On-call hospital pharmacy services in NHS England: service provision and documentation of medicines advice calls

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ABSTRACT

Objectives UK hospital pharmacy services have historically been delivered during typical 'office' hours, which include the provision of medicines advice via the pharmacy's medicines information department. Outside office hours, an on-call service operates whereby pharmacists handle requests for medicine supply and advice. It is not known how this out-of-hours service operates. The aim of this study was to quantify the extent and scope of its provision across England.

Methods A piloted self-administered survey was sent to every chief pharmacist in England representing acute hospitals and mental health trusts (n=218).

Key findings Just over half (n=116/218, 53.2%) of chief pharmacists returned a completed survey. Most hospitals provided an on-call pharmacy service (87.1%, n=101/116). Nearly all on-call pharmacy services (91.1%, n=92/101) provided both supply of medication and medicines advice. Two-thirds (66.2%) of pharmacists who provided on-call services were junior. The majority of trusts (83.1%, n=74/89) receive <20 calls for medicines advice per week. Hospital nurses/midwives were seen as the most common users of the on-call pharmacy service. Medicines advice was documented by on-call pharmacists all (49.5%, n=47/95) or some of the time (49.5%, n=47/95). Just under half of trusts (41.1%, n=39/95) had a standard policy for the documentation of medicines advice. Two-thirds (66.7%, n=62/93) of respondents stated that advice was documented using paper-based forms. Most trusts (81.1%, n=77/95) provided training prior to pharmacists being on-call, with medicines information pharmacists involved in nearly 80% of cases (n=61/77) (respondents could select more than one option).

Conclusions Medicines advice is an integral part of the pharmacy on-call service, which was provided by junior staff. Variability existed in resourcing the service across trusts. In addition to existing standards for documentation of medicines advice, professional standards should be developed for on-call hospital pharmacy service provision and training.

INTRODUCTION

The provision of UK hospital pharmacy services has historically been delivered during typical 'office' hours, for example, 9:00–17:00. This is increasingly at odds with the provision of services by other areas of hospital practice, particularly general medical and nursing services.[1] Increasingly, there is an expectation that pharmacy services should extend their opening times, and although some have achieved this, most continue to only provide an on-call pharmacy service.[2 3]

In the UK, on-call is defined as a system that exists as part of arrangements to provide appropriate service cover across the National Health Service (NHS). A member of staff, for example, a pharmacist, is on-call when, as part of an established arrangement with their employer, they are available outside their normal working hours—either at the workplace (typically termed residency) or at home —to work as and when required.[4]

Outside office hours, the on-call pharmacist receives calls from other healthcare professionals, usually within their organisation, that may involve either the supply of medication or medicines advice. On-call pharmacists are typically employed from the pharmacy department of that hospital, and their knowledge, experience and training in medicines information (MI) can vary.

During normal working hours, a healthcare professional can contact the hospital pharmacy MI department for medicines advice. UK Medicines Information (UKMi) is an NHS pharmacy-based service provided by a network of >200 MI centres based in the pharmacy departments of most hospitals. The centres are mainly staffed by pharmacists with particular skills in locating, assessing and interpreting information about medicines handling over a half a million enquiries each year during normal office hours.[5]

Almost all UKMi research outputs have concentrated on enquiries received during normal office hours; very little is known about what happens outside these hours.[6–8]

It is not known how the provision of medicines advice out of hours compares to normal office hours, particularly as an MI pharmacist may not be available during on-call periods. Therefore, the aim of this study was to identify how hospital pharmacies in NHS England provide out-of-hours services and how calls for medicines advice from healthcare professionals are documented.

METHODS

A piloted self-administered survey was sent as a hyperlink contained in an email and printed in a postal letter to every chief pharmacist in England representing acute and mental health trusts (n=218) in October 2012. Each trust was assigned a unique identification number to maintain anonymity. The survey consisted of four sections: section A asked for demographics of the organisation; section B quantified the provision of the on-call pharmacy service; section C looked at the

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documentation of medicines advice questions; and section D explored the training provided to pharmacists to help them answer questions out of hours. Questions consisted of multiple option, closed and open questions.

Returns were included for analysis up to 6 weeks from the initial mailing. A reminder letter and email were sent to each chief pharmacist approximately two weeks after the first posting if they had not already replied. The survey data were transferred and analysed using SPSS V.20. Quantitative data were subject to basic descriptive statistics, for example, Pearson's χ^2 test. Open-ended questions were subject to thematic analysis.

