

INVESTIGATION OF THE HOSPITAL PHARMACY PROFESSION IN EUROPE

ASSESS AND ADVANCE HOSPITAL PHARMACY!

RESULTS 2022/2023



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Executive Summary

Keele University were commissioned to analyse the results of an investigation amongst European hospital pharmacists to measure progress of hospital pharmacy profession and to identify the key barriers and drivers of this. The baseline survey was conducted from January 2015 to March 2015, and subsequently an annual statements survey was conducted in October to November in 2015, 2016, 2017 and 2018.

The 2022/23 EAHP Investigation was conducted across 35 countries from November 2022 to March 2023 and included questions on all six statement sections:

- Section 1: Introductory Statements and Governance
- Section 2: Selection, procurement, and distribution
- Section 3: Production and Compounding
- Section 4: Clinical Pharmacy Services
- Section 5: Patient safety and quality assurance
- Section 6: Education and research

Similar to previous Statement surveys, the 2022/23 EAHP Investigation 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 self-assessment tool and practice-specific questions

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.

In section C for the first time were introduced questions on pandemic preparedness as a learning from COVID-19 pandemic, falsified medicines directive, immunisation, vaccines, and sustainability.

The overall number of responses was 653, but for some countries it was difficult to assess the exact number of people to whom the Survey was sent (see Table 1). Due to a limited number of responses in some EAHP countries, the overall results might not be representative of the exact situation on these countries. An additional 390 respondents started but did not complete the survey.

The 6 questions where implementation of the statement in question seems to provide the greatest challenge are shown in the table below, ordered according to the percentage of positive responses.

	Question	Mean* (2022/23)	Mean* (Previous Statement survey)	Mean* (Baseline)
S4.4	The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission.	33.4%	30.3%	28.5%
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice research.	39.8%	50.1%	44.2%
S4.5	The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings.	42.8%	41.0%	44.0%
S1.1	The pharmacists in our hospital work routinely as part of the multidisciplinary team.	52.5%	47.8%	59.1%
S4.6	The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand.	55.9%	56.9%	63.6%
S4.2	All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist.	59.9%	54.9%	62.9%

*Mean: The mean percentage of positive responses to a question across all respondent countries. The term 'Previous statement survey' indicates comparison with 2018/19 for Sections 1 and 4, and 2017/18 for Section 6.

Four of these six statements also provided the greatest challenge in the 2018/19 Statement survey (S4.4, S4.5, S1.1, and S4.2). Indicating that the more clinical patient facing services have not developed compared to the more traditional pharmacy services. Lack of capacity (not having enough staff), other healthcare professionals do this, and not a priority by my managers, were the top three cited reasons for this. The only slight variation was in answer to statements 6.4 and 1.1 where lack of capability (not having staff with the required skills) were also one of the top three reasons. There was considerable variation across the different countries, reflecting the differing role of pharmacists in those countries.

The role of the 'clinical pharmacist' where the pharmacist is visible on the ward and in clinics in a 'patient-facing role,' while well established in some countries, is still a rarity in others. Pharmacist prescribing is established in countries like the UK, USA, Canada, and New Zealand but is not legally permissible in the majority. In addition, 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. In fact, statistical analysis of the results indicates a clear relationship between staffing numbers and responses to the delivery of clinically orientated services.

The response to question S4.4 'The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission', as with previous Statement surveys produced the lowest percentage of positive responses and overall, there was no statistical difference from previous Statement surveys. However, some countries have shown improvement; Belgium, Bulgaria, France, Germany, Hungary, Italy, and Romania all show higher percentages of positive responses than the last survey and baseline, whilst Austria, Slovenia, Spain, and the UK have all improved on the previous survey level of positive responses but remain lower than the baseline.

It is of concern that in some countries clinical pharmacy services are not well developed since pharmacists are the medicines expert. Whilst it is encouraging that a mean of 60% of respondents gave a positive response to the question 'all prescriptions are reviewed and validated as soon as possible by a pharmacist' which is an improvement on the previous Statement survey (56%), it indicates that in 40% of cases this is not happening. This activity is an important part of medication safety systems.

Introduction and background

Hospital pharmacists help to ensure safe, effective, and optimal use of medicines in collaboration with multi-disciplinary teams throughout healthcare systems. Therefore, the European Statements of Hospital Pharmacy were designed in 2014 to assist them in implementing these services.

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'. (1) As outlined by Horak et al in their report on the future of the EAHP survey (2), 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).

Keele University were commissioned to analyse the results of an Investigation into European Hospital pharmacists' progress in implementing the Statements on hospital pharmacy practice and to identify the common barriers and drivers of success. Results were compared with an initial 2015/16 baseline survey (16 languages and 34 countries), and a follow up survey in 2018.

Based on previous feedback and the decision of the General Assembly, EAHP changed its data collection tool. Instead of via a survey, data was collected via the Self-assessment tool, optimising data collection while minimising workload for survey respondents. The primary focus of the Statement survey and the Self-assessment tool is to identify the barriers to the implementation of the Statements.

The EAHP Investigation of the hospital pharmacy profession in Europe was conducted from November 2022 to March 2023 and had the goal to understand the current status of the profession in Europe through assessing the level of implementation of the European Statements, , including a section looking at the self-assessment tool, the hospital pharmacists' roles during the COVID-19 Pandemic and other practice-specific topics such as vaccines, sustainability and FMD.

This document focuses on the results of the EAHP Investigation of the hospital pharmacy profession in Europe across 35 participating member countries¹. There are also appendix documents which contain the full survey results and anonymised free text responses.

¹ EAHP has currently 36 members countries. Cyprus joined in June 2023.

Method

The investigation was drafted using the same questions as the 2015 baseline survey and then conducted from November 2022 to March 2023. The Survey was shared with the 35 members countries member of EAHP and Cyprus.²

The 2022/23 EAHP Investigation (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 all the statements
- Section C: questions about the self-assessment tool and practice-specific questions

The questions in Section B of the investigation were to identify the degree to which participants thought that the statements of hospital pharmacy were already being implemented within their hospital. To achieve this aim, the pharmacists who participated in the investigation 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 investigation 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 repeated for all subsequent EAHP Statements Surveys and the EAHP Investigation. 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 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

² EAHP has 36 members, but Cyprus only joined in June 2023.

to asking a participant if pharmacists are involved in the design and implementation of IT systems used within medicines processes, an additional question looked at the effectiveness of those systems.

The investigation 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 via EAHP's member associations, newsletters, and social media to individual hospital pharmacists. A coordinator for each country participated in the dissemination of the survey at the national level.

When the 2022/23 EAHP Investigation closed, there were a total of 653 responses, the results of which were exported from SurveyMonkey for further analysis and reporting. As was done in previous years, if an incomplete response was submitted, the quantitative data was not used in the results.

Where possible and relevant, responses were compared with the data from surveys carried out previously that monitored implementation of the EAHP Statements. The questions from Sections 1, 3 and 4 were last surveyed in 2018/19, and the questions from Sections 2, 5 and 6 in 2017/18. The results from the previous EAHP Statement surveys can be found on the [EAHP website](#).

Results: EAHP Investigation Response Rates

The response rates for the 2022/23 EAHP Investigation are listed in Table 1 below, broken down by country. If an incomplete response was submitted, it was not used in the results.

Country names are used in full where possible in Tables and charts, but it was necessary to abbreviate Bosnia and Herzegovina to B & H, and North Macedonia to N. Macedonia. Malta is not included in the table as no responses were given to the EAHP Investigation.

Table 1³

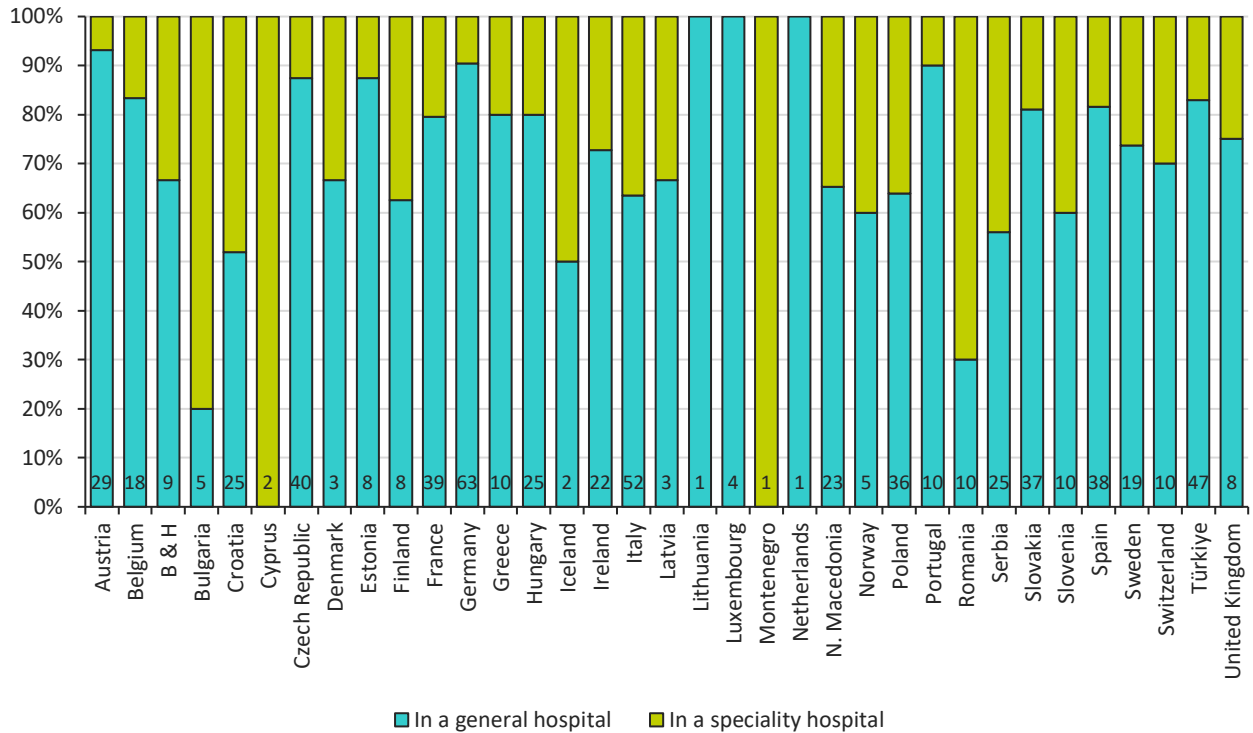
Country	Approx. number of chief pharmacists sent the survey	Complete responses	Percentage of responses	Incomplete survey responses
Austria	44	29	66%	9
Belgium	156	18	12%	12
Bosnia and Herzegovina	17	10	59%	3
Bulgaria	12	5	42%	3
Croatia	46	25	54%	10
Cyprus	-	2	-	0
Czech Republic	114	40	35%	20
Denmark	8	3	38%	2
Estonia	24	8	33%	4
Finland	25	8	32%	0
France	1500	39	3%	33
Germany	354	63	18%	18
Greece	134	10	7%	10
Hungary	99	25	25%	16
Iceland	2	2	100%	1
Ireland	65	22	34%	4
Italy	70	52	74%	50
Latvia	30	3	10%	0
Lithuania	-	1		2
Luxembourg	5	4	80%	0
Montenegro	7	1	14%	1
Netherlands	1	1	100%	0
North Macedonia	96	26	27%	13
Norway	33	5	15%	7
Poland	-	37	-	36
Portugal	96	10	10%	10
Romania	-	10	-	6
Serbia	70	25	36%	16
Slovakia	60	37	62%	13
Slovenia	26	10	38%	1
Spain	200	38	19%	18
Sweden	37	19	51%	1
Switzerland	67	10	15%	2
Türkiye	-	47		67

United Kingdom	70	8	11%	2
Total		653		390

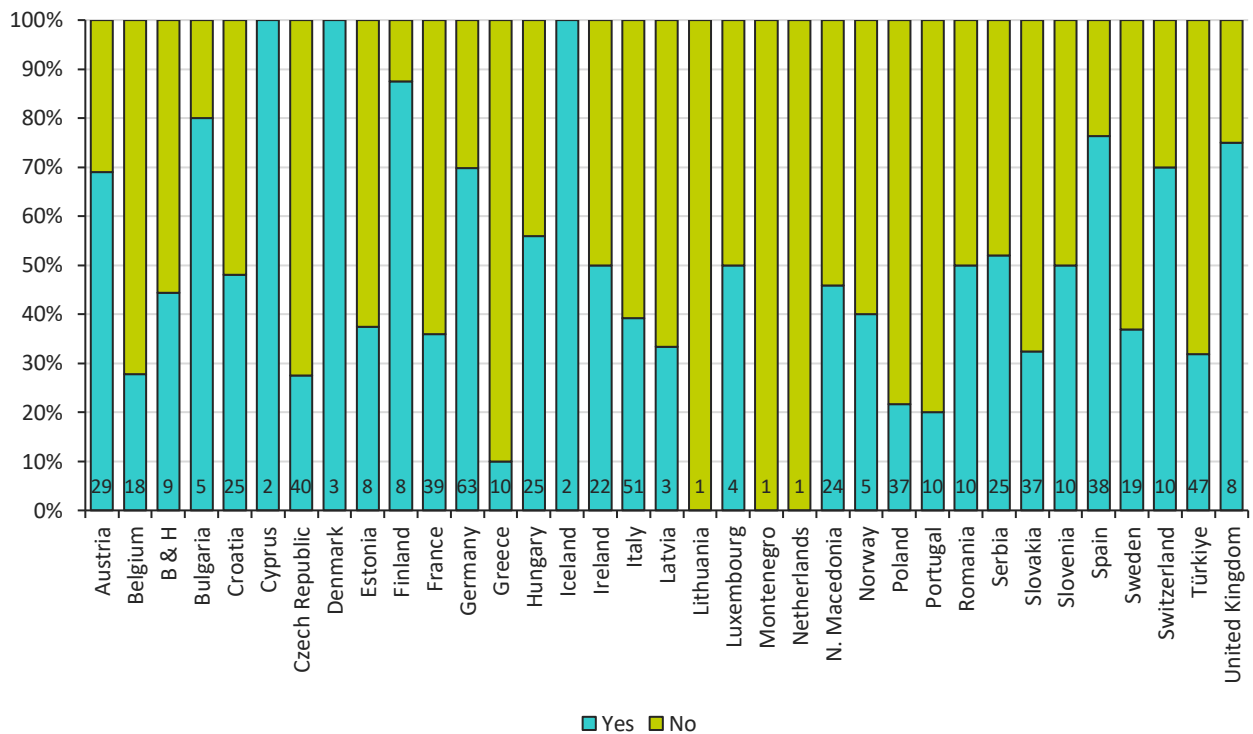
Section A: Results of the General Questions Regarding Hospital Activity

(The numbers in the base of each bar show the number of responses from that country)

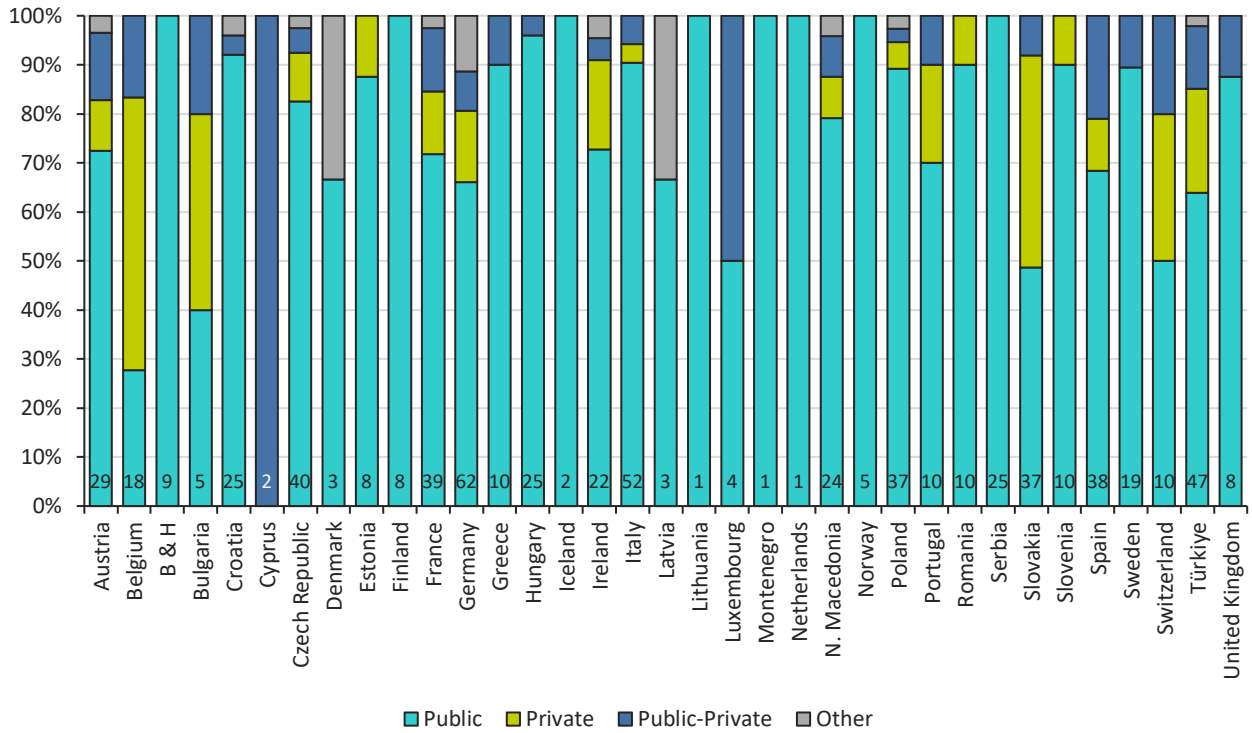
G2 In which type of hospital is your pharmacy located?



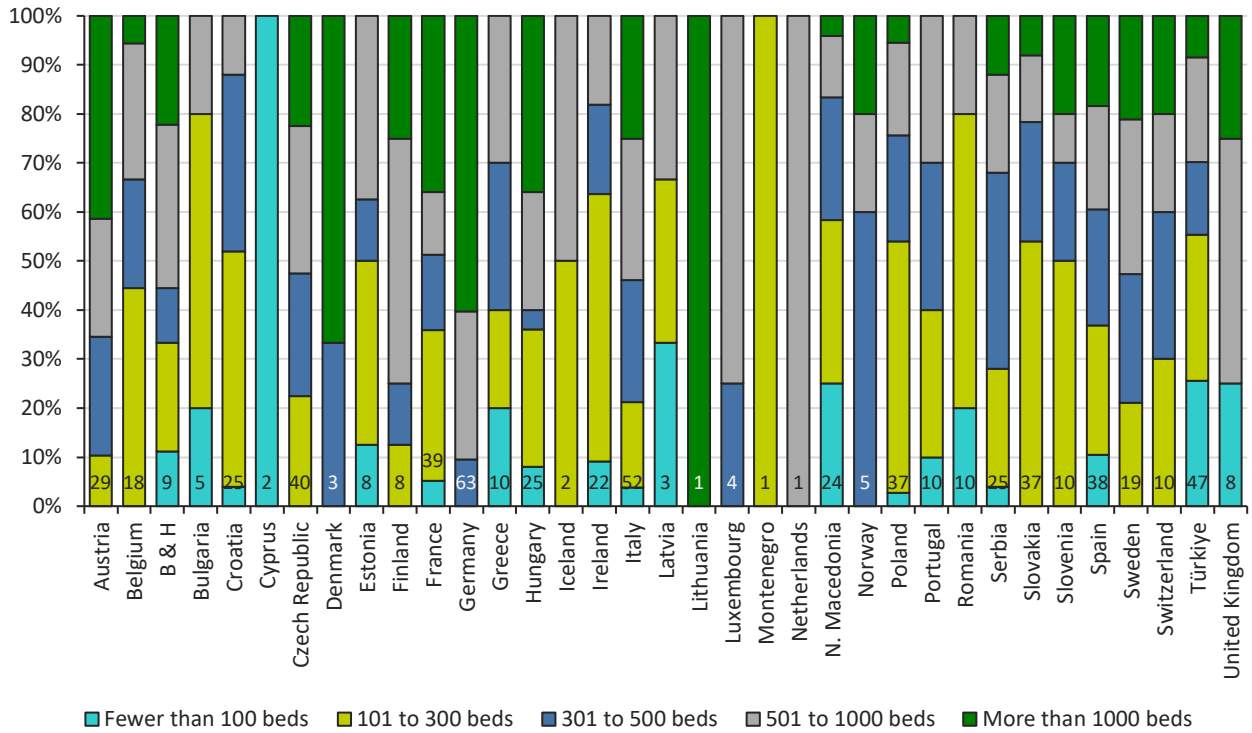
G3 Is your pharmacy within a teaching/university hospital?



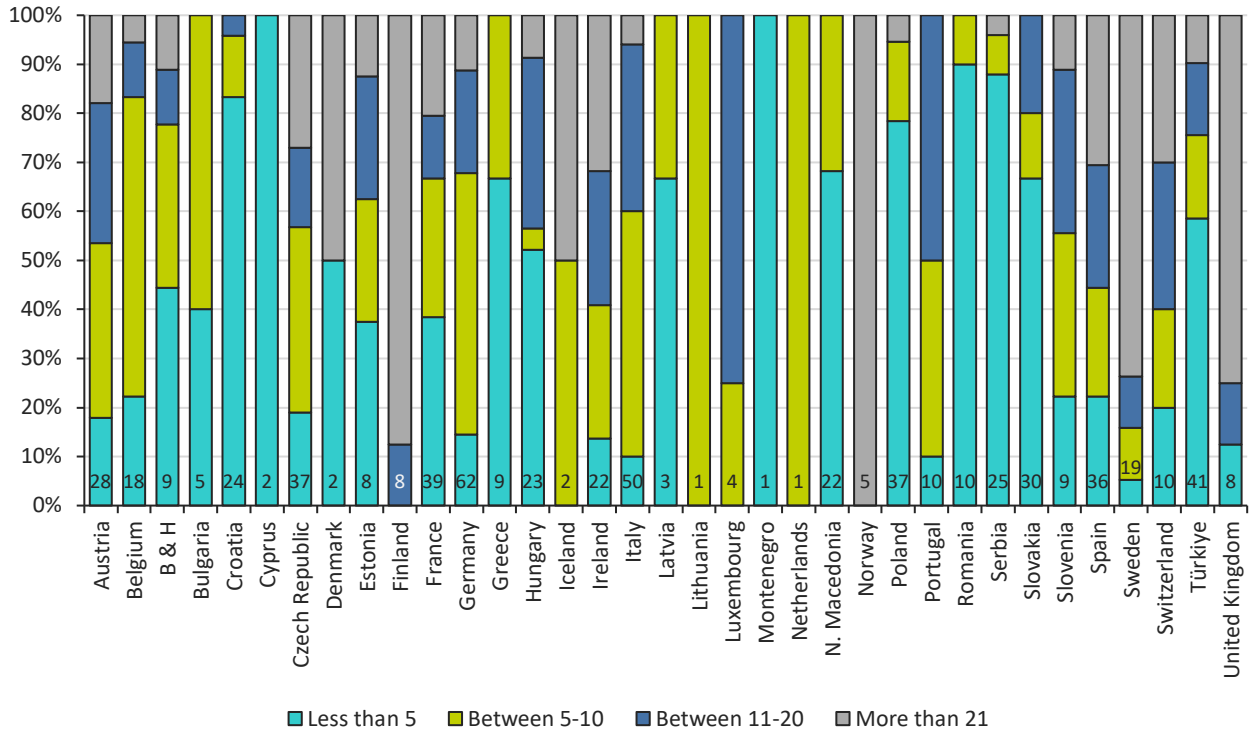
G4 What is the ownership structure of your hospital?



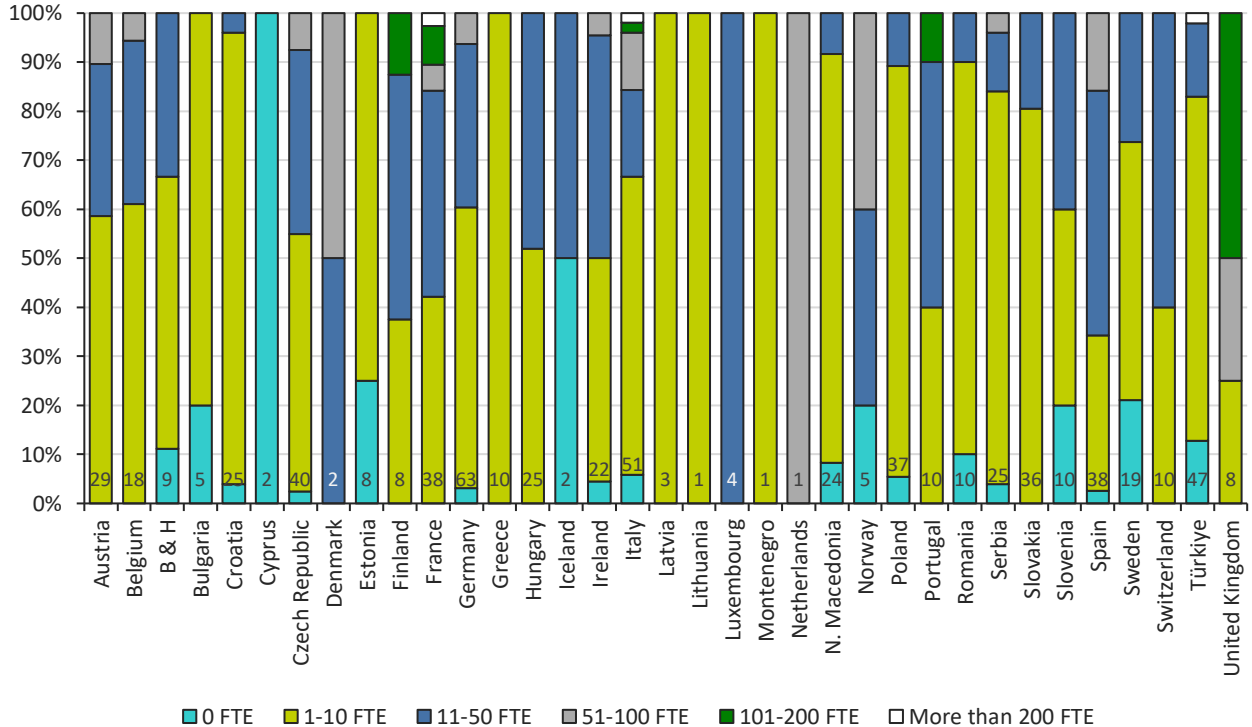
G5 How many beds are served by your pharmacy?



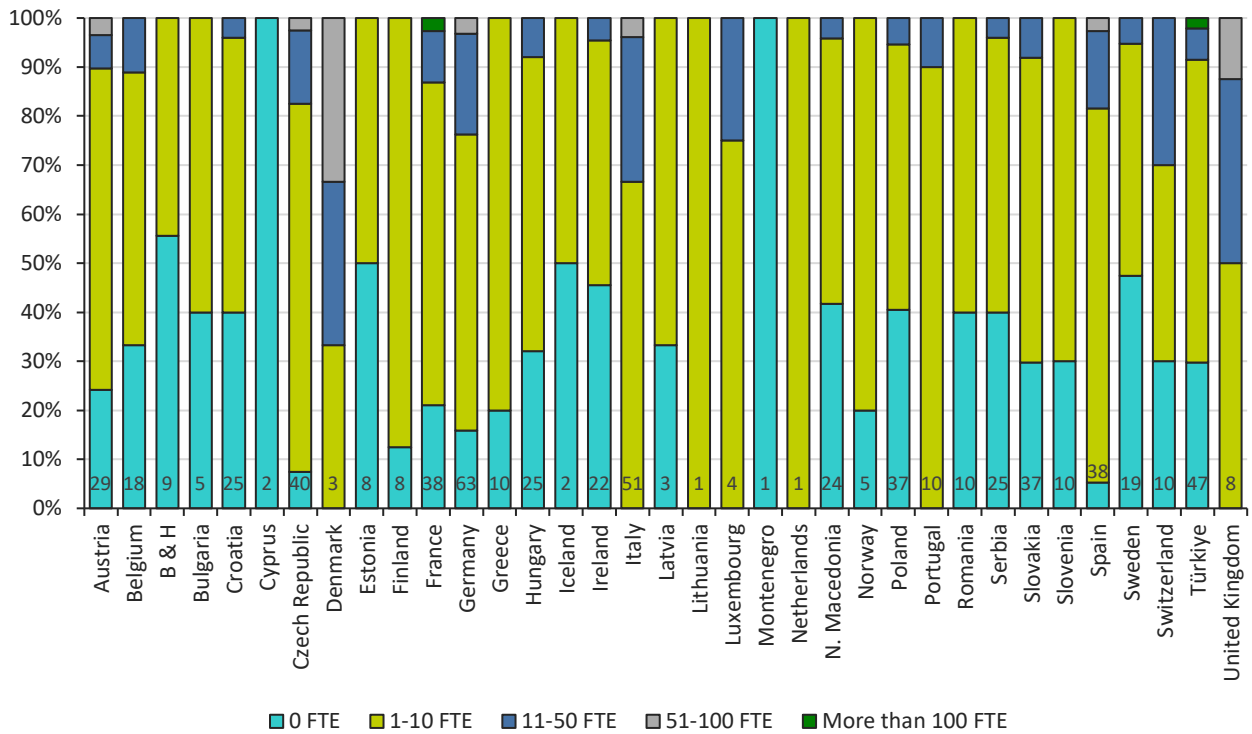
G6 How many pharmacists are providing services in your hospital regardless of their employment status?



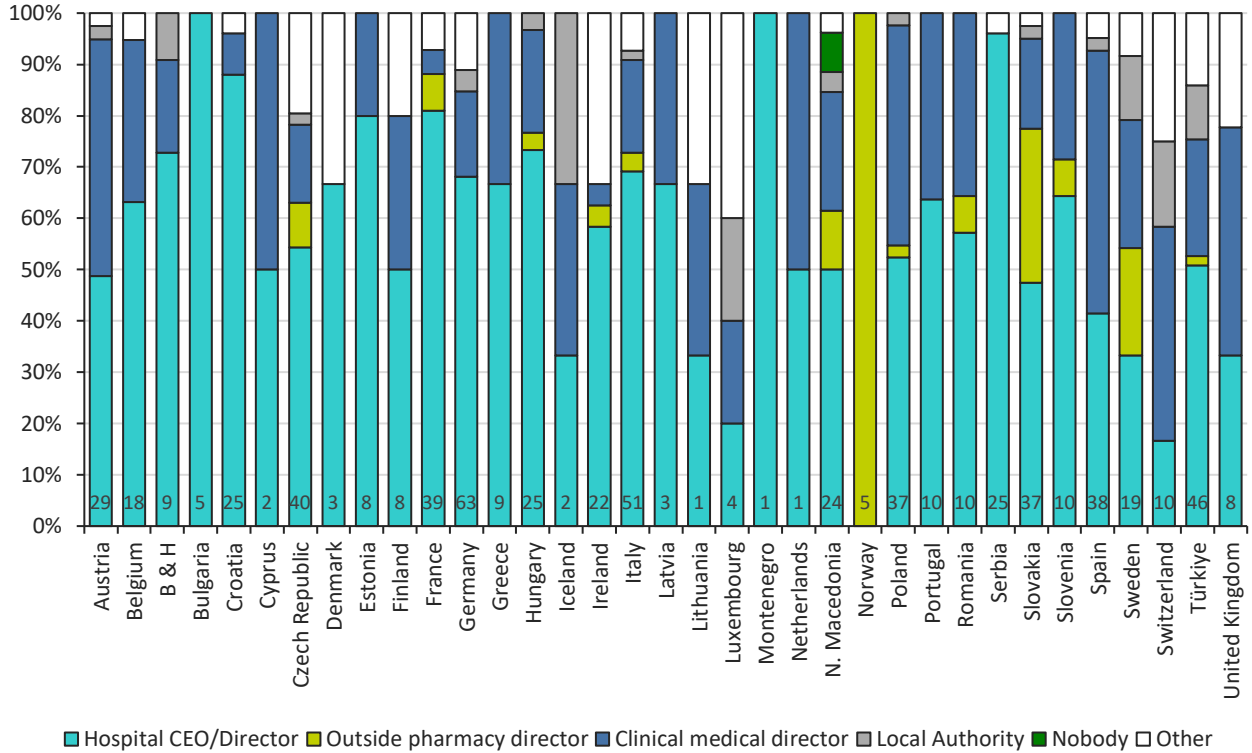
G7 Approximately how many pharmacy technicians, assistants or other staff within these roles are employed by your hospital?



