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Evaluation of community pharmacist joint working with primary care medical practices in the Primary Care Sheffield Pharmacy Programme (PCPP)

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Glossary of terms

Term	Meaning
BP	Blood Pressure
CCG	Clinical Commissioning Group
CIS	Clinical Information System
CP	Community Pharmacist
EMIS	Egton Medical Information Systems (GP clinical system)
EPS2	Electronic Prescription Service
GTN	Glyceryl Trinitrate (angina spray medication)
ICE	Integrated Clinical Environment (laboratory blood test results)
LPC	Local Pharmaceutical Committee
MUR	Medicines Use Review
NMS	New Medicines Service
NOACS	New Oral Anticoagulants
NSAID	Nonsteroidal Anti-inflammatory Drug
PCPP	Primary Care Pharmacy Programme
PMCF	Prime Minister's Challenge Fund
PPI	Proton Pump Inhibitor (gastric reflux medicine)
PPI	Patient and Public Involvement (in research)
PRN	When required (medicine dosage instruction)
PSNC	Pharmaceutical Services Negotiating Committee
SystmOne	GP clinical information system

Executive Summary

Background

Following a small scale pilot the Primary Care Pharmacy Programme (PCPP) was rolled out in 2015 supported by funding from the Prime Minister's Challenge Fund (PMCF).

All 88 Sheffield surgeries were invited to take part in the PMCF scheme on the basis that they agreed to adopt a basket of initiatives to extend patients' access to care, including having a community pharmacist working in the surgery for half a day each week. Effectively PCPP was an innovation to be implemented at scale; few practices previously had a pharmacist as part of their team.

The overarching aims of PCPP were to change ways of primary care working to enhance patient care, and to make more effective use of the workforce through the medicines optimisation activities of community pharmacists. Areas of primary care work identified where pharmacist involvement would be beneficial included: repeat prescription management; discharge medicines processing and liaison with secondary care; structured medication reviews; shared care monitoring requirements; liaison with community pharmacies; support to patients with long term conditions and complex medication issues, and support to patients in care homes.

Aims and objectives

The evaluation aimed to answer the following questions:

- How has the PCPP affected the nature and potential of the patient-pharmacist relationship?
- In what ways has community pharmacist expertise supported general practice prescribing?

The objectives were to:

- Understand and describe patients' experiences of medicines consultations with community pharmacists in the PCPP;
- Identify and describe what has changed from the community pharmacists' perspective (including in their own community pharmacy practice);

- Explore pharmacy employer and commissioner perspectives - including perceived benefits, drawbacks and opportunity costs;
- Conduct secondary analysis and report on key findings from routinely collected service data regarding PCPP pharmacists' activities in GP surgery-based work.

The GP perspective was captured in a separate overarching PMCF evaluation conducted by Sheffield Hallam University and we draw upon some of the findings.

Methods

Mixed-methods of data collection and analysis were used:

- Semi-structured telephone interviews with community pharmacists (12), community pharmacy employers (2), scheme commissioners (3) and patients (5);
- Cross-sectional survey of pharmacists involved in the PCPP scheme (47/71 responded; 66%);
- Analysis of patient feedback forms from pharmacist-conducted medication reviews (n=58);
- Secondary analysis of routinely collected anonymised service data (activities recorded by PCPP pharmacists on the web-based PharmOutcomes database between October 1st 2015 and June 30th 2016).

Evaluation Findings

Scheme set-up

Sufficient pharmacists were recruited to work with 86 of the 88 GP surgeries across the city: 73 surgeries had a community pharmacist for some or the entire programme and the remainder had pharmacists who were not actively engaged in community pharmacy. Recruitment of technicians was less successful, with only a handful being involved. The newness of the work meant that contracting arrangements were sometimes complicated and lengthy, involving a range from independent to multinational pharmacy organisations. Finding pharmacist locum cover for a half day a week was challenging but a number of different solutions were found and most were shown to be workable for pharmacists, pharmacy companies and surgeries. Most pharmacists worked in a single surgery and for one session each week. A successful launch event was held at which some guidance was provided about the types of work that pharmacists might start with at the surgery together with useful

resources. Having to learn how to use SystmOne or EMIS was initially a barrier to efficient and effective working. It was mainly done on the job with coaching from a GP or other member of practice staff. Access to the electronic laboratory tests system (ICE) was viewed by PCPP pharmacists as essential for safe working but not all surgeries allowed access. Surgery staff initially had to invest time in training and coaching pharmacists and this was done to varying degrees across the city.

The work done by PCPP pharmacists

Most of the tasks suggested by the scheme organisers were done to some extent during the scheme. Pharmacists were extensively involved in repeat prescription management, discharge medicines processing/liaison with secondary care, and structured medication reviews. These activities necessarily involved dealing with complex medication issues in patients with multiple morbidities. A small number of pharmacists ran clinics for patients with long term conditions. Many pharmacists were involved in checking that appropriate safety monitoring was being done although it is unclear how much of this related to shared care monitoring. The extent of liaison with community pharmacies and support to patients in care homes are also less clear. Most pharmacists reported having sufficient resources to do their work and said that they could use the surgery's clinical information system with ease; they were equally split on whether sufficient training had been available to them.

The most frequently-reported work in the survey of PCPP pharmacists was dealing with prescription queries (94%), followed by post-discharge medicines reconciliation (89%) and medication reviews (83%). Corresponding service provision data showed medication reviews were recorded in 80% of surgeries. Although it was not an expectation that PCPP pharmacists would be involved in patient-facing work, face to face medication reviews by PCPP pharmacists were recorded in 41% of surgeries and domiciliary reviews in 23%. The data indicate a high level of autonomous working by pharmacists, with only one in ten tasks resulting in a referral to a GP or other member of the surgery team.

