A: **Title of article:** 2015 EAHP Statements Survey

B: **Corresponding author**
Petr Horák (corresponding author)
University Hospital Motol, Hospital Pharmacy
V Uvalu 84
Prague 5, Czech Republic 15006
Tel. +420224435721 Fax +420224435719, horak@hospitalpharmacy.cz

C: **Co-authors**
Nicholas Gibbons
Keele University, Centre for Medicines Optimisation
School of Pharmacy
Keele, Staffs, UK

Juraj Sýkora
1. Slovak Health University, Pharmacy Institute
Bratislava, Slovakia
2. National Cancer Institute, Pharmacy Department
Bratislava, Slovakia

Joan Peppard
1. European Association of Hospital Pharmacists
Brussels, Belgium
2. Midland Regional Hospital Tullamore, Pharmacy Department
Midland Regional Hospital
Tullamore, Ireland

Tajda Miharija Gala
University Medical Centre Ljubljana, Department of Pharmacy
Ljubljana, Slovenia

Jonathan Underhill
Keele University, Centre for Medicines Optimisation
School of Pharmacy
Keele, Staffs, UK

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2015 EAHP Statements Survey

Petr Horák, Nicholas Gibbons, Juraj Sýkora, Joan Peppard, Tajda Miharija Gala and Jonathan Underhill

Abstract

Objectives

The 2015 EAHP Statement Survey was related to Sections 2, 5 and 6 of the European Statements of Hospital Pharmacy. In addition to the collection of statistical data about the level of implementation of the Statements, it was also intended to identify important barriers to their implementation.

Methods

The online questionnaire was sent to all hospital pharmacies in EAHP member countries. Data were analysed by researchers from Keele University School of Pharmacy, UK and the EAHP Survey Group.

Results

There were a total of 949 responses (response rate of 18 %). In the first part of the Survey, the authors collected data about the hospital pharmacy setting. While almost half of hospital pharmacies served over 500 beds, 80% of hospital pharmacies had 10 or less pharmacists. In section B, the authors gathered evidence about the degree of implementation of Sections 2, 5 and 6 of the European Statements and the main barriers to and drivers of implementation. Five questions with the lowest implementation level were then further analysed.

Only five countries had 50% or more of hospital pharmacies reporting that the hospital pharmacists routinely publish hospital pharmacy practice research. 67 % of participants stated that they had contingency plans for medicines shortages. The majority of countries (20) have less than half of respondents using computerised decision support to reduce the risk of medication errors. When asked if an audit had been undertaken in the last three years to identify priorities in medicines use processes, the mean percentage of positive responses for a country was 58%.

Conclusions

EAHP has gained an informative overview of the implementation level as well as the barriers to and drivers of implementation in Sections 2, 5 and 6. This is essential to inform the plans for EAHP to best support their implementation.

What is already known on this subject

The 2014/15 EAHP Baseline survey, as the first survey of new EAHP line, brought general knowledge about baseline level of Statements implementation in all six sections of European Statements.

What this paper adds

This paper deepens knowledge about the level of implementation in Statements section 2, 5 and 6 together with identification of the main barriers to and drivers of implementation. The most challenging Statements for implementation in hospital pharmacies are:

- the publication of the research activities,

- creating contingency plans for medicines shortages,
- implementing and using computer-supported decision tools,
- involvement in developing local and national guidelines and policies,
- identification priorities for improvement in medicines use processes.

The most important barrier in implementation is insufficient capacity and different priorities of hospital and health-system managers.

Introduction

European Association of Hospital Pharmacists (EAHP) decided to change its survey model in 2014, based on the proceedings of European Summit of Hospital Pharmacy which was held that year.[1] The delegates of the 2014 EAHP General Assembly discussed a transformation of the existing EAHP survey to modernise the approach by using an online tool to optimise data collection while minimising workload for survey respondents. This tool was intended to support EAHP efforts in implementation of the Summit outcomes – The European Statements of Hospital Pharmacy (Statements) and other EAHP's major projects.[2]
The EAHP Survey group therefore established a model with a 'baseline survey' and two 'statements surveys, rotating in 2-year cycles, each year covering 3 of 6 Section of EAHP Statements. This article brings an overview of most important results of the first 'statements survey' that covered Statements section 2, 5 and 6.