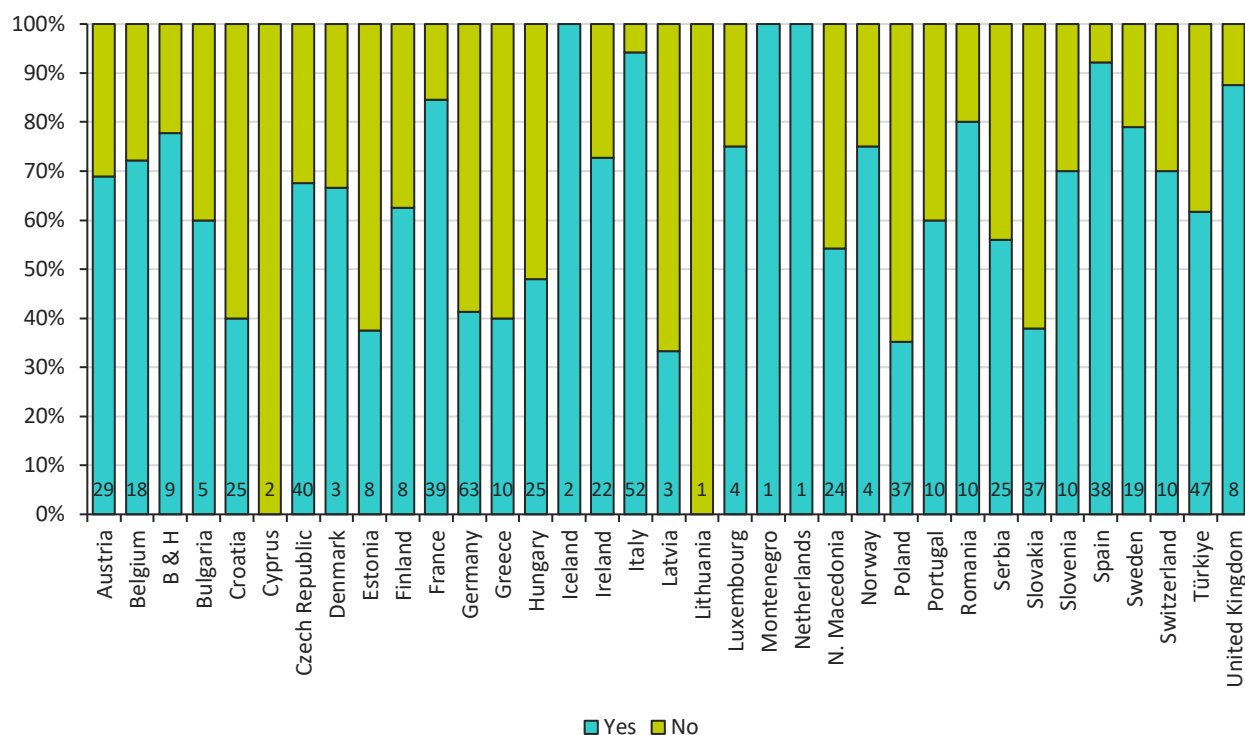
G8 Approximately how many support staff members are employed by your hospital in the pharmacy department?



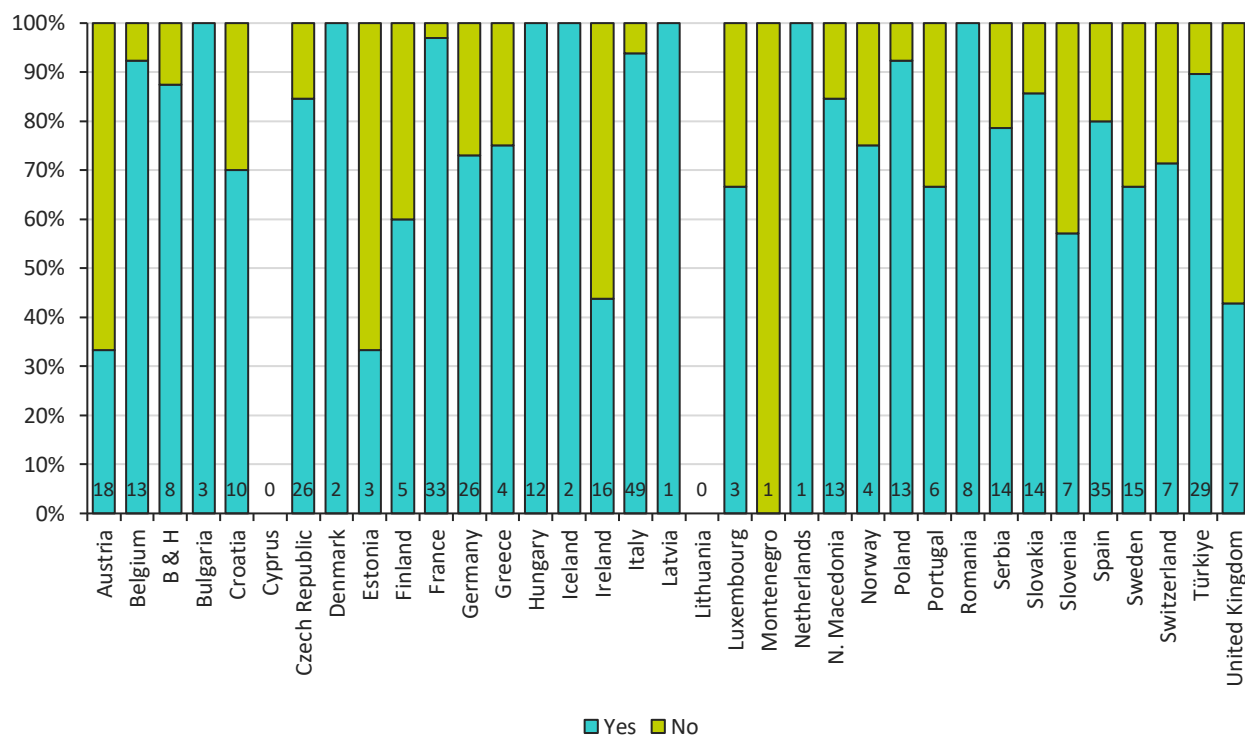
G9 To whom is the head of the pharmacy/the chief pharmacist/pharmacy director responsible?



G10 Are there some tasks in your pharmacy that can only be carried out by a pharmacist with hospital pharmacy specialisation or another type of additional training?

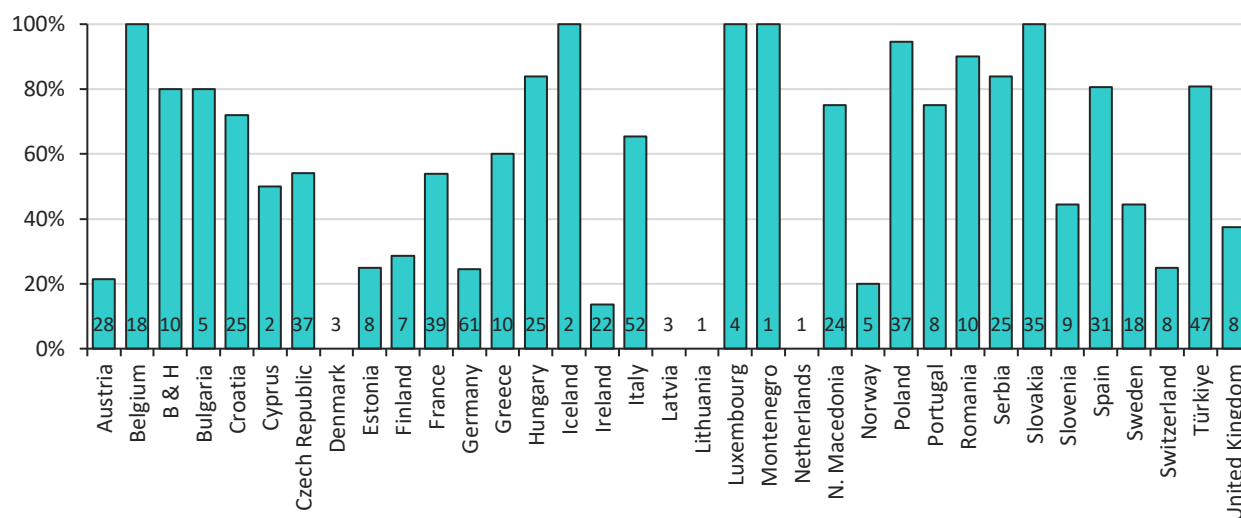


G12 Is this regulated by law?

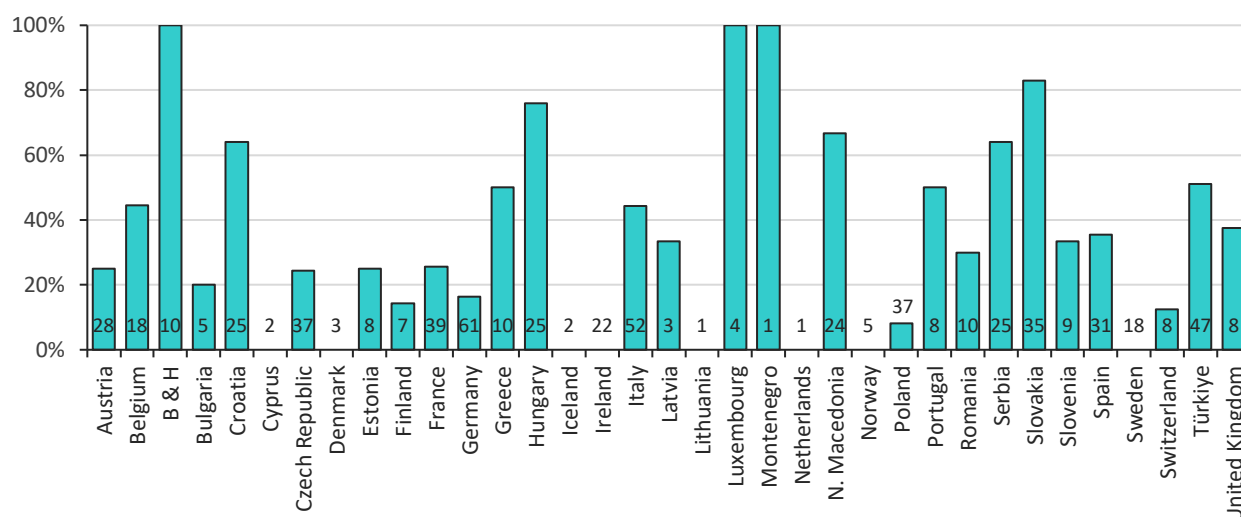


G13 For which of the following categories, does your hospital have a set number of staff that need to be employed (defined by law/at hospital level/at regional level/at national level)?

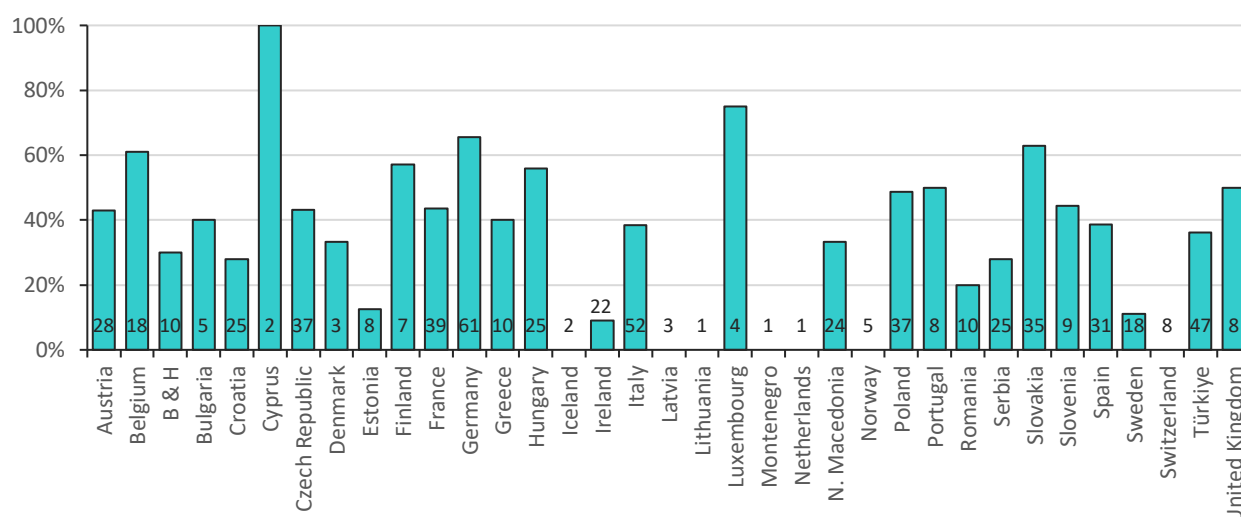
Pharmacists:



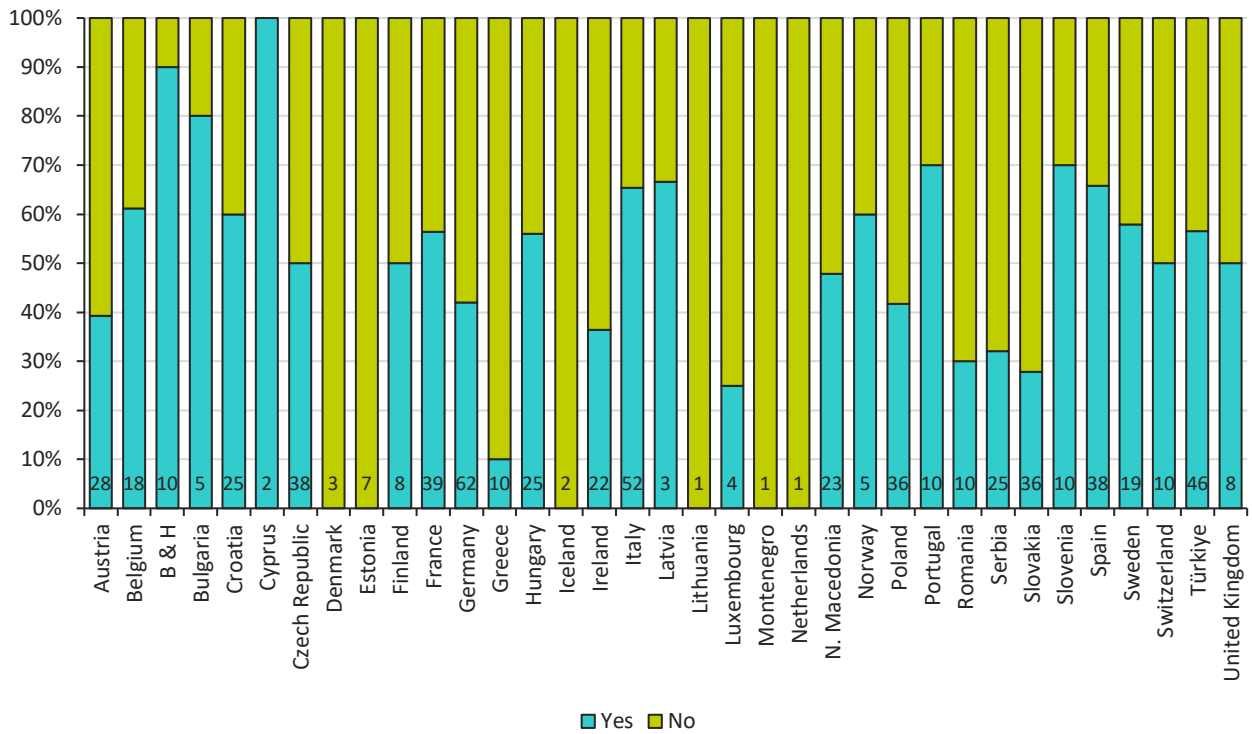
Technicians and support staff:



Nurses:

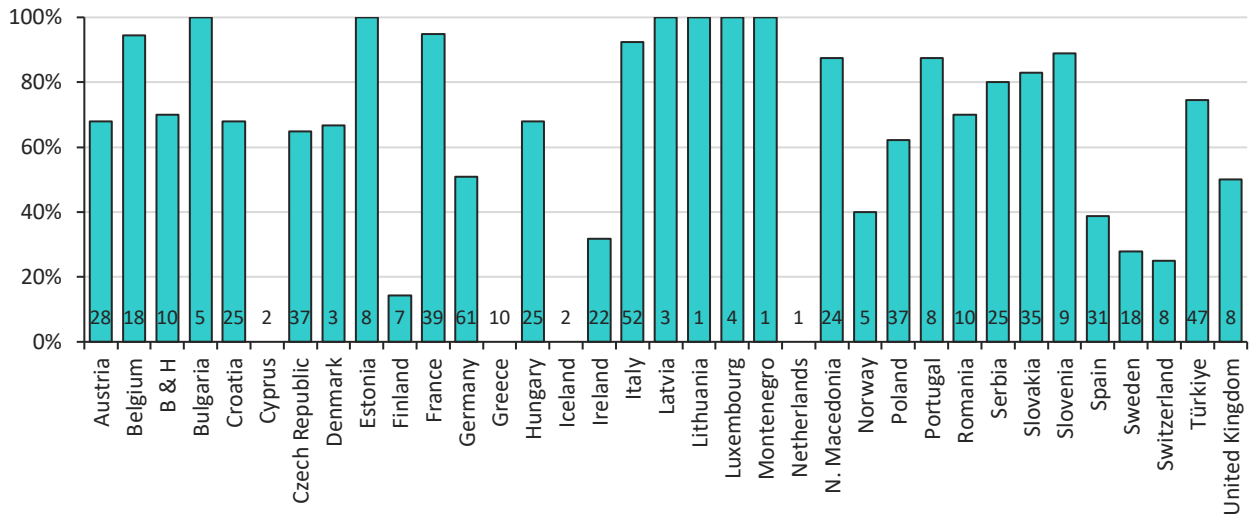


G15 Is there a workforce development plan in action? (See also Question 18 from the Country report [Appendix 2])

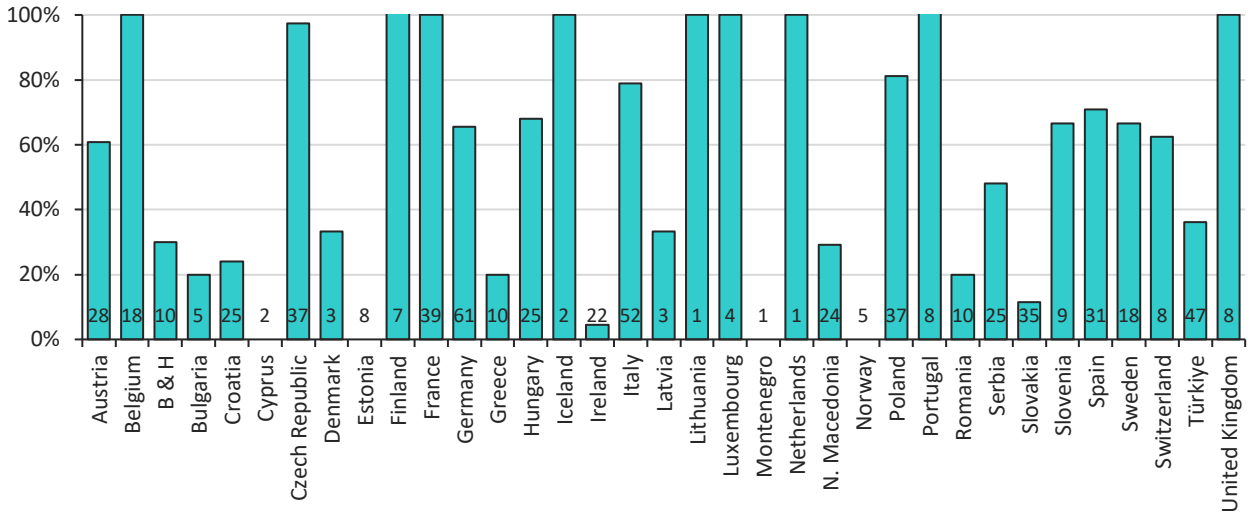


G16 Is your hospital pharmacy managing the following?

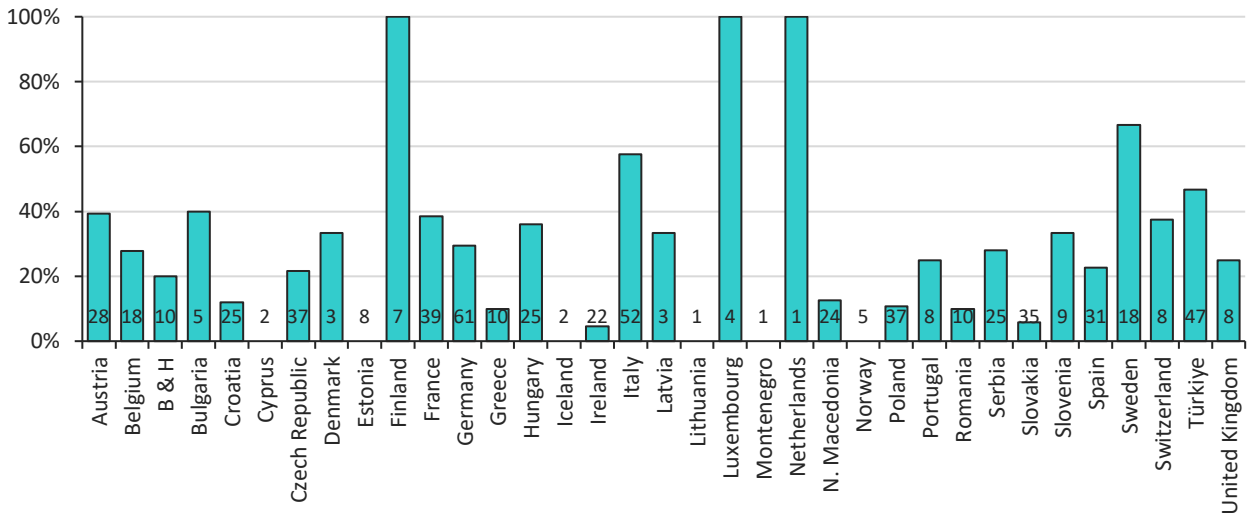
Medical devices:



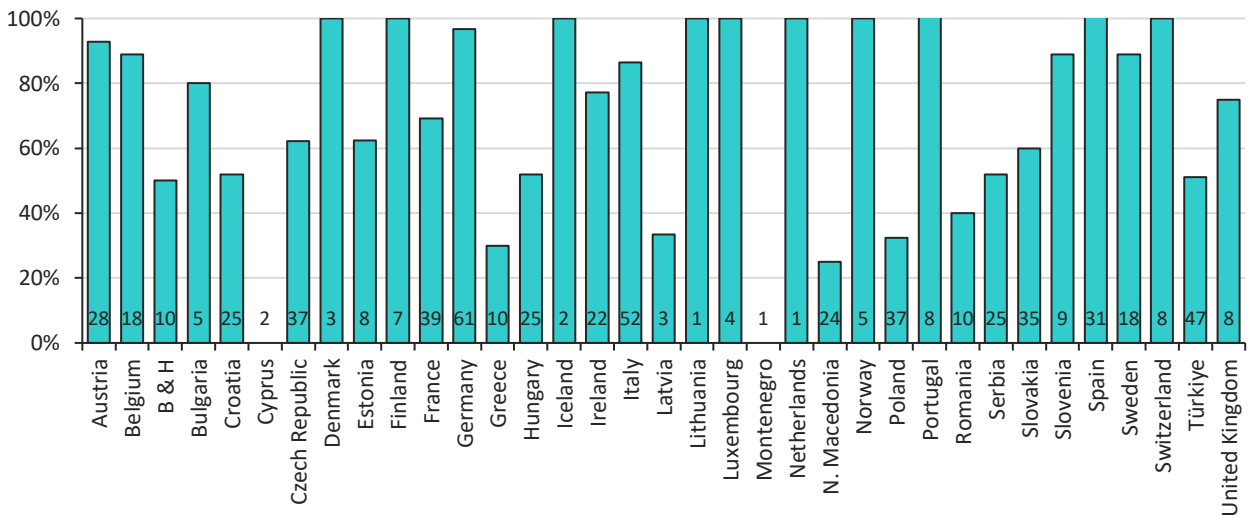
Medical gases:



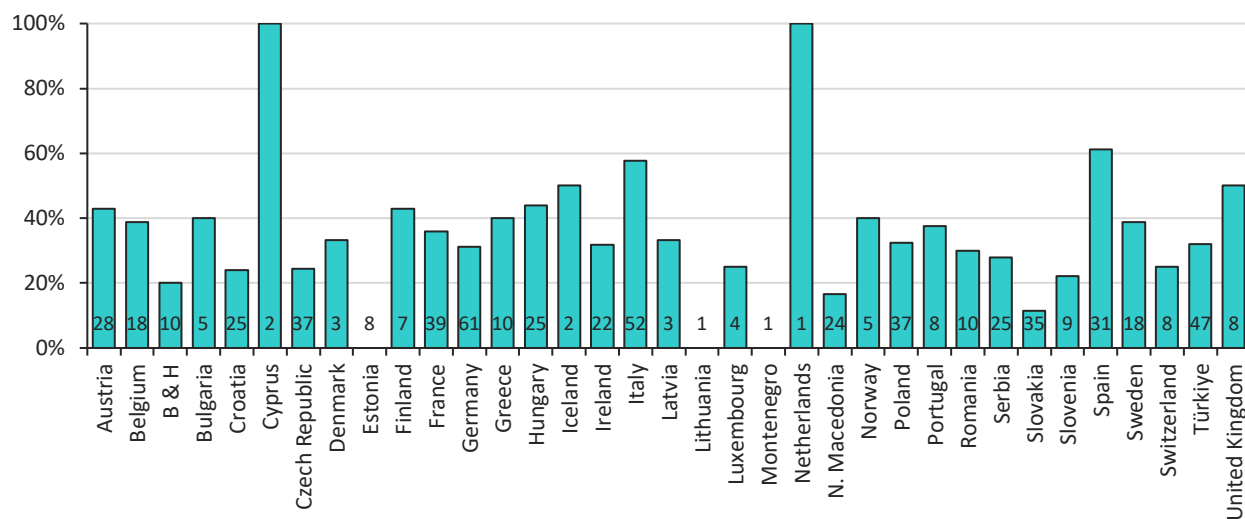
Radiopharmaceuticals:



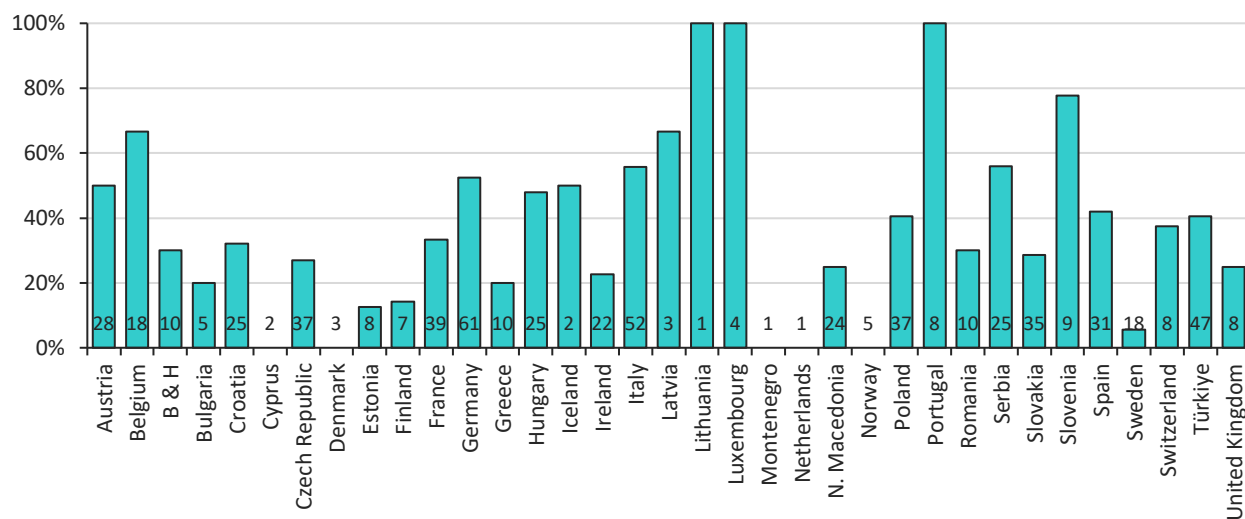
Cytotoxics:



Advanced therapy medicinal products:



Biocidal products:



Section B

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

Figures 1 and 2 show the results of the questions relating to each of the statements for all 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.

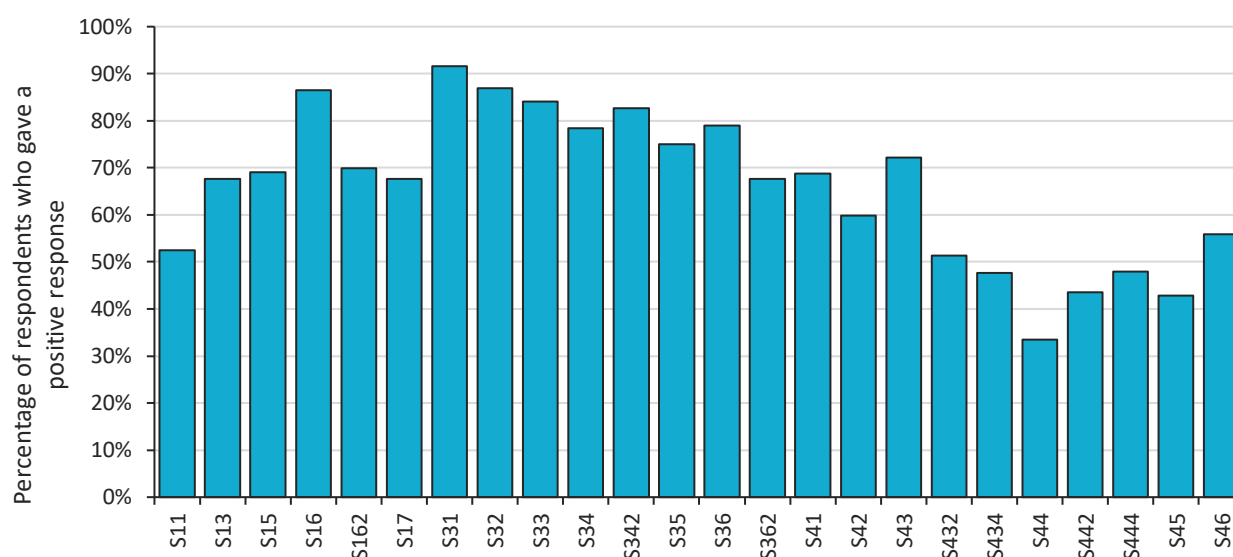


Figure 1 Mean percentage of positive responses from countries in the 2022/23 EAFP Investigation for sections 1,3 and 4 (for details of the questions see Table 3, page 26).

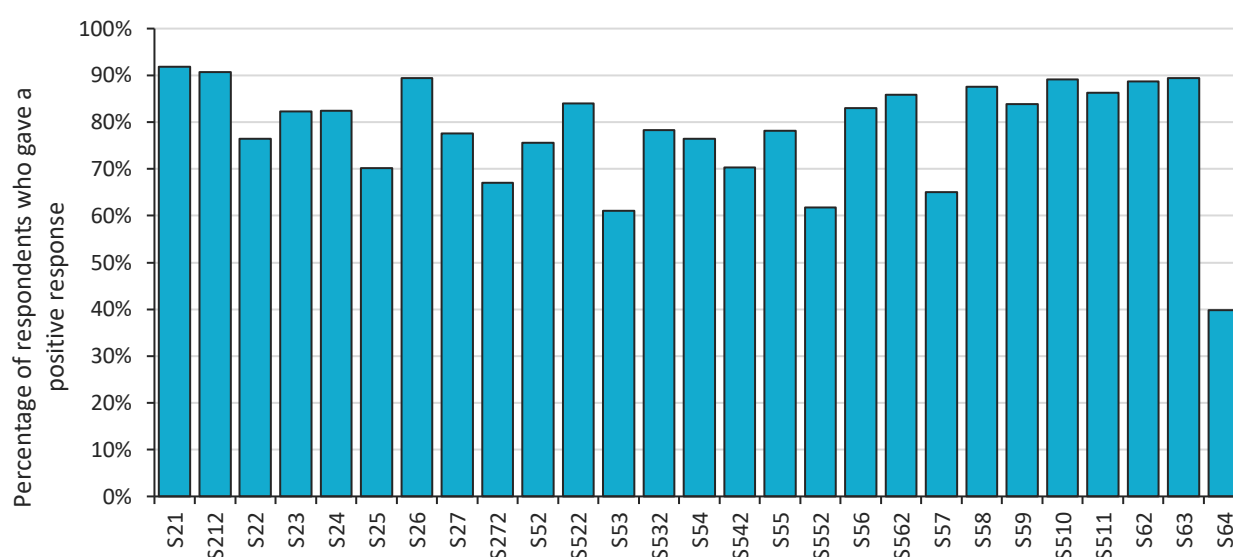


Figure 2 Mean percentage of positive responses from countries in the 2022/23 EAFP Investigation for sections 2,5 and 6 (for details of the questions see Table 3, page 26).