RESULTS

Just over half (n=116/218, 53.2%) of chief pharmacists returned a completed survey. The majority of respondents were from acute hospitals (76.7%, n=89/116 compared with 23.3%, n=27/116 from mental health trusts). Response rates between acute and mental health trusts were comparable (54.3% vs 50.0%). Hospital nurses/midwives were the most common users of the on-call pharmacy service; junior doctors were second highest users, followed by senior doctors and then allied healthcare professionals.

Provision of the on-call pharmacy service

Most hospitals provided an on-call pharmacy service (87.1%, n=101/116); of these acute hospitals were the main providers (86.1%, n=87/101). Nearly half of mental health trusts (48.1%, n=13/27) did not provide an on-call pharmacy service but did state a service-level agreement with another provider, for example, local acute hospital, was in place in most cases. The standard model of on-call services was for pharmacists to be at home (94.1%, n=95/101), with just 10% (n=10/101) of pharmacy services operating a residency programme (note that some provided both models).

Those pharmacists involved in the provision of on-call services are shown in table 1; two-thirds (66.2%) of the pharmacists were either band 6, 7 or 8a (see table 1 for definition of bands). The majority of trusts (80%, n=76/95) did not routinely have an on-call MI pharmacist available; seven trusts had a dedicated on-call MI pharmacist that answered all calls for medicines advice. However, a further 12 trusts did have an MI pharmacist available out of hours to support the on-call pharmacist with questions for medicines advice if necessary.

Table 1 Job banding of pharmacists providing on-call services

Agenda for Change banding*	Number (%)† n=101
Band 6	89 (21.9%)
Band 7	93 (22.9%)
Band 8a	87 (21.4%)
Band 8b	69 (17.0%)
Band 8c	35 (8.6%)
Band 8d	23 (5.7%)
Band 9	10 (2.5%)

*Agenda for Change is the pay system used within the National Health Service for all staff (except doctors and dentists). Staff are placed in pay bands (bands 1–9) on the basis of their knowledge, responsibility, skills and effort needed for the job. Newly qualified pharmacists usually start at band 6, and typically chief pharmacists are band 9.
†Respondents (n=101) were asked to indicate the Agenda for Change banding of those pharmacists providing the on-call pharmacy service and so could select more than one option.

Table 2 Location of the on-call pharmacist when not in the hospital and number of medicines information advice calls

Location	Number of calls per week*† n=92 ≤20	>20
Residency	1 (12.5%)	2 (25%)
Home	44 (52%)	28 (34%)

*Respondents (n=92) could select more than option.†χ^2=11.272, df=1, p=0.001.

Nearly all on-call pharmacy services (91.1%, n=92/101) provided both supply of medication and medicines advice. Eight trusts (7.9%) provided medicines advice only and one acute hospital only supplied medication. Table 2 shows the number of medicine advice calls handled in a typical week. Data suggest that home-based on-call pharmacists handle a greater number of medicine advice calls compared with resident pharmacists.

Table 3 shows the number of calls for medicines advice compared with those for the supply of medication in a typical week. The majority (83.1%, n=74/89) receive <20 calls for medicines advice per week compared with 65.9% (n=56/85) for the supply of medication. There are only a small number of trusts (4.5%, n=4/89) that handle >50 calls per week for medicines advice compared with nearly a fifth of trusts (17.6%, n=15/85) handling the same number of calls per week for the supply of medication.

Documentation of activity

Documentation of on-call pharmacist activity by trusts was high for both supply of medication (94.6%, n=88/93) and for medicines advice (91.8%, n=89/97). Just under half of the trusts (41.1%, n=39/95), primarily acute hospitals, had a standard policy for the documentation of medicines advice. Box 1 highlights the themed information received from chief pharmacists regarding what their policies specified should be documented out of hours.

For those trusts that did not have a policy, chief pharmacists were asked what they thought should be documented out of hours (see table 4).

A comparison between box 1 (themed policy standards) and table 4 (chief pharmacists' perceptions on documentation) shows similarity, although policy standards expect that the urgency of the answer required, patient details (where

Table 3 Comparison of the number of calls for supply of medicines and medicines advice received during a typical week by the on-call pharmacy service

Number of calls per week	Calls for supply of medication Number of NHS hospital trusts (%) (n=85)	Calls for medicines advice Number of NHS hospital trusts (%) (n=89)
<10	30 (35.3%)	45 (50.6%)
11–20	26 (30.6%)	29 (32.6%)
21–30	10 (11.8%)	4 (4.5%)
31–40	2 (2.4%)	5 (5.6%)
41–50	2 (2.4%)	2 (2.2%)
>50	15 (17.6%)	4 (4.5%)

NHS, National Health Service.