Methods

The survey was drafted following a meeting of the EAHP Survey Group and then conducted from October 2015 to December 2015, spanning 33 (of 34) EAHP member countries.

The 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 in Sections 2, 5 and 6
Section C: questions about the hospital's readiness and ability to implement the statements

The questions in section A were designed to allow further analysis of dependencies between main implementation barriers and hospital type, level of staffing etc.

The questions in Section B of the survey were divided into three categories. The first was to identify if the participant thought that the Statements were already being implemented 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. 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'. A response of 1 or 2 was deemed to indicate some

difficulty in complying with that statement - a 'negative response'. Where this was the case, the participant was asked a follow up question to identify the barriers in implementing the statement.

In the 2014/15 EAHP Statements survey, the respondent was prompted to give a free text answer to these follow up questions. This meant that analysing the results was very time consuming, especially when language translation of the text was needed. For this survey, a range of pre-selected options to assist in identifying barriers to implementation were given. Five standard pre-selected options were used for every question, with some questions having additional specific options. 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 field, where the respondent could still give a free-text response if they had a unique answer to give. Respondents were given the ability to select multiple options.

Having identified the level of implementation of the statements, and any barriers to implementation, participants were also asked for specific information to deepen the understanding of the topic. 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.

SurveyMonkey™ was used as the software tool for the survey. The EAHP Survey Group decided to use English as the only language for the Survey to facilitate data assessment and to avoid additional costs and possible mistakes hidden in the translations of questions and answers. The survey was conducted from October 2015 to mid-November 2015. National coordinators were involved in tracking of response rates in their country. In some countries, the national coordinators were also responsible for the dissemination of survey links. When the survey closed, there were a total of 952 responses, the results of which were exported from SurveyMonkey™ for further analysis and reporting.

Results

Response rates

The response rates for completed surveys are listed in the table 1, broken down by country. The response rates from the 2014/15 Baseline survey [3] are given in the final column for comparison. The minimal difference on the overall response rate indicates that using an English version only appeared to have no significant impact on response rate. It might affect the numbers of responses in respective countries, but this will need to be confirmed by further investigation in future surveys.

Country	Responses	Requests	Percentage	Percentage (last year)
Denmark	8	8	100%	88%
Iceland	1	1	100%	100%
Malta	4	6	67%	67%
Austria	29	46	63%	49%
Sweden	23	37	62%	47%
Ireland	41	70	59%	53%
Croatia	20	39	51%	82%
Serbia	32	63	51%	63%
Czech Republic	49	95	52%	61%
Portugal	40	89	45%	20%
Bosnia	9	21	43%	48%
Slovenia	12	28	43%	68%
Greece	44	108	41%	30%
Romania	26	65	40%	44%
Norway	12	33	36%	66%
FYROM	11	31	36%	58%
Germany	137	388	35%	25%
Switzerland	21	60	35%	48%
Luxembourg	2	6	33%	50%
Estonia	7	22	32%	46%
Hungary	32	103	31%	64%
Lithuania	12	39	31%	13%
Belgium	45	166	27%	25%
Finland	22	82	27%	27%
Bulgaria	17	68	25%	17%
Netherlands	19	80	24%	35%
UK	38	183	21%	38%
Spain	41	250	16%	18%
Slovakia	13	83	16%	48%
Italy	55	606	9%	6%
Turkey	25	509	5%	9%
Latvia	2	43	5%	13%
France	100	1888	5%	8%
Total	949	5,316	18%	18%

Table 1: Response rate per participating countries

Section A

Results found that 43% of the responders work in teaching hospitals (Fig 1). These numbers are almost the same as was seen in the Baseline survey (42%),[4] therefore the sample can be considered very similar in this survey from this point of view.