Responses across all the sections surveyed were mixed, with 29 of the 50 questions returning a positive response percentage of 75% or greater. Section 1 (introductory statements and governance) contained questions that were mostly answered very positively, although an exception to this was question 'S1.1 - The pharmacists in our hospital work routinely as part of a multidisciplinary team.' which was only 52% positive, an improvement on previous years but lower than the baseline survey percentage of 59%. Section 3 (production and compounding) questions were all generally answered positively with results ranging from 67% to 90%. However, results for Section 4 (Clinical pharmacy services) returned lower levels of positivity with responses from 8 of the 15 questions being less than 60%.

The six 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 six questions are shown in Table 2 below:

Table 2

	Question	Mean* (2022/23)	Mean* (Previous Statement survey)	Mean* (Baseline)
S4.4	The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission.	33.4%	30.3%	28.5%
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice research.	39.8%	50.1%	44.2%
S4.5	The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings.	42.8%	41.0%	44.0%
S1.1	The pharmacists in our hospital work routinely as part of the multidisciplinary team.	52.5%	47.8%	59.1%
S4.6	The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand.	55.9%	56.9%	63.6%
S4.2	All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist.	59.9%	54.9%	62.9%

**Mean: The mean percentage of positive responses to a question across all respondent countries. The term 'Previous statement survey' indicates comparison with 2018/19 for Sections 1 and 4, and 2017/18 for Section 6.*

The individual question with the least positive response was S4.4, which was 'The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission'. This question received a very poor response (only 33.4% of responses were positive), although this was slightly higher than both the 2018 Statement survey and the baseline.

Of the other questions, the percentage responses to questions S4.5, S1.1 and S4.2 have improved since the last Statement survey but have still not returned to the levels seen at baseline. Responses to questions S6.4 and S4.6 show lower percentage positive responses than the previous Statement survey or the baseline.

Figures 3 to 8 Figure 3 Figure 8 below, show comparisons of the mean percentage of positive responses from countries by survey Section for the baseline, 2018 Statement survey and the 2023 EHP Investigation .

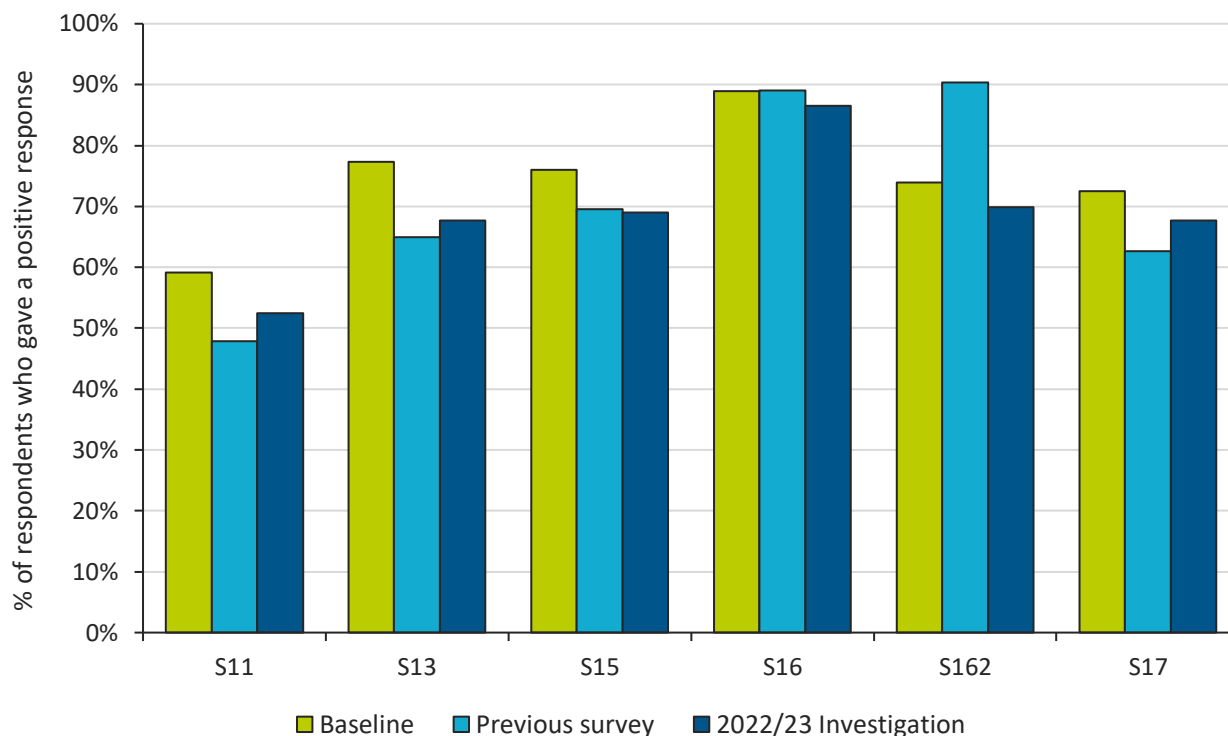


Figure 3 Comparative data: mean percentage of positive responses from countries for questions from Section 1: Introductory statements and governance

Section 1: Introductory statements and governance	
S1.1	The pharmacists in our hospital work routinely as part of the multidisciplinary team
S1.3	Our hospital is able to prioritise hospital pharmacy activities according to agreed criteria
S1.5	The pharmacists in our hospital are engaged in the supervision of all steps of all medicine use processes
S1.6	At least one pharmacist from our team is a full member of the Drug & Therapeutics Committee
S1.6.2	The pharmacists in our hospital take the lead in coordinating the activities of the Drug & Therapeutics Committees
S1.7	The pharmacists in our hospital are involved in the design, specification of parameters and evaluation of ICT used within medicines processes

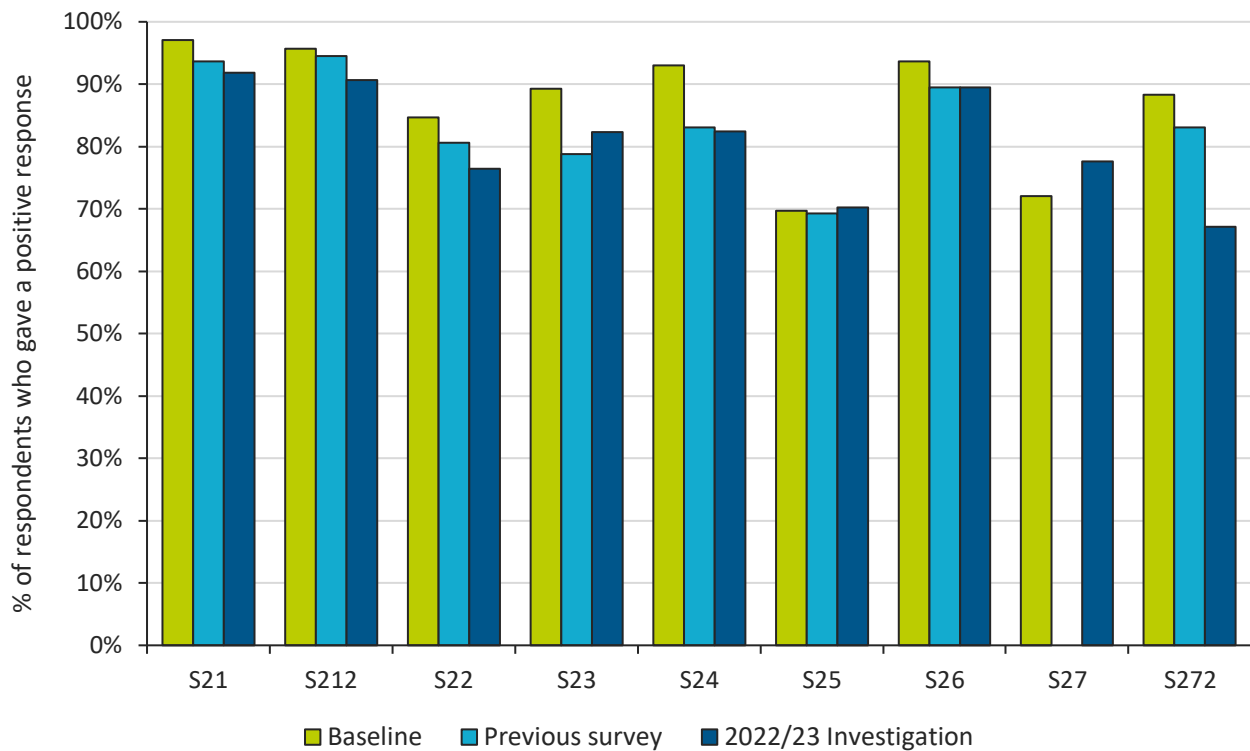


Figure 4 Comparative data: mean percentage of positive responses from countries for questions from Section 2: Selection, procurement, and distribution

Section 2: Selection, procurement, and distribution	
S2.1	Our hospital has clear processes in place around the procurement of medicines
S2.1.2	Are hospital pharmacists involved in the development of procurement processes
S2.2	The pharmacists in our hospital take the lead in developing, monitoring, reviewing, and improving medicine use processes and the use of medicine-related technologies
S2.3	The pharmacists in our hospital coordinate the development, maintenance, and use of our formulary. The formulary in this context is an evidence-based list of medicines that can be prescribed in your hospital and is not solely based on historical or economic data/factors.
S2.4	Procurement of non-formulary medicines in our hospital is done to a robust process
S2.5	The pharmacy in our hospital has contingency plans for medicines shortages
S2.6	The pharmacy in our hospital takes responsibility for all medicines logistics, including for investigational medicines
S2.7	Our hospital has a policy for the use of medicines brought into the hospital by patients
S2.7.2	Were pharmacists involved in producing the policy for the use of medicines brought into the hospital by patients

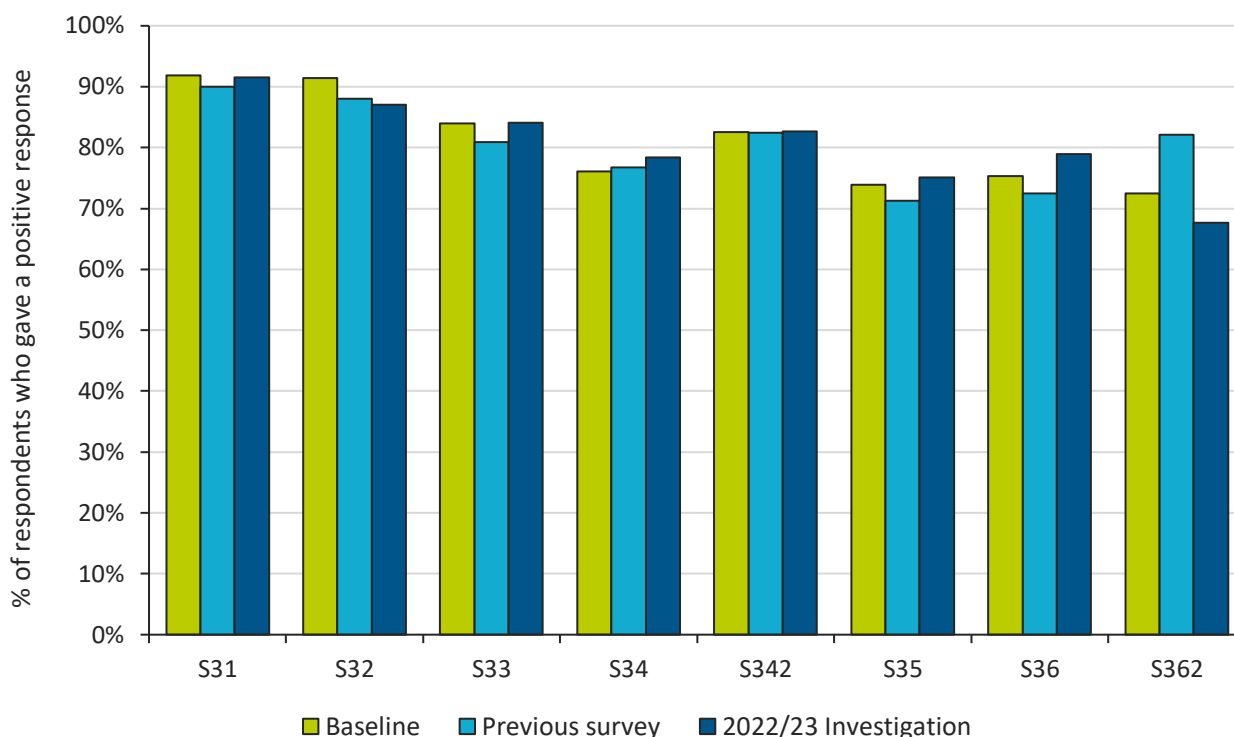


Figure 5 Comparative data: mean percentage of positive responses from countries for questions from Section 3: Production and compounding.

Section 3: Production and compounding	
S3.1	The pharmacists in our hospital check if a suitable product is commercially available before we manufacture or prepare a medicine
S3.2	When medicines require manufacture or compounding, we either produce them in our hospital pharmacy or we outsource to an approved provider
S3.3	The pharmacists in our hospital undertake a risk assessment to determine the best practice quality requirements before making a pharmacy preparation
S3.4	The pharmacy in our hospital has an appropriate system in place for the quality assurance of pharmacy prepared and compounded medicines
S3.4.2	The pharmacy in our hospital has an appropriate system in place for the traceability of pharmacy prepared and compounded medicines
S3.5	Our hospital has appropriate systems in place for the preparation and supply of hazardous medicinal products
S3.6	Our hospital has written procedures that ensure staff are appropriately trained to reconstitute or mix medicines in a patient care area
S3.6.2	Were pharmacists involved in approving the written procedures that ensure staff are appropriately trained to reconstitute or mix medicines in a patient care area

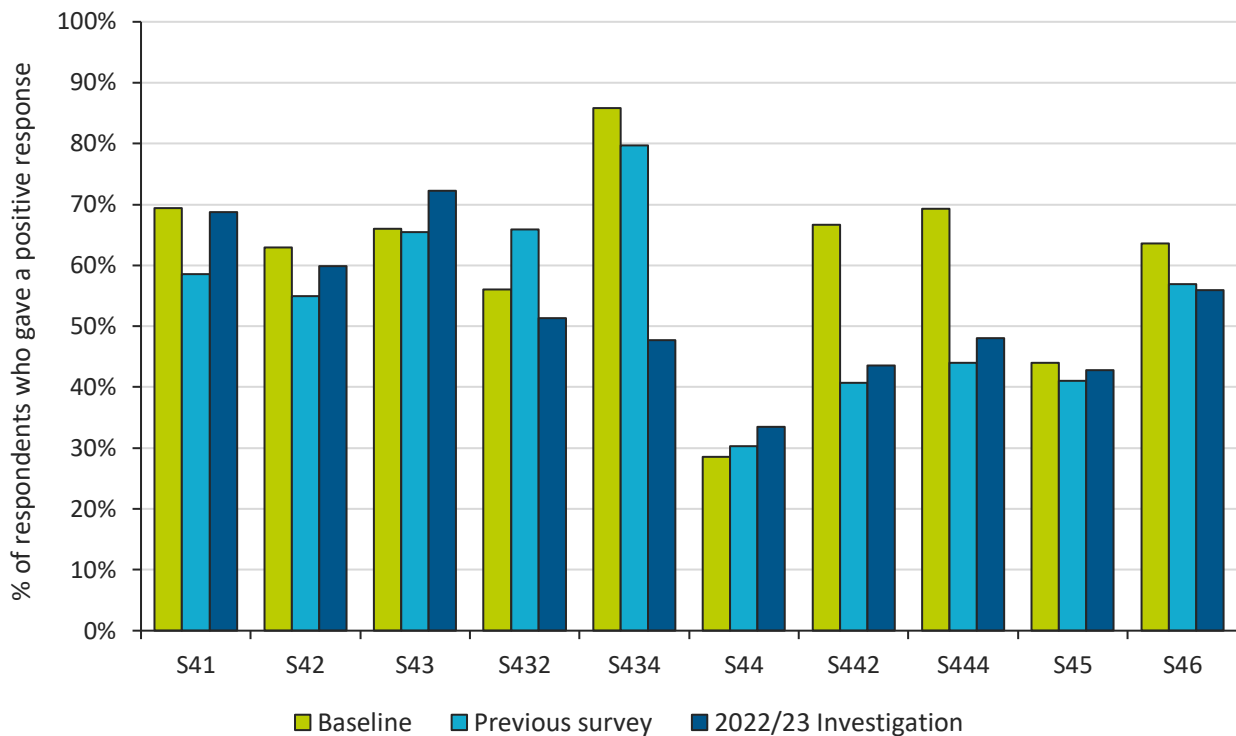


Figure 6 Comparative data: Mean percentage of positive responses from countries for questions from Section 4: Clinical pharmacy services

Section 4: Clinical pharmacy services	
S4.1	The pharmacists in our hospital play a full part in shared decision-making on medicines, including advising, implementing, and monitoring medication changes
S4.2	All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist
S4.3	The pharmacists in our hospital have access to the patients' health record
S4.3.2	The pharmacists in our hospital document their clinical interventions into the patients' health record
S4.3.4	We analyse these clinical pharmacy interventions to inform quality improvement plans
S4.4	The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission
S4.4.2	The pharmacists in our hospital reconcile medicines on admission
S4.4.4	The pharmacists in our hospital assess the appropriateness of all patients' medicines, including herbal and dietary supplements
S4.5	The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings
S4.6	The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand

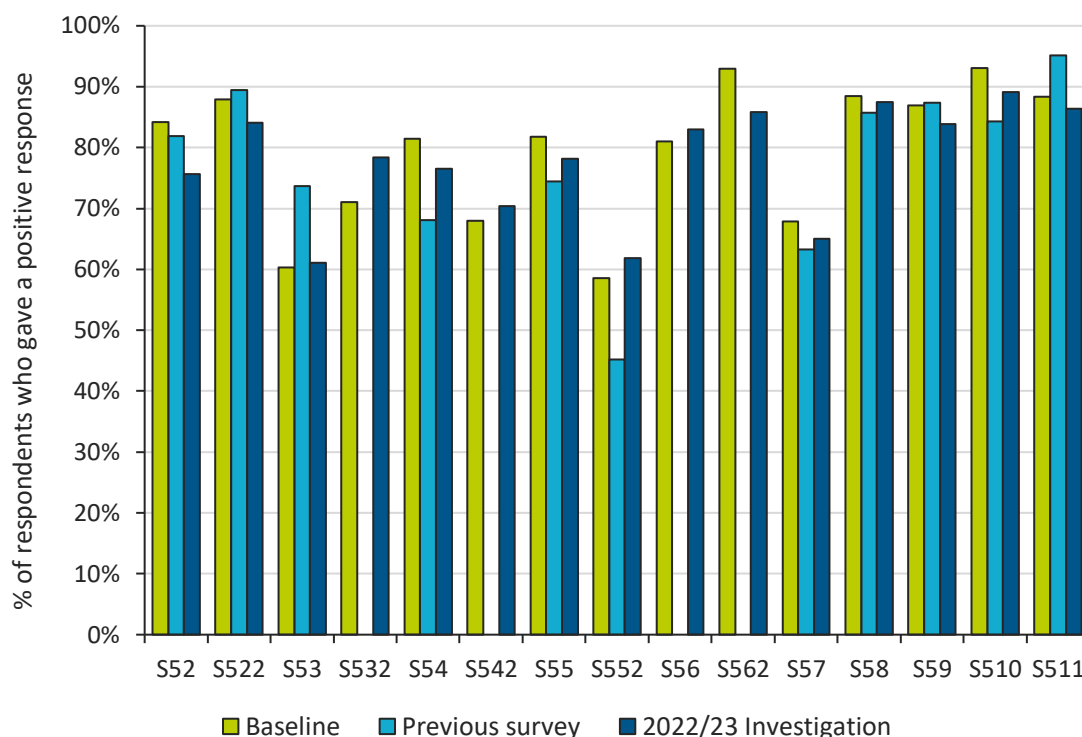


Figure 7 Comparative data: Mean percentage of positive responses from countries for questions from Section 5: Patient safety and quality assurance

Section 5: Patient safety and quality assurance	
S5.2	Our hospital has appropriate strategies to detect errors and identify priorities for improvement in medicines use processes
S5.2.2	Were pharmacists involved in approving these procedures
S5.3	Our hospital uses an external quality assessment accreditation programme to assure our medicines use processes
S5.3.2	Our hospital acts on these reports to improve the quality and safety of our medicines use processes
S5.4	The pharmacists in our hospital report adverse drug reactions
S5.4.2	The pharmacists in our hospital report medication errors
S5.5	The pharmacists in our hospital use evidence-based approaches to reduce the risk of medication errors
S5.5.2	Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors
S5.6	Our hospital has appropriate procedures in place to identify high-risk medicines and minimise the risk from their use
S5.6.2	Are pharmacists involved in implementing these procedures
S5.7	The medicines administration process in our hospital ensures that transcription* steps between the original prescription and the medicines administration record are eliminated
S5.8	Our patient's health records accurately record all allergy and other relevant medicine-related information
S5.9	The pharmacists in our hospital ensure that the information needed for safe medicines use is accessible at the point of care
S5.10	Medicines in our hospital are packaged and labelled to assure they are safely optimised for administration
S5.11	Medicines dispensed by our pharmacy are traceable

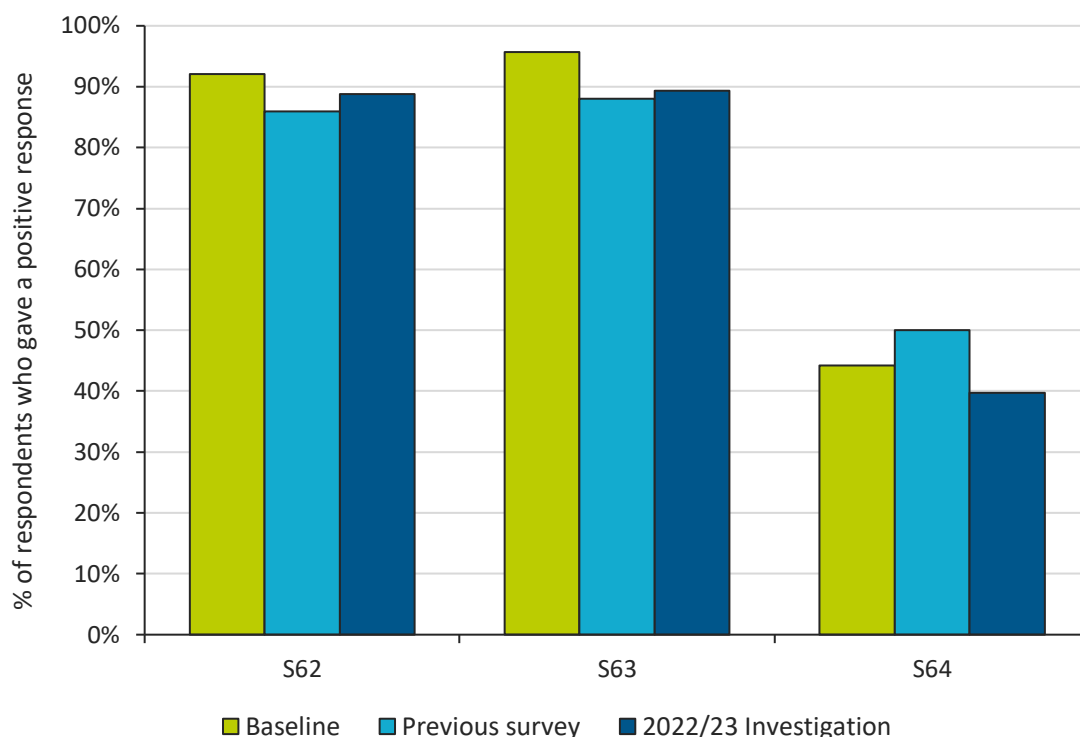


Figure 8 Comparative data: Mean percentage of positive responses from countries for questions from Section 6: Education and research.

Section 6: Education and research	
S6.2	The pharmacists in our hospital are able to demonstrate their competency in performing their roles
S6.3	The pharmacists in our hospital engage in relevant educational opportunities
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice research

As can be seen from the figures 3 to 8, the responses in the 2022/23 Investigation were broadly similar to previous years. Most of the questions in section 1 relating to introductory statements and governance (Figure 3), all of the questions in section 2 relating to selection, procurement and distribution (Figure 4), section 3 relating to production and compounding (Figure 5) and section 5 relating to patient safety and quality assurance (Figure 7) produced more than 50% of positive responses. However, response to questions in section 4 relating to clinical pharmacy services (Figure 6) was more variable with half of the questions producing less than 50% positive responses. Furthermore, the results for section 6 education and research (Figure 8) were similar to the previous Statement survey and baseline but with one of the three questions producing less than 50% positive response.

It is interesting to note that the response to questions relating to what may be considered traditional core roles of hospital (sections 2, 3, and 5) produced more positive responses than newer roles such as clinical pharmacy and education and research. This observation is confirmed in Table 3 below.

Section B2: Questions asked in the survey

Table 3 below shows all the questions asked in the survey regarding the 44 European Statements of Hospital Pharmacy and 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.

Table 3

EHP Investigation questions		
Section 1: Introductory statements and governance		
S1.1	The pharmacists in our hospital work routinely as part of the multidisciplinary team	52%
S1.3	Our hospital is able to prioritise hospital pharmacy activities according to agreed criteria	68%
S1.5	The pharmacists in our hospital are engaged in the supervision of all steps of all medicine use processes	69%
S1.6	At least one pharmacist from our team is a full member of the Drug & Therapeutics Committee	86%
S1.6.2	The pharmacists in our hospital take the lead in coordinating the activities of the Drug & Therapeutics Committees	70%
S1.7	The pharmacists in our hospital are involved in the design, specification of parameters and evaluation of ICT used within medicines processes	68%
Section 2: Selection, procurement, and distribution		
S2.1	Our hospital has clear processes in place around the procurement of medicines	92%
S2.1.2	Are hospital pharmacists involved in the development of procurement processes	91%
S2.2	The pharmacists in our hospital take the lead in developing, monitoring, reviewing, and improving medicine use processes and the use of medicine-related technologies	76%
S2.3	The pharmacists in our hospital coordinate the development, maintenance, and use of our formulary. The formulary in this context is an evidence-based list of medicines that can be prescribed in your hospital and is not solely based on historical or economic data/factors.	82%
S2.4	Procurement of non-formulary medicines in our hospital is done to a robust process	82%
S2.5	The pharmacy in our hospital has contingency plans for medicines shortages	70%
S2.6	The pharmacy in our hospital takes responsibility for all medicines logistics, including for investigational medicines	89%
S2.7	Our hospital has a policy for the use of medicines brought into the hospital by patients	78%
S2.7.2	Were pharmacists involved in producing the policy for the use of medicines brought into the hospital by patients	67%
Section 3: Production and compounding		
S3.1	The pharmacists in our hospital check if a suitable product is commercially available before we manufacture or prepare a medicine	92%
S3.2	When medicines require manufacture or compounding, we either produce them in our hospital pharmacy or we outsource to an approved provider	87%

S3.3	The pharmacists in our hospital undertake a risk assessment to determine the best practice quality requirements before making a pharmacy preparation	84%
S3.4	The pharmacy in our hospital has an appropriate system in place for the quality assurance of pharmacy prepared and compounded medicines	78%
S3.4.2	The pharmacy in our hospital has an appropriate system in place for the traceability of pharmacy prepared and compounded medicines	83%
S3.5	Our hospital has appropriate systems in place for the preparation and supply of hazardous medicinal products	75%
S3.6	Our hospital has written procedures that ensure staff are appropriately trained to reconstitute or mix medicines in a patient care area	79%
S3.6.2	Were pharmacists involved in approving the written procedures that ensure staff are appropriately trained to reconstitute or mix medicines in a patient care area	68%
Section 4: Clinical pharmacy services		
S4.1	The pharmacists in our hospital play a full part in shared decision-making on medicines, including advising, implementing, and monitoring medication changes	69%
S4.2	All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist	60%
S4.3	The pharmacists in our hospital have access to the patients' health record	72%
S4.3.2	The pharmacists in our hospital document their clinical interventions into the patients' health record	51%
S4.3.4	We analyse these clinical pharmacy interventions to inform quality improvement plans	48%
S4.4	The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission	33%
S4.4.2	The pharmacists in our hospital reconcile medicines on admission	44%
S4.4.4	The pharmacists in our hospital assess the appropriateness of all patients' medicines, including herbal and dietary supplements	48%
S4.5	The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings	43%
S4.6	The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand	56%
Section 5: Patient safety and quality assurance		
S5.2	Our hospital has appropriate strategies to detect errors and identify priorities for improvement in medicines use processes	76%
S5.2.2	Were pharmacists involved in approving these procedures	84%
S5.3	Our hospital uses an external quality assessment accreditation programme to assure our medicines use processes	61%
S5.3.2	Our hospital acts on these reports to improve the quality and safety of our medicines use processes	78%
S5.4	The pharmacists in our hospital report adverse drug reactions	76%
S5.4.2	The pharmacists in our hospital report medication errors	70%
S5.5	The pharmacists in our hospital use evidence-based approaches to reduce the risk of medication errors	78%
S5.5.2	Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors	62%
S5.6	Our hospital has appropriate procedures in place to identify high-risk medicines and minimise the risk from their use	83%

S5.6.2	Are pharmacists involved in implementing these procedures	86%
S5.7	The medicines administration process in our hospital ensures that transcription* steps between the original prescription and the medicines administration record are eliminated	65%
S5.8	Our patient's health records accurately record all allergy and other relevant medicine-related information	88%
S5.9	The pharmacists in our hospital ensure that the information needed for safe medicines use is accessible at the point of care	84%
S5.10	Medicines in our hospital are packaged and labelled to assure they are safely optimised for administration	89%
S5.11	Medicines dispensed by our pharmacy are traceable	86%
Section 6: Education and research		
S6.2	The pharmacists in our hospital are able to demonstrate their competency in performing their roles	89%
S6.3	The pharmacists in our hospital engage in relevant educational opportunities	89%
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice research	40%

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

(Statements are presented in order of increasing percentage response, as shown in Table 2 Table 3)

1. EAHP Statement 4.4

EAHP 4.4: The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission.

Figure 9 below shows the mean percentage of respondents who gave a positive response when asked if pharmacists enter all medicines used onto the patient's medical record on admission. As shown in Table 2 overall, only 33% of responses were positive to this question, a slightly improved result to the 2018/19 Statement and baseline surveys where 30% and 29% of the total responses respectively were positive. However, a Chi squared analysis indicated that the increase in the mean percentage of positive responses for countries between the 2022/23 Investigation and the 2018/19 Statement survey was not statistically significant ($p=0.76$). Similarly, the increase in mean percentage positive responses in the 2022/23 Investigation over the baseline was also not statistically significant ($P=0.65$). In the charts in this section, the label 'Previous survey' refers to the 2018/19 Statement survey.

When looking at the responses from individual countries who participated in all three surveys 9 out of 24 countries gave 50 percentage or more of positive responses (e.g. UK 88%, Finland 75%, Romania 70%; Figure 9) and in only 6 countries this was an increase over the baseline survey (Belgium, Bulgaria, Finland, France, Romania, Türkiye).

