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Summative service and stakeholder evaluation of an NHS-funded community Pharmacy Emergency Repeat Medication Supply Service (PERMSS)

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ABSTRACT

Objectives: Service and stakeholder evaluation of an NHS-funded service providing out-ofhours (OOH) emergency repeat medications to patients self-presenting at community pharmacies.

Setting: Community pharmacies across the North East of England accredited to provide this service.

Participants: Patients self-presenting to community pharmacies during OOH periods with emergency repeat medication supply requests.

Intervention: Community pharmacists assessed each request for clinical appropriateness and when suitable provide an emergency repeat medication supply, with additional pharmaceutical advice and services if required.

Primary outcomes: Number of emergency repeat medication supplies, time of request, reason for access, medication(s), pharmaceutical advice and services provided. Secondary outcomes were community pharmacist and patient satisfaction.

Results: A total of 2485 patients were managed across 227 community pharmacies (15 December 2014 to 7 April 2015). Most patients presented on Saturdays, with increased activity over national holidays. Older age was associated with increased service use. Of the 3226 medications provided, 439 were classified as high risk. Patients found this service easy to access and were willing to access the community pharmacy in the future for medication-related issues. In the absence of this service, 50% of patients would have missed their medication(s) until they saw their doctor and a further 46% would have accessed an alternative service. The cost of National Health Service (NHS) service(s) for patients who would have accessed an alternative OOH service was estimated as 37 times that of the community pharmacy service provided. Community pharmacists were happy to provide this service despite increased consultation times and workload.

Conclusions: Community pharmacists were able to manage patients' OOH requests for emergency repeat medication and patients were happy with the service provided. Since the service cost was favourable when compared with alternative OOH services, it would be a viable option to reduce the workload on the wider NHS.

Strengths and limitations of this study

- This study suggests that a National Health Service (NHS)-funded emergency repeat medication supply service from community pharmacies reduces the workload on other NHS out-of-hours emergency care providers and is well received by both self-presenting patients and participating community pharmacists.
- This study suggests that provision of this out-of-hours service from community pharmacies was less costly when compared with the alternative emergency care providers which patients may have accessed to obtain an emergency supply of their medication if this service had been unavailable.
- Patient feedback was not linked to their respective individual service information, so patient safety issues caused by non-adherence of high-risk medications could not be determined.
- Patients were not informed of the full cost of their specific emergency repeat medication supply request when asked if they were willing to pay for an emergency supply of repeat medication by a community pharmacist.
- Patients were asked what action they would have undertaken to obtain their medication if the National Health Service (NHS)-funded emergency repeat supply service had not been available. Information about the actions of patients who were not provided with medication was not captured in this study.

INTRODUCTION

National Health Service (NHS) 111 is a free to call number available 24 h a day, 7 days a

week, 365 days a year to respond to people's healthcare needs and enable access to non-urgent NHS care.[1 2] Recent national press coverage, particularly during winter 2014–2015,[3] reported considerable demand for urgent care services. This was as predicted by Turner *et al*[4] in their study of NHS 111 pilot sites. In December 2014, NHS England reported the largest volume of calls (1 398 166) since the phone line was established.[5] Up to 15% of calls relate to emergency repeat medication at busy times, for example, bank holidays, national holidays, or out of hours (OOH) and at the weekends. On bank holidays, 3–4% of appointments with general practitioner (GP) OOH were for prescriptions for repeat medicines.[6]

Under the Human Medicines Regulations community, pharmacists are legally permitted to provide emergency supplies of prescription only medicines (POMs) at the request of the patient without a prescription.[7] Pharmacists use their professional judgement on a case-by-case basis to ensure that such a supply is clinically appropriate and all stipulated regulations have been met. The cost of an emergency supply of POMs for patients exempt from prescription charges means they often choose to access an OOH service or emergency department if they consider their medicine request is urgent. Visitors away from their place of residence may also present with requests for forgotten or short supplies of medication.[8]

NHS England has supported local health commissioners to mobilise capacity within community pharmacy to help relieve pressures on emergency and urgent care. They stated that community pharmacies can be commissioned, where appropriate, to provide an emergency supply of medicines as an NHS-funded service. NHS England stipulates that legal requirements should be met and that the patient's GP must be notified of such a supply within 48 h.[6 9] The topic of the NHS England agreed audit for 2014–2015 was that of emergency supply of medicines. Community pharmacists were asked to audit their activity of this activity during specific periods in 2015. This audit was planned to provide data to inform the review of urgent and emergency care and demonstrate how community pharmacy might best work with GP practices to improve services to patients.[10] Findings from this audit are still to be reported.