The respondents indicated, that 71% of them were from general hospitals (Fig 2). From "other hospitals" category (n=275), 45 responses were from psychiatric hospitals, 13 from paediatric hospitals, 12 from traumatology hospitals, 24 from oncology and 22 from geriatric hospitals respectively.

45% of hospital pharmacies served to 100-500 beds, 24% to 500-1000 beds, 22% to hospitals with more than 1000 beds, while 9% to less than 100 beds hospitals (Fig 3).

While almost half of hospital pharmacies in the sample served more than 500 beds, the staffing numbers showed that 80% (n=712) of hospital pharmacies had 10 or less pharmacists (Figure 4).

The situation was very similar with the number of pharmacy technicians as 72% of hospitals in the sample employed 1-10 full time equivalents of pharmacy technicians (n=642).

Section B: Questions related to EAHP Statements Sections 2, 5, 6

[Table 2] shows all of the questions asked in the survey regarding Sections 2, 5 and 6 of the Statements, and where applicable, the overall percentage of participants who gave a 'positive response' to the question. When 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 75% of participants gave a positive response have been highlighted in red in the table, and questions where more than 90% of participants gave a positive response have been highlighted in green. The question numbering indicates the relationship between the questions and respective Statements: S21 is related to Statement 1 in Section 2 and accordingly.

EAHP Survey Questions
Section 2: Selection, Procurement and Distribution
S21 Our hospital has clear processes in place around the procurement of medicines. (94% of all responses were positive.)
S212 Were hospital pharmacists involved in the development of these? (93% of all responses were positive.)
S214 Which processes were pharmacists involved in?
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. (82% of all responses were
S23 Do you have a formulary in place in your hospital (79% of all responses were positive.)
S232 The pharmacists in our hospital coordinate the development, maintenance and use of our formulary. (92% of all responses were positive.)
S234 How would you categorise the level of influence your pharmacists have over the formulary?
S235 What kinds of evidence do you use for development and maintenance of the formulary?
S24 Procurement of non-formulary medicines in our hospital is done to a robust process. (85% of all 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 all responses were positive.)
S25 The pharmacy in our hospital has contingency plans for medicines shortages. (67% of all responses were positive.)
S252 Have you had reason to contact the medicines authority in your country because of medicines shortages? (60% of all responses were positive.)

S2.5.3 What was the reason(s) for contacting the medicines authority due to medicines shortage?
S26 The pharmacy in our hospital takes responsibility for all medicines logistics, including for investigational medicines. (88% of all responses were positive.)
S262 For which of these do your pharmacies have responsibility? (applies to all medicines, including investigational medicines)
S27 Which of these statements are true in your hospital?
S272 Were pharmacists involved in producing this policy? (71% of all 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 all responses were positive.)
S522 Were pharmacists involved in approving these procedures? (80% of all responses were positive.)
S524 In the past three years have you undertaken an audit to identify priorities for improvement in medicines use processes? (58% of all responses were positive.)
S526 What have you done with the results?
S53 Does your hospital have a quality assessment programme? (69% of all responses were positive.)
S532 Is this quality assessment programme internal or external?
S533 Our hospital acts on these reports to improve the quality and safety of our medicines use processes (96% of all responses were positive.)
S535 For which parts of your service do you use the quality assessment programme?
S54 The pharmacists in our hospital report adverse drug reactions. (65% of all responses were positive.)
S543 Our hospital has a process for reporting adverse drug reactions and the staff report these regularly (67% of all responses were positive.)
S545 The pharmacists in our hospital report medication errors. (62% of all responses were positive.)
S547 Approximately how many medication errors (e.g. were reported by each of your pharmacists (on average)
S548 What have you done with the results of these medication error reports?
S55 The pharmacists in our hospital use evidence-based approaches to reduce the risk of medication errors. (78% of all responses were positive.)
S552 Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors. (47% of all responses were positive.)
S554 Our hospital pharmacy uses computerised decision support in:
S56 Our hospital has appropriate procedures in place to identify high-risk medicines and minimise the risks from their use in the following areas. (88% of all 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. (70% of all
S58 Our patient's health records accurately record all allergies and other relevant medicine-related information. (89% of all responses were positive.)
S582 Who audits the information held in patient records/medication charts?
S583 Have there been incidents resulting in patient harm that may have been prevented if the pharmacist had been able to access the patient records/medication charts? (63% of all responses were
S59 The pharmacists in our hospital ensure that the information needed for safe medicines use is accessible at the point of care. (82% of all responses were positive.)
S593 Have there been incidents resulting in patient harm that may have been prevented if the information provided at the point of care had been improved? (70% of all responses were positive.)
S510 Medicines in our hospital are packaged and labelled to assure they are safely optimised for administration. (85% of all responses were positive.)
S5103 Hospital pharmacists are involved in processes of secure stocking and dispensing of drugs on wards, including a policy for LASA drugs and regular inspections (75% of all responses were positive.)

