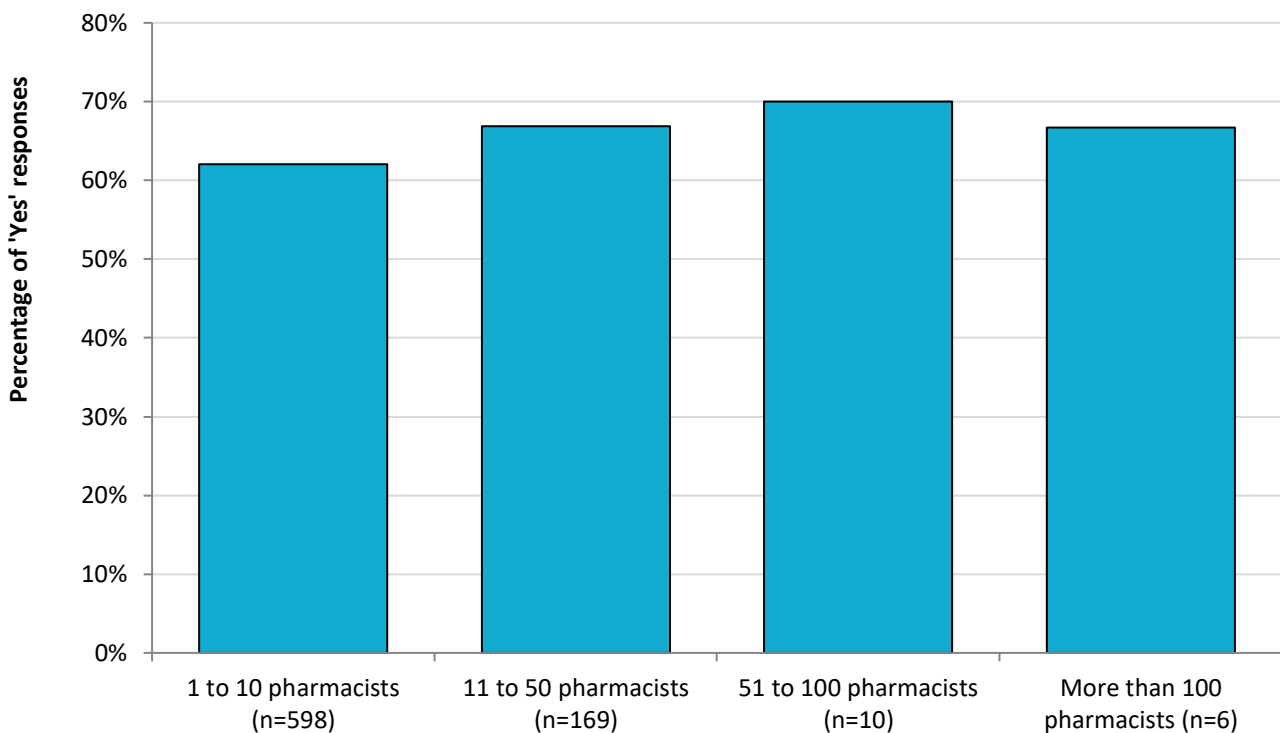

Figure 29 Overall results of responses to the statement "The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated" (Grouped by number of fully qualified pharmacists employed by the hospital)

Section C: Results of the Implementation Questions

The questions in this section explore further the barriers to implementation of the statements in general. They seek to explore the common reasons such as lack of awareness, agreement, workforce barriers and those related to confidence in their ability to implement them. Responders were asked to state the level of their agreement with each question posed, from 1 (strongly disagree) to 5 (strongly agree). In these graphs, a **higher bar indicates agreement with the question** posed. Results from the baseline survey and the 2015 survey have been included for comparison. The numbers in brackets on the bottom axis are the number of responses by country for the 2017 survey.
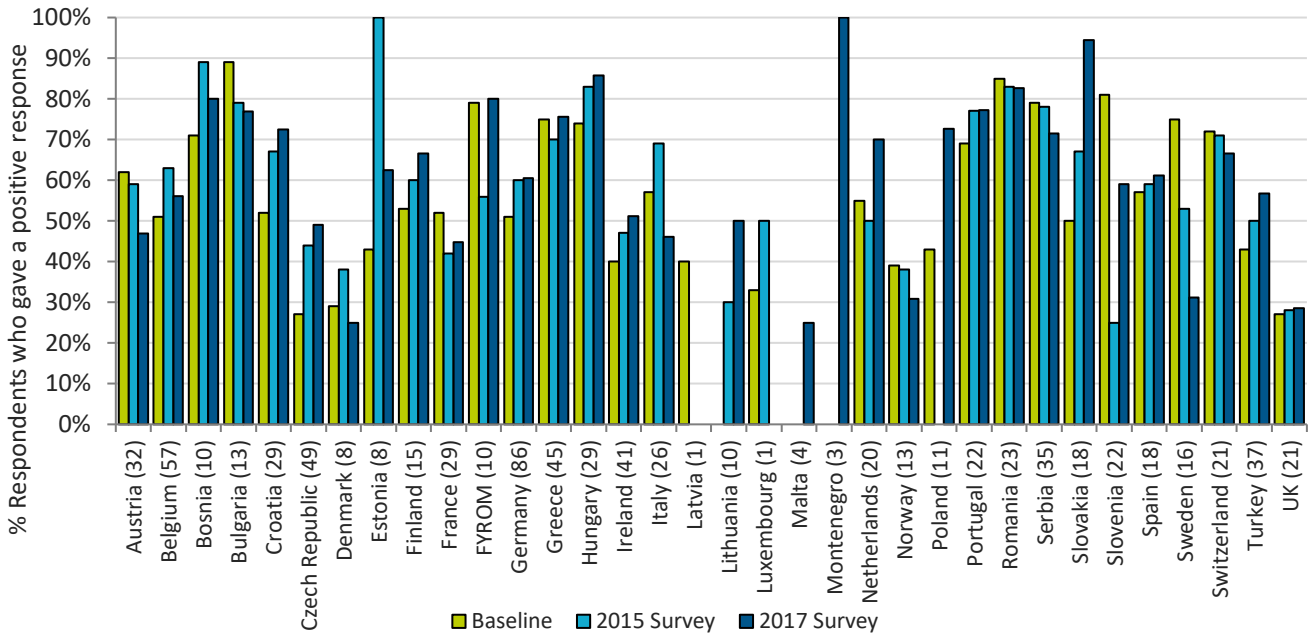
I1 The pharmacists within our hospital are aware of the 44 European Statements for Hospital Pharmacy.