Research over the past 10 years about emergency supply of medicines has primarily focused on the frequency and characteristics of emergency supplies or the ethical perspective of patients who present with such requests.[8] A recent evaluation also stated that no national NHS was in place in England to manage requests for emergency supplies, although some localised services did exist. The authors recommended the establishment of a national NHS-funded service to allow community pharmacists to provide regularly prescribed medicines to NHS patients under the existing provisions. The intended impact would be to reduce the workload on the wider NHS.[8] Since 2011, NHS Cornwall and Isles of Scilly has provided a walk-in repeat medication service from community pharmacies using a Patient Group Direction (PGD) to deliver an NHS during summer periods. Currently, there is a locally commissioned service in Cornwall to provide emergency supplies OOH.[11] In West Yorkshire, the NHS 111 provider, Yorkshire Ambulance Service, can refer urgent repeat medication requests directly to local pharmacies using NHS Mail as the referral platform.[12]

In November 2014, NHS England North, working across Cumbria and the North East and supported by local Clinical Commissioning Groups (CCG), commissioned an NHS Community Pharmacy Emergency Repeat Medication Supply Service (PERMSS) as a pilot over 4 months. The purpose of this scheme was to ensure that patients had access to a supply of their regular prescription medicines when they were unable to obtain a prescription before they needed to take their next dose. The service proposal was finalised by a project team with members from the Local Pharmacy Network (LPN), Commissioning Support Unit 111 Directory of Service and NHS England. A non-recurrent funding source was established and presented to the CCG forum for commissioning for the pilot period (15 December 2014 to 7 April 2015). The service specification[13] was circulated to all community pharmacies (n=711) across the North East. An information sheet of Frequently Asked Questions was disseminated to all confirmed, eligible community pharmacy providers. A short period of testing preceded the service launch.

Patients could access this service at two entry points, either direct referral from NHS 111 using a referral platform, PharmOutcomes, a web-based system collating information and facilitating management of local service provision which is currently being used by all community pharmacies across the North East,[14] or by self-presentation out of normal GP opening times at a community pharmacy. This study aimed to evaluate the Community PERMSS for those patients who self-presented at community pharmacies out of normal GP opening times. Specifically, service activity will be evaluated along with the feedback on the service from the patients accessing and community pharmacists providing it.

Service intervention for self-presenting patients

The commissioned PERMSS allowed community pharmacists to provide up to a 7-day supply of the patient's POM, except where it was not possible to dispense such volumes, for example, inhalers, creams. In such cases, the smallest pack size was dispensed. However, the regulations prevent schedule 1, 2 or 3 controlled drugs being supplied in an emergency with the exception of phenobarbitone or phenobarbitone sodium prescribed for epilepsy. Patients who were exempt from prescription charges received the medicine supply free of charge, while those patients who were not exempt paid the standard prescription charge (£8.20). A professional fee

linked to the number of items supplied (£10+£2 for each additional item) together with reimbursement of the cost of the medicine (Drug Tariff prices plus VAT) was paid for each emergency supply consultation.

The patient or their representative presented at a community pharmacy during the OOH period. This was defined as Monday to Friday between 18.30 and 8:00, weekends (18:30 Friday to 8:00 Monday), Christmas Eve and New Year's Eve between 18:00 and 8:00 and at any time on specified days (Christmas Day, Boxing Day, New Year's Day, Easter Friday and Easter Monday).

The community pharmacist assessed whether there was an urgent need for the medicine checking where it was impracticable for the patient to obtain a prescription before the next dose was due. This was followed by one of three outcomes:

- An emergency supply was made, in accordance with the Human Regulations 2012,[7] as no further clinical advice was required and the POM was available in the community pharmacy;
- The patient was advised to try another pharmacy because, although no further clinical advice was required, the POM was unavailable at the community pharmacy;
- The patient was advised to contact another appropriate healthcare service, for example, NHS 111 or a walk-in centre because further clinical advice was needed.