Reaction from GP practice teams and patients

Most pharmacists reported receiving a positive reaction from, and integration into the GP surgery team, although some felt unheard and isolated. Overall, the PCPP was perceived as successful by most pharmacists in terms of the collaborations established between the GP surgery teams and pharmacists. The pharmacists themselves spoke about their rapid learning curve in order to work efficiently and

effectively as part of the surgery team. Although the majority had been qualified for at least three years their exposure to, and insights into, primary care working had to expand markedly in a short time period. As the Sheffield Hallam evaluation shows, GPs' receptivity to inducting and managing new staff from different disciplines varied, as did their experiences and perceptions of working with pharmacists. Inter-surgery differences were multi-factorial and the innovation was not successfully implemented everywhere.

Patients were generally positive about medication reviews they had with PCPP pharmacists, and most said they would recommend the service to others. Some patients were not informed in advance that they would be seen by a pharmacist, leaving them unprepared to ask relevant questions, and feeling that there were some issues pharmacists could not resolve. Some patients would have preferred to be seen by their regular healthcare professional (e.g. nurse), who knew their conditions and needs better. Although patients saw the benefit of having a pharmacist at the GP surgery to offer services, some were concerned that pharmacists were there not for patient benefit, but to free the GP. The limited time pharmacists spent at the GP surgery every week meant that follow-up tasks could not always be done promptly for patients. The role of the pharmacist at the surgery was sometimes confusing to patients, largely dependent on how or whether the GP surgeries communicated that the pharmacist was part of the GP surgery team.

Impact of the scheme

Our findings deepen knowledge and understanding about how pharmacists deployed their clinical skills and knowledge as well as their more general pharmaceutical knowledge. Pharmacists' knowledge of patients and medicines in the community were a valuable resource for GP surgeries. There is evidence of work done to increase patient safety, increase the detection of medication-related errors and prevent the escalation of known errors which would otherwise have required a significant amount of GP staff time. PCPP pharmacists' work was indeed widely reported to free up GP time – the equivalent of 850 half day GP sessions during 9 months. There were differing perceptions about how the time saved might have been utilised in seeing more patients or catching up with administrative tasks. GPs also invested time during pharmacists' induction to the surgery's work (this would usually be a one-off investment). They also spent time addressing specific queries and recommendations with pharmacists in the same way as they might do for other clinicians in the practice.

Contributions to the reduction of medicines wastage included: synchronising repeat medicines and, during medication reviews, detecting medicines that might no longer be needed. Discussion with the patient offered an opportunity for shared decision making. Most pharmacists felt that they were able to make good use of, and improve, their clinical knowledge and skills. Having access to patient records made pharmacists' work at the surgery in resolving medicines-related problems more effective and efficient compared with what could be achieved in the community pharmacy.

Effects on communication and relationships

The PCPP scheme contributed to the improvement of the relationships established between pharmacists and the GP surgery, and communication between the GP surgery and community pharmacy. The scheme appears to have helped to bridge the gap between GP surgeries and community pharmacy, improving GP knowledge of services offered in the community, resulting in increased referrals. The development of trust between healthcare professionals was seen as one of the most challenging aspects of the mobilisation phase of the scheme, and seen as a crucial aspect of success during the scheme. PCPP pharmacists recognised the development of trust linked with the recognition by the GP staff of the pharmacists' knowledge, expertise, and ability to contribute to the GP surgery work.

Community pharmacy access to relevant information in the CIS was identified as crucial to improve the future delivery of care. Leading edge practice in the small number of cases where surgeries and pharmacies linked their systems during the PCPP resulted in pharmacists being able to operate more efficiently by following up issues from the surgery to the pharmacy and resolving them without the need to contact the surgery, leading to more efficient working.

Community pharmacy employers felt that the PCPP scheme benefited their companies, offering more engagement with local GP surgeries, although securing locum cover was a continuing challenge. Employers also expressed some concern that opportunities for pharmacists to work in GP surgeries could adversely affect their company's ability to retain pharmacist staff.

Conclusions and issues for consideration

The stakeholders who participated in this evaluation have added to knowledge and understanding about the PCPP and its implementation. A number of practical

challenges were successfully addressed during the course of the scheme. Although overall there was much positivity about PCPP a number of issues were identified, some resolvable and others less so. The PCPP was implemented at scale, in a short timescale, and in a primary care environment where GP surgeries inevitably had differing levels of engagement and enthusiasm because effectively they could not opt out of having a pharmacist. The uniqueness of the PCPP experiment and its context make its achievements impressive. This evaluation has enhanced existing evidence by adding the perspectives of the pharmacists themselves, patients and organisations (pharmacy employers and commissioners). Taken together with the GP perspective obtained in the Sheffield Hallam work this enables some triangulation of data and a fuller picture which can inform policy and practice more widely.

Overall the data indicate that:

- Patients found engagement with a pharmacist to be informative and helpful;
- Innovative partnerships and better integration improved patient safety and the delivery of patient care;
- Some activities could lead to a reduction in medicines wastage;
- Pharmacists experienced positive change in their individual practice in the pharmacy as well as the surgery where the pharmacy was local to the practice;
- Community pharmacists' unique skills and knowledge about medicines meant that medicines-related tasks which were perceived as complex and were therefore seen as low priority to GPs could be handed over to pharmacists who completed them timely and with ease;
- Pharmacists gained greater insight into GP surgery workload and processes which benefitted their practice.

The many positive features of having community pharmacists doing this work have to be balanced against the undoubted challenges; these are summarised in section 7 of this report (Issues for consideration by different audiences).

1. Introduction

Upon securing support from the Prime Minister's Challenge Fund (PMCF) in 2015,[1] Sheffield delivered a programme consisting of 16 separate schemes to test out means of improving access for patients to general practice. All surgeries in Sheffield were invited to take part in the PMCF programme on the basis that they agreed to adopt the basket of 16 methods of extending access to care. The PMCF programme was delivered by Primary Care Sheffield,[2] a city wide GP federation owned by all the practices in the city. Amongst other services, the PCMF programme allowed patients to have access to appointments at their surgeries outside business hours including weekends, and in their own homes.