A paired samples t-test indicated that the mean percentage of positive responses for countries has significantly increased from the baseline survey (M = 0.398, SD = 0.251) compared to the 2017 survey (M = 0.485, SD = 0.244), $t(27)$ = -2.859, p = 0.008, d = -0.540. Compared to the baseline survey, awareness has increased in 26 countries.
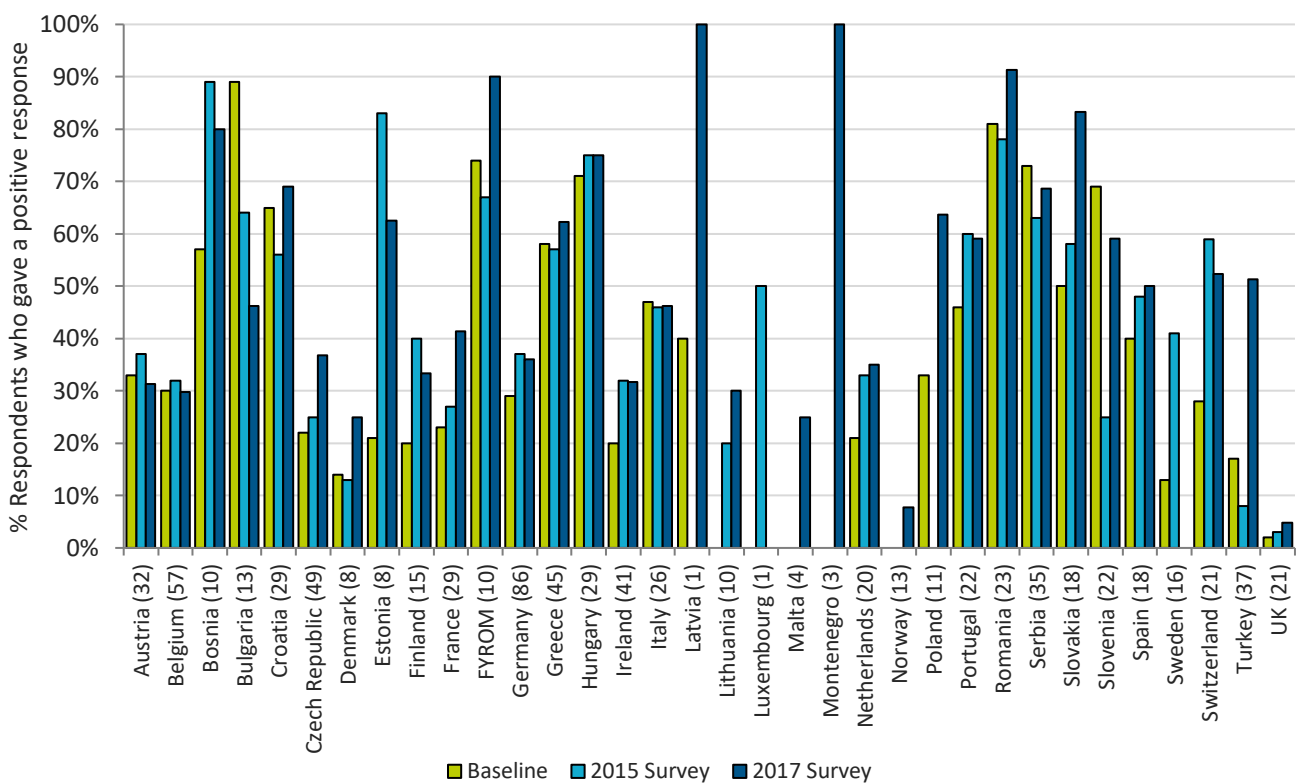
I2 The pharmacists within our hospital agree in principle with the Statements.