When an emergency supply was made, the supply was recorded in accordance with the usual procedure. A record of this supply was also made in PharmOutcomes, detailing the patient's name, address, verbal consent for supply, medication supplied, nature of emergency, evidence provided and if further pharmaceutical services and advice was needed. A copy of the record was sent to the patient's GP using the PharmOutcomes email notification facility. This included any relevant concerns, advisory notes or issues identified. Further patient pharmaceutical advice could have consisted of effective medicines management, prescription request process and/or medicines reconciliation. Additional services which could also have been provided were a Medicines Use Review (MUR) or consent obtained for repeat dispensing.

METHODS

Service activity

Service activity, with patient identifiable information removed, was automatically sent to the independent evaluator (HN) as an Excel spreadsheet via email from PharmOutcomes. However, the patient's age and postcode were included in this data set. The frequency in self-presentation activity across each month and also across the days of the week was investigated to identify any increase in demand at specific periods. Reasons for an emergency supply request and evidence to support this were extracted. Drugs supplied under this service were categorised according to the British National Formulary (BNF 68).[15] Supply of high-risk drugs as identified by the Patient Safety First Campaign 2008,[16] opiates, insulin, anticoagulants, antipsychotics, non-steroidal anti-inflammatories (NSAIDs) and diuretics were also collated. The number and nature of additional pharmaceutical advice or services were extracted.

Patient feedback

The patient survey was designed to obtain feedback on the service. Patients were asked what their action might have been if this service had not been available; they were also asked that if this service was associated with a cost, would their action have changed and, if so, in what way. Patients were asked to rate the PERMSS in comparison to other OOH services and also to rate their general satisfaction with the service provided. This survey was designed by the project team and disseminated to the local HealthWatch group and LPN to test for face validity. We were provided with feedback on format, comprehensiveness and appropriateness of the questions before being used with patients.

At the end of the study period, the collected anonymised patient feedback was sent as an Excel spreadsheet to the independent evaluator (HN) by email from PharmOutcomes.

Community pharmacist feedback

An electronic questionnaire was also designed by the project team and circulated within the local HealthWatch group and the LPN to again test for face validity. Respondents were asked for comment and approval. This semi-structured questionnaire was designed to evaluate the community pharmacists' understanding and support of the service. In addition, pharmacists were asked if requests for an emergency supply of medicines should be managed by community pharmacists and how well this service aligned with their current role and responsibilities. Pharmacists were also asked about how this service contributed to the workload, impact on consultation time, and their satisfaction with the reimbursement process. Finally, pharmacists were asked how supportive they were to provide such a service and if service improvements were required.

This electronic survey was circulated via PharmOutcomes between 5 January and 7 April 2015. An email message from the Local Pharmacy Committees to alert pharmacists to complete the survey was sent on 5 January. At the end of the evaluation period, the anonymised community pharmacist feedback was sent as an Excel spreadsheet to the independent evaluator (HN) by email from PharmOutcomes.

Data analysis

Data relating to service activity and from the patient and pharmacist surveys were analysed using descriptive statistics and converted to percentages where appropriate to

represent proportions. Open comments were manually coded from both surveys.

Cost comparison of PERMSS to existing OOH services

A cost comparison was carried out; however, as health benefits were not included, a comparative evaluation of costs and benefits, for example, cost-effectiveness or cost-benefit analysis, was not performed. The costs of the community pharmacy provisions of emergency supplies were compared with the costs which could have been incurred should the patient have accessed other OOH services. The costs for an individual consultation at accident and emergency (A&E) department, urgent centre and walk-in centres were provided by the North of England Commissioning Support Unit based on locally derived data. The GP OOH service was a block contract with no individual cost per consultation. So an estimated cost per individual consultation was calculated by dividing the cost of the block contract by the activity within the region provided by the North of England Commissioning Support Unit.

The patients' responses regarding which service they would have accessed in the absence of PERMSS were used to calculate the potential costs for the evaluation period and also projected annual cost. A number of patients indicated that they would have called NHS 111, with a £8 cost per call.[4] NHS 111 would then direct such patients to GP OOH service incurring an additional cost.