In 2016, a national policy drive led by NHS England (NHSE) began to mainstream the integration of pharmacists into primary care teams based in GP surgeries. Prior to the start of the NHSE's implementation, Sheffield CCG had already begun its Primary Care Pharmacy Programme (PCPP) as one of the PMCF's 16 schemes, which had an ambitious aim to attach local community pharmacists to all 88 GP surgeries in the city for half a day each week. Following a small scale pilot, the PCPP was rolled out across Sheffield. The PCPP Business Case document[3] set out its aims, objectives and intended outcomes. The overarching aims were to change ways of primary care working to enhance patient care; and to make more effective use of the workforce through the medicines optimisation activities of community pharmacists. The objectives were to:

a) Reduce general practitioners (GPs)' workload by using a medicines expert (i.e. pharmacist) to perform tasks currently carried out by GPs;
b) Support general practice prescribing through the provision of expertise from a pharmacist and technician;

c) Improve patient outcomes, such as medicines use, increased patient safety and service quality, continuity of care and management of patients with long term conditions;
d) Redefine and improve the potential of patient-pharmacist relationships; and
e) Support the best management and use of NHS resources (e.g. reduction in costs and waste) and support continued sustainability of the PCPP model.

Areas of primary care work identified where pharmacist involvement would be beneficial included: repeat prescription management; discharge medicines processing and liaison with secondary care; structured medication reviews; shared care monitoring requirements; liaison with community pharmacies; support to patients with long term conditions and complex medication issues, and support to patients in care homes. The pharmacy leads for this scheme were the Clinical Commissioning Group (CCG) Community Pharmacy team, with input from the Local Pharmaceutical Committee (LPC). The GP federation, Primary Care Sheffield, was the general practice partner.

The evaluation reported here focused on two key PCPP objectives:

- Support general practice prescribing through the provision of expertise from a pharmacist and technician; and
- Re-define and improve the potential of patient-pharmacist relationships.

This work supplemented a broader evaluation of the PMCF including PCPP which had been conducted by Sheffield Hallam University[4] and enabled a deeper investigation of specific aspects.

Although there is history stretching back two decades of pharmacists working in individual GP surgeries in the UK and there are some examples of small scale multi-surgery schemes, the unique features of the Sheffield PCPP were:

- A focus on utilising community pharmacists local to the GP surgeries; and
- Implementation at scale across a whole city.

Our initial literature review demonstrated no studies or reports investigating the implementation and impact of area wide community pharmacist deployment within the GP practice setting. Previous studies of pharmacists working in GP surgeries in the UK[5] and internationally[6, 7] were small scale and tended to involve pharmacists from hospital backgrounds. There is some evidence from published studies of the benefits of having pharmacists working at GP surgeries. It is, however, also important to understand more about the contribution of community pharmacists in this setting. Additionally, no previous studies were identified which included the perspectives of patients, making it particularly important to evaluate the patient experience of PCPP.

2. Aims and objectives

Aims

The evaluation aimed to answer the following questions:

- How has the PCPP affected the nature and potential of the patient-pharmacist relationship?
- In what ways has community pharmacist expertise supported general practice prescribing?

Objectives

- Understand and describe patients' experiences of medicines consultations with community pharmacists in the PCPP;

- Identify and describe what has changed from the community pharmacists' perspective;
- Explore pharmacy employer and commissioner perspectives - including perceived benefits, drawbacks and opportunity costs;
- Conduct secondary analysis and report on key findings from routinely collected service data regarding PCPP pharmacists' activities in GP surgery-based work.

3. Methods

Mixed-methods of data collection and analysis were used to meet the evaluation's aims and objectives and included:

- Semi-structured telephone interviews with community pharmacists, community pharmacy employers, scheme commissioners and patients;
- Cross-sectional survey of pharmacists involved in the PCPP scheme;
- Analysis of patient feedback forms;
- Secondary analysis of routinely collected anonymised service data (activities recorded by PCPP pharmacists on the PharmOutcomes database between October 1st 2015 and June 30th 2016).

Interviews with community pharmacists, community pharmacist employers and scheme commissioners were conducted by an experienced member of the research team, audio-recorded and transcribed verbatim for analysis. Interview with patients were conducted by two PPI members of Sheffield's Citizen Reference Group who were trained in interviewing. These interviews were not audio-recorded: the peer interviewers took contemporaneous notes. The PCPP survey questionnaire was informed by interview findings before being validated with pharmacists with experience in primary care. A detailed description of the methods of collection and analysis of data can be found in Appendix 1.

4. Results

Of the 88 GP surgeries registered in Sheffield in 2015, 86 GP surgeries participated in the PCPP scheme (98% of GP surgeries registered in Sheffield); 73 GP surgeries had a community pharmacist for some of all the scheme and 13 had a pharmacist who was not actively engaged in community pharmacy. This report focus on the contribution of community pharmacists to enhancing patient services through collaborative work at the GP surgery. Results are presented in this chapter with illustrative quotes from interview participants coded as follows:

Patients: P
Community Pharmacists: CP
Commissioners: CM
Community Pharmacy Employers: CPE.

One community pharmacist had a dual role in the project, as both a scheme commissioner and a PCPP pharmacist. Their comments about each role are designated either as CPXX or CMXX, depending on which role they were drawing upon, in order to maintain their anonymity. Italicised extracts from the data are from the transcribed verbatim quotes for pharmacists, employers and commissioners, and from peer interviewers' written notes for patients.

Survey statement responses are reported as mean score (M) and standard deviation (SD). The mean score is between 1 and 5 where 1 indicates low agreement and 5 indicates high agreement. Responses to the PCPP survey ranged from 1 (Strongly disagree) to 5 (strongly agree). Strongly and somewhat agree (i.e. 4 and 5) or disagree (i.e. 1 and 2) responses have been merged to report an overall agreement or disagreement to the topics discussed in the results.

In the results we refer to GP practices as GP surgeries, and medicines reviews as medication reviews, to reflect the terminology employed by the community pharmacists, community pharmacy employers, and commissioners involved in the PCPP scheme.