S511 Which best describes the traceability of medicines dispensed by our pharmacy? (96% of all responses were positive.)
Section 6: Education and Research
S62 The pharmacists in our hospital are able to demonstrate their competence to perform their roles. (82% of all responses were positive.)
S621 How do the pharmacists in your hospital demonstrate their competence?
S63 Pharmacists in our hospital are able to engage in relevant educational opportunities. (90% of responses were positive.)
S632 What educational opportunities are available to your pharmacists?
S64 The pharmacists in our hospital routinely publish hospital pharmacy practice research. (32% of all responses were positive.)
S641 How many external presentations/papers/posters were submitted last year by your pharmacy?
S642 How often are internal presentations given by your pharmacy?
S644 Have you or your pharmacists engaged in development of local/national guidelines? (57% of all responses were positive.)

Table 2: Questions of 2015 EAHP Statements Survey

The five questions which received the least positive responses were identified [Table 3], and are subject to a more in-depth analysis in this article. These five questions are related to four respective Statements: 6.4; 2.5; 5.5; 5.2.

	Question	Mean*
S6.4	The pharmacists in our hospital routinely publish hospital pharmacy practice	32%
S2.5.2	Have you had reason to contact the medicines authority in your country because of medicines shortages?	40%
S5.5.2	Our hospital pharmacy uses computerised decision support to reduce the risk of medication errors	47%
S6.4.4	Have you or your pharmacists engaged in development of local/national	57%
S5.2.4	In the past three years have you undertaken an audit to identify priorities for improvement in medicines use processes?	58%

Table 3: Five questions with lowest mean percentage of positive responses across countries

Questions related to 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*. The question with the lowest overall percentage of positive responses was S6.4. Figure 5 shows the breakdown of responses to S6.4 in participating countries.

The graph shows only five countries where 50% or more of hospital pharmacies report that their hospital pharmacists routinely publish; the Netherlands, Spain, Italy, Norway plus Latvia, which had only one response per country. The majority of countries oscillate around 30 %, although for some countries this is even smaller, around 10% (Czech Republic, Slovakia, Sweden).

The authors then sought the most important barriers to being able to publish more often. The responders named insufficient capacity as the most frequent barrier (51%, n=484) together with limited capability (19%, n=178) and publication activities not being the hospital managers' priority (16%, n=149) (Fig 6).

Question 6.4.4 was also related to publication activities, but was specifically focused on involvement of hospital pharmacists in development of guidelines on local and/or national level. As apparent from (Fig 7) the overall involvement in guidelines development is significantly higher than publishing the research results, being most frequent in Luxembourg, Denmark, the UK, the Netherlands and Ireland. The reasons preventing higher involvement stay very similar. The responders who gave a negative response identified the lack of capacity as the most frequent barrier (42%, n=177), followed by insufficient capability (19%, n=78). From the 'Other' category, the most common theme is that pharmacists are not valued, or invited to the process (7 comments). This is in agreement with data from last year's survey, where many pharmacists indicated they do not work in multidisciplinary teams, and often feel pharmacists are not valued as other medical personnel.