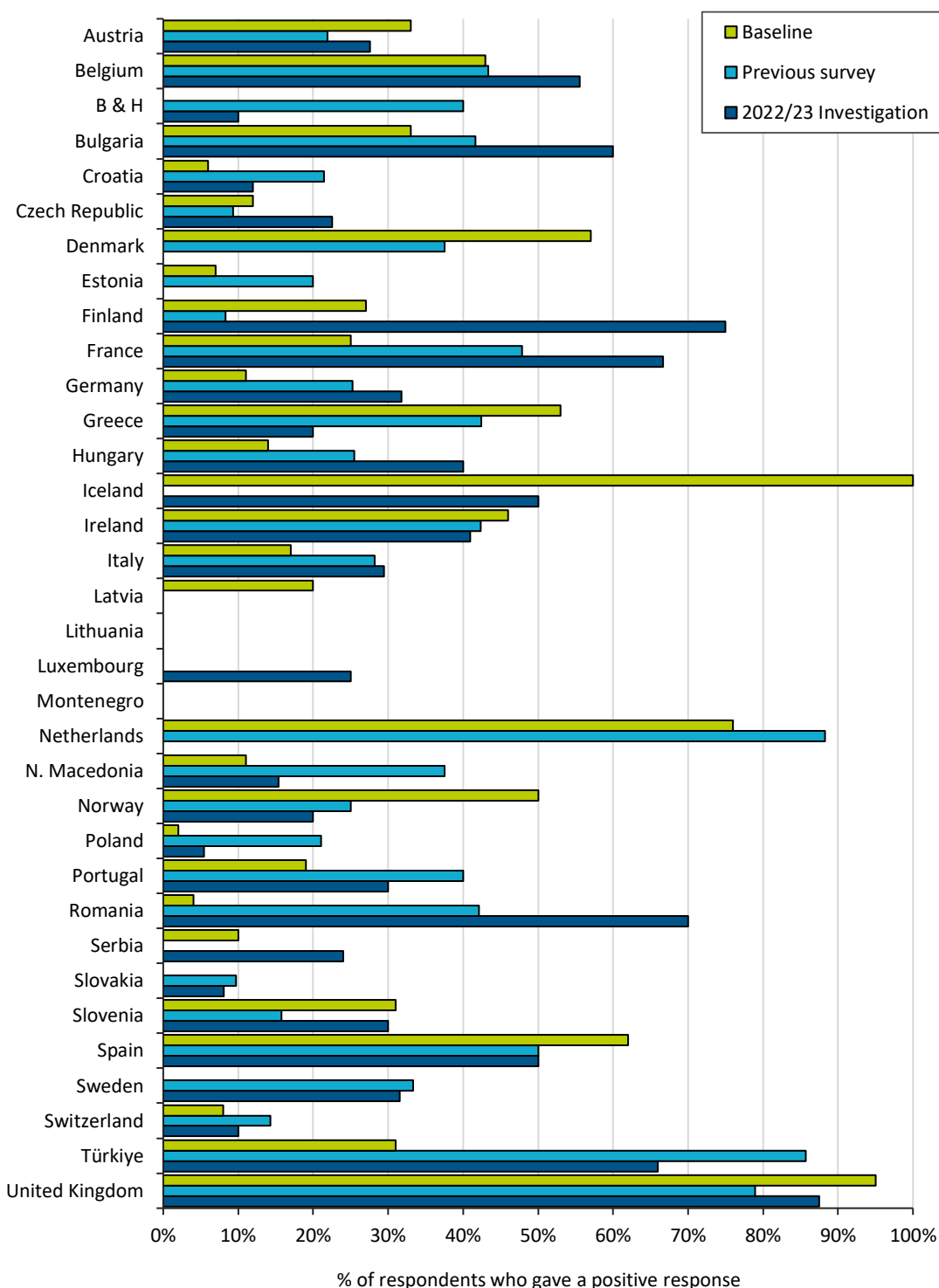


Figure 9 Percentage of respondents who gave a positive response to the statement (S4.4) “The pharmacists in our hospital enter all medicines used onto the patient’s medical record on admission.”

To further understand this, respondents who answered the question with a negative response were asked what is preventing pharmacists from entering medicines onto patient’s medical records. The overall results are shown in Figure 10. The most frequent overall response was that ‘other healthcare professionals do this’ with a total of 221 responses (30%). This was observed in previous EAHP Statement surveys, where in many countries and hospitals, the role of the hospital pharmacists is limited to the procurement of medicines, rather than engage in clinical responsibilities.

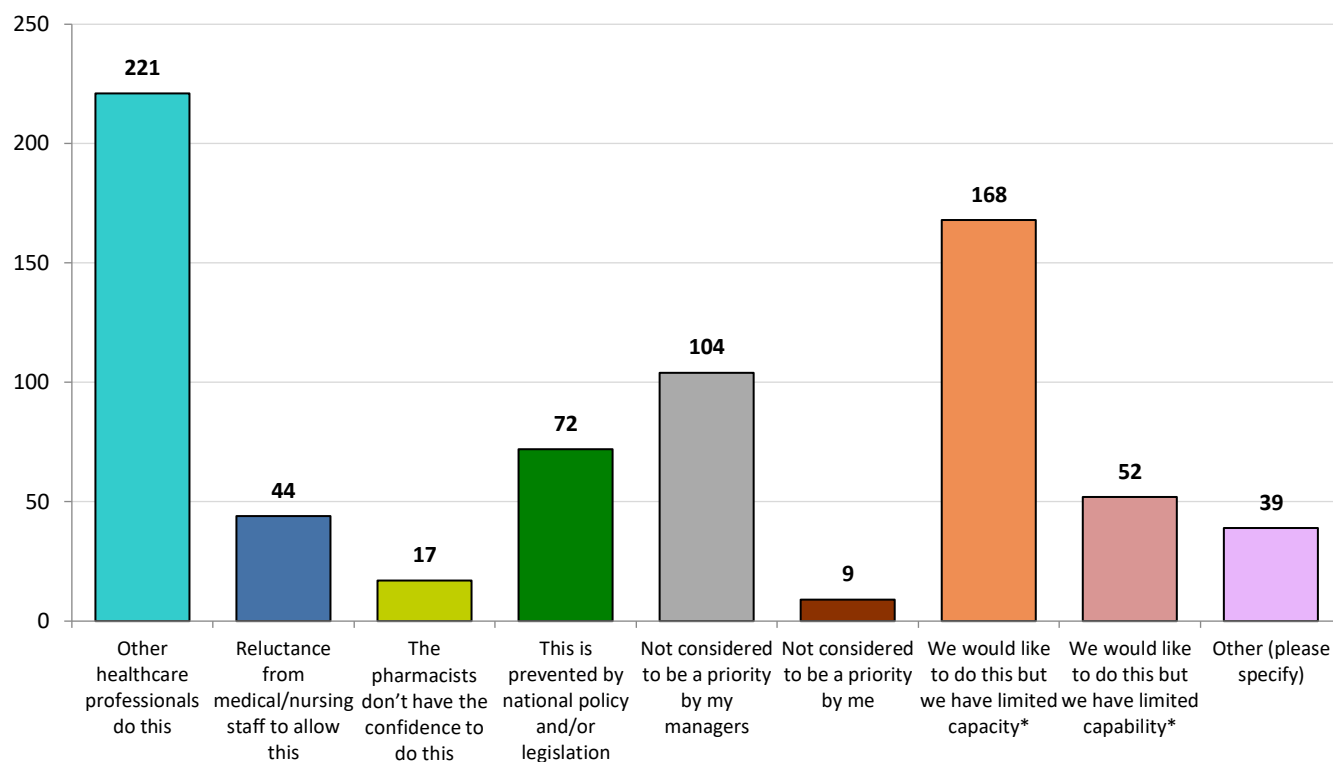


Figure 10 Results from the question S4.4.1 'What is preventing pharmacists from entering medicines onto patient's records on admission?'

Another major barrier was 'We would like to do this, but we have limited capacity' (168 responses across all countries; 23%). Not being considered a priority by managers was also identified with 104 responses (14%). These 3 options accounted for 67% of all responses compared to 75% in the 2018 Statement survey. However, it should be noted that there were fewer responses to this question (726) compared to the 2018 Statement survey (985), which could be due to the overall lower response rate in this Investigation, or improvements have been made as suggested in the previous Statement survey. Figure 11 shows the results in form of a stacked bar chart showing the differences between individual countries.

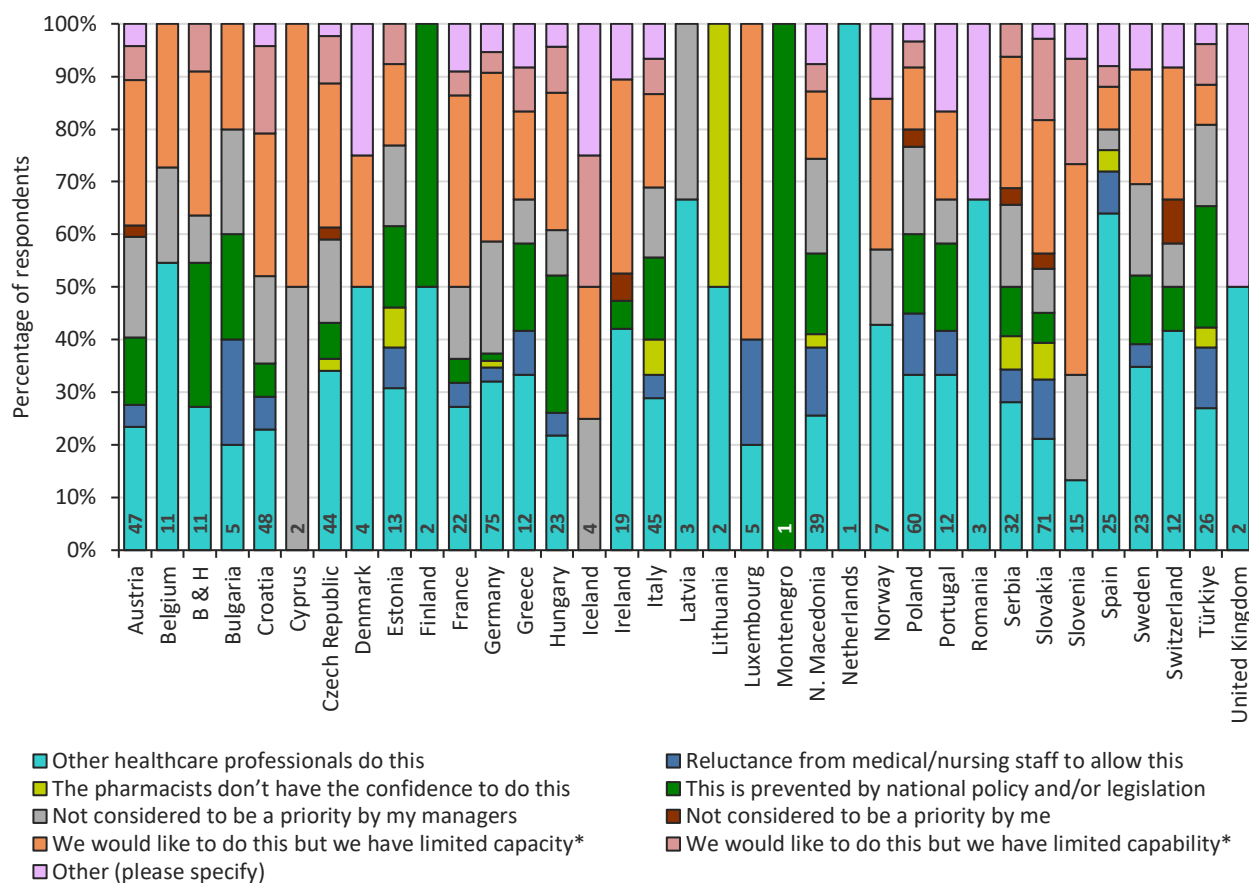


Figure 11 Results from the question S4.4.1 'What is preventing pharmacists from entering medicines onto patient's records on admission?' (Grouped by country)

Participants were also asked if 'pharmacists in our hospital reconcile medicines on admission', as seen in Figure 12 below. Overall, 40% of all responses were positive, suggesting a slight downward trend following the 41% reported in 2018, and 42% observed in the 2016 Statement survey. Of the 28 countries with data for both survey years, 15 returned a more positive result when compared to the 2018 Statement survey. The largest increases were seen in Austria (increase from 38% to 62% [29 responses]) and Finland (increase from 42% to 75% [8 responses]), whilst the lowest were seen in Switzerland (increase from 19% to 20% [10 responses]) and North Macedonia (increase from 25 to 27% [26 responses]).

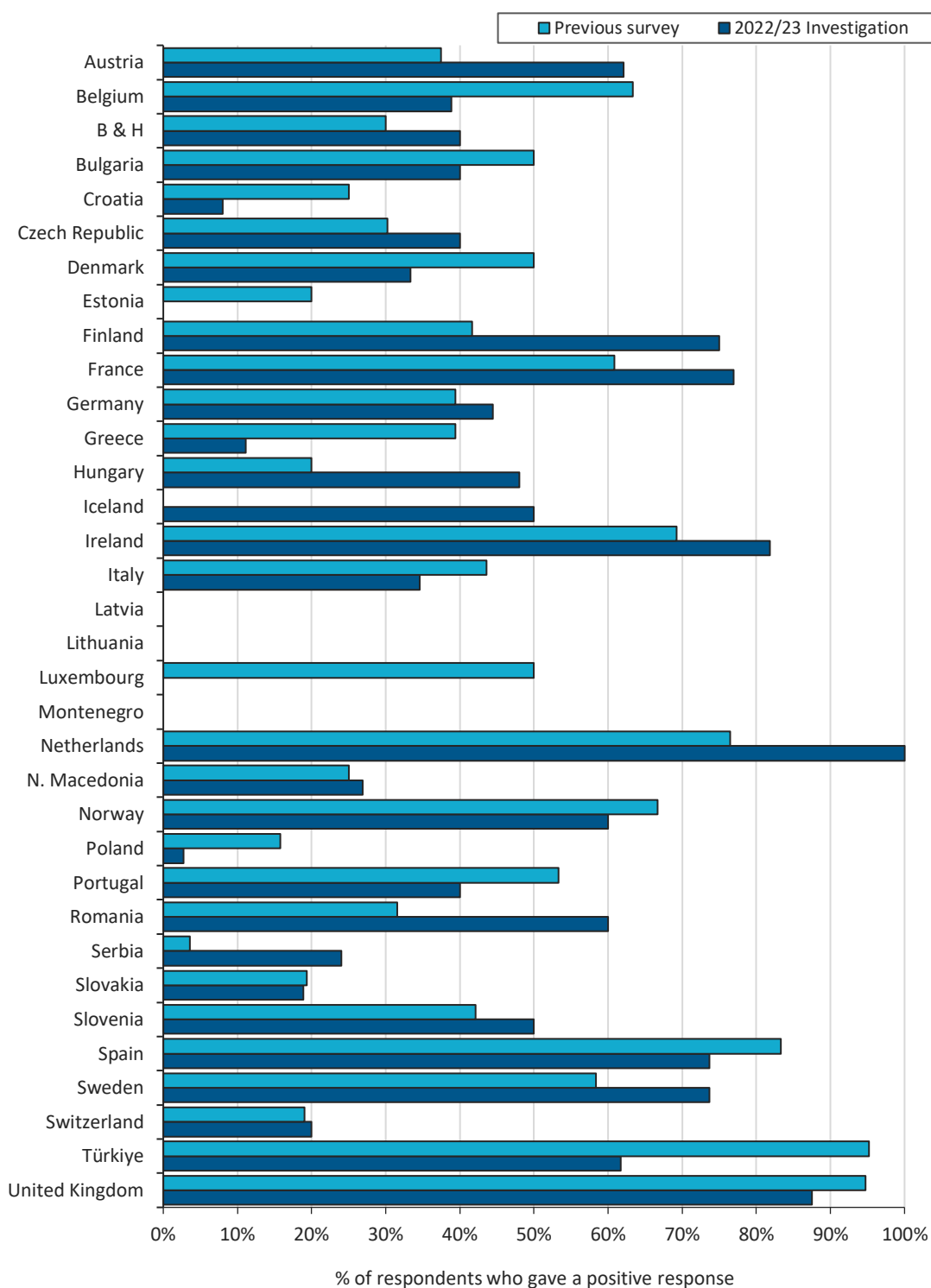


Figure 12 Percentage of respondents who gave a positive response to the statement (S4.4.2) "The pharmacists in our hospital reconcile medicines on admission." [Please note that following a change in survey structure after the baseline survey, data from later Statement surveys was not comparable to the baseline survey data for this question so the baseline survey data is not shown.]

Respondents returning negative answers were then asked, 'What is preventing reconciling medicines on admission?'. The overall results are shown in Figure 13, and the answers grouped by country in Figure 14. The most frequent overall response was that 'We would like to do this, but we have limited capacity' with a total of 183 responses (28%). There were 144 responses for 'Other healthcare professionals do this' (22%).

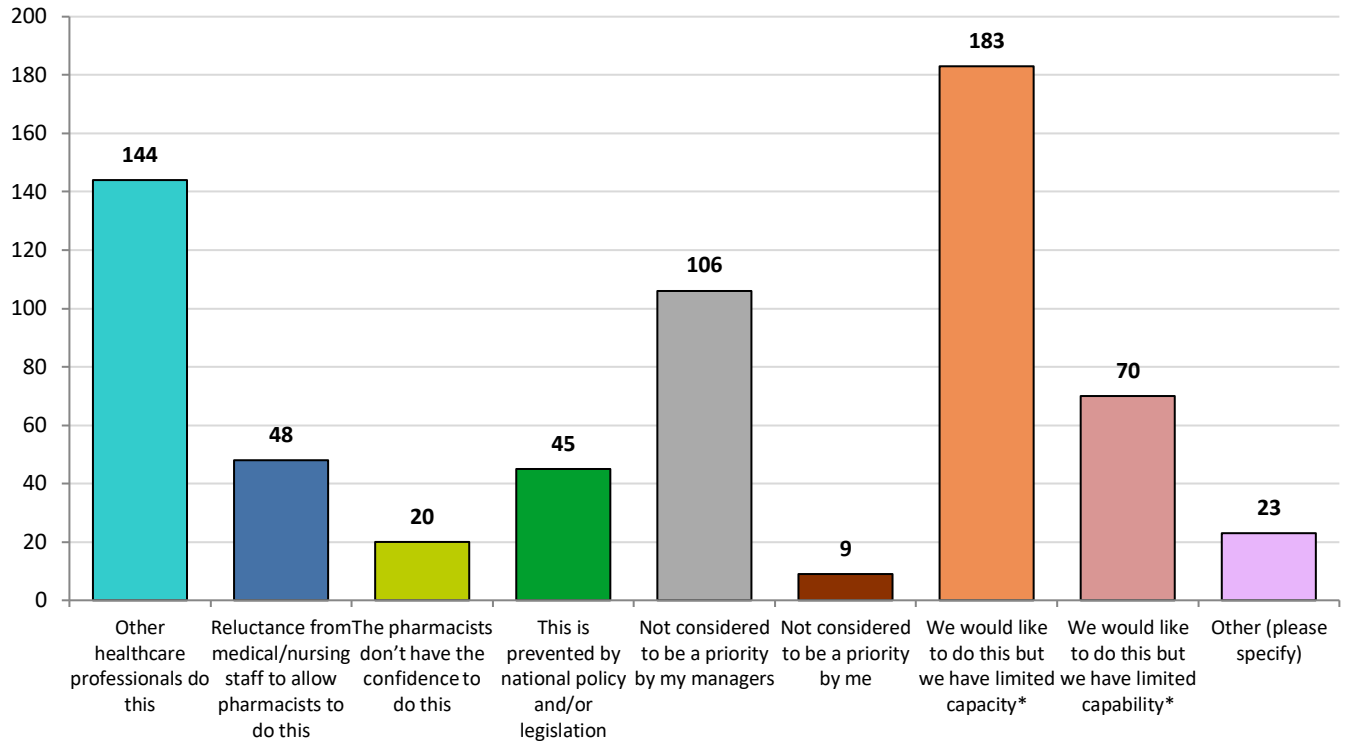


Figure 13 Results from the question S4.4.3 'What is preventing pharmacists from reconciling medicines on admission?'

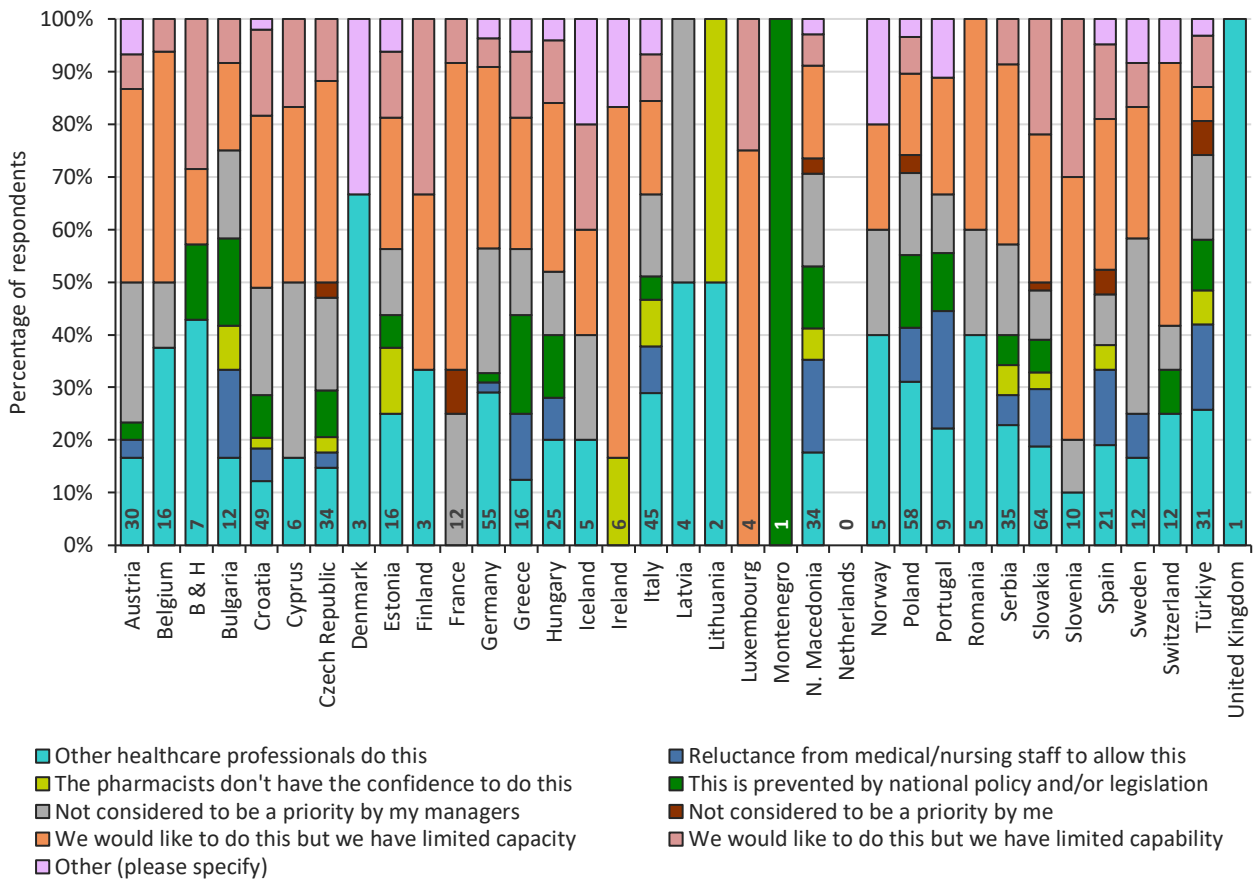


Figure 14 Results from the question S4.4.3 'What is preventing pharmacists from reconciling medicines on admission?' (Grouped by country)

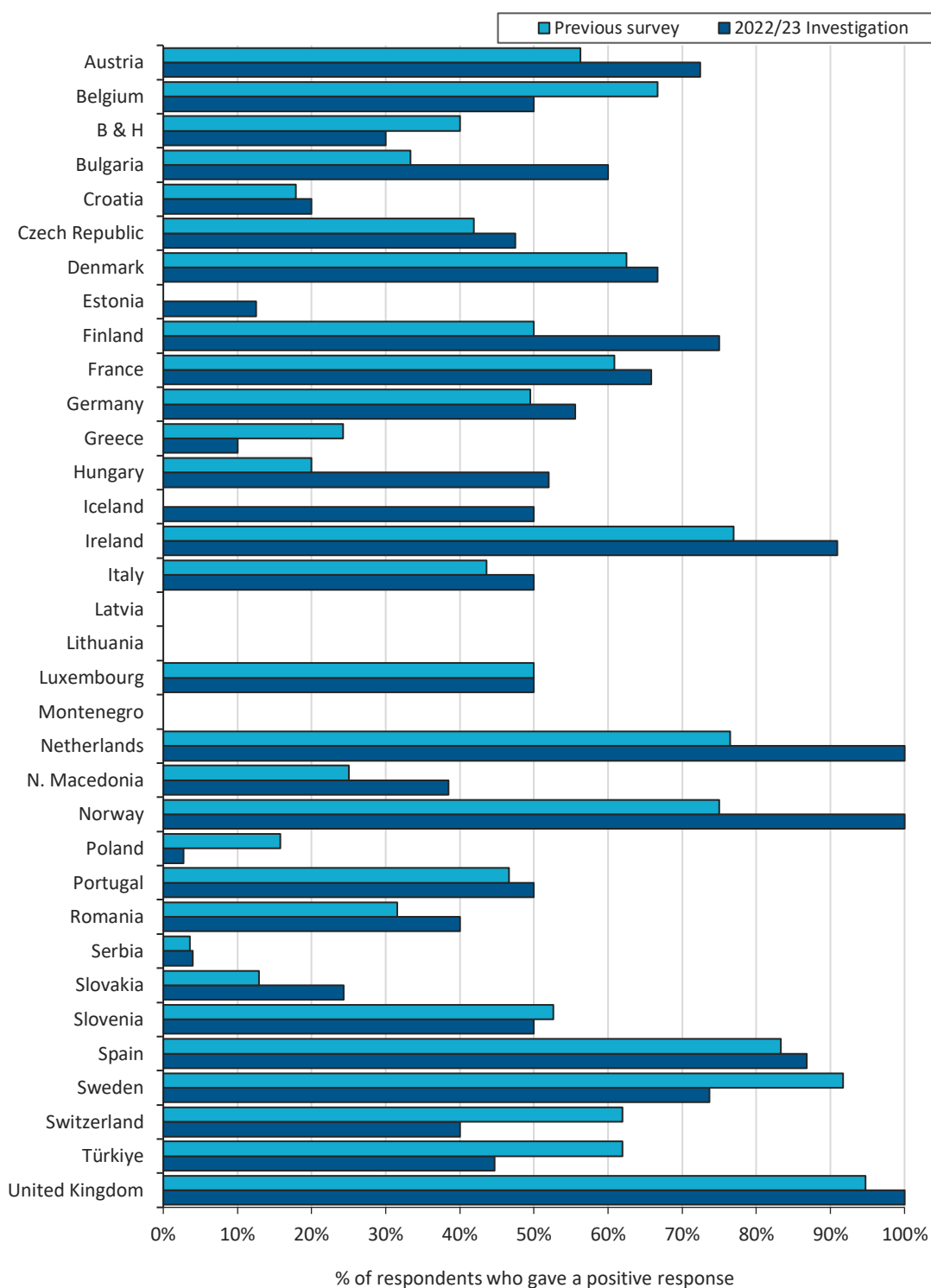


Figure 15 Percentage of respondents who gave a positive response to the statement (S4.4.4) “The pharmacists in our hospital assess the appropriateness of all patients’ medicines, including herbal and dietary supplements.” [Please note that following a change in survey structure after the baseline survey, data from later Statement surveys was not comparable to the baseline survey data for this question so the baseline survey data is not shown.]

In answer to the Statement 4.4.4, “The pharmacists in our hospital assess the appropriateness of all patients’ medicines, including herbal and dietary supplements.”, the overall positive response was 46%. Of the 29 countries that had data for both survey years, 19 countries showed a more positive response than the previous 2018 Statement

survey. The largest increase was seen in Bulgaria, where positive responses improved from 33% to 60% (5 respondents) and the smallest increase seen in the responses from Serbia (3.5% to 4%, [25 respondents]).

When asked, 'What is preventing pharmacists assessing the appropriateness of all patients' medicines, including herbal and dietary supplements?', the most frequent answer was that 'We would like to do this, but we have limited capacity' with a total of 167 responses (28%; Figure 16). There were 106 responses (18%) for 'Other healthcare professionals do this'. Results grouped by country are shown in Figure 17.

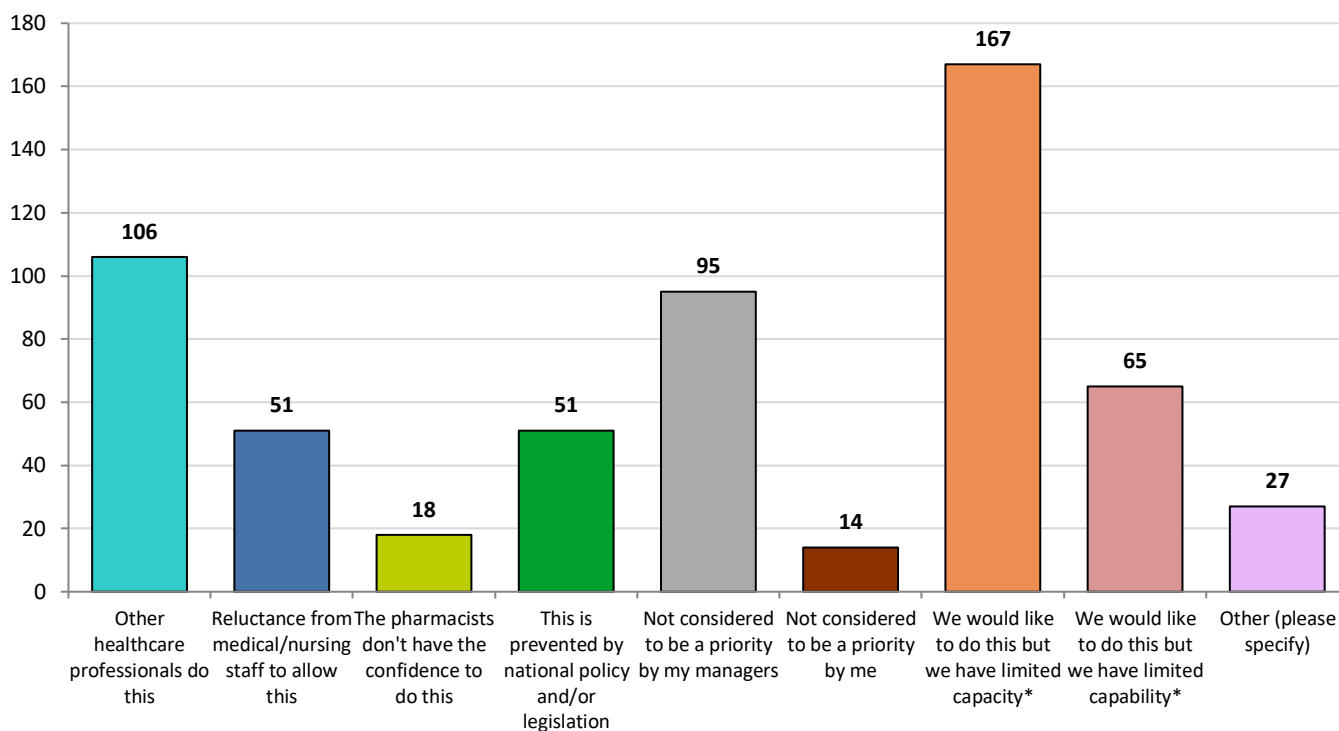


Figure 16 Results from the question S4.4.5 'What is preventing pharmacists assessing the appropriateness of all patients' medicines, including herbal and dietary supplements.