A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey ($M = 0.585$, $SD = 0.178$) compared to the 2017 survey ($M = 0.611$, $SD = 0.184$), $t(27) = -0.838$, $p = 0.409$, $d = -0.158$.

I3 Our hospital has the capability* to implement all of the Statements now.

Capability: Does the organisation have staff with the right skills and experience to support the change effort?
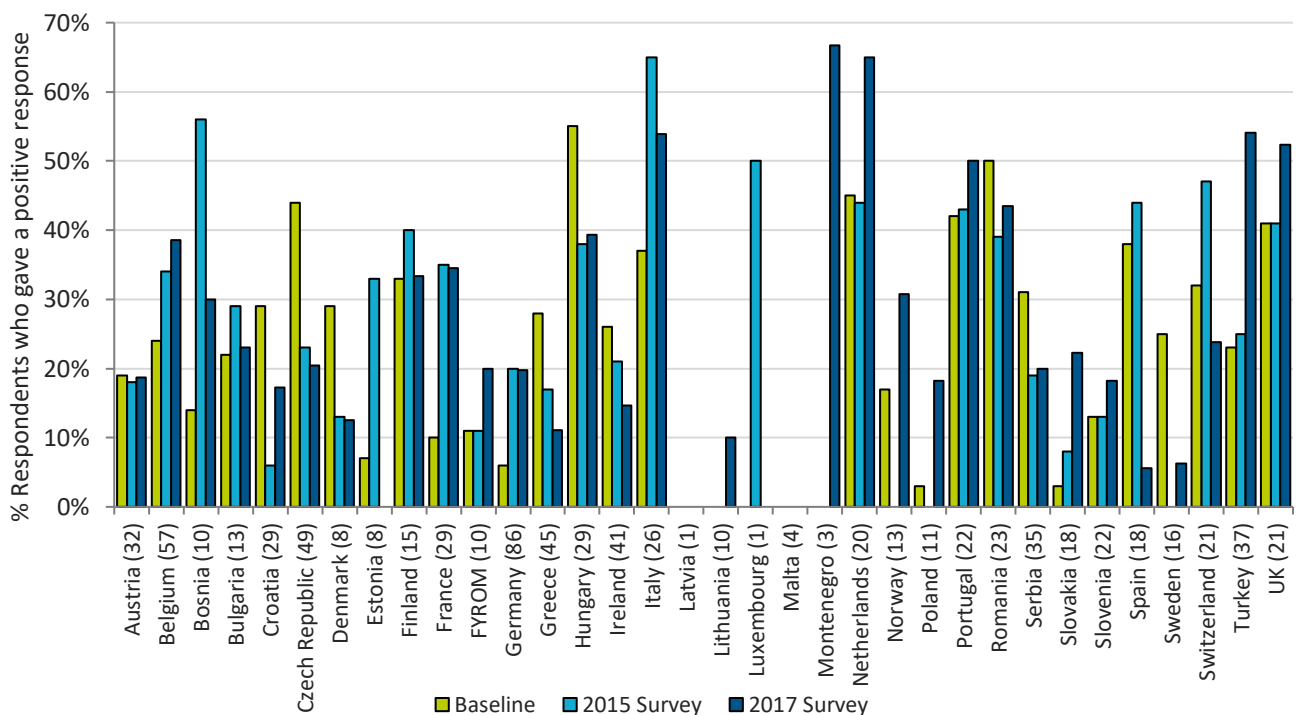
A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey ($M = 0.269$, $SD = 0.139$) compared to the 2017 survey ($M = 0.278$, $SD = 0.165$), $t(27) = -0.281$, $p = 0.781$, $d = -0.0531$.

I4 Our hospital has the capacity* to implement all of the Statements now.