Participants and data

In total 22 semi-structured interviews were conducted: five patients, 12 community pharmacists, two community pharmacy employers and three scheme commissioners. Forty-seven (66%) PCPP pharmacists completed the survey questionnaire, a response rate sufficiently high to provide confidence that the respondents were representative of the total population (n=71 pharmacists, with 17% working in more than one GP surgery).

Fifty-eight patients who had attended a medication review with a PCPP pharmacist in the GP surgery had completed a feedback form. In the PharmOutcomes database there were 18,044 individual activities recorded as having occurred in 80 GP surgeries between October 1st, 2016 and June 30th, 2016, a mean of 226 per surgery. Some pharmacist activity was therefore recorded for all of the surgeries in the PCPP. It is worth noting that while hundreds of activities performed as part of the PCPP scheme were logged by some GP surgeries, other surgeries logged a much lower number of activities (e.g. one GP surgery only logged two activities).

Set-up of the scheme

Context & Drivers

The PCPP initiative was an opportunity to scale up multidisciplinary working in general practice that had already been piloted with a small number of pharmacies and GP surgeries:

> *So, four or five Practices in different parts of the City had already had a small amount of CCG funding for six months or so to test could the closening of the relationship between Community Pharmacists and Practices actually bring some benefit? Primarily to patients, and then secondly to both the Practices themselves, and give Community Pharmacists a bit more of a clinically interesting role to play within the system - and the evidence from that initial pilot testing was really quite positive.* [CM02]

It was recognised that many activities in general practice were linked to medication, such as repeat prescription ordering and communication across care interfaces when medication had been changed. Most practice staff members worked on medication-related issues – GPs, practice nurses and notably reception staff. The latter group had many administrative functions, and might be the primary contact for patients. It was felt, however, that this role was very challenging for them.

Whilst GPs had the skills and knowledge to accomplish medication-related tasks, it was recognised that the pharmacist might be able to bring an added layer of focus and expertise to the work.

The multidisciplinary team working at a strategic level within the CCG had been very supportive of the scheme right from the initial idea:

> *I think there has been, in the main…a lot of support at all levels and across all disciplines…interested and open to closer working relationships and greater integration of medicine support in primary care and pharmacists specifically. Not necessarily* [the] *community pharmacist, but very open to that role inasmuch as any other pharmacist role.* [CM03]

Aspirations & Opportunities

All of the pharmacists and employers interviewed felt that there were benefits that would accrue from closer working with GPs in their surgeries. For example, mutual appreciation of roles would increase. Whilst most pharmacists felt that relationships

with their local GPs had been very positive before the initiative began, they had felt that being physically co-located with practice staff would deepen that link.

At a city-wide level, however, there was recognition that GP-pharmacist relationships had traditionally been strained. Sometimes they were competing for activity. Some GPs felt that pharmacists had a commercial agenda that defined their practice:

> *I think the relationship between Community Pharmacists and Practices at times can be quite difficult and quite tricky because they could potentially be competing in the same space for activity. There are some very strong health perceptions in parts of the City that Community Pharmacists had a much harder commercially orientated agenda around clinical services.* [CM02]

The implicit goal of the PCPP initiative was to bring GPs and pharmacists closer together in mutually trusting relationships. The onus was on the GP practice team to incorporate the pharmacist into their work in the same way as any new staff member, specifying tasks and activities and providing an induction to the surgery's ways of working. In this way it was intended that the agenda would be set by the surgery based on its needs rather and not imposed by the CCG. Each surgery was asked to nominate a lead GP and to free them up to direct the initiative and induct the pharmacist. Prior to the PCPP there were some pharmacists already visiting GP surgeries from the CCG to undertake medicines management activities such as product-switching. Hence, some GP surgeries had experience of some of the work that a pharmacist might do in the practice.

Challenges

For scheme commissioners

Contracting for pharmacists' time in the GP surgeries was reported to be one of the main challenges of set-up. The scheme commissioners were interacting with

independent pharmacies, small companies and large multi-nationals, each of which took a different approach to the contracting process:

> *If it was individuals owning their own business that was relatively straight forward. If they were part of a local chain or if they were part of a national multiple we had to do an awful lot of set up work around getting the contracts right. And at points it started to get towards lawyers, which seemed unnecessarily complicated because we were just trying to do something simple and fairly quick.* [CM02]

With 12 months of project time, any delays in the contracting process ate into the available time for the pharmacist to work in the practice, being a source of frustration for all concerned. However, ultimately the various contracts were put in place.

Another challenge was linked to matching pharmacists who expressed interest in being part of PCPP with the GP surgeries. Where there was only one pharmacy local to a surgery or only one pharmacist expressing interest in participating, the process could be straightforward. Where there were several pharmacies close to a surgery and more than one pharmacist expressed interest in PCPP the process was more complex. Strategies were developed to deal with these situations, in agreement with the surgeries. To avoid commercial conflicts of interest, where two or more pharmacies expressed an interest to work with the same practice, the 12-month period was split between the number of pharmacies (i.e. two pharmacists wishing to work with the same practice would each work a 6-month period, one after the other).

The scheme commissioners were keen to ensure that service provision data were appropriately recorded by PCPP pharmacists to enable data driven review of the scheme. Issues around data collection had also challenged the project team during the set-up phase. The guidance for scheme activity was deliberately very open and flexible, in that pharmacists and practice teams would work together to decide what the pharmacist would do. However this surgery-centred approach did make it more

difficult to develop a service provision data collection tool geared towards specific tasks.

For pharmacists and employers

The intended model for PCPP working was that the pharmacist would work for one session (3.5hrs) each week in the surgery. Our survey data show that this is what happened in most cases (Table 1), with the majority of pharmacists working half a day per week at their surgery (n=27 or 57.4% of pharmacists), followed by one day a week (n=8 or 17% of pharmacists).