Question related to Statement 2.5: *Each hospital pharmacy should have contingency plans for shortages of medicines that it procures*.

This Statement is clearly linked to the medicines shortages. Shortages are a persisting problem of current healthcare systems.[5] 60% of responders indicated that that they had a reason to contact their medicines authority because of shortages. Figure 8 shows that most countries have contacted their medicines authority regarding medicine shortages. 100% of participants answered 'Yes' in Estonia, Iceland and Luxembourg, although these countries also had a small amount of total responses.

The participants who answered 'Yes' were asked what specific reason they had for contacting the medicines authority. The three listed choices 'To inform them of a drug shortage', 'To ask them about the details of reasons' and 'To enquire on likely timeframe of shortage' were reported with similar frequencies (33%, 31% and 31% respectively, n=849) and upon further investigation it was revealed that 123 of the respondents answering this question selected all 3 options, implying the pharmacists had been trying to get as much information as possible from their medicines authority. The majority of the 44 'Other' comments were regarding acquiring alternate medicines, alternate suppliers or approval to use imported drugs.

Participants were then asked if the pharmacies in their hospital had contingency plans for medication shortages (Question S25). The mean response for countries was 67% positive, slightly lower than last year's result of 70%. The range of responses between countries was very high for this question; some reported over 90% positive responses, and others less than 10% (Fig 9).

The responders who provided a negative response to Question S25 were asked what are the barriers to making contingency plans for medication shortages. The most frequent response was lack of capacity (106 responses, 31%), as seen in Figure 10. Not considered to be a priority by my managers had 69 responses (21%), with the remaining options receiving a similar amount. A common theme from the 'Other' comments suggest hospitals treat each shortage individually, and reactively, as one plan does not fit all situations (13 comments under this theme). 7 comments suggest they do not find it necessary to do so.

Question S5.5.2 was related to EAHP Statement 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*.

When asked if their hospital pharmacy uses computerised decision support to reduce the risk of medication errors, Figure 11 shows the response was mixed. Although some countries indicate they do this activity, the results show the majority of countries (20) have less than half of respondents using computerised decision support to reduce the risk of medication errors.

Participants who gave a *positive response* to the question were asked a follow up question to see what areas of pharmacy they use computerised decision support in. The most frequently given response is 'clinical pharmacy services' (262 total responses, 38%), and this is also the main reason given by most individual countries. The remaining options have also been selected relatively frequently; cytotoxics (168 total responses, 24%), compounding (128 total responses, 19%) and parenteral nutrition/aseptic compounding (107 total responses, 16%). Participants who gave a *negative response* when asked if their hospital pharmacy uses computerised decision support were asked to identify the barriers that were preventing this. The biggest barriers to implementing computerised decision support are limited capacity (166 total, 30%) and that it is not considered a priority by the respondent's managers (147 total, 27%). Very few people have said they don't consider it a priority (17 total, 3%), indicating this is something a lot of participants may want to be implemented.

The most common response from the 'Other' category was the hospital is currently in the process of setting up such a system (21 comments). There are 19 comments saying they do not have sufficient IT support or capability to setup or maintain a system. The lack of finance to setup a system was also given (8 comments). There were 7 comments saying the hospital has a similar system set up, but it is the clinicians that use it, and not the hospital pharmacists (7 comments).

Question S5.2.4 was related to Statement 5.2*: Hospital pharmacists should ensure the development of appropriate quality assurance strategies for medicines use processes to detect errors and identify priorities for improvement.*

When asked if an audit had been undertaken in the last three years to identify priorities in medicines use processes, the mean percentage of positive responses for a country was 58%. Figure 12 shows the results broken down by country, which shows over 90% of respondents from France, Luxembourg and the Netherlands report having conducted an audit in the last 3 years. Most other countries show a much smaller proportion of positive responses.