*Capacity: Does the organisation have the sufficient number of people or time to undertake the change?
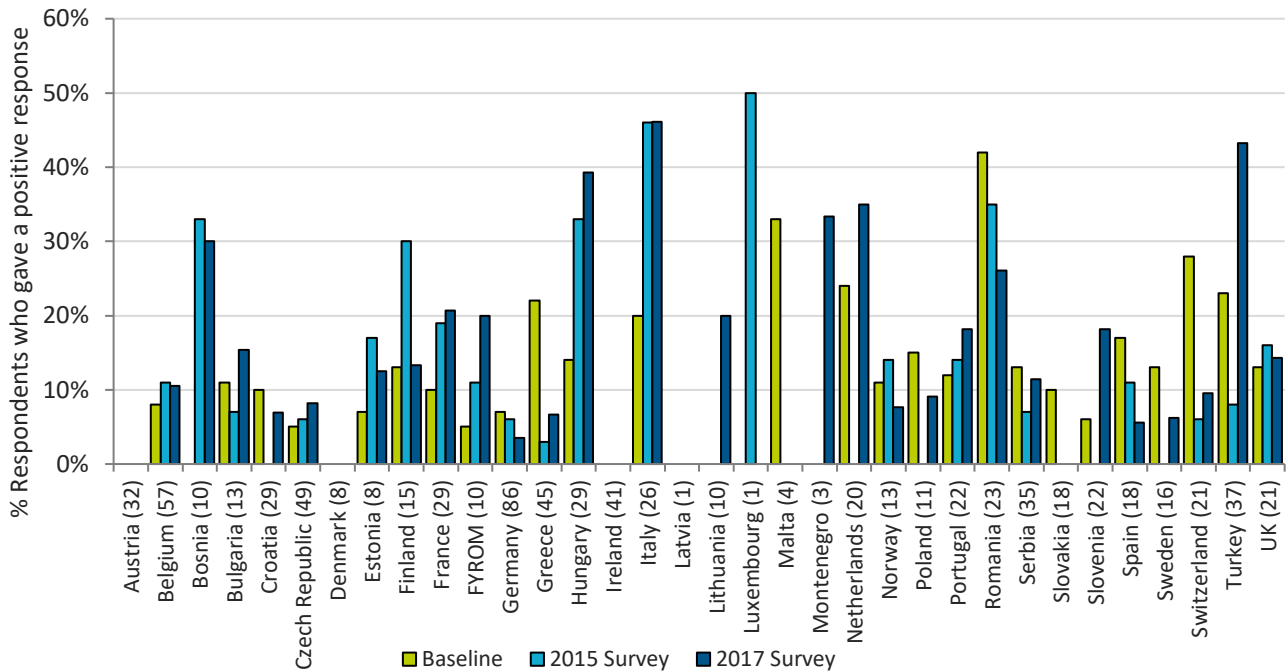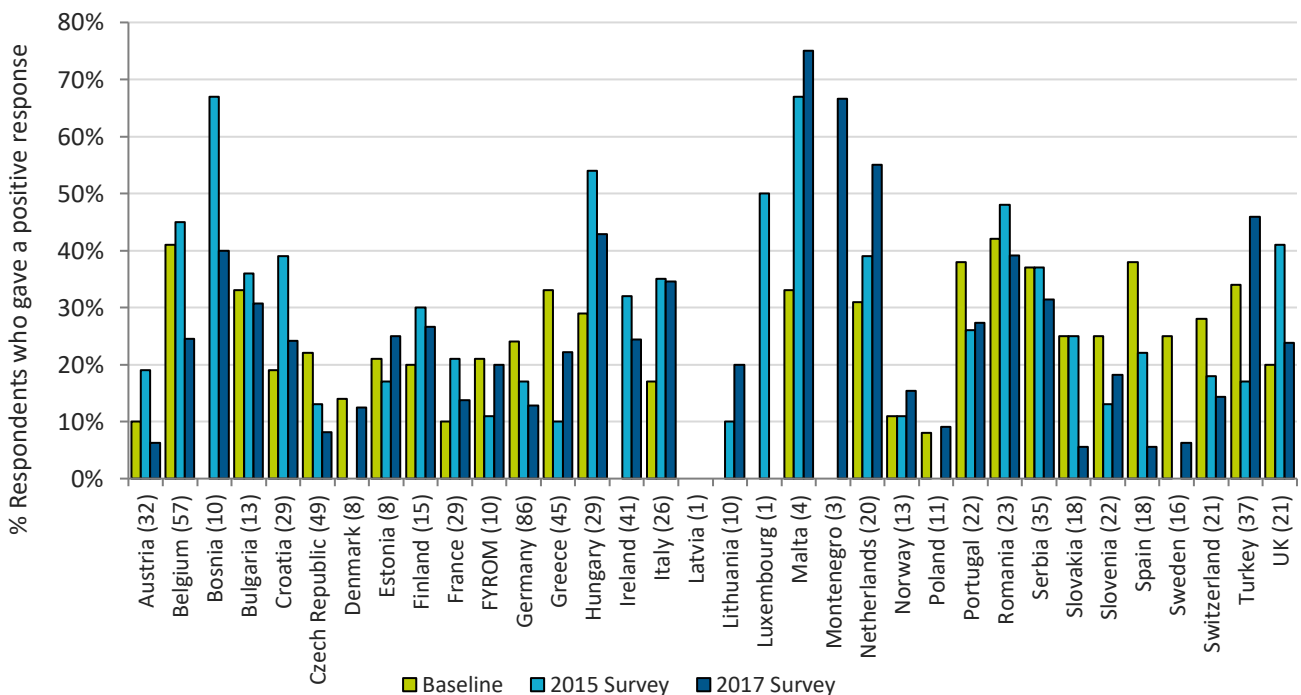
A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey (M = 0.123, SD = 0.0944) compared to the 2017 survey (M = 0.153, SD = 0.131), $t(27)$ = -1.276, p = 0.213, d = -0.241.

I5 My hospital is committed to help the pharmacy department implement the Statements.