PCPP Survey: GP Surgery Work patterns of pharmacists (n=47)		
Work patterns	**Frequency**	**Percent**
Half a day a week	27	57.4
One day every fortnight	7	14.9
Half a day twice a week	2	4.3
1.5 Days a week	1	2.1
One day a week	8	17.0
One Hour each day	1	2.1
Other	1	2.1
Total	**47**	**100.0**

Table 1 - PCPP Survey: Time spent working at the GP surgery (pharmacists)

Most pharmacies had been able to accommodate the sessional working that was required of the pharmacist, albeit to a greater or lesser extent. Pharmacists who had a relief role within a company, which did not tie them to a specific pharmacy, or worked as part of a large team in extended hours settings could be very flexible:

> *Well it hasn't been an issue for my company to release me because they've got relief Pharmacists and at the Pharmacy I was working either Monday until Friday or I was working alternate Saturdays. During the day that I was at the Surgery and during the Saturday if it was my Saturday off, we had a regular Pharmacist coming to cover my shift.* [CP06]

One employer reflected that recent cuts in community pharmacy remuneration had resulted in the company employing fewer pharmacists and that it might be more difficult in the future to have the same team flexibility.

Pharmacists based in a specific pharmacy with more traditional opening hours sometimes had to be more creative. It was sometimes difficult to secure a pharmacist locum for the intended 3.5 hours per week. The compromise reached in these cases was that the pharmacist worked a full day (7 hours) at the surgery every fortnight; seven pharmacists in our survey said they had done this. Although this was a practical solution for the pharmacist, it was not ideal for the surgery as there was a longer gap between the pharmacists being there.

Other approaches were also reported. Two pharmacies located close to each other, for example, had organised one shared locum who worked a half-day in each. This enabled both pharmacists to work a half-day in a different local GP practice on the same day. Another company decided to hire a locum for a full day - the pharmacist spent half a day in the practice and then used the other half day to catch up on paperwork or staff appraisals, or to conduct income-generating activities such as Medicines Use Reviews (MUR):

> *We had a bit of a mixed strategy…It just happened to be that in a couple of cases we had Pharmacists who were happy to do some additional half days when they were not down to be working. We had some people who were happy to cover for half a day and who were not looking for full days. I think elsewhere we would just suggest that the Pharmacist used some of the additional time…if they got some cover so they could deliver additional services, catch up on appraisals. Make use of the time.* [CPE03]

Pharmacist employers reflected that the remuneration rate for the pharmacists had been more generous than locum rates, but one did elaborate that it cost the company more to employ a pharmacist than to use a locum because of pensions etc. They also pointed out that if they had deployed the same pharmacist into income-

generating activities in the pharmacy, like running a travel clinic that would have offset the higher costs, so practice work was not viewed as a particularly lucrative activity for pharmacy companies:

> *It literally pays for the pharmacists for that time and that is it… We paid them half an hour travel time as well, because otherwise they would have lost money from what they would have done for us, so actually we were paying three and a half hours for their three-hour shift that we got reimbursed for…But then also normally if we put them in a travel clinic or something like that, we would have been getting extra income for those three hours, rather than just enough to pay for their wage.* [CPE01]

This company had also paid their pharmacists for an additional 30 minutes per surgery session to cover travel time from the pharmacy to the surgery or vice versa depending on whether the session was morning or afternoon. This may indicate that some pharmacists may have been working in a surgery some distance from their base pharmacy.

Some pharmacists referred to considerations of professional indemnity insurance as they started this new work. In the event most pharmacists seem to have been covered by their pharmacy base insurance, but one pharmacist interviewed said that he had arranged his own personal insurance.

Recruitment of Pharmacists and Technicians

The scheme commissioners deliberately chose not to create a complicated person specification for pharmacists so as not to create barriers to community pharmacists who were keen to be involved. Any pharmacist working for a community pharmacy in the Sheffield area was eligible to express an interest. The scheme commissioners hosted an event in Sheffield to promote the initiative. As over eighty GP surgeries had opted into the wider 'extending access' PMCF initiative, of which one strand was working with community pharmacy, they knew that they had to recruit a large number

of pharmacists to meet demand. There was in fact a shortfall of interested pharmacists, so some pharmacists agreed to work at more than one practice. Table 2 presents findings from our survey about the number of GP surgeries in which PCPP pharmacists reported working. The majority were contracted to work at one GP surgery (83%), with a small number working in two or more, including one pharmacist working in up to five surgeries in total.

PCPP: Survey: Number of GP surgeries pharmacists worked at as part of the PCPP scheme		
Number of GP Surgeries	**Frequency**	**Percent**
1	39	83.0
2	4	8.5
3	3	6.4
5	1	2.1
Total	**47**	**100.0**

Table 2 - PCPP Survey: Number of GP surgeries pharmacists worked in during the PCPP scheme

No specific training was required or provided to the pharmacists about their role prior to the start of their work in the surgery. A launch event was convened to present the context and vision for the scheme to pharmacists. Although not intended as an induction event, attendees were given some suggestions about tasks they could start with, how to record service provision data on the PharmOutcomes system and how to engage with GPs:

> *We had an event to launch it for the pharmacists…it was more envisioning and strategic, so it was setting numbers with context…broadly outlining some of the tasks that* [we] *might want to suggest they started with…One of the requirements was that they would record some data for us…so how they would physically logistically do that. And also how we engaged with the GPs and what the GPs were expecting…A large event to give the overall vision and perspective, rather than a nitty-gritty induction into a set of work.* [CM03]

The pharmacists were supplied with some useful resources for the work, including a menu of GP clinical system settings (SystmOne and EMIS) and links to GP practice

work resources from other pharmacy bodies such as the Pharmaceutical Services Negotiating Committee (PSNC). The PharmOutcomes database module created for pharmacists to log their PCPP activities also contained, in addition to its service provision data entry template, information about the Sheffield primary care formulary and local medicines management resources that other clinicians were using in the area. Although sufficient pharmacists were recruited it proved more difficult to recruit and retain technicians to the PCPP. Two were recruited, but one decided very soon after the start of the project that they preferred to be in the pharmacy:

> *We asked for expressions of interest and I think we had four…It seemed the employers found it very difficult to release [them]…Interestingly, the two that went in, one went in with the pharmacist who also worked in that branch and I think it took some [time] to differentiate how the two could bring their skills to support the surgery and what the different skills were. So the surgery hadn't got any idea and both the pharmacists and the technician couldn't really engage with how to translate their skills from the community pharmacy into the kind of work a general practice does, because they understandably have no previous knowledge of this type of work. So I think that was very challenging for all of them and they made the best of it and came to some fairly productive working relationship…In another setting…the technician actually found that they didn't like that type of work and was very much more suited to the community pharmacy setting.* [CM03]

As this quote illustrates, making arrangements to free a technician from the community pharmacy for a session to work at the surgery was much less straightforward than to do so for a pharmacist. The concept of locum technician cover, especially for a small number of hours each week, is challenging. Incorporating a skill mix of pharmacist plus technician at the same time as incorporating a pharmacist to the surgery's work meant it was difficult to make the most effective use of both within the scheme.

SUMMARY

- Sufficient pharmacists were recruited to work with 80 GP surgeries across the city; recruitment of technicians was less successful;
- The newness of the work meant that contracting arrangements were sometimes complicated and lengthy;
- Finding pharmacist locum cover for a half day was challenging but a number of different solutions were found and most were shown to be workable for pharmacists, pharmacy companies and surgeries;
- Most pharmacists worked in a single surgery and for one session each week as envisaged in the PCPP model;
- A successful launch event was held at which some guidance was provided about the types of work that pharmacists might start with at the surgery together with useful resources.

Mobilisation of the scheme

While survey respondents' perceptions of how well they were integrated into the surgery's work were positive overall (M=3.56, SD = 1.10), their experiences of starting work at the surgery were evenly split, with 38% reporting they did not know what they were meant to do when they started work and the same percentage saying they did know what they were meant to do. Most of the pharmacists interviewed reported that the surgery had found it challenging to get them started within the scheme. Several pharmacists commented that the surgery might have benefited from more guidance and direction about the types of work the pharmacist could do:

> *Down at the [surgery], they never really gave us enough work to do and you're all sort of twiddling your fingers, or you were asking them, or you were searching for work, or you were just trying to do things that you thought would help them…So, I don't think they had enough instruction on how they could use you, and suggested*

> *things to them. And we were inexperienced, because we went there first, so we'd never done that before.* [CP01]

The remit for the community pharmacist was to do something different and distinct from CCG pharmacists, but some surgeries struggled to know what that might be:

> *They have these pharmacists who go there once a month from the CCG just like making summaries and changing medications to a cheaper one…like Seretide was changed to something else, but I don't think they knew what to do with me so they probably need somebody to explain to them.* [CP15]

Most of the pharmacists interviewed were given space to work that was close to other members of surgery staff, including a consulting room and computer as necessary for their work. One, however, said they had been consigned to remote locations in the surgery where the opportunity for regular conversation with others was limited:

> *In both cases, in [surgery 1] you were pushed down into the basement on to a computer. At [surgery 2], you were pushed upstairs on to the first floor in a room on to a computer. Well, to me, that really wasn't ideal, because you were locked away from everybody and you know, I think they could have used us a lot better than they did. [*CP01]

Some pharmacists were nervous about starting their work in the surgery, one adding that it took them outside their comfort zone:

> *I was quite nervous at the beginning, even if I'd been next to the surgery for a long time before I went in the surgery.* [CP15]

> *Yes, like I say it scared me to death at first, and even in the late stages it still kept me properly on my toes, but I think anything that takes you outside your normal comfort zone does that.* [CP04]

Survey respondents were positive about their workload as part of the PCPP scheme (M=3.86, SD=1.07), with the largest proportion reporting they had enough work to do (70.2%) and that it was varied (63.0%). Only 19.1% of respondents reported feeling they had too much work to do (Table 3).

Workload						
Instrument items	**N**	**Mean**	**Std. Deviation**	**Strongly or somewhat disagree**	**Neither agree nor disagree**	**Strongly or somewhat agree**
Had enough work to do	47	3.79	1.21	10 (21.3%)	4 (8.5%)	33 (70.2%)
Felt that my work was varied	46	3.76	1.10	7 (15.2%)	10 (21.7%)	29 (63.0%)
Had too much work to do (reversed mean)	47	3.47	1.16	27 (57.4%)	11 (23.4%)	9 (19.1%)

Table 3 - PCPP Survey: Pharmacists' perception of their workload

Work undertaken by the pharmacists

The work that pharmacists did varied between GP surgeries and generally changed/diversified over time as the practice team became more aware of their skills and capability. In this section we present findings from our survey of PCPP pharmacists and from service provision data in PharmOutcomes. Table 4 summarises the nature of work conducted by PCPP pharmacists and reported in our survey. The most frequently reported activity was prescription queries (93.6%), followed by post-discharge medicines reconciliation (89.4%) and medication reviews (83%). Next we consider provision of medication reviews in more detail.

Work undertaken by pharmacists		
Services provided	**Frequency**	**Percent**
Prescription queries	44	93.6%
Hospital discharge letter updates	42	89.4%
Medication Reviews	39	83.0%
With patients	9	19.1%
case-note only	15	31.9%
Both with patients and case-note	15	31.9%
Case-finding (patient lists)	17	36.2%
Audits	14	29.8%
Minor ailments consultations	8	17.0%
Clinical updates for GPs and other staff	8	17.0%
Domiciliary visits to housebound patients	6	12.8%
Telephone triages	6	12.8%
Other	18	38.3%

Table 4 - PCPP Survey: Work undertaken by PCPP pharmacists

Of the 47 PCPP pharmacists who responded to our survey, 39 (83%) said they had conducted medication reviews as part of their surgery work and only eight (17%) said they had not. Of the 39 pharmacists who had conducted reviews, the majority (24) had done some or all of the reviews with patient involvement whereas 15 pharmacists had done case note reviews only without patient contact.