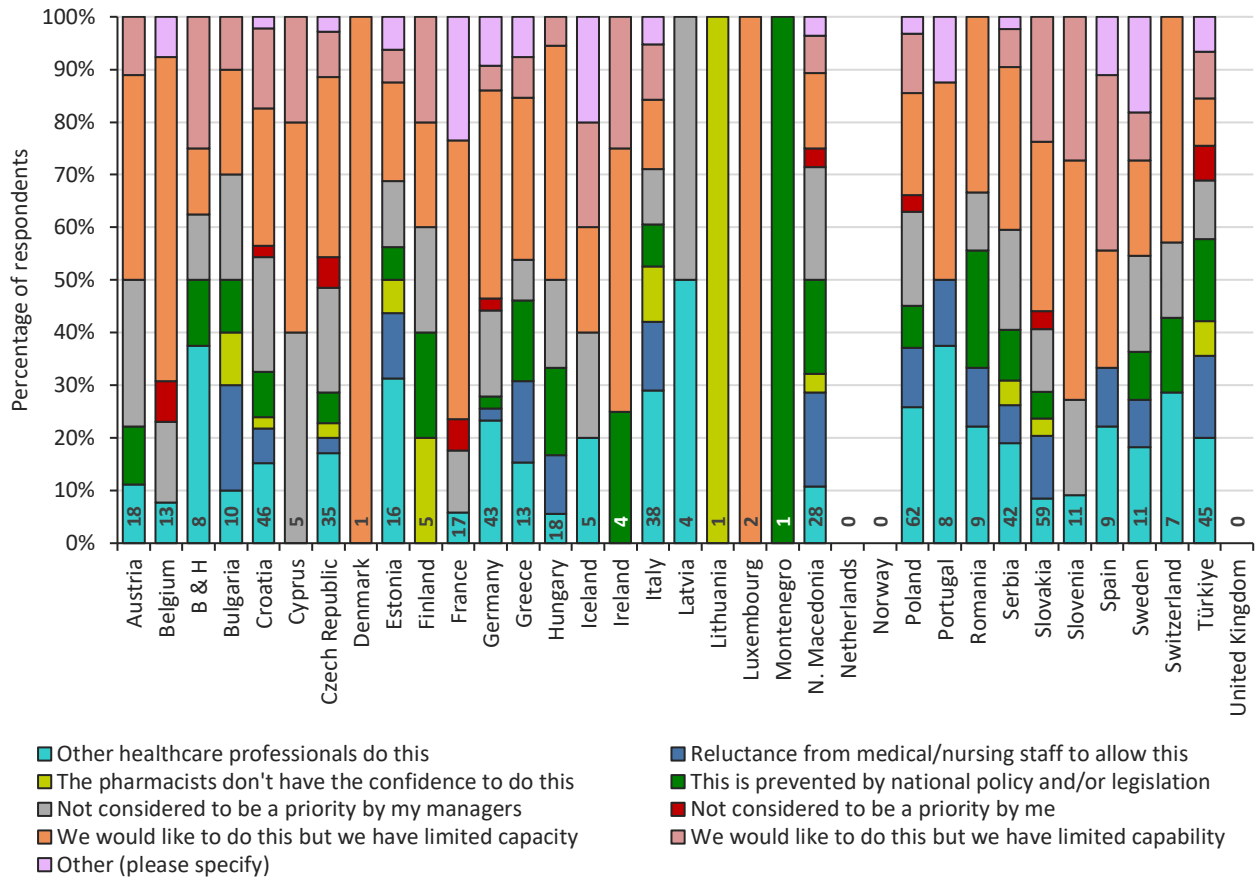


Figure 17 Results from the question S4.4.5 'What is preventing pharmacists assessing the appropriateness of all patients' medicines, including herbal and dietary supplements' (Grouped by country)

2. EAHP Statement 6.4

EAHP 6.4: The pharmacists in our hospital routinely publish hospital pharmacy practice research

Figure 18 below shows the responses to the question "Pharmacists in our hospital routinely publish pharmacy practice research". On average, 48% of responses to this question were positive, on the other hand the Czech Republic [40 respondents], and Poland [37 respondents] returning the lowest rates of positive responses at 13%, and 16%, respectively. Of the 29 countries that responded to this question in the previous 2017/18 Statement survey and baseline, just over one third (11) gave a higher percentage positive response than the previous Statement survey or baseline.

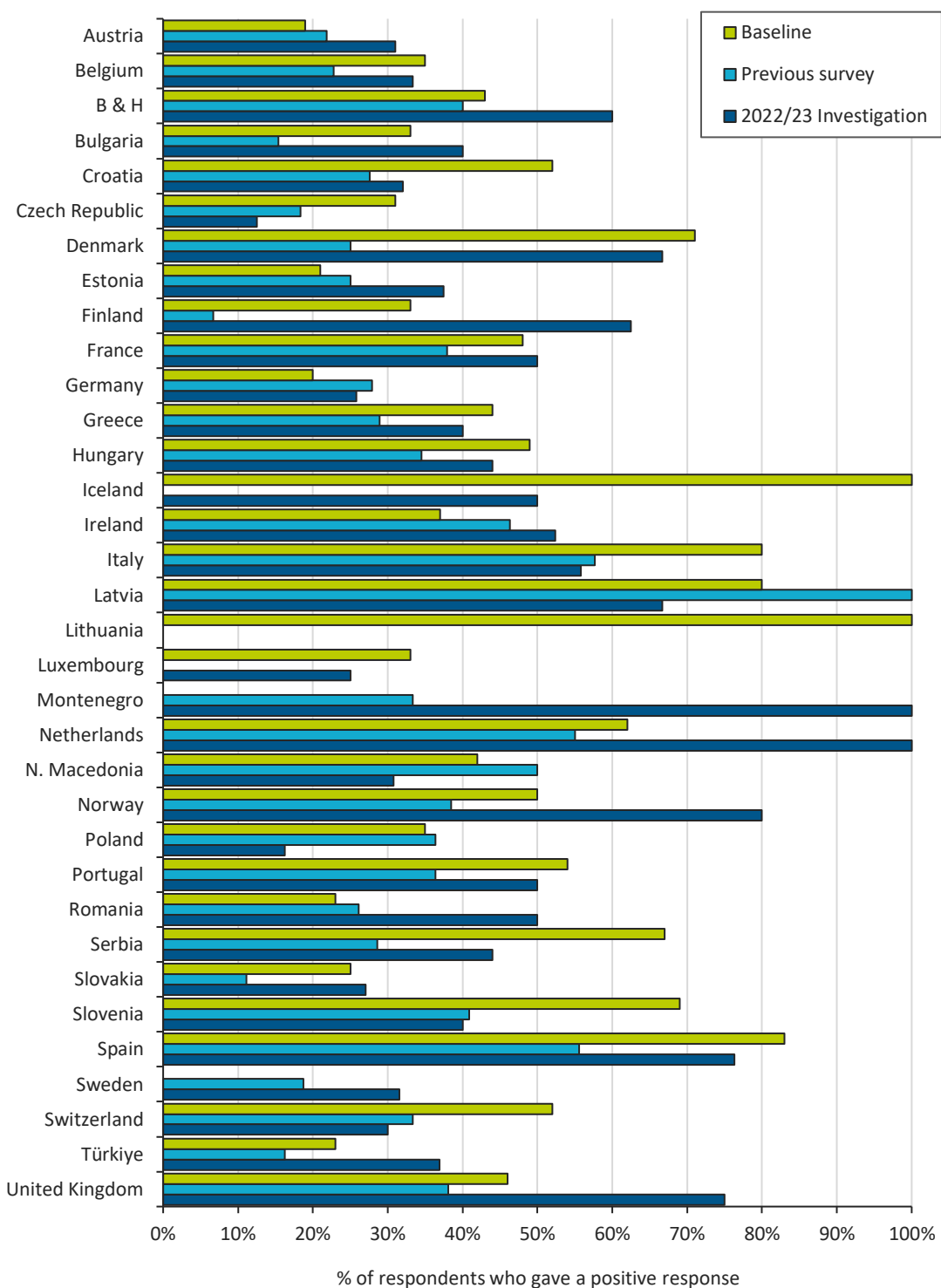


Figure 18 Percentage of respondents who gave a positive response to the statement (S6.4) "The pharmacists in our hospital routinely publish hospital pharmacy research".

Figure 19 shows the results of the question broken down by answer category.

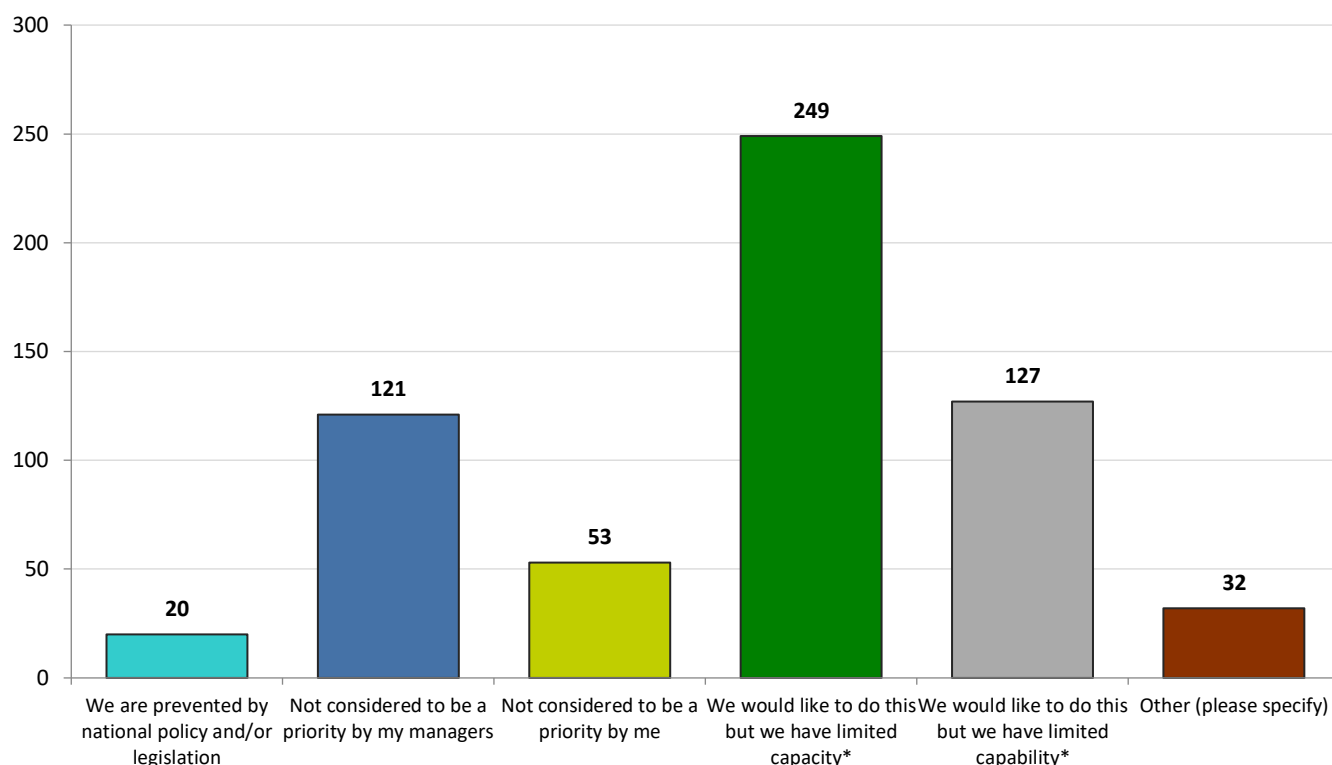


Figure 19 Overall results of the question “What is preventing you or your hospital pharmacists from routinely publishing pharmacy practice research?”

When asked the question what is preventing you or your hospital pharmacists from routinely publishing pharmacy practice research most (41%) of the 602 respondents stated limited capacity as the reason followed by limited capability and not a priority by my manager. This resonates with the results of a recently published paper exploring hospital pharmacists’ attitudes to undertaking research in the U.K. which identified similar barriers (3).

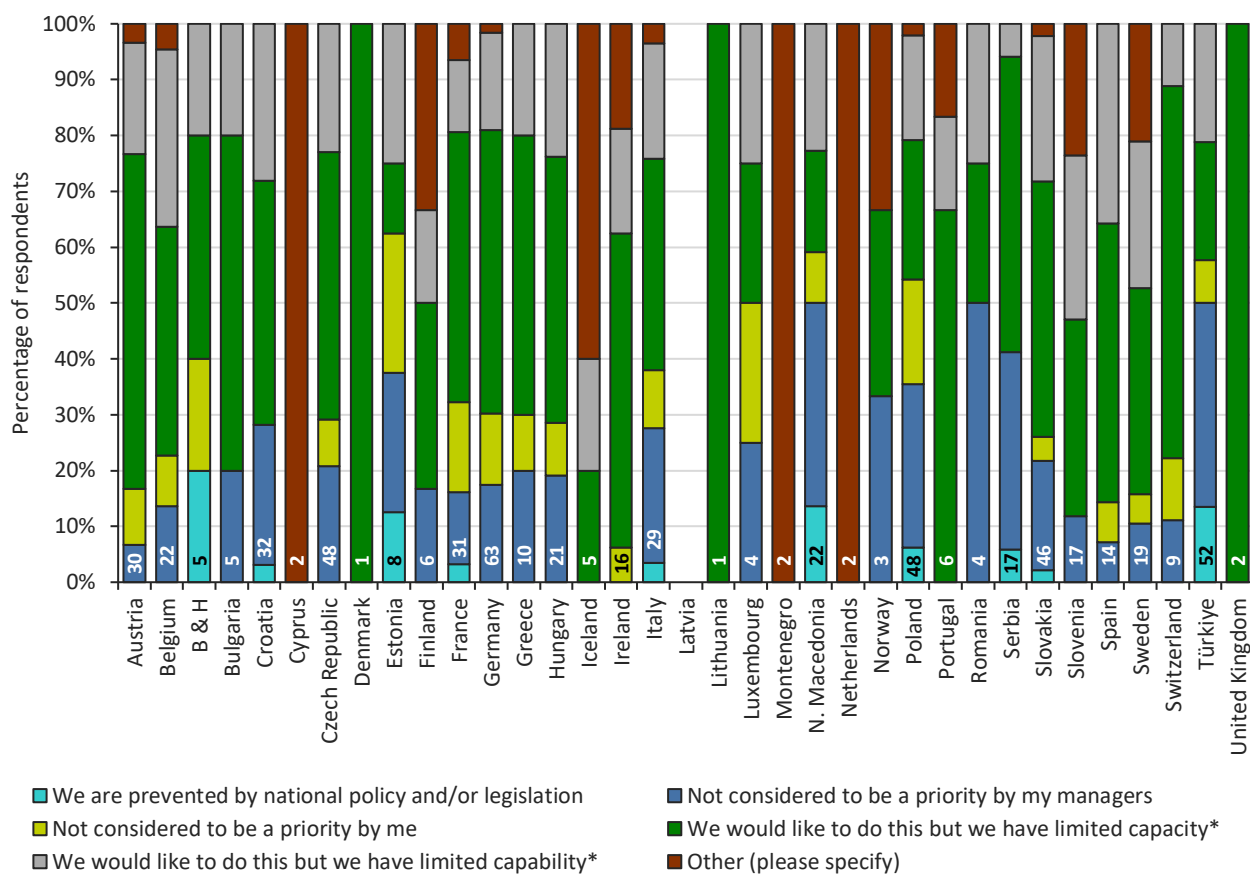


Figure 20 Overall results of the question “What is preventing you or your hospital pharmacists from routinely publishing pharmacy practice research?” (Grouped by country)

3. EAHP Statement 4.5

EAHP 4.5: The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings.

The responses to the question 'The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings' are shown below in Figure 21.

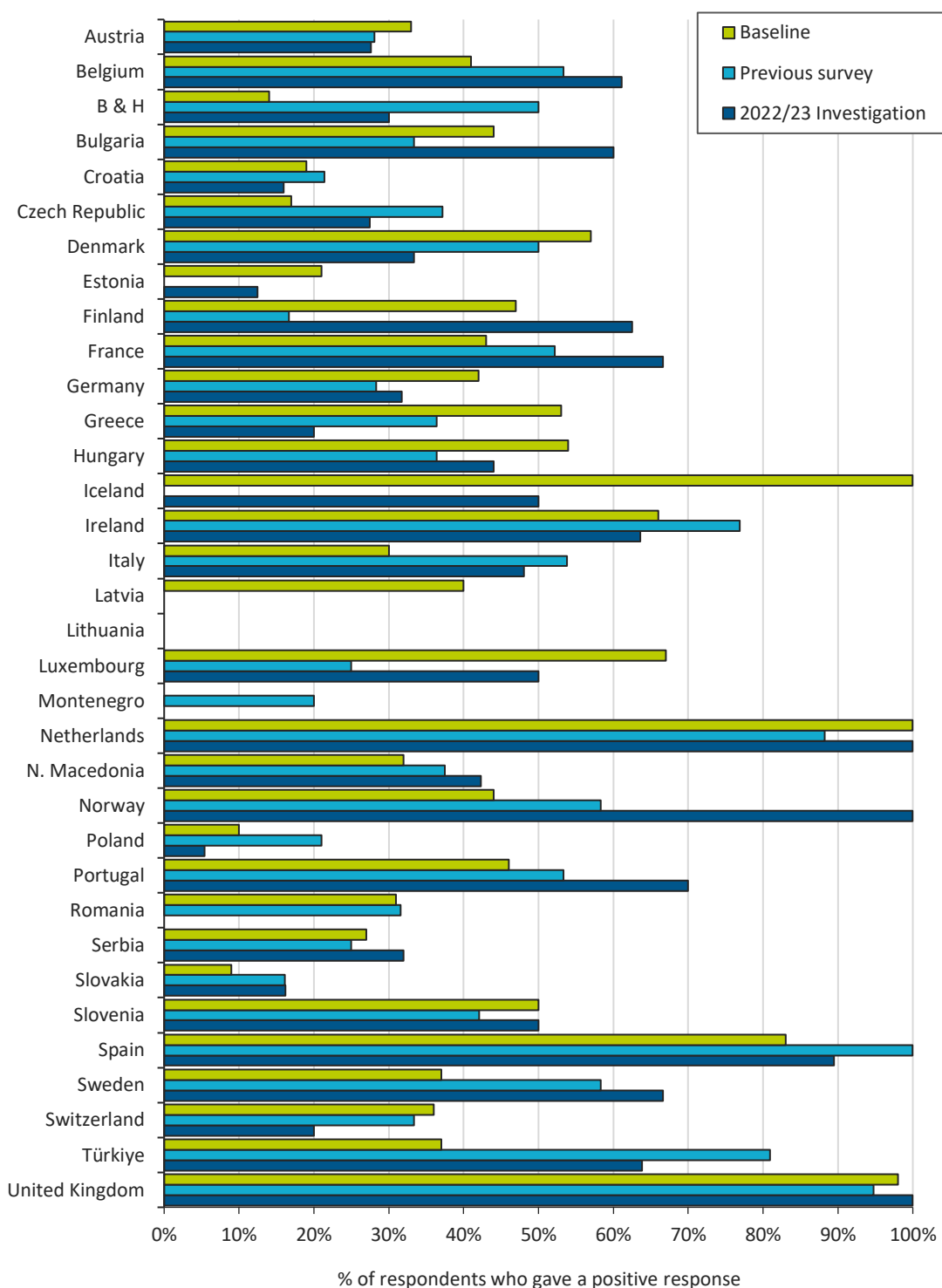


Figure 21 Percentage of respondents who gave a positive response to the statement (S4.5) "The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings".

The average positive response to this question was 42%, compared with 41% in the 2018/19 survey showing little change. Again, over 40% (12/28) of the countries who responded to this question in all three surveys showed an increase in positive responses compared to the previous Statement survey and baseline with Norway showing the largest increase over baseline (44 to 100% [5 responses]) and the lowest increases shown by Serbia (27 to 32% [25 responses]), Slovakia (9 to 16% [37 responses]) and the UK (98% to 100% [8 responses]).

Figure 22 shows the results to the question 'What is preventing pharmacists from contributing to the transfer of information about medicines when patients move between and within healthcare settings. It is interesting that the top three reasons are the same reasons preventing pharmacists entering medicines onto patient medical records on admission (Figure 10) namely 'other healthcare staff do this (161 responses; 25%), limited capacity (158 responses; 25%) and not considered a priority by my manager (101 responses; 16%). However, this is not surprising as entering medicines onto patients' medical records on admission is a more specific role within contributing to the transfer of information when patients move between and within healthcare settings. Figure 23 shows the same results broken down by country.

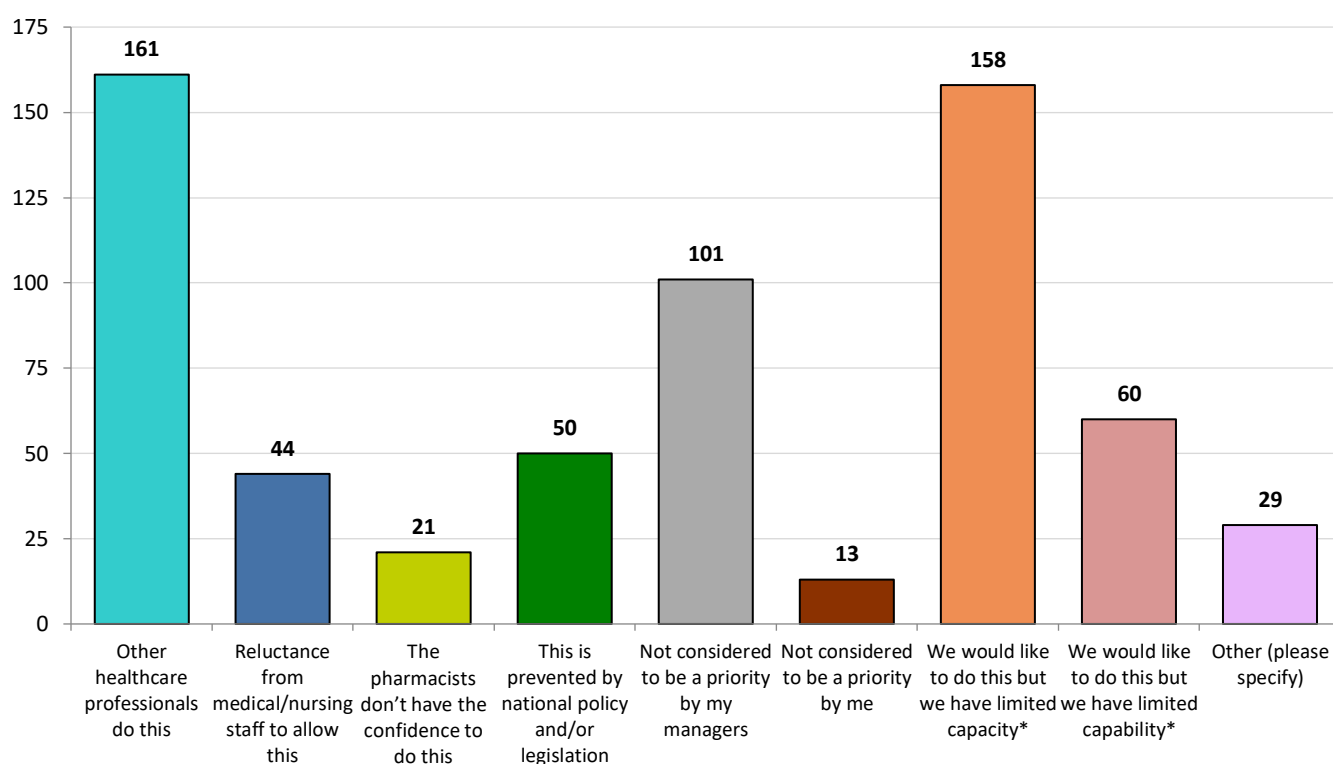


Figure 22 Overall results of the question "What is preventing the pharmacists in your hospital from contributing to the transfer of information about medicines when patients move between and within healthcare settings?"

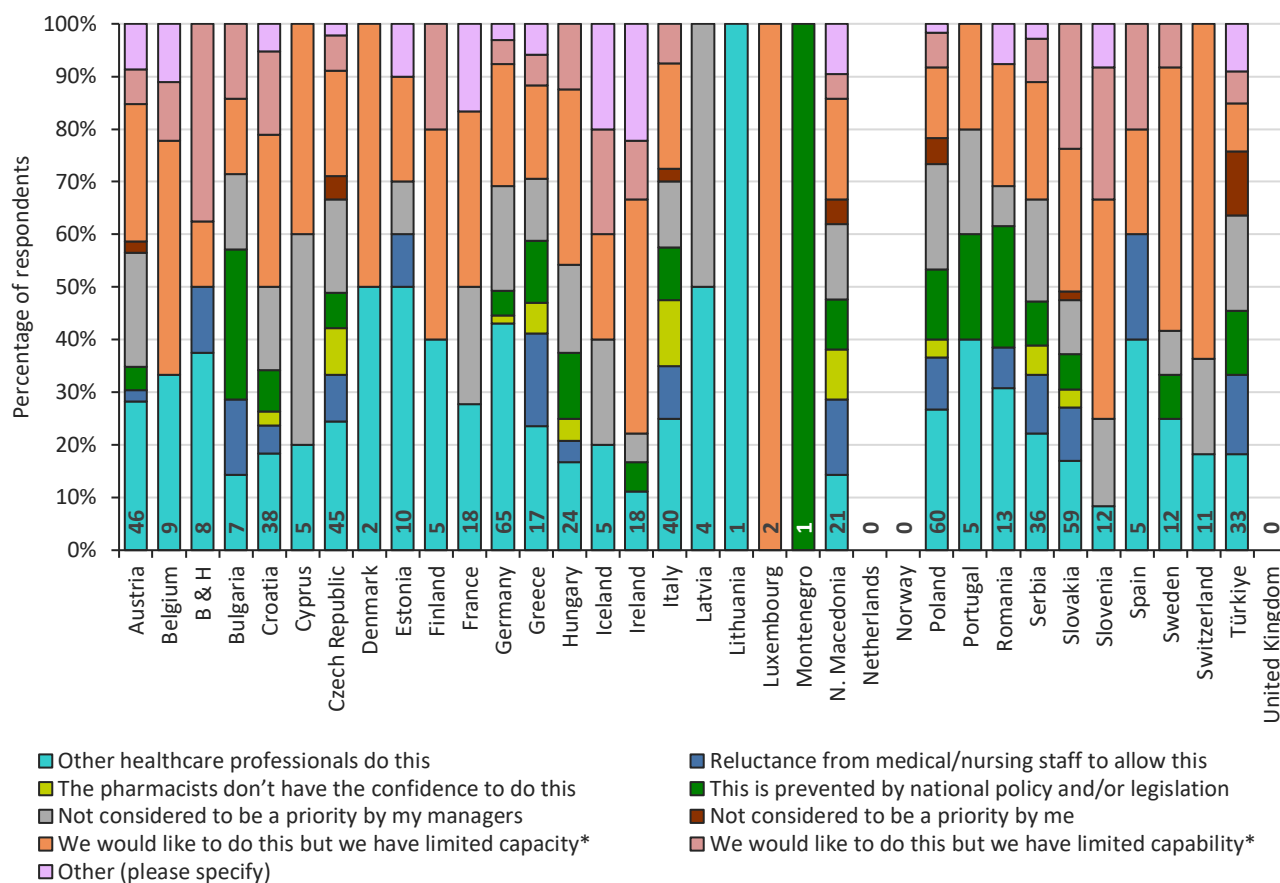


Figure 23 Results of the question “What is preventing the pharmacists in your hospital from contributing to the transfer of information about medicines when patients move between and within healthcare settings?” (Grouped by country)

4. EAHP Statement 1.1

EAHP 1.1: The pharmacists in our hospital work routinely as part of the multidisciplinary team.

Figure 24 shows the responses to the question “The pharmacists in our hospital work routinely as part of a multidisciplinary team” where the mean number of positive responses was 52.5%. Overall, 41% of the 29 countries who responded to this question in all three surveys, responded more positively compared to the 2018 Statement or baseline survey. The remaining 59% were generally better than the 2018 Statement survey or baseline, but not both. Only 17% were worse than the 2018 Statement survey or baseline.

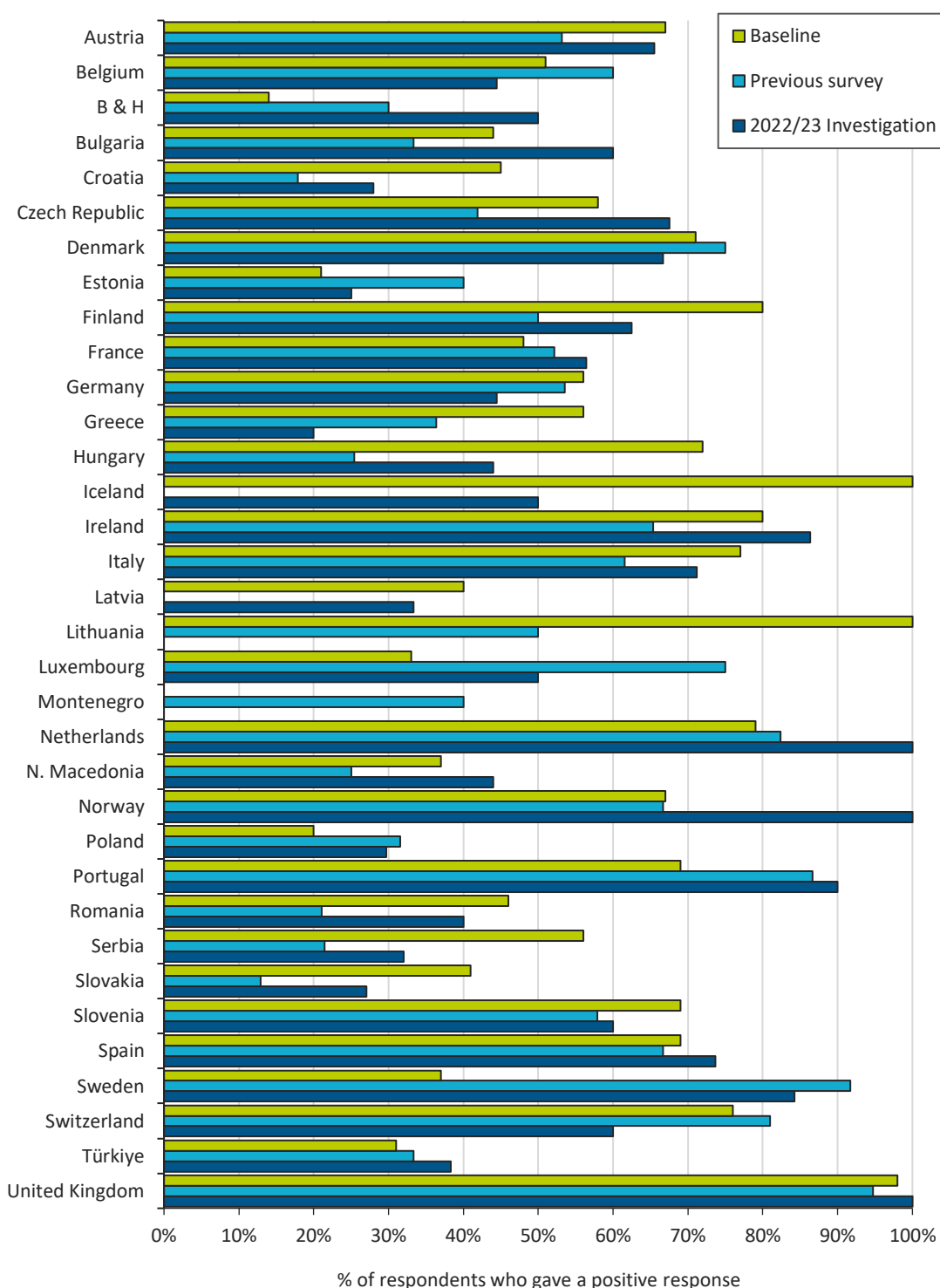


Figure 24 Percentage of respondents who gave a positive response to the statement “The pharmacists in our hospital work routinely as part of the multidisciplinary team”.

When asked what is preventing you or your hospital from working as part of a multidisciplinary team, the same top three responses as in answers to questions S4.4 S6.4 and S4.5 above were given; we have limited capacity (209; 36%), not considered a priority by my manager (117; 20%) and we would like to do this but we have limited capability (94; 16%) (Figure 25Figure 25).

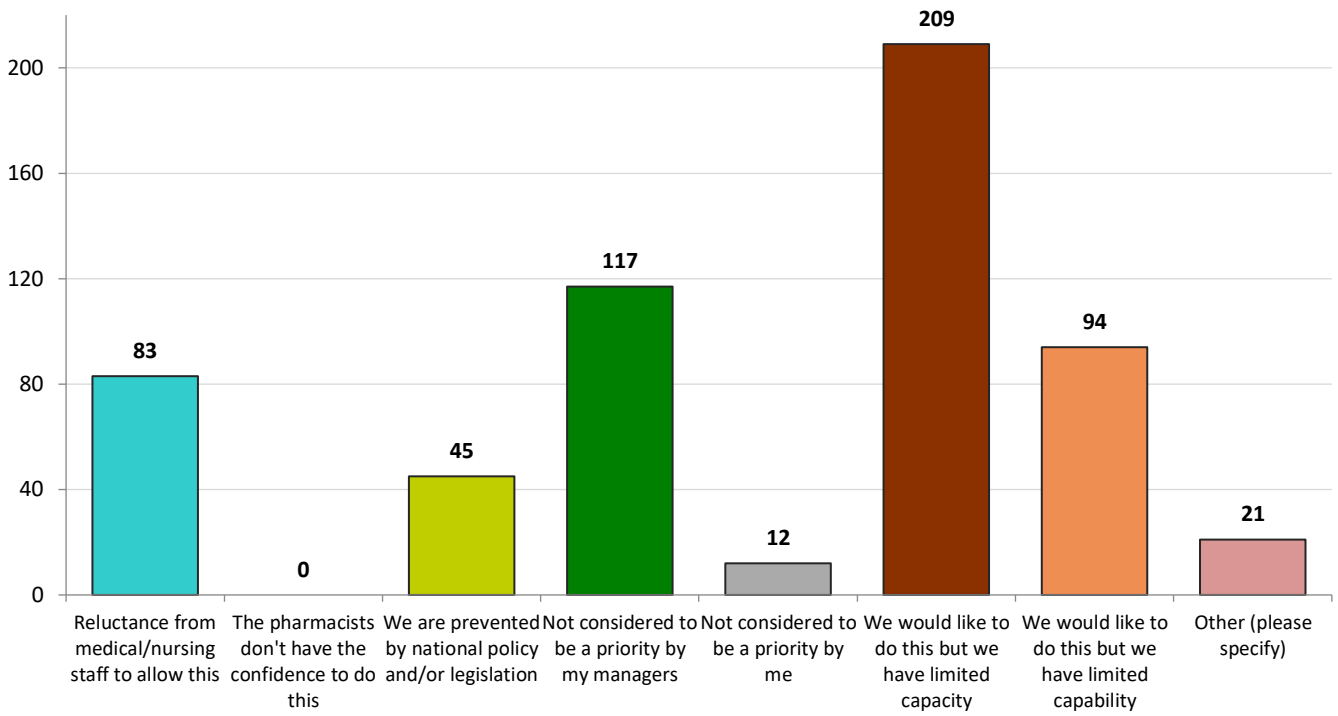


Figure 25 Overall results of the question 'What is preventing you or your hospital pharmacists from working routinely as part of the multidisciplinary team'.