Discussion within the project team and on consultation of the NHS Health Research Authority guidance[17] identified the study components to be either audit or service evaluation and therefore ethical approval was not required.

RESULTS

Service activity

The service was provided in 227 of the accredited 316 pharmacies across the 12 participating CCGs. In total, 2485 patients self-presented over the evaluation period. This equates to approximately three patients being managed per pharmacy per month. Table 1 shows the characteristics of the patients who presented and the nature of the emergency supply requested.

These 2485 patients were supplied with 3226 medicines, the classifications of which are described in table 2.

Patient feedback

A 60.8% response rate was obtained with 1511 of the 2485 self-presenting patients providing responses to the questionnaire. Compared to other NHS OOH services, 93% (n=1405) of respondents found this service easier or much easier to access, and all (100%) respondents would use the community pharmacy in the future for medication issues. Patients were also questioned about what their action might have been in the absence of such a community pharmacy service, and also their action if this service had an associated cost (table 3).

If the PERMSS had not existed, half (50%, n=756) of the respondents suggested that they would have missed their dose(s) until their GP was available to obtain a

Table 1 Characteristics of patients requiring an emergency supply, the nature of that emergency and evidence to prove previous medicine supply (n=2485)

Characteristics of emergency supply request	Number (%)
Access by month	
December 2014 (15–31)	344 (13.8)
January 2015 (1–31)	651 (29.2)
February 2015 (1–28)	550 (22.1)
March 2015 (1–31)	534 (21.5)
April 2015 (1–7)	406 (16.3)
Access by day	
Sunday	212 (8.5)
Monday	119 (4.8)
Tuesday	67 (2.7)
Wednesday	54 (2.2)
Thursday	78 (3.1)
Friday	140 (5.6)
Saturday	1815 (73.0)
Age of patient (years)	
<13	96 (3.9)
13–19	69 (1.8)
20–29	194 (7.8)
30–39	213 (8.6)
40–49	306 (12.3)
50–59	437 (17.6)
60–69	466 (18.8)
≥70	704 (28.3)
Reason for emergency supply request	
Ran out of medicines	1308 (81.6)
Prescription not ready at the GP surgery	221 (13.8)
Away from home without medicine(s)	69 (4.3)
GP surgery closed	42 (2.6)
Other	155 (9.7)
Evidence of repeat medicines	
Prescription request form	393 (15.8)
Empty pack	455 (18.3)
Patient medication record	1464 (58.9)
GP letter	15 (0.6)
Other	158 (6.4)
Levy status	
Exempt	2249 (90.5)
Paid prescription charge	236 (9.5)
Additional pharmaceutical advice provided	
Effective medicines management	1216 (48.9)
Medicines reconciliation	1364 (54.9)
Prescription request process	249 (10.0)
Other	197 (7.9)
Additional pharmaceutical service provided	
Medicines Use Review	52 (2.1)
Repeat dispensing consent	48 (2.3)
None necessary	2322 (93.4)
Other	67 (2.7)

GP, general practitioner.

Table 2 Medicines supplied through Pharmacy Emergency Repeat Medication Supply Service (PERMSS) as per the British National Formulary (BNF) 68 classification and the distribution of key high-risk drugs

Classification of medicine	Number (%) (n=3226)
BNF classification	
Cardiovascular	1122 (34.8)
Central nervous system	646 (20.0)
Respiratory	467 (14.5)
Endocrine	429 (13.3)
Gastrointestinal	223 (6.9)
Obstetrics, gynaecology and urinary	102 (3.2)
Musculoskeletal	70 (2.2)
Skin	22 (0.7)
Nutrition and blood	34 (1.1)
Infections	28 (0.9)
Malignancies	36 (1.1)
Eye	37 (1.1)
Ear, nose and oropharynx	10 (0.3)
High-risk categories (n=439, 13.6%)	
Opiates	53 (1.6)
Insulin	61 (1.9)
Anticoagulants	149 (4.6)
Antipsychotics	40 (1.2)
Non-steroidal anti-inflammatories	37 (1.1)
Diuretics	99 (3.1)