In the next section we present data from the PharmOutcomes database to consider the picture of medication review provision across all 80 GP surgeries. These data are summarised in Table 5, and shows that only 20% of surgeries did not conduct any type of medication reviews (n=16). Of the 64 GP surgeries (80%) that reported conducting medication reviews, 33 (41.3%) reported conducting face-to-face reviews at the GP surgery; 18 (22.5%) reported conducting face-to-face reviews at the patient's home and 32 GP surgeries (40%) reported conducting medication reviews over the telephone. However, the type of review reported as the most frequent at the GP surgeries participating in the PCPP scheme was case-note review which precluded patient involvement (n=46; 57.5%).

Medication reviews performed by PCPP Pharmacists (n=80 GP Surgeries) (2015-2016)		
Services provided	**Number**	**Frequency**
Face-to-face Reviews (GP Surgery)	33	41.25%
Face-to-face Reviews (Domiciliary visits)	18	22.50%
Telephone Reviews	32	40.00%
Case note reviews	46	57.50%
Did not perform medicines reviews	16	20.00%
Performed medicines reviews but did not state type	1	1.25%

Table 5 - PharmOutcomes database: Types of medication reviews reported in GP surgeries

Table 6 summarises the number of GP surgeries who reported conducting one or more types of medication reviews during the PCPP scheme. For a large number of GP surgeries (n=34; 42.5%), the PCPP pharmacists conducted both case-note and patient-involved medication reviews; Twelve (15%) recorded only case-note reviews

whereas 17 (21.3%) recorded medication reviews directly involving patients (i.e. face-to-face reviews at the surgery or at the patient's home, and telephone reviews).

Types of medication reviews by GP practice (2015-2016)		
Services provided	**Number**	**Frequency**
Patient contact (GP surgery, domiciliary, telephone) only	17	21.25%
Case note reviews only	12	15.00%
Both case note reviews and patient contact	34	42.50%
Did not perform medicines reviews	16	20.00%
Performed medicines reviews but did not state type	1	1.25%
Total number of GP surgeries	**80**	**100%**

Table 6 - PharmOutcomes database: Types of medication reviews conducted by PCPP pharmacists per GP practice

Patient-facing work had not been a particular expectation of the scheme but in practice had occurred in many surgeries. The experience of interviewees who conducted patient-facing medication reviews was also varied, with some finding that a number of patients would not attend, which was demoralising.

Some pharmacists who worked for more than one practice noted that they were doing different tasks in each place. This was consistent with the scheme commissioners' aspiration that each practice should involve the pharmacist in activities specific to their particular setting:

> *In one surgery I was doing medicines reviews, a bit like the GPs do sort of every six months…and checking that everyone's bloods were done…And if it was all appropriate then re-authorising the repeats. In the other one I was supposed to be doing asthma reviews, but they really didn't get booked in and invariably when they were booked in, the patients didn't turn up…So, I did a lot of what I would call "filings" and so instead -…any discharges that came through; any A&E alerts because the patient had been to A&E or something and it just needed filing on the notes, that kind of thing…And then the third surgery, I actually ended up spending most of my time doing varying audits really, because there was a bit of a lack of anything else to do. If there were any medicines queries, I did those. But it was a bit kind of sporadic.* [CP03]

All pharmacists interviewed reported that the principal issue that determined the effectiveness of their work was their proficiency with the clinical information system (CIS) in the practice, which might be SystmOne or EMIS. Most pharmacists only had to familiarise themselves with one system, but a minority of pharmacists working in multiple GP surgeries had to learn to master both. In our survey respondents were equally split on this issue of whether they received adequate training for their work at the surgery with 36% reporting not having received adequate training and the same percentage, 36%, saying they had. Nevertheless, the majority of respondents reported that they were provided with adequate resources to conduct their work (66%) and were able to use the surgery's IT systems with ease (68%).

Most pharmacists interviewed reported that they learned to use the clinical system 'on the job' by watching members of the practice team demonstrate different tasks:

> *I didn't have a clue what to do and the only training I received was I had [Doctor] who was my main doctor, working together, she said, "Oh sit with me, see what I'm doing and you will be doing the same thing." Obviously, the doctor way is a bit different than the pharmacist way; we had three sessions together for an hour, probably, no longer.* [CP10]

Others had assistance from the departing PCPP pharmacist, or in one case from the visiting CCG medicines management pharmacist:

> *I worked quite closely with the CCG pharmacist, doing some of their work which then gave other ideas for the practice. So* [my work] *was a bit unconventional. I know, having talked to other colleagues, they didn't want them to do CCG work; they wanted it to be completely separate, whereas some of their audits, it was a way to actually learn how to do SystmOne, which was the most daunting thing ever.* [CP09]

Several pharmacists noted that the CCG ran training events about SystmOne, as there was an advert displayed from time to time on the system itself, but only one of the pharmacists interviewed said that they had been able to attend that training – they felt that it had been good.

One pharmacist reported going, unpaid, into their nominated practice before the initiative began to start this training process, so that they would be ready to work from their first official session. All others learned on the job. Pharmacists' smartcard access to the Integrated Clinical Environment (ICE) laboratory results system had to be added separately from access to SystmOne or EMIS. All of the pharmacists interviewed felt access to laboratory test results was vital for safe and effective working – even though some said their surgeries would not allow it:

> *My surgery was very open, they enrolled me on the ICE system right from day one, it was something they wanted me to help with, and I was "Oh, that's fantastic". And other colleagues later said "Oh no, they won't let me go on ICE" - whereas for me, they welcomed me with open arms.* [CP09]

Many of the pharmacists interviewed reported doing what they saw as "administrative" tasks, such as making amendments to patient medication records based on the hospital discharge letter or after they had seen a consultant's team in an outpatient clinic and the practice received recommendations about changes to the patient's medicines. However what might be perceived by a pharmacist as "administration" was viewed differently and very warmly welcomed by reception staff who were unsure about their role and expertise in this area:

> *They had a problem, this was definitely fertile ground, because the hospital have added something or they've taken something off. It's just a piece of administrative stuff…and the receptionists were getting spooked by it saying, "Well, yeah, but we don't know what these drugs do…we've heard of some of them but no idea of what some of them do…we're out of our comfort zone"…So you'd end up with somebody on three different diuretics…not every time but occasionally and it made…the whole surgery very uneasy. So when I came along, this is somebody who knows about the medicines and what looks like likely and unlikely combinations…and if they're unsure, they know exactly what question to ask and who to ask…So there was…just this gap, this vacuum waiting to be filled…As soon as I went in there, all of them breathed a sigh of relief, you know, saying "That's wonderful".* [CP02]

This quote indicates that some pharmacists may underestimate the value of applying their expertise in medicines to ensure safe implementation of hospital-instigated changes.