Box 1 Chief pharmacists' thoughts on requirements to documentation (data presented as themes drawn from 37 respondents)

- Time the enquiry was received
- Urgency of the answer required
- Date and time of the enquiry received
- Enquirer's contact details (including name and role) and location
- Patient's details (where appropriate)
- Enquirer's question
- Resources used to answer the enquiry
- Answer provided to the enquirer
- Name of the pharmacist handling the call
- Time taken to answer the enquiry and respond to the enquirer
- Follow-up needed during normal working hours further to the enquiry

appropriate), name of the pharmacist handling the calls and follow-up to be documented. These were not identified by chief pharmacists where policy standards do not exist.

Medicines advice was documented by on-call pharmacists all (49.5%, n=47/95) or some of the time (49.5%, n=47/95). One respondent claimed that medicines advice was never documented.

Two-thirds (66.7%, n=62/93) of the respondents stated that advice was documented using paper-based forms, with nearly a third (29%, n=27/93) using electronic-based forms or database systems. More than half (57.9%, n=55/95) of trusts' on-call pharmacists had access to a bespoke database (MiDatabank) for documenting medicines advice calls within their organisation, and just over half of these (52.7%, 29/55) were able to access it remotely when outside the organisation, yet recording directly on to this database was very low (4.3%, n=4/93).

All on-call pharmacists had access to information resources to enable them to answer requests for medicines advice. Respondents were asked if their information resources had been reviewed against a recommended list provided by UKMi. In almost two-thirds of trusts (63.8%, n=60/94), this had been done, although a fifth of respondents did not know if their information resources had been reviewed against this recommended list (21.3%, n=20/94).

Table 4 Chief pharmacists' opinions (where no policy existed) on the information that should be documented by on-call pharmacists when providing advice out of hours to healthcare professionals

	Number (%)* n=56
Time of call	54 (13.1%)
Enquirer's name	56 (13.6%)
Enquirer's job role	52 (12.6%)
Enquirer's contact details	50 (12.2%)
Enquirer's question	55 (13.3%)
Resources searched	41 (10.0%)
Information found from resources accessed	35 (8.5%)
Medicines information advice provided	54 (13.1%)
Other†	15 (3.6%)

*Respondents (n=56) could select more than one type of information that should be documented by on-call pharmacists.
†This included date/day that the enquiry was received, the amount of time it took the on-call pharmacist to answer the enquiry and the reason for the enquiry.

Training provided to pharmacists to help them answer questions out of hours

The majority of trusts (81.1%, n=77/95) provided specific training for on-call pharmacists to help them provide medicines advice out of hours. Both MI (79.2%, n=61/77) and other pharmacist staff (70.1%, n=54/77) delivered this training. Although small numbers, all nine trusts' resident pharmacists received training compared with 79.8% (n=71/89) of trusts that operated a home-based on-call service. Additionally, chief pharmacists stated that before being put on-call, pharmacists should spend time in the trust MI service and shadow or be buddied with a senior colleague at the start of their on-call role. Table 5 shows the training provided compared with the training that chief pharmacists felt should be provided. A small number of chief pharmacists (44.4%, n=8/18) felt that no additional training was required (respondents could select more than one option).

Nearly half (48.1%, n=37/77) of those trusts that provide initial training never give any refresher training. Only 13.0% (n=10/77) of trusts provide refresher training ranging from every 3 to 12 months, which was generally identified through staff appraisal. The remaining 38.9% (n=30/77) selected the option other and submitted their own opinions. On-call pharmacists trained by MI staff (57.4%, n=35/61) were more likely to have their training refreshed compared with training provided by other pharmacy staff (44.4%, n=24/54, χ^2=1.918, df=1, p=0.166) but did not reach statistical significance.

DISCUSSION

This is the first study to investigate the provision of on-call pharmacy services by acute hospital and mental health trusts in NHS England that focuses on the provision of medicines advice. The study found that on-call pharmacy services are almost universally provided by trusts through non-residency (home-based)

Table 5 Provision of training to pharmacists before they begin on-call specifically to help them provide medicines information (MI) advice out of hours

Training	Training provided by trusts Number (%) n=77*	Training that should be provided Number (%) n=18*
No additional training should be provided to that received as part of the pharmacist's 'normal working hours' role	N/A	8 (13.4%)
Communication skills	25 (6.9%)	6 (10.0%)
Use of MI resources/databases	71 (19.8%)	12 (18.3%)
Critical evaluation/interpretation of information/data	25 (6.9%)	6 (10.0%)
Use of information technology	54 (15.0%)	6 (10.0%)
Documentation of enquiries	53 (14.7%)	7 (11.7%)
Use of MiDatabank (MI electronic enquiry answering database)	50 (13.9%)	5 (8.3%)
Questioning skills	33 (9.2%)	5 (8.3%)
Mock 'on-call' scenarios	33 (9.2%)	3 (5.0%)
Other (please specify)	16 (4.4%)	3 (5.0%)