prescription. A further 46% (n=695) would have accessed another OOH service. There were 60 patients who indicated that they would have undertaken an alternative action which included: have purchased an alternative 'over-the-counter' medication(n=6); gone to a different pharmacy (n=10); used a friend's or family member's medicine (n=11); returned home to retrieve the medicines (n=12); waited to see if they could manage without and then accessed another OOH service (n=5); or asked a neighbour to post medication (n=5). Eleven people did not answer this question. If an emergency supply service did exist but the patient had to pay for the prescription, the majority (61%, n=921) of patients indicated that they would have paid for their medication, while a smaller number suggested that they would have missed the dose(s) (19%, n=287) or accessed another OOH service (18%, n=272).

Community pharmacist feedback

Of the 316 community pharmacists who were accredited to undertake this service, 221 completed the questionnaire (70% response rate). The service had been provided to self-presenting patients OOH by pharmacists at 153 (69%) community pharmacies.

Of the respondents, 91% (n=201) agreed or strongly agreed that they were clear on the remit and terms of the service, and agreed or strongly agreed (91%, n=201) that the service was aligned with their current role. The management of requests for an emergency supply of medicines OOH by community pharmacists was considered appropriate with 94% (n=208) of pharmacists in agreement.

Pharmacists (84%, n=186) agreed or strongly agreed that they were clear on when to claim for the service provided and 70% (n=155) agreed or strongly agreed that the reimbursement process was simple.

Many of the community pharmacists (66%, n=146) reported an increase in consultation time and identified additional workload. However, the community pharmacists were happy or very happy to provide this service to self-presenting patients (92%, n=203). However, when asked how the service could be improved, while 25% (n=55) disagreed or strongly disagreed that changes were required, 40% (n=88) identified improvements. Of those who made suggestions for improvement (n=20), 17 pharmacists suggested refresher training for pharmacists on the emergency supply regulations, and three pharmacists recommended an increase in pharmacy capacity to manage these patient requests.

Cost comparison

Of the 1511 self-presenting patients who provided feedback, 695 stated that they would have accessed an alternative OOH service had the PERMSS not been available.

Table 3 Patients' reported actions in the absence of PERMSS or if a service had been available but was associated with a cost (n=1511)

Criteria	Action	Number (%)
Action if unable to obtain medicine from the pharmacist	Missed dose(s) and presented at the GP surgery during surgery hours	756 (50.0)
	Presented at the walk-in centre or urgent care centre	499 (33.0)
	Presented at accident and emergency	166 (11.0)
	Called NHS 111	30 (2.0)
	Other	60 (4.0)
Action if required to pay for the medicine	Paid for emergency supply	921 (61.0)
	Missed dose(s) and presented at the GP surgery during surgery hours	287 (19.0)
	Presented at the walk-in centre or urgent care centre	212 (14.0)
	Presented at accident and emergency	60 (4.0)
	Called NHS 111	30 (2.0)
	Other	1 (0.0)

GP, general practitioner; NHS, National Health Service; PERMSS, Pharmacy Emergency Repeat Medication Supply Service.

Each patient received an average of 1.58 medications, and therefore the average PERMSS cost was £11.16. For the 695 patients, the cost in reimbursement to the community pharmacist for the consultation was estimated to be £1098.10. The projected annual cost of PERMSS would be £3294.30. The estimated cost of the alternative service access is shown in table 4.

During the evaluation period, if alternative OOH services had been accessed in place of PERMSS, this could have been associated with an estimated cost of £41 025, 37 times the cost for supplies made via PERMSS.

DISCUSSION

This service addresses one of the key recommendations for practice in the evaluation of the role of community pharmacists in managing requests for emergency supplies made by Morecroft *et al*[8] This recommendation has also been recently reiterated in the national pharmaceutical press as a strategy to reduce pressure on the NHS.[18] PERMSS is an NHS-funded service allowing pharmacists to supply regularly prescribed medicines to NHS patients under the existing Regulations. The service also includes additional features to support patients managing their medicines more effectively and giving the community pharmacist an opportunity to provide additional services, such as medicines reconciliation or an MUR to optimise medicines use when required. This evaluation demonstrated that patients are now happy to have medication issues managed by a community pharmacist and find accessibility much easier than alternative OOH services. Tinelli *et al* also report high patient satisfaction with a pharmacy-led medications management service. This represented a shift from a previous preference for a doctor-led discussion prior to experiencing the service within the pharmacy.[19] This service evaluation also reiterates findings from Morecroft *et al*[8] that indicate that community pharmacists provide an important and under-recognised service for patients to ensure sustained treatment supporting medication adherence and decrease the overall burden on the wider NHS.