Participants who said they had conducted an audit within the last three years were then asked what they did with the results (multiple options allowed). The most common actions were writing a report for the hospital board (248 responses) and using the results for feedback to their team (233 responses), to inform an education program for pharmacy staff and to revise a hospital policy (207 responses).

The participants who indicated that they have not conducted an audit to identify priorities in medicines use processes in the last 3 years were asked what is preventing this from happening. The most frequent barrier listed was a lack of capacity (147 comments, 40%), followed by 'not considered to be a priority by my managers' (98 comments, 27%). Only 19 people (5%) selected 'not considered to be a priority by me' as an option.

Discussion

The 2015 EAHP Statements survey was the first survey of the new 2-year cycle of EAHP survey related to European Statements of hospital pharmacy. This Survey was related to 3 of 6 Sections of Statements and in addition to collecting the basic statistical data about the current level of implementation of the Statements, it was also intended to identify the most important barriers to and drivers of implementation.

There are several limitations to this study. The first and most important limitation was that the number of responses from some member countries was very small, not allowing a precise statistical evaluation on country level. The reason for this is that some countries have a much smaller population and therefore have a much smaller number of hospitals. The second limitation was the necessity to find a balance between the length of the questionnaire (and the workload for responders) and level of detail sought in identification of the main implementation barriers.

Despite these limitations, the survey results provide an up to date picture about the current state of our profession in Europe in relation to the Statements. The most challenging Statements in sections 2,5 and 6 for implementation remain the publication of the research activities, creating contingency plans for medicines shortages, implementing and using computer-supported decision tools, involvement in developing local and national guidelines and policies, and identification priorities for improvement in medicines use processes.

The main barrier identified is insufficient capacity to undertake the services, and the results of this survey confirm the finding from the EAHP Baseline survey. The numbers of hospital pharmacists and pharmacy technicians remain quite low in many European countries. Almost half of hospitals in this survey had over 500 beds, but 80 % of hospitals had up to 10 pharmacists. While significant improvement in staffing level cannot be a short term goal, EAHP will provide education on the development of business cases and the self-assessment tool will enable head pharmacists to have real time information to discuss with hospital and health system managers. The answer '*not being considered priority by my managers'* was also quite often mentioned and here the authors see even bigger opportunities in speeding up the implementation and raising awareness about statements and their impact on patients and healthcare systems. The level of awareness, implementation readiness and willingness was also measured in this survey; and will be a subject of an additional article.

The next survey in autumn 2016 will be focused on Sections 1, 3 and 4, followed by another survey in 2017 which will revisit the sections described in this paper. The authors will then be able to compare the results and track any progress.

Conclusion

The main objective of the 2015 EAHP Statements survey was to provide an assessment of the level of implementation with Sections 2, 4 and 5 of the Statements throughout European countries and to identify the main barriers to and drivers of implementation. This enables the EAHP to prioritise efforts in our implementation activities. This objective has been reached, thanks to enormous effort of national coordinators and all our members who had responded to the survey. The data will now be used to inform the EAHP Statements implementation project as well as other major projects of EAHP.

What is already known on this subject

The 2014/15 EAHP Baseline survey, as the first survey of new EAHP line, brought general knowledge about level of Statements implementation.

What this paper adds

This paper deepens knowledge about the level of implementation in Statements section 2, 5 and 6 together with identification of the main barriers in implementation.
The most challenging Statements for implementation in hospital pharmacies are:

- the publication of the research activities,
- creating contingency plans for medicines shortages,
- implementing and using computer-supported decision tools,
- involvement in developing local and national guidelines and policies,
- identification priorities for improvement in medicines use processes.

The most important barrier in implementation is insufficient capacity and different priorities of hospital and health-system managers.

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