The results for the same question, grouped by country, are shown below in Figure 26.

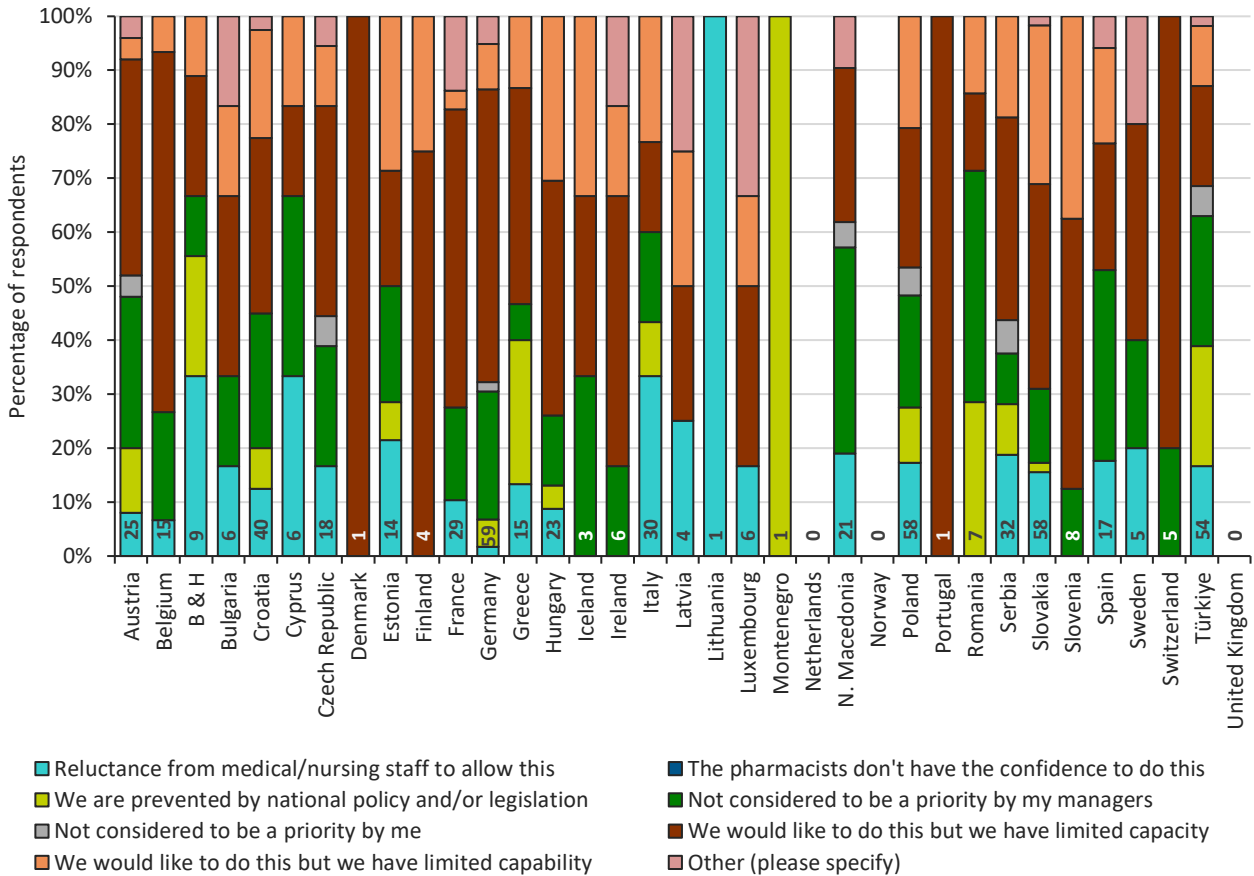


Figure 26 Results of the question 'What is preventing you or your hospital pharmacists from working routinely as part of the multidisciplinary team' (Grouped by country).

5. EAHP Statement 4.6

EAHP 4.6: The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand.

In response to the question “The Pharmacists in our Hospital ensure patients and carers are offered information about their medicines in terms they can understand” the percentage of positive responses from countries who responded to this question in all three surveys which were increased over the 2018/19 Statement survey and baseline was only 26% (8/31) (i.e. Bulgaria, Finland, France, Norway, Portugal, Slovakia; the Netherlands, UK; Figure 27), which is the lowest improvement in positive responses compared to other areas of clinical practice, 33% for statement 4.4 (Figure 9), 33% for statement 6.4 (Figure 18), 43% for statement 4.5 (Figure 21), and 41% for statement 1.1 (Figure 24).

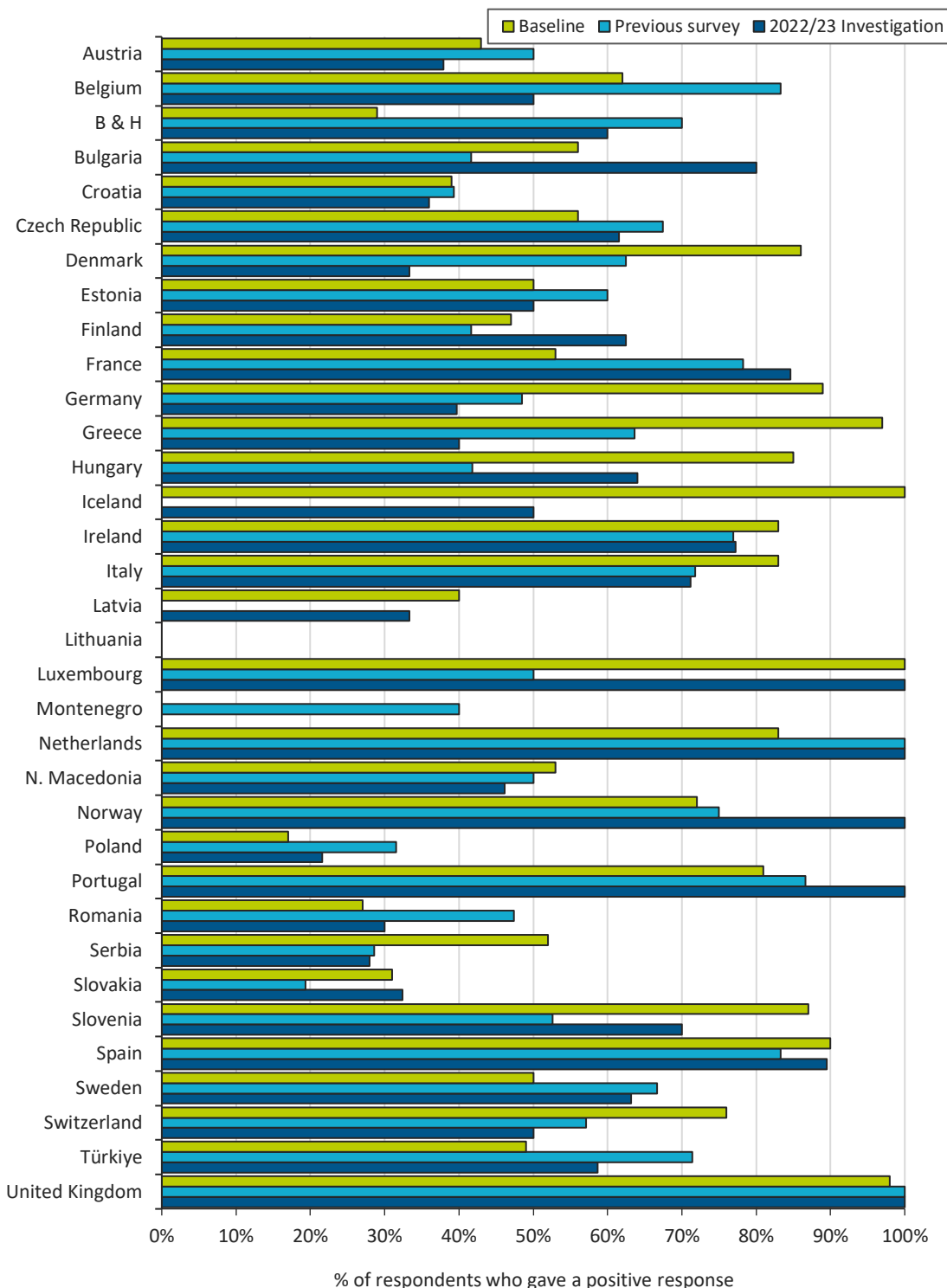


Figure 27 Percentage of respondents who gave a positive response to the statement “The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand?”

However, answers to the question “What was preventing your pharmacists from ensuring patients and carers are offered information about their medicines in terms that they can understand”, the same top three responses were given as in previous questions, “we would like to do this but have limited capacity (150; 28%), other healthcare professionals do this (129; 24%), and not considered a priority by my manager (87; 16%) (Figure 28) (Figure 28).

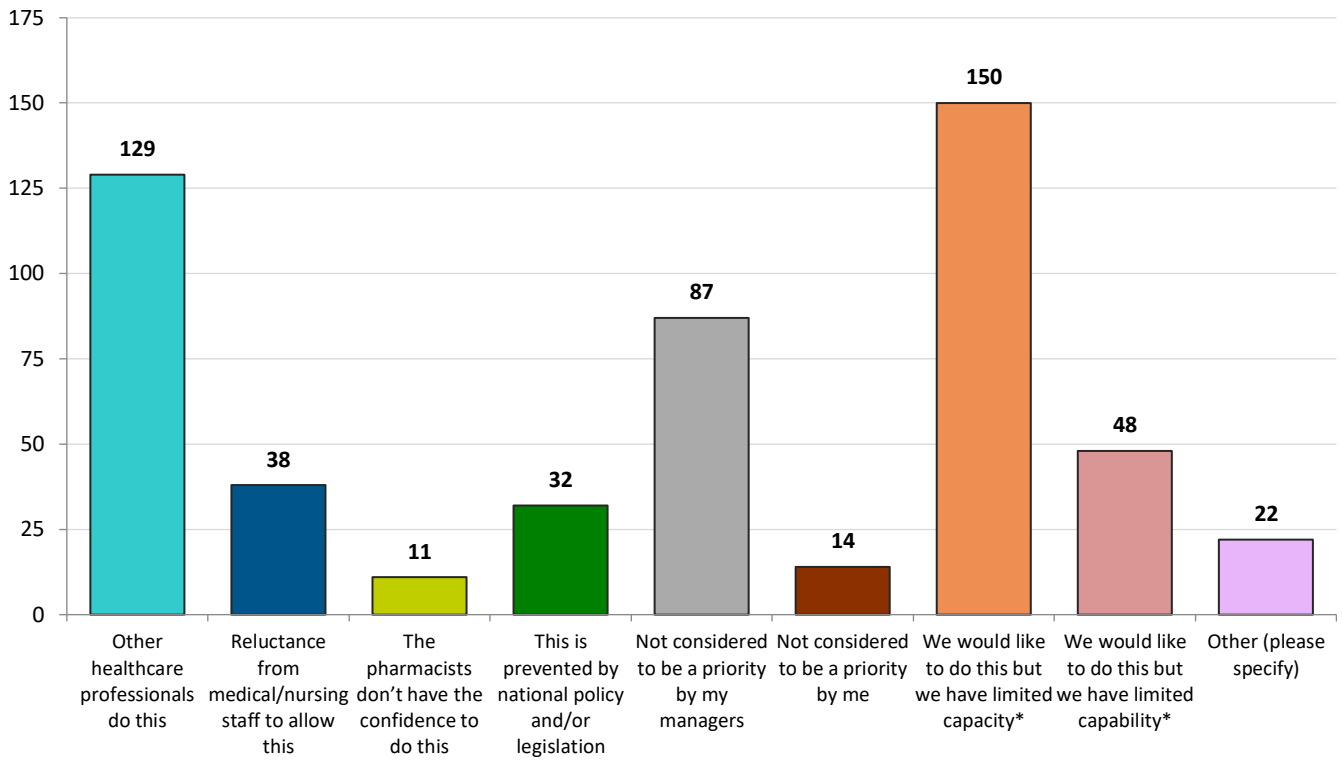


Figure 28 Overall results of the question “What is preventing you or your pharmacists from ensuring patients and carers are offered information about their medicines in terms they can understand?”

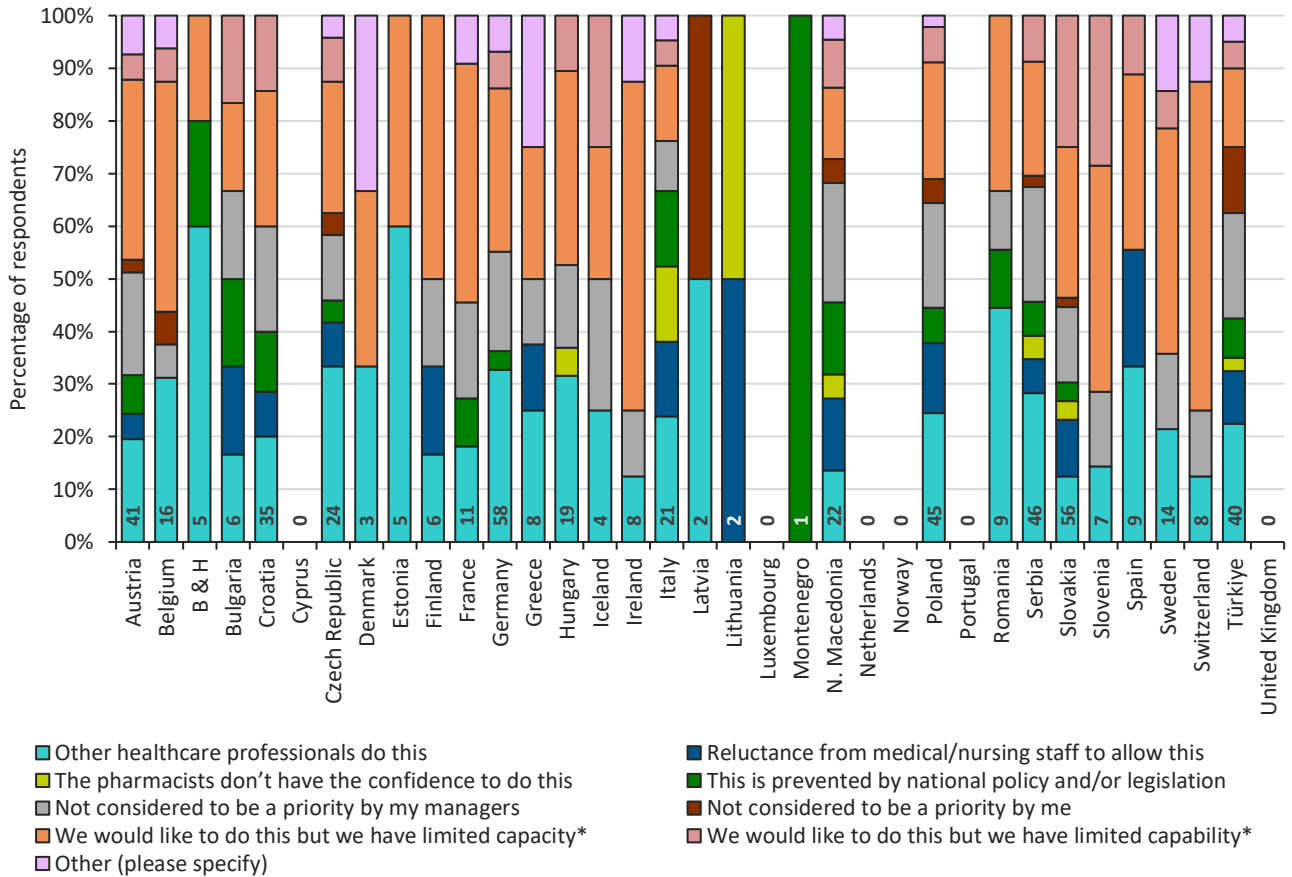


Figure 29 Results of the question “What is preventing you or your pharmacists from ensuring patients and carers are offered information about their medicines in terms they can understand?” (Grouped by country).

6. EAHP Statement 4.2

EAHP Statement 4.2: All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist.

When asked if “All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist” the overall positive response rate for this question was 60%. This is an improvement on the 2018 Statement survey (55% positive), but still lower than the baseline (63% positive). In Figure 30 the results are broken down by country, which shows that the response between countries is mixed, with a large range between results. When compared to the 2018 Statement survey, 14 countries increased their percentage of positive responses (Austria, Czech Republic, Finland, France, Germany, Hungary, Ireland, Norway, Romania, Serbia, Slovenia, Sweden, Switzerland and Türkiye) , 10 countries saw a decrease (Belgium, Croatia, Denmark, Estonia, Greece, Italy, Luxembourg, North Macedonia, Poland, Slovakia), and 5 remained the same (Bosnia and Herzegovina, the Netherlands, Portugal, Spain, and the UK). Comparisons were not possible for Iceland, Latvia, Lithuania, and Montenegro due to missing data.

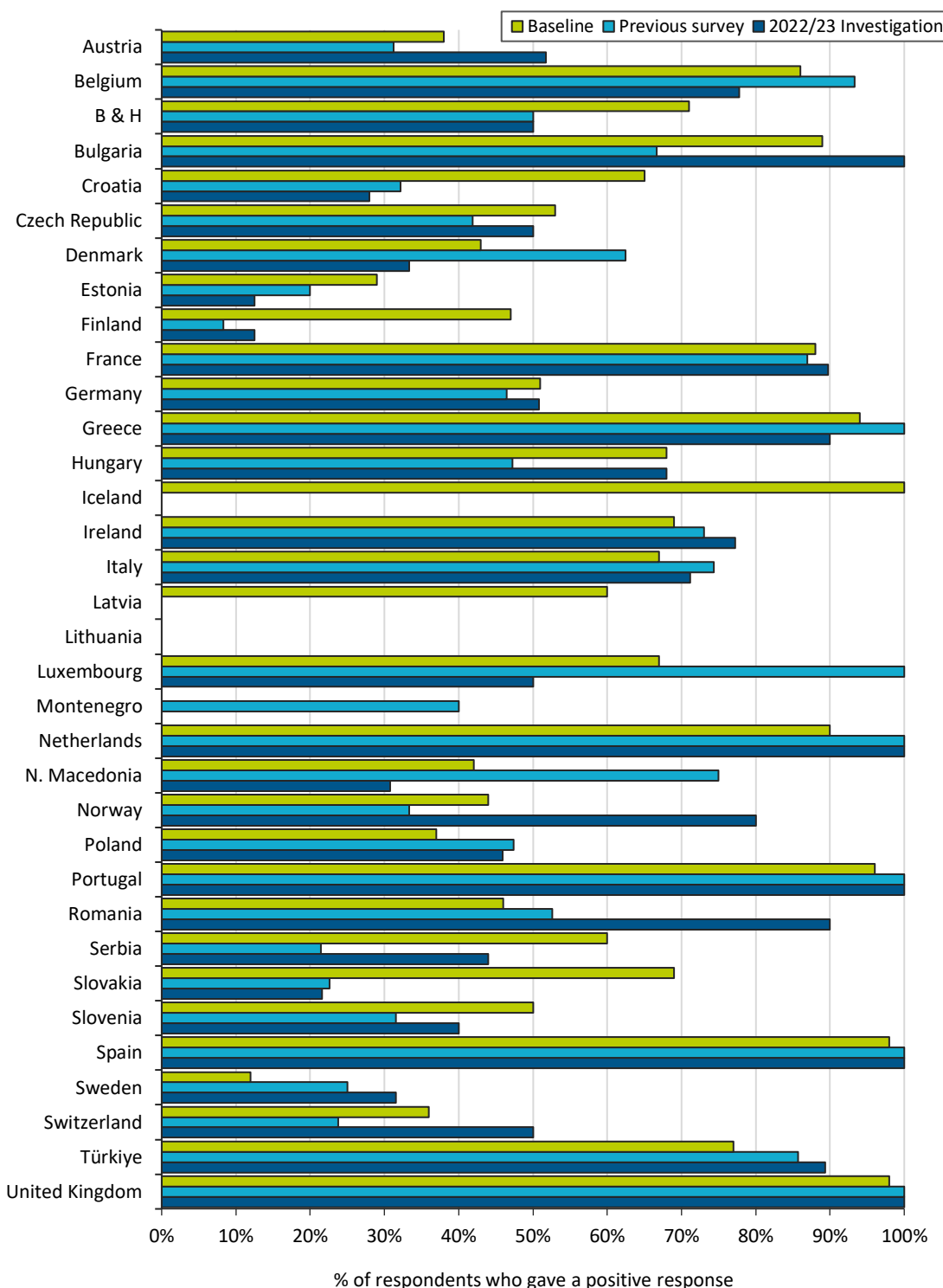


Figure 30 Percentage of respondents who gave a positive response to the statement “All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist?”

Participants who gave a negative response to statement 4.2 were then asked what was preventing Pharmacist review and validation of prescriptions? and the results are shown in Figure 31. The most common response was 'limited capacity' (161 responses; 30%) as in other questions. 'Not considered to be a priority by my managers' (112 responses; 21%) also had many responses. Only 14 people (2.6%) selected 'not considered to be a priority by me' as an option. Additional comment from the 'Other' category were that this was not relevant practice for the

particular country (e.g., Estonia, Czech Republic, Norway) or that there was no policy or political will to implement it, and secondly lack of electronic systems or IT support. Figure 32 shows the results broken down by country.

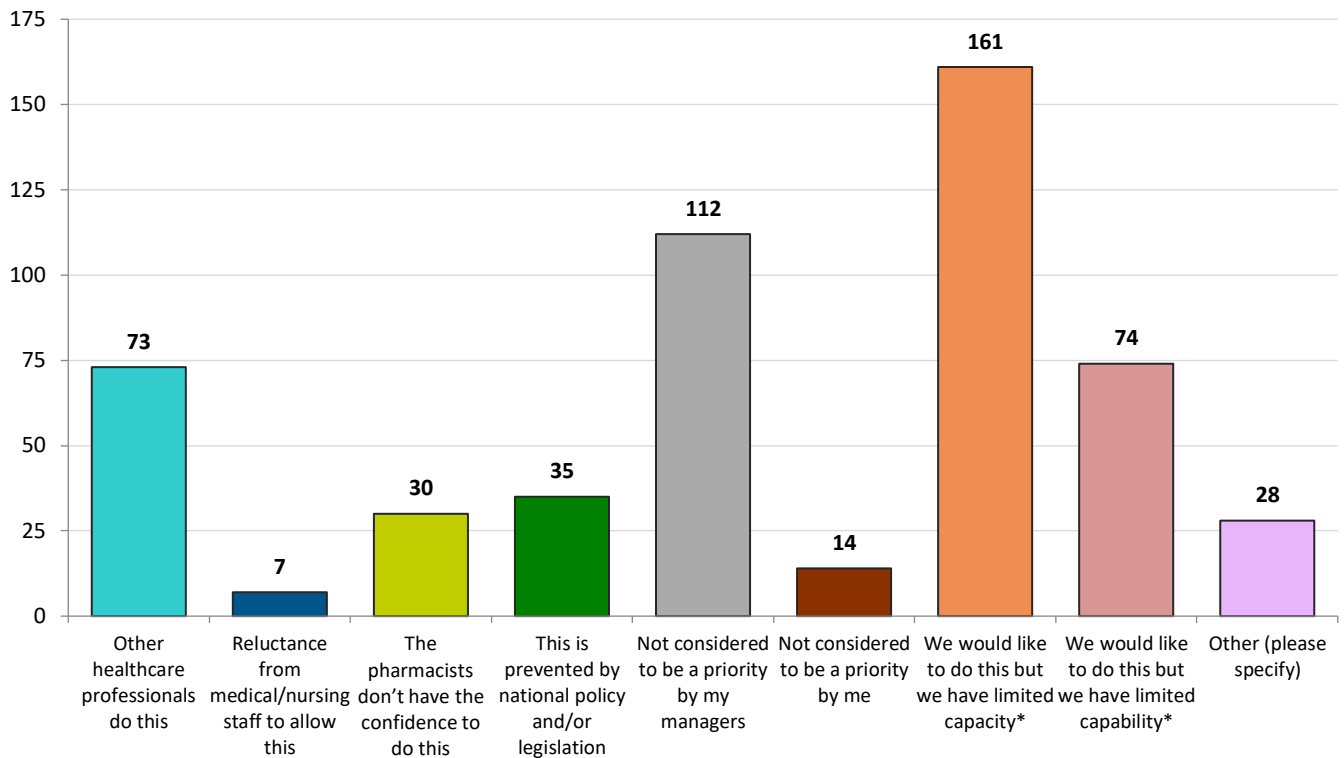


Figure 31 Results of the question “What is preventing you or your pharmacists from reviewing and validating all prescriptions in your hospital as soon as possible?”.

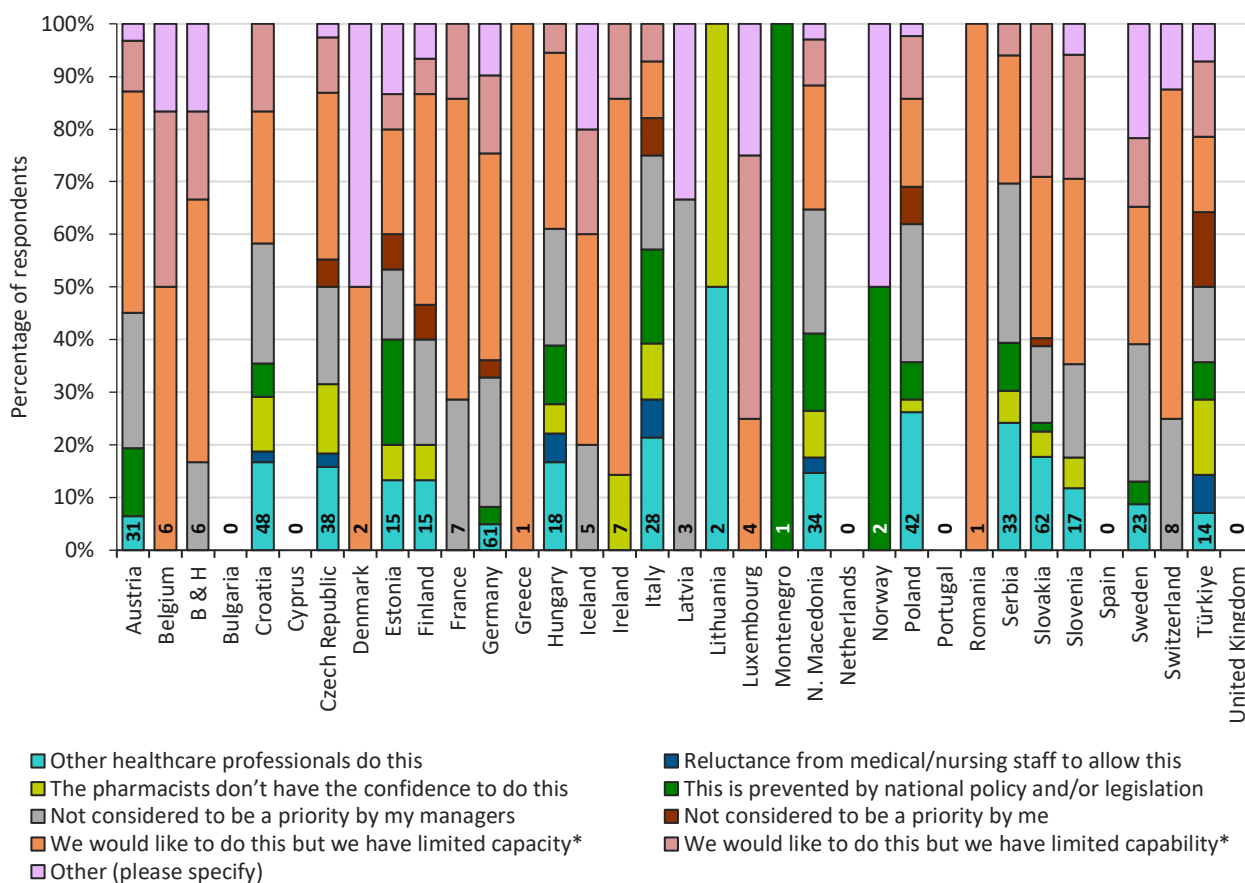


Figure 32 Results of the question “What is preventing you or your pharmacists from reviewing and validating all prescriptions in your hospital as soon as possible?” (Grouped by country).

Section C: Results of the self-assessment tool and practice-specific questions

Questions in the last section of the Investigation focused on self-assessment and action planning, COVID-19 preparedness and vaccines, detection of falsified medicines, and sustainability.

Self-assessment and action planning

In answer to the first two questions about self-assessment and action planning in the majority of countries fewer than 50% of responses were positive (Figure 33) and those countries showing a higher positive response rate e.g. Cyprus and Montenegro had only 1 or 2 respondents.

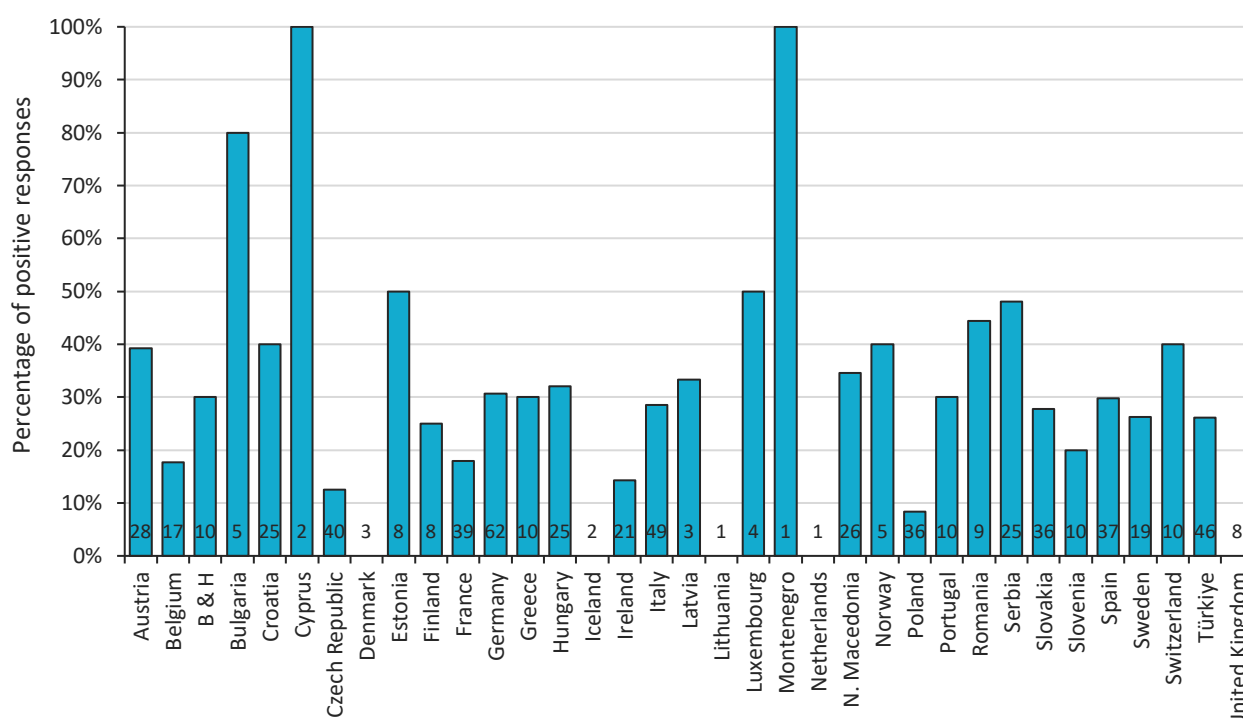


Figure 33 Percentage of positive responses to the question "Has your hospital done the EAHP Self-Assessment to measure the implementation of the European Statements of Hospital Pharmacy in your hospital?"