Supplies were made during OOH periods and the volume of activity from 1 to 7 April indicated that a holiday, including a bank holiday, increased the numbers in requests, as has been previously recorded.[6] However, this evaluation estimated that on average only three patients were managed per pharmacy per month, which does not demonstrate a high demand for this service. This is maybe an underestimation because although emergency supplies of POMs at the request of a patient is an activity that every pharmacist is familiar with, they are not routinely required to complete a record on PharmOutcomes. Emergency supply records are made most commonly within the patient medication record and/or in the private prescription record. Consequently, some supplies may have been made which were not captured, as details of supply were not recorded in PharmOutcomes. Although there was a trend towards more requests from older patients (>60 years old), there were significant numbers from the young (<30 years old) and middle-aged (30–60 years old). A recent review of the role of community pharmacists in emergency supply requests found similar results and suggested that older people may have more difficulties in ordering their repeat prescriptions on time, all the more so because this patient group has more medications.[8] The main reason for the emergency supply request was that the patient had run out. The patient's medication record was the most common source of evidence that was used to verify that the medication was one that the patient received on repeat. This would indicate that patients presented at their regular community pharmacy as their medication records were available and accessed. However, we have no information about whether they were registered on a repeat prescription service since this was not an aim of the study and is not information routinely recorded in PharmOutcomes or necessarily on a patient's medication history. The most common medications supplied to self-presenting patients were gastrointestinal, cardiovascular, respiratory, central nervous system and endocrine. These were similar to those reported in the recent study.[7] From the 3226 medications supplied under this service, 439 (13.6%) were classed as high-risk medications. Many studies have reported medication-related reasons for hospital admissions, with non-adherence frequently featuring as a contributor.[20–23] A relatively recent systematic review of drugs causing preventable admissions to hospital reported that from the 17 included studies identified, diuretics, antidiabetics and antiepileptics were the drugs associated with patient adherence problems,

Table 4 Estimated costs of OOH services if PERMSS had not been available as per patient feedback

Alternative service accessed	Consultation fee	Number of patients	Cost (December to April)	Cost per annum
GP OOH via NHS 111	£96 (GP OOH)+£8 (NHS 111 call)	30	£3120	£9360
Walk-in/urgent care centre	£57	499	£28 443	£85 329
A&E (type 3)*	£57	166	£9462	£28 386
Total			£41 025	£123 075

*Classified as a minor department attendance.
A&E, accident and emergency; GP, general practitioner; NHS, National Health Service; OOH, out of hours; PERMSS, Pharmacy Emergency Repeat Medication Supply Service.

which lead to admissions.[24] Consequently, the identified high-risk medications could be associated with increased patient safety issues, especially if doses are missed or delayed. The responses to potential alternative actions taken by patients in the absence of PERMSS indicated that dose(s) would have been missed in a large proportion (50%) of patients. In many cases, this might have been clinically safe, for example, missing one dose of a statin, or aspirin being used for secondary preventative measures. However, for some medications, this could have posed a significant patient risk, for example, antidiabetics.

Unsurprisingly, the pharmacists expressed support for such a service to be provided within community pharmacies as it aligns directly with their current roles and responsibilities. They found the remit and reimbursement of the service simple and effective. They conceded that the consultation time and workload might increase as a consequence due to the requirement of making a record within PharmOutcomes, but this did not appear to diminish their commitment to providing the service.