A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey (M = 0.239, SD = 0.113) compared to the 2017 survey (M = 0.235, SD = 0.131), $t(27)$ = 0.135, p = 0.894, d = -0.0255.

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

I6 Our hospital has the confidence to make changes and implement the Statements.

A paired samples t-test indicated that the mean percentage of positive responses for countries was not significantly different for the baseline survey (M = 0.263, SD = 0.108) compared to the 2017 survey (M = 0.293, SD = 0.155), $t(27)$ = -1.01, p = 0.323, d = -0.190.
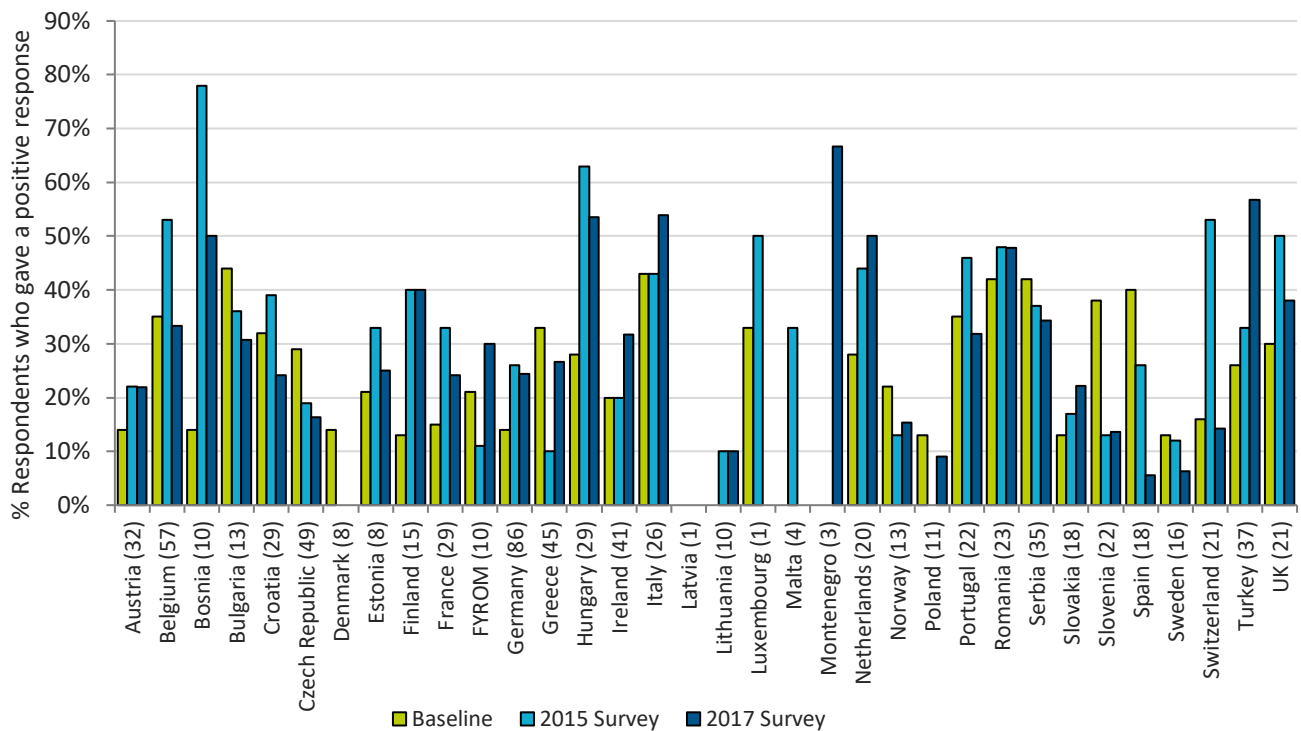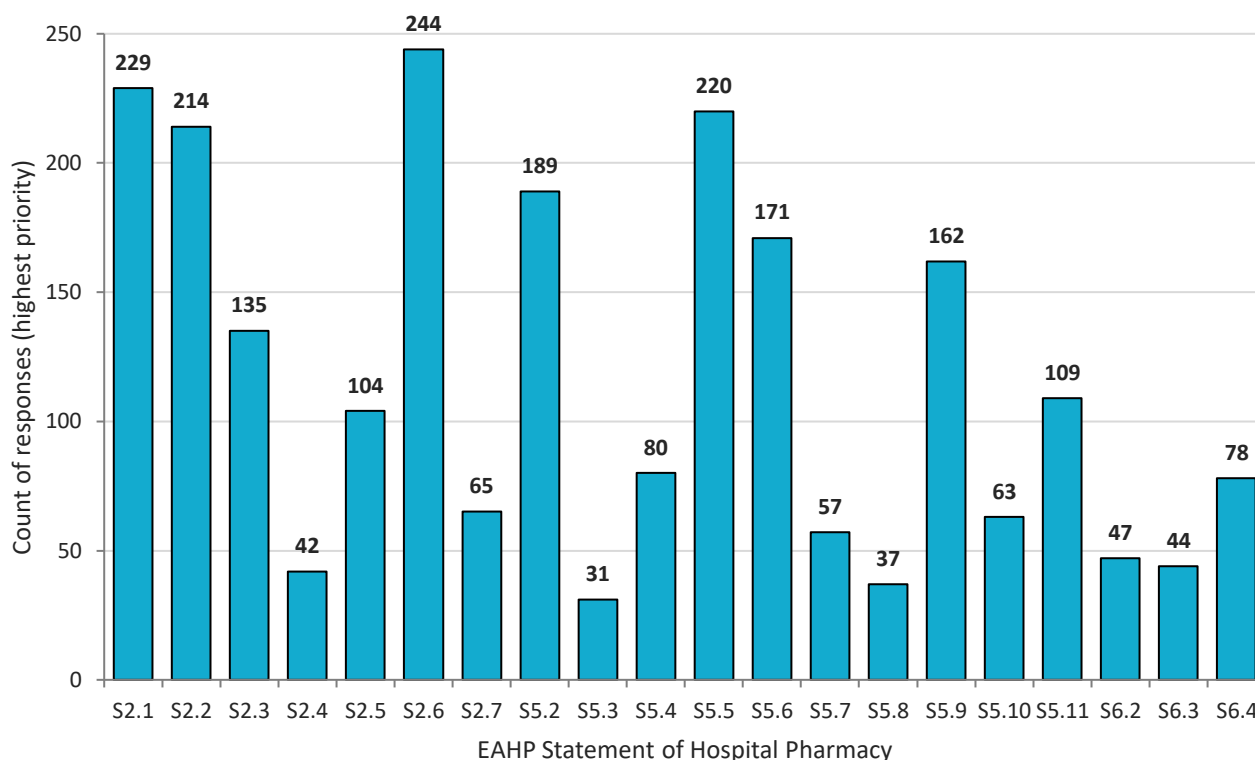
I7. Which three statements are the highest priority for you to implement first? (Participants could choose 3 statements)