Given the low rate of positive responses to the question E1 "Has your hospital done the EAHP Self-Assessment to measure the implementation of the European Statements of Hospital Pharmacy in your hospital?", it is not surprising that the number of responses to question E2 Have you created an action plan with the help of the EAHP Self-Assessment Tool? was low and had few positive responses (Figure 34).

Türkiye was an outlier with 17 respondents and 75% positive responses. Free text responses suggested at least partial implementation of action plans in some countries.

"We have intention to develop action plan, but we are limited by capacity." Croatia

"I presented the results and the action plan in front of the Medical Community and the hospital director," France

"We are aiming at implementing the most feasible aspects of the action plan. Unfortunately, due to financial and capacity limitations, we are not able to implement all action plan items.", Serbia

"We have implemented action plans for different statements in our hospital pharmacy development plan to work with

in the upcoming year and then evaluate what statements should be focused on next.," Sweden

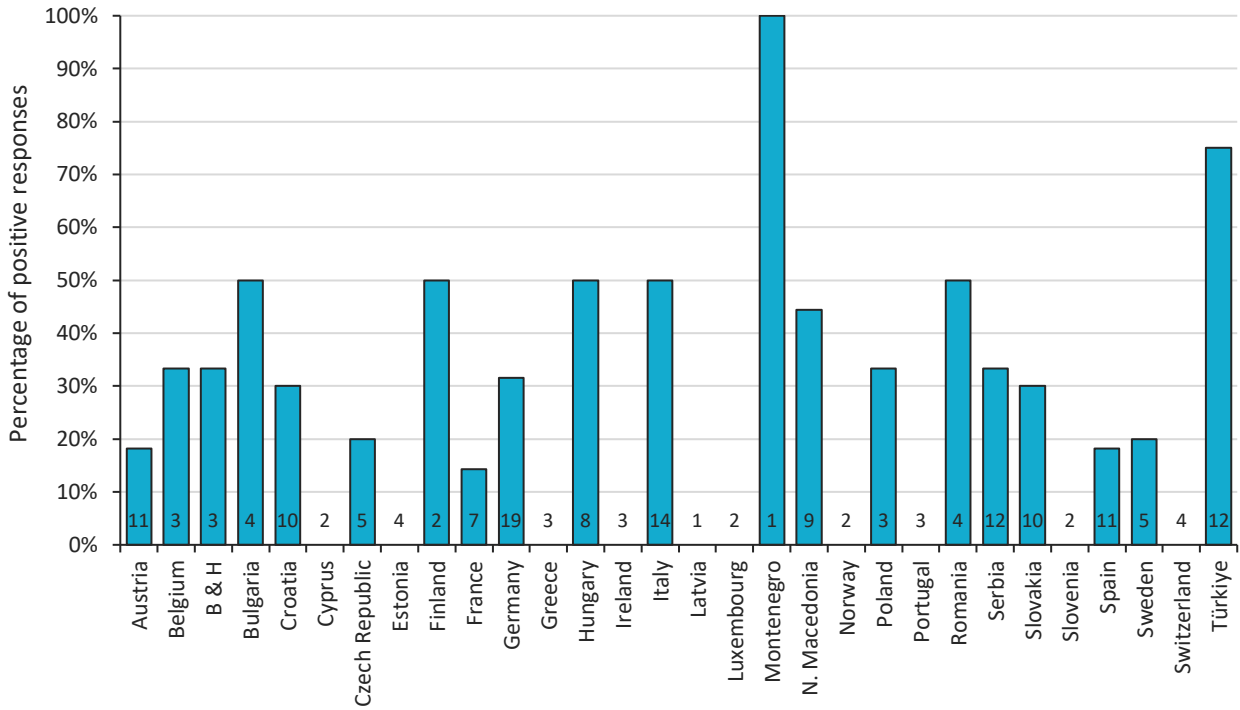


Figure 34 Percentage of positive responses to the question "Have you created an action plan with the help of the EHP Self-Assessment Tool?"

COVID-19 and vaccines management

Responses to question E3 “As a learning from the COVID-19 pandemic, have you established pandemic preparedness protocols covering increased demand of medicines/other supplies?” were mostly positive with countries with the highest number of respondents (e.g. Italy, Germany, Spain, and Türkiye) showing 66 to 80% positive responses (Figure 35). The lowest percentages of positive answers came from Cyprus (0% [2 respondents]), Ireland (34% [21 respondents]) and Estonia (37.5% [8 respondents]).

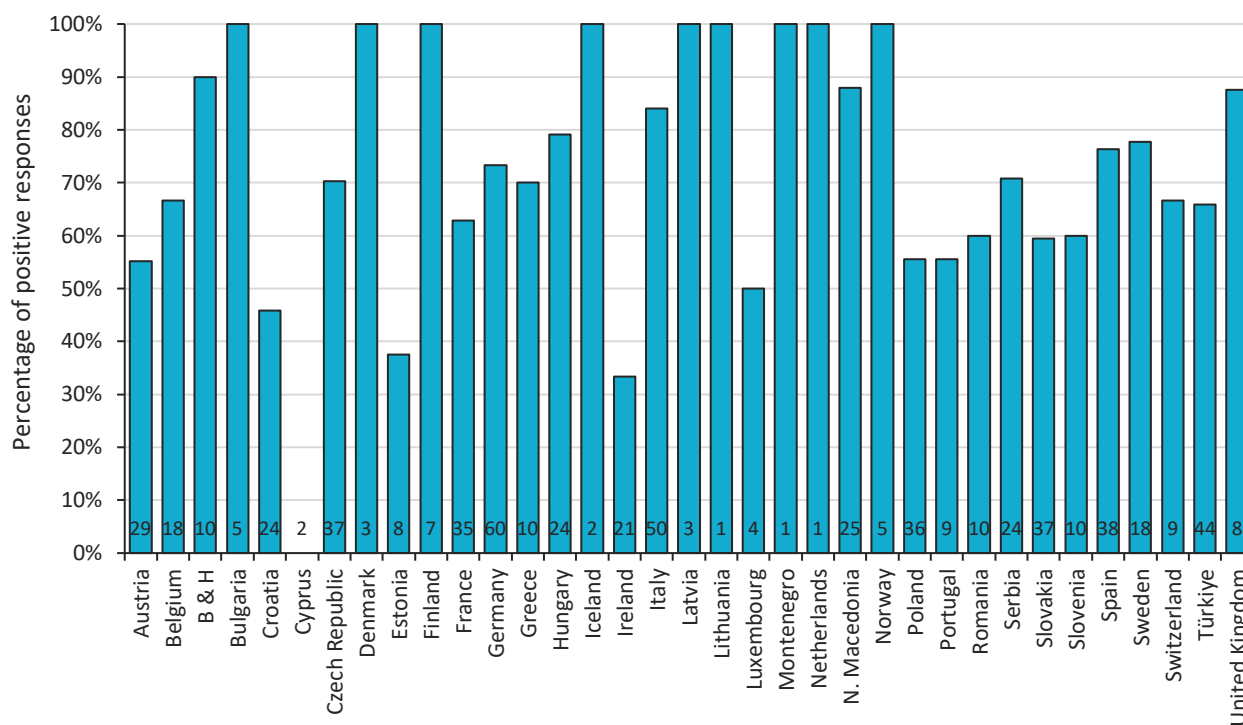


Figure 35 Percentage of positive responses to the question “As a learning from the COVID-19 pandemic, have you established pandemic preparedness protocols covering increased demand of medicines/other supplies”

Pharmacists in most countries were involved in the *Management of SARS-CoV-2 vaccines (storage/dispensing)* with positive response rates of 80% and higher (Figure 36). There was less pharmacist involvement in the *Preparation of SARS-CoV-2 vaccines* in some countries (Figure 37), but in 12 countries with ten or more respondents over 50% of responses were positive (Austria, Belgium, Czech Republic, France, Germany, Hungary, Ireland, Italy, Portugal, Slovakia, Slovenia and Sweden). There were fewer positive responses again relating to pharmacist involvement in *Administration of SARS-CoV-2 vaccines* (Figure 38); in the countries with highest number of respondents the percentage of positive responses was 30 to 40%.

There was little pharmacist involvement in the *Provision of document or clinical guidance for SARS-CoV-2 vaccines* (Figure 39) apart from four countries (with 10 or more respondents) showing a 40% or more positive response rate (Bosnia and Herzegovina, North Macedonia, Romania and Türkiye).

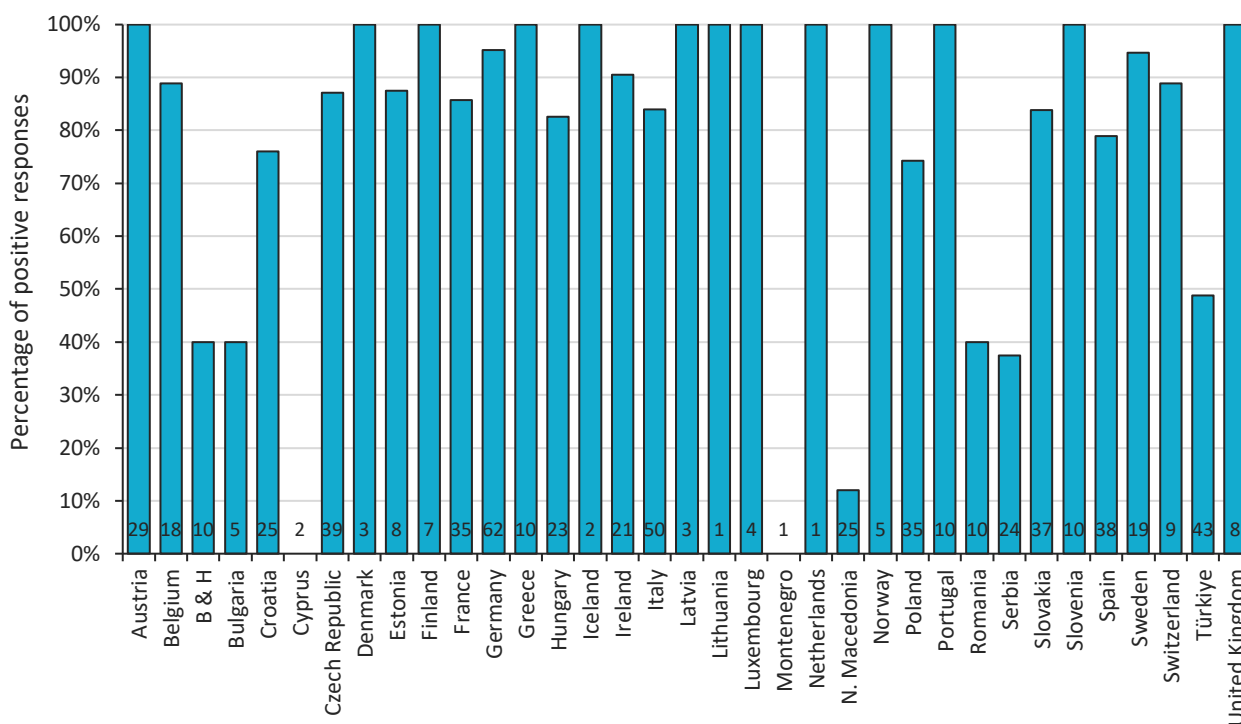


Figure 36 Percentage of Pharmacists signifying involvement in “Management of SARS-CoV-2 vaccines (storage/dispensing)”

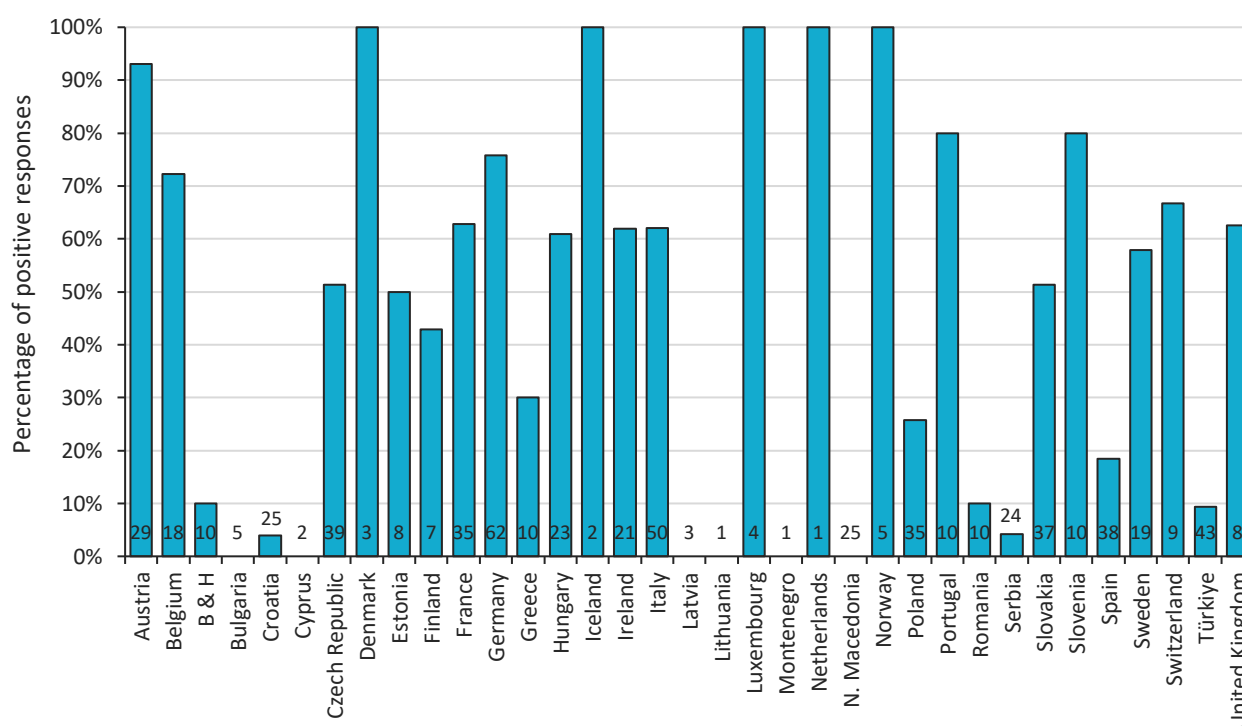


Figure 37 Percentage of Pharmacists signifying involvement in “Preparation of SARS-CoV-2 vaccines”

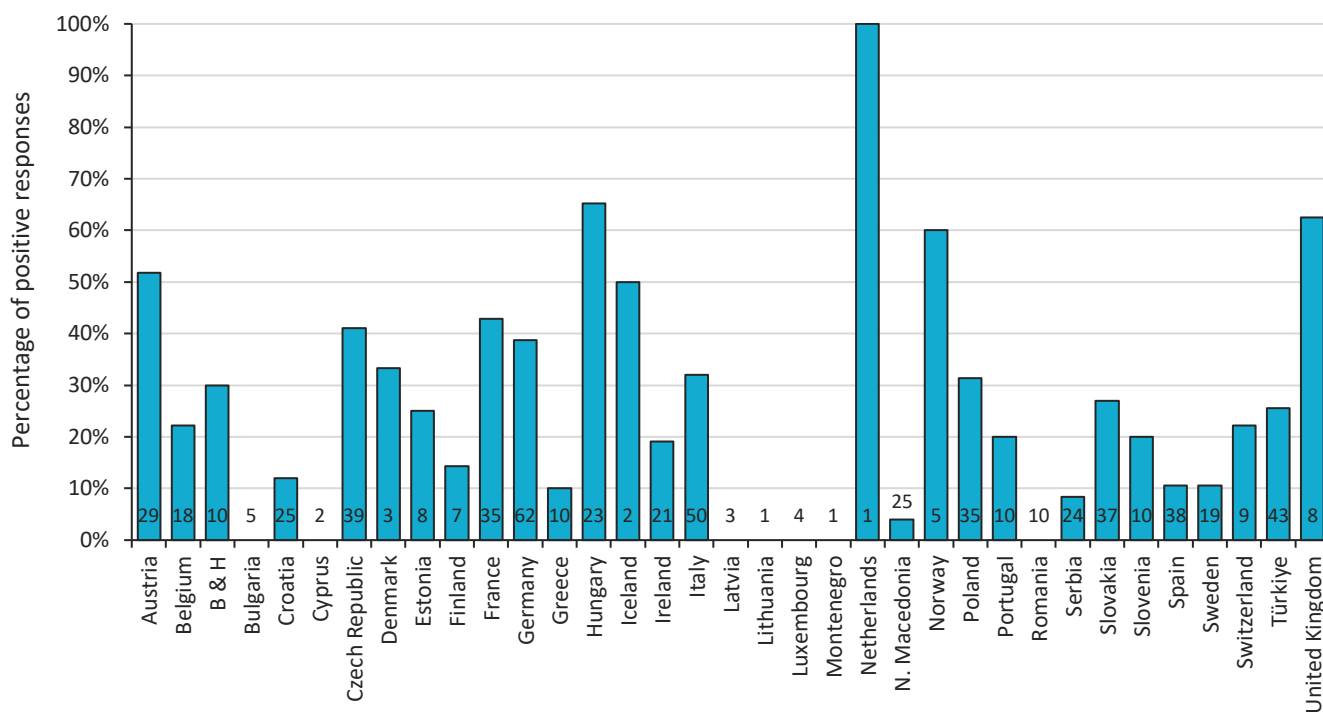


Figure 38 Percentage of Pharmacists signifying involvement in “Administration of SARS-CoV-2 vaccines”

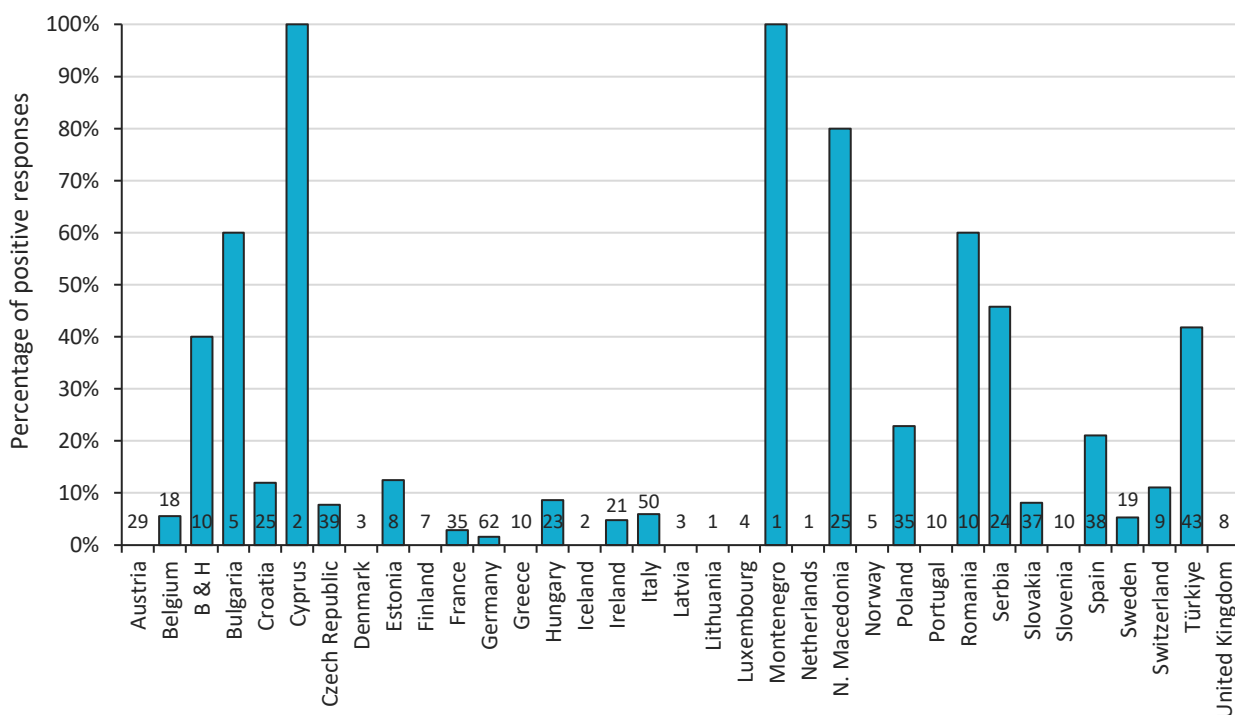


Figure 39 Percentage of Pharmacists signifying involvement in “Provision of document or clinical guidance for SARS-CoV-2 vaccines”

Detection of falsified medicines

There was a strong response to question E4: "Since the implementation of the Falsified Medicines Directive (FMD) on the 9th of February 2019, were any falsified medicines detected in your hospital?". Most countries reported 'No' or 'Not applicable.' Six countries reported 'Yes,' with 10 errors the highest number reported but no further explanation given of what the errors were in free text responses. Other examples of free text responses are shown below.

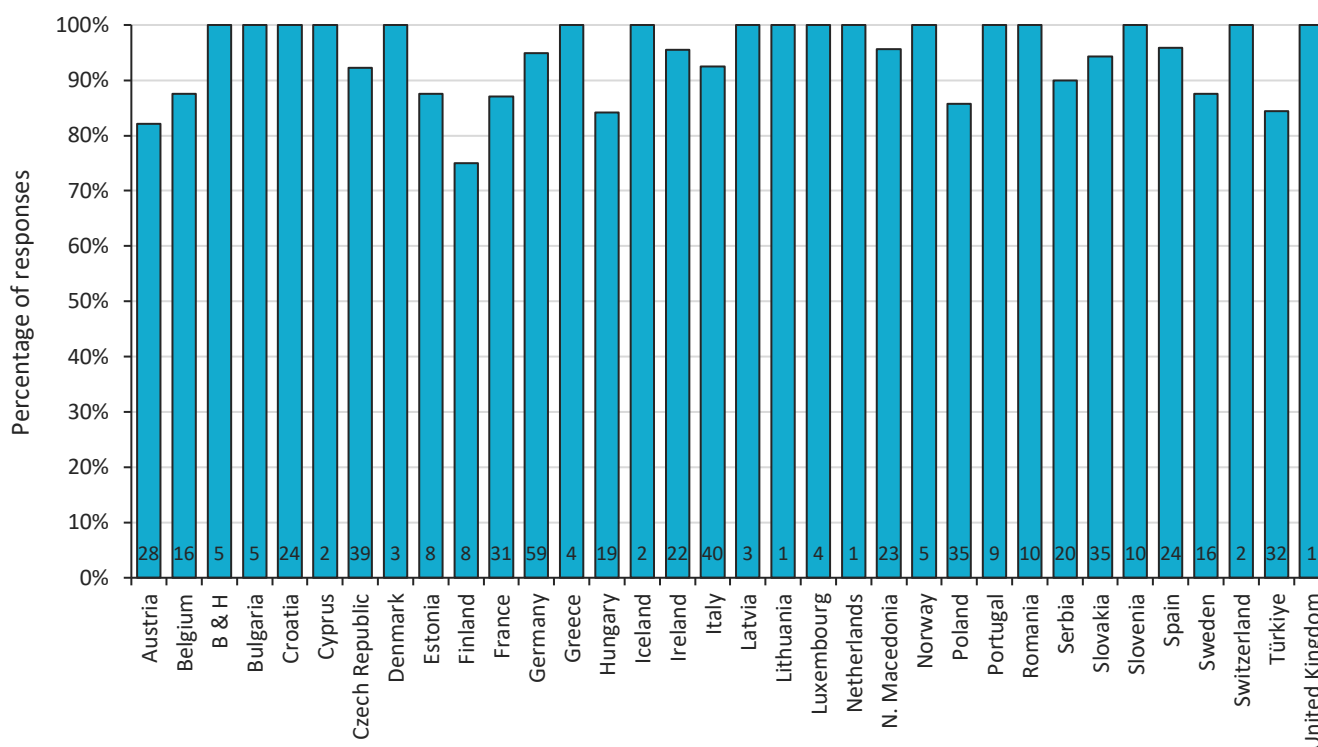


Figure 40 Percentage of respondents who gave a positive response to the question "Since the implementation of the Falsified Medicines Directive (FMD) on the 9th of February 2019, were any falsified medicines detected in your hospital?" (Chart shows Yes or No responses; blanks and n/a excluded)

When asked if the implementation of the FMD had an impact on the medication handling processes in your hospital (e.g., more time is needed for delivering medicine to the ward/patient due to verification and decommissioning activities)? 24/35 countries had 'Yes' in 50% or more of responses. Free text comments referred to the longer time it takes to process and verify medicines and the greater number of false positive alarms. Again, this highlights the ongoing theme of lack of capacity and capability.

"all false alarms so far; FMD is no relevant improvement for a country like Austria", Austria

"we have alerts, but no falsified medicines proved," Czech Republic

"few times," Estonia

"Only by mistake" Germany

Immunisation systems: in the majority of countries most pharmacists do not have access to Immunization Information Systems (IIS) in order to perform a careful screening of patients' immunization history and provide appropriate counselling. In most countries positive responses were returned by less than 20% of respondents, with Spain and the UK as outliers reporting 40 to 50% of positive responses (Figure 41).

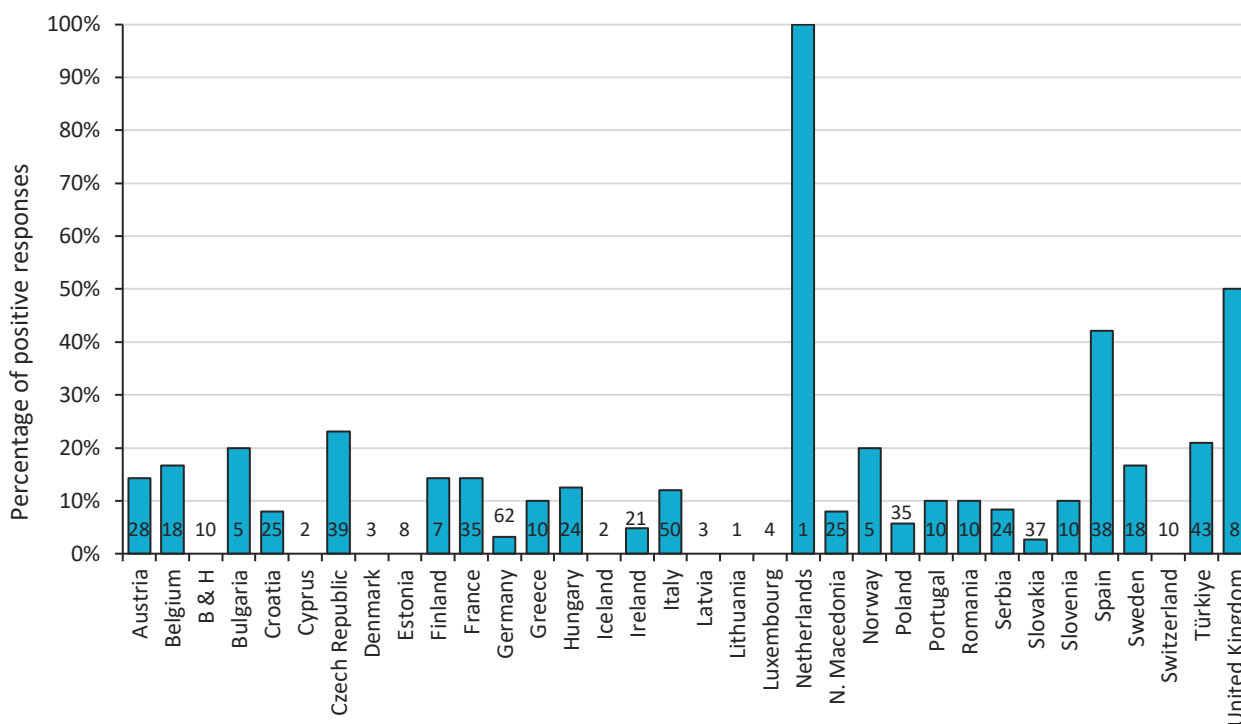


Figure 41 Percentage of respondents who gave a positive response to the question “Do you have access to Immunization Information Systems (IIS) in order to perform a careful screening of patients' immunization history and provide appropriate counselling?”

Formulary management: Figure 42 below shows responses to the question E7: Are you involved in formulary management, including procurement, transportation, and proper storage of vaccines?

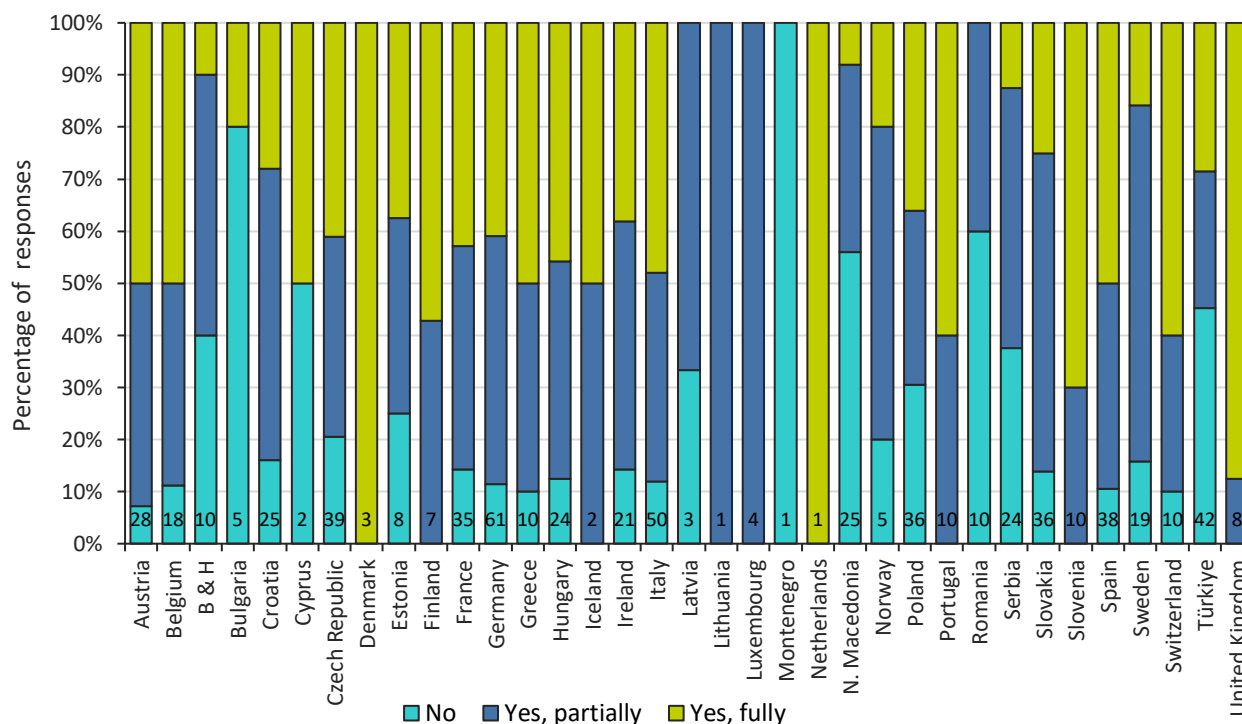


Figure 42 Percentage of positive responses to the question “Are you involved in formulary management, including procurement, transportation, and proper storage of vaccines?” (Grouped by country)

Pharmacists in most countries had at least partial or full involvement in formulary management. Bulgaria and Montenegro were exceptions, but the data was based on very few respondents.

Guidance and education around vaccines use

Responses to the question E8: Are you offering guidance and instructions on the appropriate use of vaccines among healthcare professionals, including developing protocols (e.g., protocols to provide hepatitis B pre-exposure prophylaxis)? were variable. The highest percentage of positives was from UK pharmacists at 88% from 8 respondents. Other countries with higher numbers of responders reported 40 to 50% of responses were positive. The percentage of positive responses was generally lower for question Eg: Are you involved in education and recommendation of appropriate vaccine practices upon hospital admission, during a patient's length of stay, or upon discharge (this includes oral or written recommendations provided via electronic health records)? Denmark and the UK reported highest percentages of positive responses, but each had less than 10 respondents.