A number of patients (46%) suggested that they would have presented at an alternative OOH service and therefore contributed to demand at emergency and urgent care. Most patients in this study indicated that they would have paid for their medicines if they had been able to access this service but with an associated cost. The current emergency supply regulations do provide for such a supply where patients are required to pay a fee, the cost of which is at the discretion of the pharmacist. However, this is contrary to previously reported findings which indicated that a cost would deter patients from presenting at a pharmacy and instead presenting where an NHS-funded supply might be guaranteed via the issue of a prescription from an OOH service clinician.[7] However, Blumenschein *et al*[25] found that when asked a hypothetical dichotomous question on willingness to pay ('yes'/'no') of a group offered a pharmaceutical asthma service for free, there was an overestimation of the real willingness to pay, when compared with a group who actually had to pay for the service. Therefore, further work needs to be undertaken to explore patients' willingness to pay for a community pharmacy emergency supply service.

The cost comparison based on patients' responses suggested that the PERMSS, when conservatively compared with the unit costs of alternative OOH services, offers a more economical option to the NHS for the management of these patients' OOH and outside emergency and urgent care service providers (A&E and GP OOH). These estimations were based on a hypothetical question posed to patients in the event that PERMSS had been unavailable, and therefore this should be explored.

Further work is required to comprehend whether further demand for emergency supplies exists and was managed via the normal emergency supply procedure and recorded as the standard operating procedures of the respective pharmacies. Entries into PharmOutcomes only documented the number of self-presenting patients who were considered clinically appropriate and received an emergency supply from the community pharmacist. Details of those patients who were advised that a supply could not be made but referred to another pharmacy for stock or referred to OOH for further clinical assessment by another healthcare professional were not recorded. Therefore, further work is required to understand the entire need or nature of requests for emergency supply medication. No patient feedback was recorded from those who did not receive a supply; therefore, global satisfaction with the service requires further evaluation. Linking the patient feedback to the patient consultations would allow a better understanding of patient behaviours in relation to non-adherence and alternative services or actions that may have been taken in the event that no supply was made at the pharmacy. This would allow patient risk related to non-adherence of high-risk medications to be explored more effectively. Morecroft *et al* described the ethical dilemmas often faced by community pharmacists when requests for emergency supplies are made. Many concerns expressed by pharmacists were related to the potential abuse of the service as patients could use it instead of regularly attending their GP surgery.[8] It would be interesting to investigate if such reservations still exist among the profession since it has recently been announced that patient Summary Care Records, an electronic patient record derived from patients' GP records, will be provided to community pharmacies from autumn 2015.[26] This development will allow pharmacists access to previously unseen complete medication histories, allowing them to monitor for abuse of repeat requests for emergency supply medications and provide more information for adherence monitoring. This additional safeguard might provide the profession with the freedom and reassurance to raise public awareness of the emergency supply service and possibly impact on patient care-seeking behaviour related to medication issues.

CONCLUSIONS

Community pharmacists can manage patients OOH for requests of supplies of their repeat medications. This service was well received by patients who self-presented at these community pharmacies and by the pharmacists who provided the service. The cost of this service to the NHS would appear to be economically favourable when compared with alternative OOH services which might have been accessed. This service appears to be an appropriate response to the recent calls for emergency supplies to be provided by community pharmacies in order to reduce the burden on the wider NHS.