The following three statements have been identified as the highest priority to implement first, based on the frequency they were selected:

- S2.6 Hospital pharmacies should have responsibility for all medicines logistics in hospitals. This includes proper storage, preparation, dispensing, distribution and disposal conditions for all medicines, including investigational medicines.
- S2.1 Hospital pharmacists should be involved in the complex process of procurement of medicines. They should ensure transparent procurement processes are in place in line with best practice and national legislation.
- S5.5 Hospital pharmacists should help to decrease the risk of medication errors by disseminating evidence based approaches to error reduction including computerised decision support.

Similarly, the following statements have been identified as the lowest priority to implement first, based on the frequency they were selected:

- S5.3 Hospital pharmacists should ensure their hospitals seek review of their medicines use processes by an external quality assessment accreditation programme, and act on reports to improve the quality and safety of these processes.
- S5.8 Hospital pharmacists should ensure accurate recording of all allergy and other relevant medicine-related information in the patient's health record.
- S2.4 Procurement should be according to the medicine formulary and informed by the formulary selection process.

Although most statements from Section 2 (Selection, procurement and distribution) are considered to be a high priority to implement, it is interesting to note that procuring according to the formulary was not considered a priority.

I8. Which three statements might be more challenging to implement? (Participants could choose 3 statements)
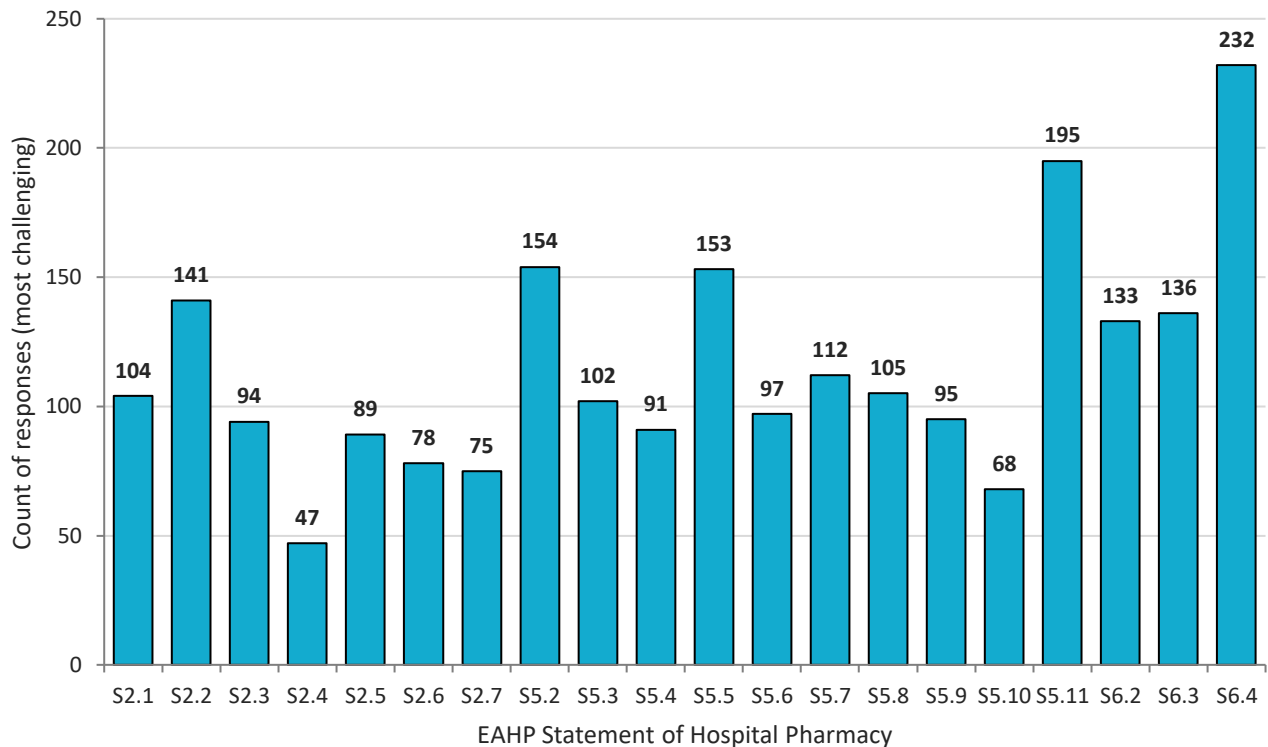
The following three statements have been identified as the most challenging to implement, based on the frequency they were selected:

- S6.4 Hospital pharmacists should actively engage in and publish research, particularly on hospital pharmacy practice. Research methods should be part of undergraduate and postgraduate training programmes for hospital pharmacists.
- S5.11Hospital pharmacists should support and implement systems that allow traceability of all medicines dispensed by the pharmacy.
- S5.2 Hospital pharmacists should ensure the development of appropriate quality assurance strategies for medicines use processes to detect errors and identify priorities for improvement.

Similarly, the following statements have been identified as the least challenging to implement, based on the frequency they were selected:

- S2.4 Procurement should be according to the medicine formulary and informed by the formulary selection process.
- S5.10 Hospital pharmacists should ensure that medicines stored throughout the hospital are packaged and labelled so to assure identification, maintain integrity until immediately prior to use and permit correct administration.
- S2.7 Hospital pharmacists should be involved in the development of policies regarding the use of medicines brought into the hospital by patients.

Of the challenging statements, 6.4 has been examined in section B of this report due to the low rate of positive responses in the main survey.

Discussion

When the 2017 EAHP Statements Survey closed, there were a total of 979 responses, the results of which were exported from SurveyMonkey for further analysis and reporting. The number of responses is up from the 2016 EAHP Statements Survey, which had 903 replies. Both surveys had a similar completion rate; 2017 had a completion rate of 80% and 2016 had a completion rate of 81%. Therefore the number of complete responses has increased from 730 last year to 783 this year. As was done in previous years, if an incomplete survey was submitted, the quantitative data was not used in the results.

The 5 Statements where implementation seems to provide the greatest challenge are:

S 6.4   The pharmacists in our hospital routinely publish hospital pharmacy practice research
S5.5.2   Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors
S6.4.4   Have you or your pharmacists engaged in development of local/national guidelines?
S2.5.2   Have you had reason to contact the medicines authority in your country because of medicines shortages?
S5.7   The medicines administration process in our hospital ensures that transcription steps between the original prescription and the medicines administration record are eliminated

As with the baseline survey, there appears to be a greater number of barriers to hospital pharmacies engaging in more clinically focused activities such as publishing practice research and use of systems to reduce medication error. Lack of capacity (not having enough staff), capability (not having staff with the required skills), and support from managers are the commonly cited reasons for this. Again, there was considerable variation across the different countries, reflecting the role of pharmacists in those countries. The role of the 'clinical pharmacist' where the pharmacist is visible on the ward and in clinics, while well established in some countries, is still a rarity in others. Pharmacist prescribing is established in some countries like the UK, but is not legally permissible in the majority. In addition, it would appear that many hospitals employ low numbers of pharmacists and technicians in relation to the number of beds they contain, which would support the 'lack of capacity' responses.

When looking at the 5 statements where the barriers to implementation were greatest, most of the questions did not show a statistically significant difference when compared to the results from previous surveys. An explanation for this could be that implementing the statements is a gradual process, so any changes on a large scale may happen slowly and are not reflected in the survey results yet. Note that this result is measuring an average change across all countries, and that individual countries may have seen more drastic changes in the implementation of the statements.

The exception for this was question S6.4 'The pharmacists in our hospital routinely publish hospital pharmacy practice research' which showed a statistically significant decrease in positive responses. A paired samples t-test indicated that the mean percentage of positive responses for countries significantly decreased between the baseline survey (M = 0.433, SD = 0.198) and the 2017 survey (M = 0.316, SD = 0.135), $t(27)$ = 4.154, p < 0.01, d = 0.785. This could be that the capacity issues identified in previous surveys have not improved, or even declined, so pharmacists do not have the time or resources to progress work on the statement.