*Respondents could select more than option.

pharmacists and almost all trusts provide medicines advice. The volume of calls for advice increased with the size of the organisation, although this was less than that for medicine supply and reflects the traditional model of on-call pharmacy services, which have centred on medicine supply rather than advice.[1]

Hospital nurses were the most common users. This was expected as they account for the largest staff group employed by the NHS,[9] and in an on-call situation there is typically less medically qualified staff available, meaning nurses are more likely to contact the on-call pharmacist for advice rather than a doctor. This scenario may also explain why junior doctors were also high users as fewer senior doctors are present at this time. In normal working hours, it is common practice for junior doctors to consult senior medical staff associated with prescribing decisions.

The service was predominantly provided by relatively low banded pharmacists (band 8A or lower) and suggests that as pharmacists move up through the Agenda for Change banding they are less likely to undertake on-call. This means that the on-call service lacks senior (8B or higher) pharmacists participating in the service[10] and implies that the knowledge, skills and experience of pharmacists providing on-call services are less than the pharmacy workforce during normal working hours. Almost 50% of on-call staff were band 6 and 7 posts. These are usually held by younger less experienced pharmacists who may have limited skills and experience, which could affect the standard of medicines advice provided. While no empirical evidence exists to support this view, data from medical literature have shown that greater clinical experience is associated with better diagnostic ability.[11] It therefore seems reasonable that pharmacists with greater clinical experience will provide higher-quality answers. This assumption is supported by the Department of Health highlighting a specific role of MI departments to assist in the safe and effective use of medicines 'out of hours'.[12] This study was not designed to compare medicines advice provided by pharmacists providing on-call services with that provided by MI departments during 'office hours'. This warrants further research. What is known from these data though is that pharmacists had good access to information resources and most had received training prior to starting on-call services. This should provide some reassurance that answers are being provided to an acceptable standard, although chief pharmacist perception was that medicines advice was not documented all of the time. This may be attributable to a lack of organisational procedure (eg, no trust policy on documentation) or operational reasons such as the individual on-call pharmacist, the type of question asked or the time of day/night that the question is asked. Further research is needed to explore the exact reasons for apparent poor documentation. Pharmacy departments lacking policy on documentation was unexpected given there are national standards for what medicines advice should be documented,[13] and professional standards for data capture to demonstrate the impact of the service on patient outcomes.[14] Regardless of whether a policy on documentation existed, data showed there was broad agreement on what should be documented, although where policy was lacking chief pharmacists placed little value on which resources were used. This is concerning, as the basis of answers stems from the resources used and acts as an audit trail to follow-up advice given if required. A national report has previously recommended that computer technology should enable on-call pharmacy services to be provided off-site and out of hours.[12] Although a bespoke enquiry answering database (MiDatabank) is used by MI pharmacists to document medicines advice during normal working hours,[15] its uptake out of hours is very low. Further research is needed to explore the exact reasons for this.

LIMITATIONS

This study had a number of limitations. First, the response rate was just over 50%, and although comparable to other published studies involving this target group,[16–18] the data cannot be said to be truly representative and therefore need to be interpreted with caution. The response rate may also have been affected because at the time that the survey was sent the NHS England was going through organisational change. With regard to the quality of responses, chief pharmacists may not have always been the best person to answer all questions posed because some were related to the everyday rather than managerial aspects of the service. However, the chief pharmacists may have delegated the completion of the survey to more appropriate staff without the researcher's knowledge.

CONCLUSIONS

Medicines advice is provided by all trusts out of hours. However, service provision varies and is provided by relatively junior pharmacy staff. Further work is needed to determine the appropriateness of medicines advice provided. In addition to existing standards for documentation of medicines advice, professional standards should be developed for on-call hospital pharmacy service provision and training.

Key messages

What is already known on this subject

- UK hospital pharmacy services have historically been delivered during typical 'office' hours, which include the provision of medicines advice via the pharmacy's medicines information department.
- Outside normal 'office' hours, an on-call service is provided by UK hospital pharmacy services whereby pharmacists handle requests for medicine supply and advice from clinicians.
- Almost all research has focused on the medicines advice during normal office hours; very little is known about what happens outside these hours.

What this study adds

- An out-of-hours pharmacy service for medicines advice is almost universally provided in English hospital trusts.
- The service is provided by relatively junior staff.
- Variability exists across trusts with regard to levels of training received and documentation of activity.
- Professional standards for on-call pharmacy services should be considered.

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