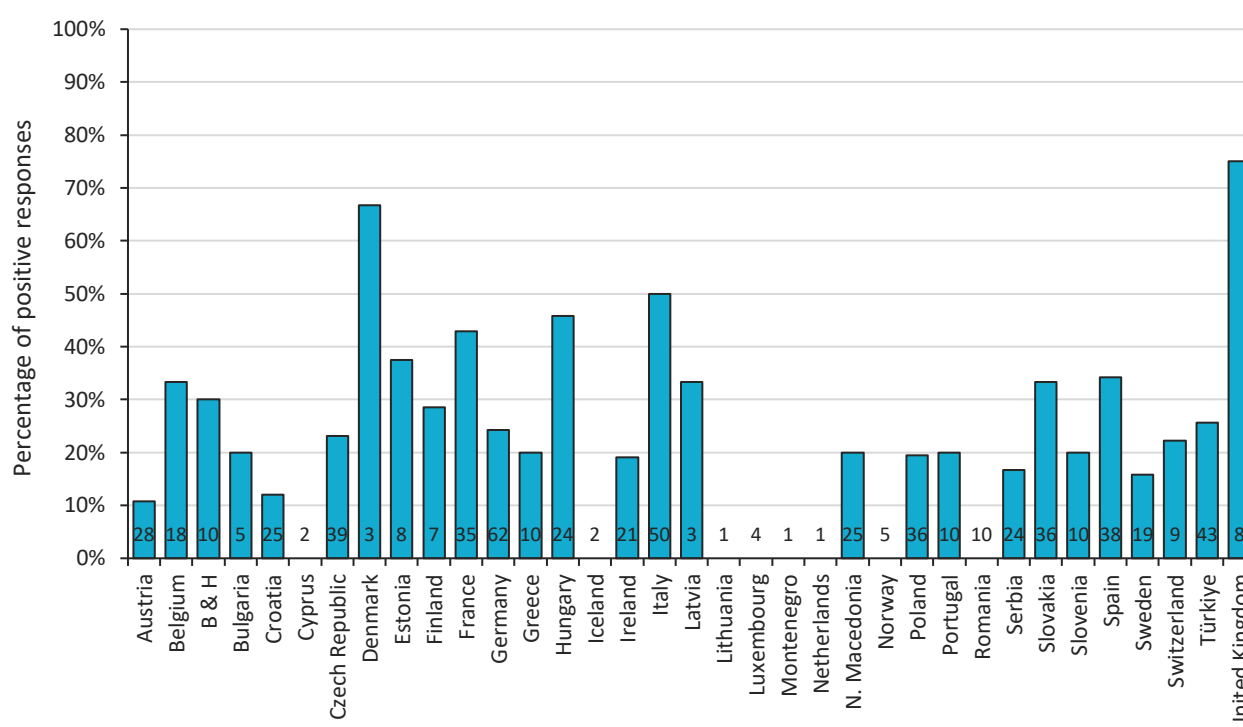


Figure 43 Percentage of positive responses to the question "Are you involved in education and recommendation of appropriate vaccine practices upon hospital admission, during a patient's length of stay, or upon discharge"

Sustainability

There was reasonably strong agreement with the statement that 'Plastic use could be improved to ensure sustainability' (Figure 44) with 24/35 countries showing a 50% or greater respondents showing agreement. Also, with the statement that 'Recycling of medicines packaging could be improved to ensure sustainability' with 19 countries showing a 50% or greater respondents showing agreement (Figure 45).

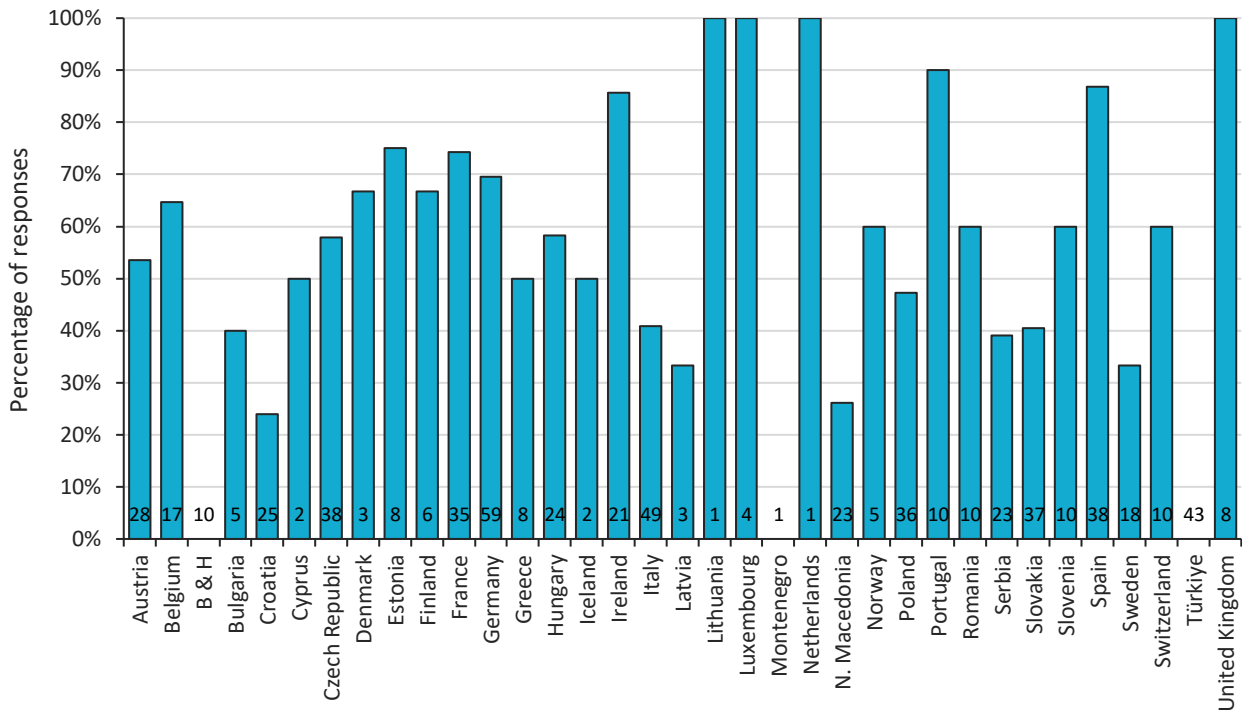


Figure 44 Percentage of positive responses to the statement “Plastic use could be improved to ensure sustainability”

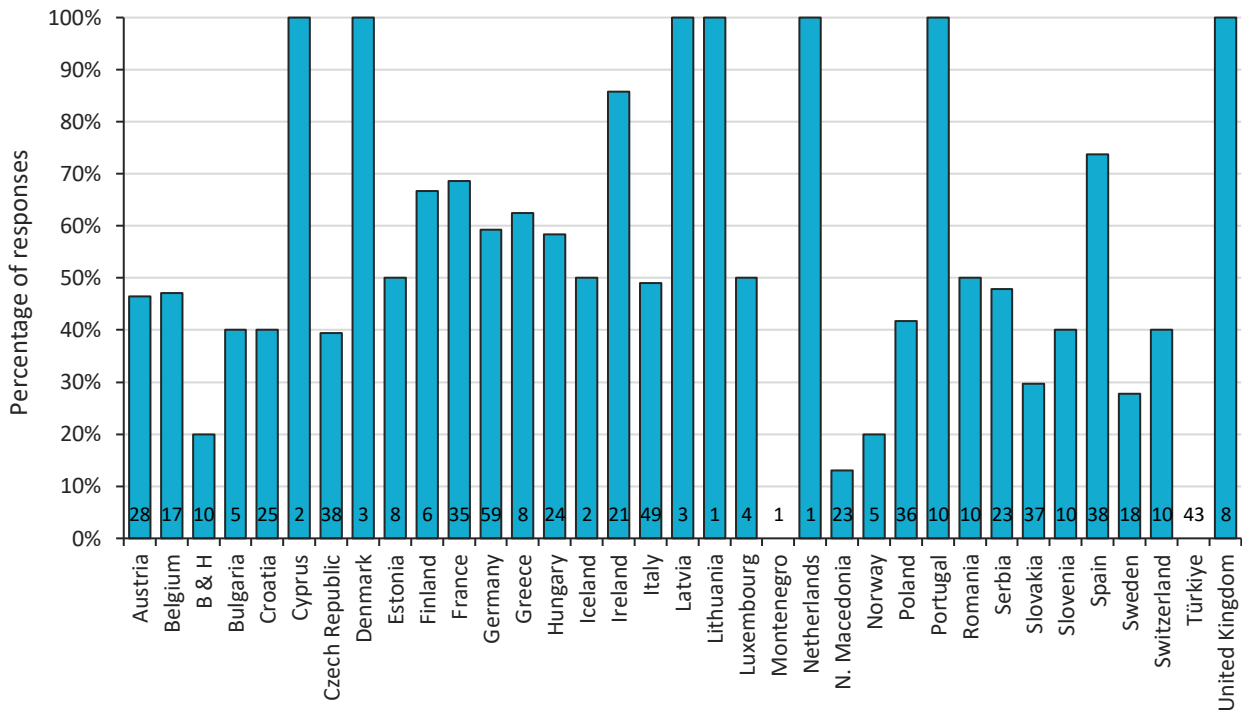


Figure 45 Percentage of positive responses to the statement “recycling of medicines packaging could be improved to ensure sustainability”

There was less support for the statement that 'Electricity use could be improved to ensure sustainability' with only 3 countries showing greater than 50% of respondents in agreement and that 'Electrical waste recycling or reuse could be improved to ensure sustainability'.

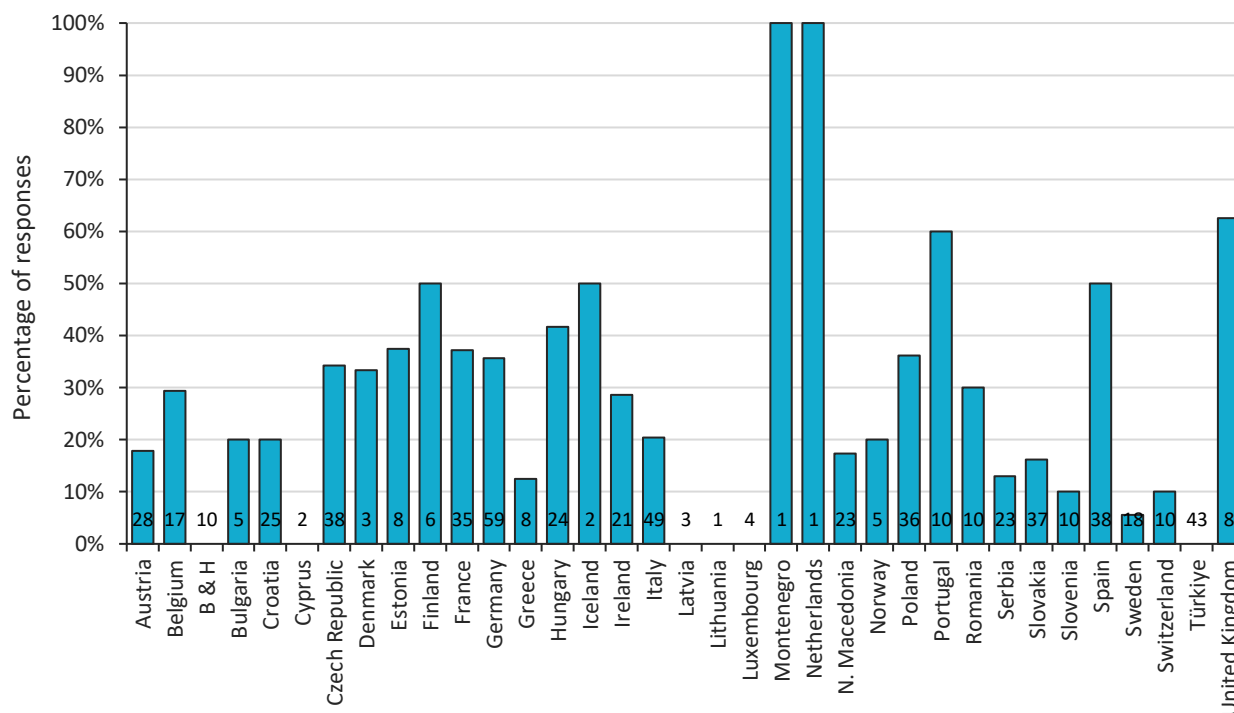


Figure 46 Percentage of positive responses to the statement "electrical waste recycling or reuse could be improved to ensure sustainability"

When asked if they felt empowered to make or try any changes that would potentially improve sustainability respondents were either positive or unsure (Figure 47).

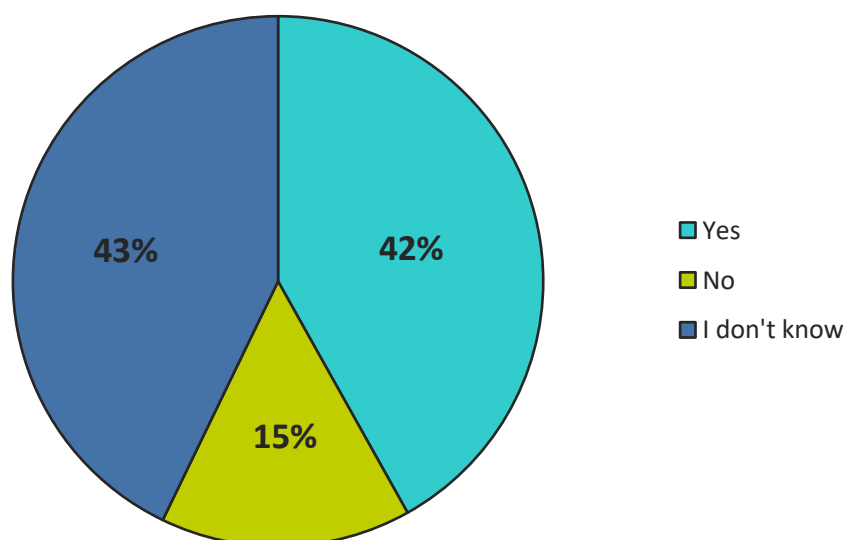


Figure 47 Percentage of Pharmacist responses to the question, "Do you feel empowered to make or try any changes that would potentially improve sustainability?"

Free text responses showed commitment and a sense of responsibility (“*It is everyone’s job to improve sustainable approaches to healthcare*”). and many examples of actions already undertaken:

‘Improve on-site oxygen production (Germany)

‘Low temperature sterilization versus disinfection’ (France)

“We have implemented recycling of cardboard in our pharmacy and are trying to cut down on plastic use.” (Ireland)

Most respondents felt that there should be a greater focus on sustainability from an organisational or management perspective (Figure 48).

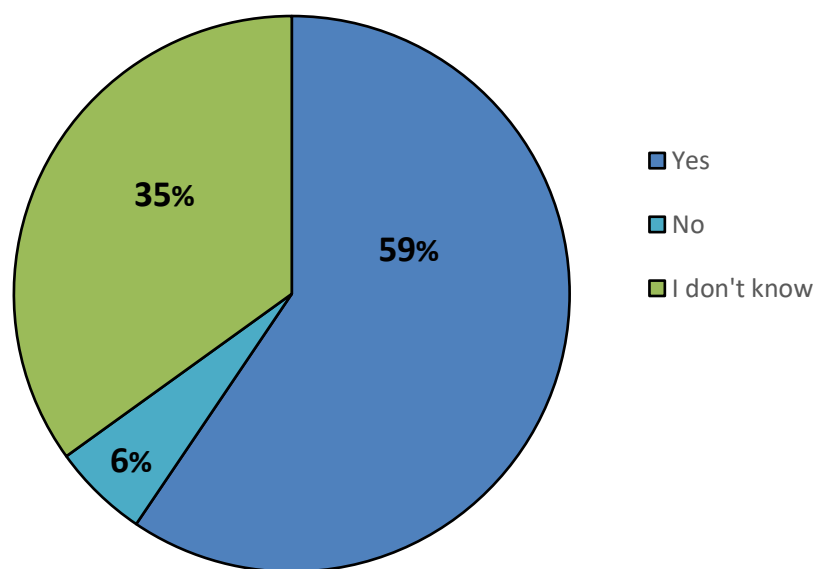


Figure 48 Percentage of Pharmacist responses to the question, “Do you think there should be a greater focus on sustainability from an organisational or management perspective?”

Medicines disposal

Finally, pharmacists were asked about medicines disposal processes. Over 70% of responders answered “Yes” to the following questions, 18-20% answered “No”, and 5 to 9% didn’t know. In Figure 49, outliers with fewer than 50% of “Yes” responses were Belgium, Denmark, Germany, Ireland, Montenegro (1 response – “not applicable”), Norway, Sweden, Switzerland, and the Netherlands (1 response).

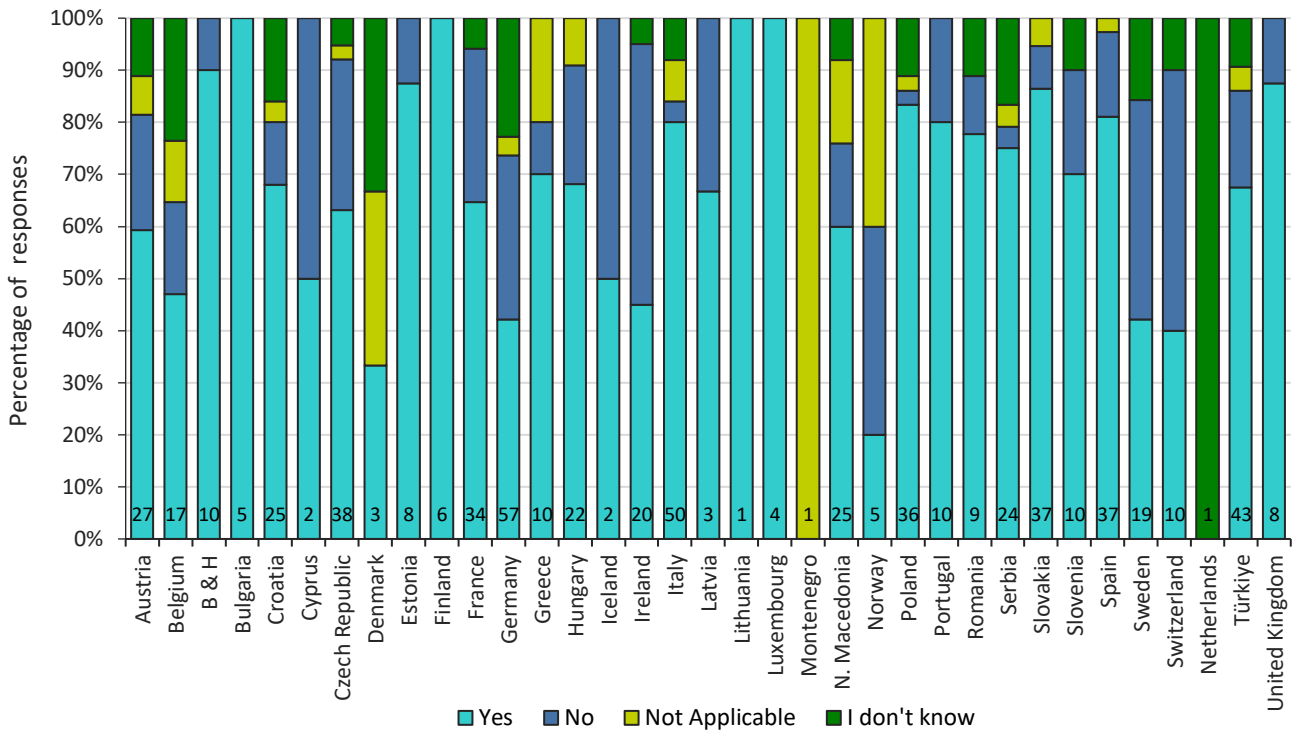


Figure 49 Percentage of responses to the statement “The hospital that I work in has processes to record medicines that are disposed of.”

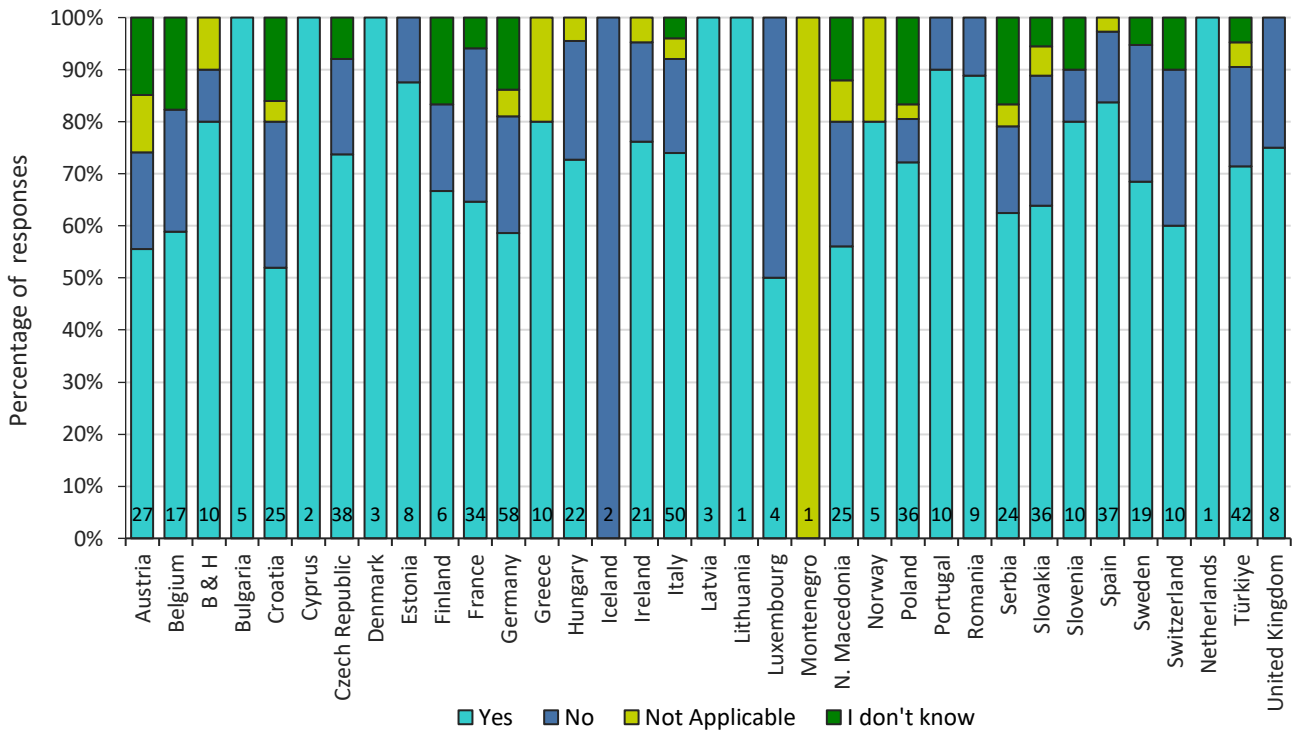


Figure 50 Percentage of responses to the statement “The hospital that I work in has processes to monitor and limit disposal of pre-expiry medicines.”

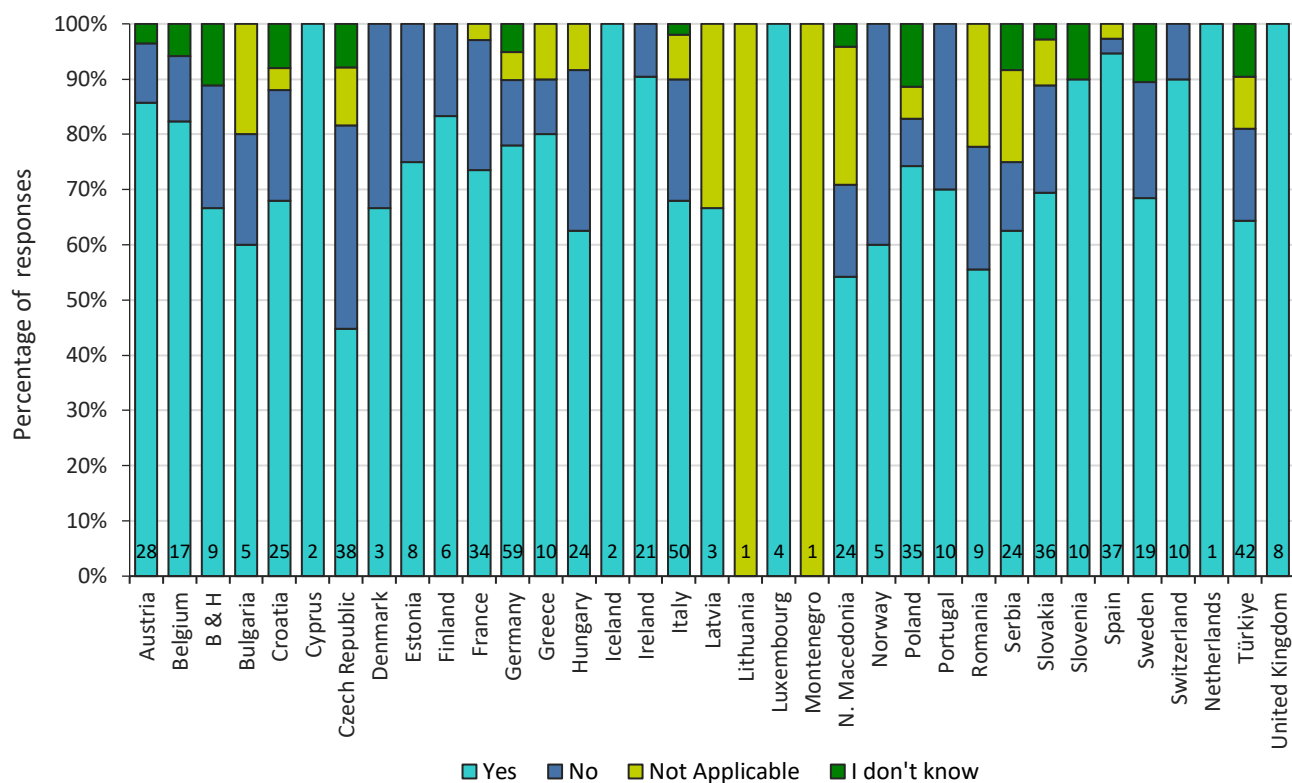


Figure 51 Percentage of responses to the statement “The pharmacy that I work in has an appropriate system to re-dispense returned medicines from the ward if their quality is assured.”

Discussion

When the 2022/23 EAHP Investigation closed, there were a total of 653 responses, the results of which were exported from SurveyMonkey for further analysis and reporting. The number of responses was lower than from the 2018 and 2016 EAHP Statements Survey, which had 873 and 903 replies, respectively.

In previous years for the Statement surveys the completion rates were 82% (2018) and 81% (2016) and as was done in previous years, if an incomplete response was submitted, the quantitative data was not used in the results. A completion rate calculation for the current investigation comparable with previous years was not possible, but we have discussed below a completion rate based on countries where the number of chief pharmacists returning responses was known.

Sections 4 (Clinical Pharmacy services) and Section 6 (Education and research) contained the statements with the least positive responses. The statements where implementation seems to provide the greatest challenge (listed in order of lowest percentage positive responses) (Table 2 Table 3) were:

- S 4.4 The pharmacists in our hospital enter all medicines used onto the patient's medical record on admission.
- S 6.4 The pharmacists in our hospital routinely publish hospital pharmacy practice research
- S4.5 The pharmacists in our hospital contribute to the transfer of information about medicines when patients move between and within healthcare settings.
- S1.1 The pharmacists in our hospital work routinely as part of a multidisciplinary team.
- S4.6 The pharmacists in our hospital ensure patients and carers are offered information about their medicines in terms they can understand.
- S4.2 All prescriptions in our hospital are reviewed and validated as soon as possible by a pharmacist.

Four of these six statements also provided the greatest challenge in the 2018/19 Statement survey (S4.4, S4.5, S1.1, and S4.2). Indicating that the more clinical patient facing services have not developed compared to the more traditional pharmacy services. Lack of capacity (not having enough staff), other healthcare professionals do this, and not a priority by my managers, were the top three cited reasons for this (Figures 10,13,16 and 22). The only slight variation was in answer to statements 6.4 and 1.1 where lack of capability (not having staff with the required skills) were also one of the top three reasons (Figure 19 relating to publishing pharmacy practice research, and Figure 25 relating to working as part of a multidisciplinary team). There was considerable variation across the different countries, reflecting the differing role of pharmacists in those countries. The role of the 'clinical pharmacist' where the pharmacist is visible on the ward and in clinics in a 'patient-facing role', while well established in some countries, is still a rarity in others. Pharmacist prescribing is established in countries like the UK, USA, Canada and New Zealand 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 statement where the number of positive responses was lowest (statement 4.4 the pharmacists in our hospital enter all medicines used onto the patients' medical record on admission), there was no statistical improvement in results in the 2022/23 Investigation, compared with the 2018/19 survey and baseline (Table 2). This is not surprising since creating the capacity and developing the capability in the workforce to deliver clinically oriented services 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 measures an average change across all countries, and that individual

countries may have seen more drastic changes in the implementation of this statement (Figure 9). Furthermore, since the previous Statement survey there has been the Covid 19 global pandemic which has created enormous pressures on all healthcare systems, which clearly will have impacted on hospital pharmacy services capacity issues. As identified in the results for section C, pharmacists in most countries were involved in the management of SARS-CoV-2 vaccines which will have diverted staff away from day-to-day pharmacy duties.

It is of concern that in some countries clinical pharmacy services are not well developed since pharmacists are the medicines expert. Whilst it is encouraging that a mean of 60% of respondents gave a positive response to the question 'all prescriptions are reviewed and validated as soon as possible by a pharmacist' (Table 3) which is an improvement on the previous Statement survey (56%), it indicates that in 40% of cases this is not happening. This activity is an important part of medication safety systems.

Generally, and which supports previous Statement survey findings, there appeared to be few barriers for hospital pharmacies to engage in the procurement, compounding, and distribution of medicines. Responses to questions from this section are very positive overall (Table 3), which is not surprising since this has always been a core function of hospital pharmacy. 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. Whilst all of points identified in this discussion are supported by the results in the tables and figures, it should be noted that the overall response rate to this year's Investigation was low at 16%, excluding those countries where the number of chief pharmacists sent the survey is unknown (Table 1). Furthermore, in countries where there was a high response rate it should be noted the number of chief pharmacists sent the survey is low (Table 1) which may have skewed the data.

Recommendations

- Further work is needed to support the development of hospital pharmacists in clinically focused activities.
- It is clear from analysis of the results from this Investigation, and previous surveys in 2016, 2017/18 and 2018/19 that there is a relationship between workforce numbers /skill mix and implementation of statements related to clinically focused activities. Therefore, consideration needs to be given on how to support hospitals to develop the capacity and capability to deliver clinically orientated services.
- It is interesting that capability became one of the top three barriers in publishing pharmacy practice research and working as part of a multidisciplinary team. Therefore, sharing of good practice initiatives and the development of the EAHP website and SILCC initiative to facilitate sharing of best practice should continue. EAHP should encourage those countries where clinical pharmacy is well developed to share evidence/business cases which support the development of these services. The EAHP website could also act as a repository of evidence of the benefits of pharmacists' involvement in clinically orientated services or signposting to where there is published evidence in journals.
- 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.
- EAHP can provide a wide range of resources to help raise awareness about the importance of robust hospital and clinical pharmacy services in the hospital setting to provide better outcomes for patients.
- The use of the [Self-assessment tool](#) to measure progress with the implementation of the Statements should be encouraged to increase their adoption.

Recommendations for future surveys

- Changes to the previous EAHP Statements Surveys appear to have been well received and should be continued in subsequent surveys:
 - Tailor survey to specific country (countries) needs.
 - 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.
 - Provide more in-depth questions for capacity and capability barriers (e.g., no one is interested in hospital pharmacy).
 - Identify the key drivers for change in countries where implementation has occurred or is occurring.
- Further work is needed to better understand the low response rate in some countries to determine how this may be improved.
- A named person (country co-ordinator) to send out invite survey link.
- Weekly reminders should be sent out by the named person (country co-ordinator).
- Survey should be done in period without major holidays such as Christmas or Easter.
- Involvement of the Board members in communication with the countries.

References

1. *The European Statements of Hospital Pharmacy: achieving consensus using Delphi and World Cafe methodologies.* **Maskrey , N and Underhill, J.** 2014, European Journal of Hospital Pharmacy, Vol. 21, pp. 256-258.
2. *EAHP survey and European Statements of Hospital Pharmacy - can we achieve a perfect match?* **Horak , P and et al.** 2014, European Journal of Hospital Pharmacy, Vol. 21, pp. 291-293.
3. *An exploration of hospital pharmacists' attitudes and opinions towards undertaking research.* **J, Shenton, Fitzpatrick, R and Gifford, A.** 2023, International Journal of Pharmacy Practice, Vol. 31, pp. 206-217.
4. *EAHP statements survey 2016: sections 1, 3 and 4 of the European Statements of Hospital Pharmacy.* **Horák P, Gibbons N, Sýkora J, et al.** 2017, Eur J Hosp Pharm , pp. 24:258-265.

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RESULTS 2022/2023