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REFERENCES

1. Department of Health (DoH). NHS 111 Public Sector Equality Duty (PSED) Analysis of Impact on Equality (AIE). 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213148/NHS111AnalysisOfImpactOnEquality20121.pdf (accessed 13 Jul 2015).
2. Knowles E, O'Cathain A, Turner J, *et al*. Awareness and use of a new urgent care telephone service, NHS 111: cross-sectional population survey. *J Health Serv Res Policy* 2014;19:224–30.
3. BBC News Team. Winter pressure—how helpful is NHS 111? BBC News 2014 December 16. http://www.bbc.co.uk/news/health-30507649 (accessed 1 Jul 2015).
4. Turner J, O'Cathain A, Knowles E, *et al*. Impact of the urgent care telephone service NHS 111 pilot sites: a controlled before and after study. *BMJ Open* 2013;3:e003451.
5. NHS England. *NHS 111 Minimum Data Set 2015*. http://www.england.nhs.uk/statistics/category/statistics/nhs-111-statistics/ (accessed 15 Jul 2015).
6. NHS England. *Community Pharmacy—helping provide better quality and resilient urgent care*. 2014. http://www.england.nhs.uk/wp-content/uploads/2014/11/comm-pharm-better-quality-resilient-urgent-care.pdf (accessed 10 Jul 2015).
7. Statutory Instruments. *The Human Medicines Regulations 2012*. No. 1916. London: The Stationery Office, 2012.
8. Morecroft C, Stokes L, Mackridge A, *et al*. *An evaluation of the role of community pharmacists in optimising safe and appropriate medicines use in response to patient requests for emergency supplies: Emergency Supply of Prescription-only Medicines (ESoPoMs)*. Liverpool John Moores University, 2014.
9. NHS England. *Community Pharmacy—helping with winter pressures*. 2013. http://www.england.nhs.uk/wp-content/uploads/2013/12/winter-pressures_community-pharmacy-services.pdf (accessed 10 Jul 2015).
10. NHS Employers. *Community pharmacy national audit 2014/15—emergency supply of medicines*. http://www.nhsemployers.org/your-workforce/primary-care-contacts/community-pharmacy/community-pharmacy-contractual-framework-changes/cpcf-changes-2014-15/community-pharmacy-national-audit-201415 (accessed 9 Oct 2015).
11. NHS Cornwall and Isles of Scilly. Locally commissioned service: community pharmacy emergency supply service. 2015. http://cornwalllpc.org/wp-content/uploads/sites/60/2013/07/Emergency-Supply-Service-2015.pdf (accessed 29 Jun 2015).
12. Community Pharmacy West Yorkshire. *Pharmacy Urgent Repeat Medication (PURM) Service*. http://www.cpwy.org/pharmacy-contracts-services/local-services-enhanced-/pharmacy-urgent-repeat-medicine-purm-service.shtml (accessed 9 Oct 2015).
13. NHS Cumbria, Northumberland and Tyne and Wear and Durham, Darlington and Tees Area. *Service level agreement for an NHS Community Pharmacy Emergency Repeat Medication Supply Service (PERMSS): pilot scheme*. 2014. http://psnc.org.uk/sunderland-lpc/wp-content/uploads/sites/89/2014/12/PERMSS-SLA-Final.pdf (accessed 1 Jun 2015).
14. Pharmaceutical Services Negotiating Committee (PSNC). PharmOutcomes. (accessed 3 Jul 2015).
15. Joint Formulary Committee. British National Formulary: BNF 68. London: BMJ/Pharmaceutical Press, 2015.
16. Patient Safety First. The 'How to Guide' for Reducing Harm from High Risk Medicines. 2008. http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/Medicines%201.1_17Sept08.pdf (accessed 1 Jul 2015).
17. NHS Health Research Authority. *Research Community*. http://www.hra.nhs.uk/research-community/ (accessed 9 Oct 2015).
18. Wilkinson E. Call for national scheme for pharmacies to supply emergency medicines. *Pharm J* 2015;295:7874–5.
19. Tinelli M, Bond C, Blenkinsopp A, *et al*. Patient evaluation of a community pharmacy medications management service. *Ann Pharmacother* 2007;41:1962–70.
20. Leendertse AJ, Egberts AC, Stoker LJ, *et al*. Frequency of and risk factors for preventable medication-related hospital admissions in the Netherlands. *Arch Intern Med* 2008;168:1890–6.
21. Chan M, Nicklason F, Vial JH. Adverse drug events as a cause of hospital admission in the elderly. *Intern Med J* 2001;31:199–205.
22. Howard RL, Avery AJ, Howard PD, *et al*. Investigation into the reasons for preventable drug related admissions to a medical admissions unit: observational study. *Qual Saf Health Care* 2003;12:280–5.
23. Ernst FR, Grizzle AJ. Drug-related morbidity and mortality: updating the cost-of-illness model. *J Am Pharm Assoc (Wash)* 2001;41:192–9.
24. Howard RL, Avery AJ, Slavenburg S, *et al*. Which drugs cause preventable admissions to hospital? A systematic review. *Br J Clin Pharmacol* 2007;63:136–47.
25. Blumenschein K, Johannesson M, Yokoyama K, *et al*. Hypothetical versus real willingness to pay in the health care sector: results from a field experiment. *Value Health* 2001;4:79–79.
26. Andalo D, Sukkar E. Risks and benefits of pharmacists accessing patients' summary care records. *Pharm J* 2015;295:7870.