As lack of capacity was cited as the biggest barrier to publishing by such a large amount, the relationship between pharmacist workforce and publishing ability was investigated further for the 5 statements where the barriers to implementation were greatest. Results showed that pharmacists who were in the lowest workforce group (1-10 fully

qualified pharmacists) were less likely to respond positively to 4 of the 5 statement questions than groups with the groups with a larger workforce, with the exception being S5.7, which showed no statistically significant difference between groups.

Generally, and which supports the baseline survey findings, there appeared to be few barriers for hospital pharmacies to engage in the procurement, compounding and distribution of medicines. This is a very important role and the work of pharmacists in reducing the risks associated with these functions should not be underestimated, as pharmacists engage in more clinically focused roles. However, with more automation of supply being used throughout European pharmacies, this may increase the capacity for more clinically focused activities.

The results from section C where the questions specifically related to the implementation of the Statements, the theme of lack of capability to implement statements, particularly the more clinically orientated statements, may be linked to the lack of a clinical pharmacy workforce. Likewise, the theme of lack of capacity to implement the statements may be linked to the observation of low numbers of pharmacists and technicians in many hospitals. The analyses of the relationship between workforce and responses to the survey questions would appear to support this.

The only question from Section C which showed a statistically significant difference from the baseline survey was awareness of the statements. A paired samples t-test indicated that the mean percentage of positive responses for countries has significantly increased from the baseline survey ($M = 0.398$, $SD = 0.251$) compared to the 2017 survey ($M = 0.485$, $SD = 0.244$), $t(27) = -2.859$, $p = 0.008$, $d = -0.540$. Compared to the baseline survey, awareness has increased in 26 countries.

This modest but important increase in the awareness of the statements suggests that engagement with the statements by pharmacists actually responsible for delivering the hospital pharmacy services is beginning to gain traction. The roles and work of the EAHP Statement Ambassadors may have had some impact on this along with the prominence given to the statements throughout the EAHP's educational activities such as Congress. However, there remains considerable variation in the commitment to implement the statements, and the wide variability in agreement with the statements in some countries. The EAHP appears to have made some progress in helping country co-ordinators and Statement Ambassadors increase awareness and engagement with the statements, perhaps with the provision of educational and promotional materials that can be used at National Meetings and beyond.

Keele University
Centre for
Medicines Optimisation

eahp
european association
of hospital pharmacists

Recommendations

General recommendations

- The role of the EAHP Statement Ambassadors should continue to be a priority with support given to their development. This will help to build on the progress made on the increasing awareness of the statements, and engagement with them by with hospital pharmacists on the ground responsible for delivering services.
- Sharing of good practice initiatives and the development of the EAHP website to facilitate sharing of best practice should continue. The EAHP website could also provide links to National hospital pharmacy initiatives that have promoted change in hospital pharmacy services (e.g. The Carter review in the UK, the WHO medicines challange)
- Further work is needed to understand the engagement of hospital pharmacists in clinically focused activities.
- While this report has examined the relationship between workforce numbers /skill mix and statement implementation, further work is needed to better understand this, perhaps by introducing a denominator to ascertain the number of pharmacists per 1000 beds.
- To encourage awareness of the Statements and participation in practice research, the educational content of the EAHP congress (posters and presentations) should continue to be linked to the relevant statements.

Recommendations for future surveys

- Changes to the previous EAHP Statements Surveys appear to have been well received and should be continued in subsequent surveys:
    - Keep the survey as short and as easy to complete as possible.
    - Specifically enquire for each question if capacity and capability are the key barriers to implementation.
    - Construct survey response options for each question to identify barriers other than capacity and capability.
    - Identify the key drivers for change in countries where implementation has occurred or is occurring.
    - XXX
- Further work is needed to better understand the low response rate in some countries to determine how this may be improved. One suggestion is to provide an incentive similar to that used for other EAHP surveys of a draw for free places at congress for those who complete the survey.
- A named person (country co-ordinator) to send out invite survey link and be available to offer advice where clarification is needed for any particular question.
- Weekly reminders should be sent out by the named person (country co-ordinator).
- Involvement of the Board members in communication with the countries.

References

1. The European Statements of Hospital Pharmacy. Eur J Hosp Pharm 2014;21:256-258 doi:10.1136/ejhpharm-2014-000526
2. Maskrey N and Underhill J. The European Statements of Hospital Pharmacy: achieving consensus using Delphi and World Café methodologies *Eur J Hosp Pharm* 2014;21:264-266 doi:10.1136/ejhpharm-2014-000520 (http://ejhp.bmj.com/content/21/5/264.full)
3. Horák P et al. EAHP survey and European Statements of Hospital Pharmacy – can we achieve a perfect match? Eur J Hosp Pharm 2014;21:5 291-293 doi:10.1136/ejhpharm-2014-000541

4   Horák P, Gibbons N, Sýkora J, et al EAHP statements survey 2016: sections 1, 3 and 4 of the European Statements of Hospital Pharmacy. *Eur J Hosp Pharm* 2017;24:258-265