Changes over time

Many – but not all - interviewees reported that the activities they undertook in the practice changed over time. It was notable that a number of pharmacists found that they became extremely proficient with the clinical system over the scheme period, indeed in some cases to the extent that they unexpectedly became a teaching resource for other practice staff. Several pharmacists described helping practice staff to implement the Electronic Prescription Service (EPS2). Their own experience from using the programme in their community pharmacy made them an invaluable resource for doctors and other staff. In many cases, over time, the practice staff gained confidence in the capability of the pharmacist and were open to more activity:

> *I tell the receptionists "Well I can do this, this, this - I might be able to do some other stuff, ask me and I'll say yah or nay and we'll go from there" and slowly…you start to ask questions as well, so they ask you "Can you do this?" and "Maybe!" And then you might just…run it past the GPs to [see] what they do and then if you feel happy doing it then, yeah, you'd do it and once you feel it sort of like encompasses what you're capable of doing."* [CP17]

One pharmacist illustrated how their practice had been open to trying a number of new initiatives involving him, but how they had mutually concluded that some were not going to work in that setting. Experimental initiatives that were dropped included telephone triage for medicines queries (not enough queries in the session to make it viable):

> *We tried triage…because there's a doctor on call between half eight and nine. So they might say, "you can't have a doctor, they're all busy but you can have a phone call'…We did that one morning and there was one phone call which was…"I normally have, erm, acyclovir twice a day. I've been given a prescription for acyclovir five times a day… What's going on?" I could've answered that one. All of the other ones would've had to go to a doctor…so the triage thing didn't take off.* [CP02]

Like some other activities within PCPP the relative success of particular types of newly-introduced work may have depended on the extent to which patients knew about and understood them. We return to this issue later in the report.

SUMMARY

- Dealing with prescription queries (94% of pharmacists), followed by post-discharge medicines reconciliation (89%) and medication reviews (83%) were the most frequently-reported activities in the survey;
- Conducting medication reviews was reported by 83% of pharmacists and recorded in 91% of surgeries;
- Although it was not an expectation that PCPP pharmacists would be involved in patient-facing work, some face to face medication reviews by PCPP pharmacists were recorded in 61% of surgeries and domiciliary reviews in 28%;
- Learning how to use SystmOne or EMIS was mainly done on the job and was seen by PCPP pharmacists as critical to effective working;
- Access to the electronic laboratory tests system (ICE) was viewed by PCPP pharmacists as essential for safe working but not all GP surgeries allowed access;
- Most pharmacists reported having sufficient resources to do their work and that they could use the surgery's clinical information system with ease; they were equally split on whether sufficient training was available to them.

Reaction from GPs and practice staff

The pharmacists interviewed reported a range of reactions from practice staff. Most had received a positive response:

> *Because we know the staff quite well at both Surgeries and I know the GPs quite well, we were quite positively received. There wasn't any need for it to be a case of getting to know people and them being perhaps suspicious - it was fine.* [CP12]

Survey responses were also positive overall (M=4.21, SD=0.98), with the majority of pharmacists strongly agreeing that they worked in a friendly environment (94%) where support was provided promptly when required (83%). A majority (68%) felt part of the GP surgery team, and 61% felt their recommendations were accepted by

GPs more readily than recommendations they made from their community pharmacy. However, some interviewees reported struggling to make headway, feeling isolated and sometimes ignored but determined to do something anyway by enlisting the help of practice staff:

> *Nobody taught us to use SystmOne. It was just you turned up on that first morning. Your SMART card had the access put on it, you were shoved in a room by yourself "get on with it"…So the poor reception girls, it was "Can you show me how to do this? Can you show me how to do that?"* [CP01]

This was particularly noted - by both pharmacists and scheme commissioners - for the two pharmacists working in single-handed GP surgeries:

> *I just basically said to him, "Look…if there is something you would like for me to do, I'd be really happy to do it for you so if you can find a piece of work that would help you - but at the moment I don't feel what I'm doing is really helping you, it's just causing you more work to try and find me something to do". And so I said to him I wouldn't be offended if he found that he didn't want me to continue. I think he then spoke to them and, erm, we ended that part of my work.* [CP13]

These GP surgeries felt that there was little that a pharmacist could contribute to their work. The GP was used to controlling all matters related to their patient list, and they had tight-knit processes that dealt with medication queries:

> *A few never got going although theoretically they tried to go ahead…We couldn't make the logistics work…Interestingly, two single-handers - all parties tried their best and were all very willing but in effect the single-hander just felt that they managed things well enough on their own and they were so small, they knew their patients, they did everything for them in relation to medicines and…there really wasn't anything to be gained from having a pharmacist. And the pharmacist…really couldn't bring much that they could contribute extra so they withdrew.* [CM03]

At the end of the scheme, one scheme commissioner estimated that three-quarters of the collaborations had been successful. Another scheme commissioner expressed the view that there would always be GPs and pharmacists who perpetuated a mistrusting (GP) and hard commercial (pharmacist) stereotype, but that they would be in a very small minority.

Many of the pharmacists interviewed referred to the positive and deepening relationships they felt had resulted from the scheme; one employer, however, observed that – now that the scheme had ended - ongoing improved relationships would only persist until staff changes occurred. Turnover of both community pharmacists and GPs may indeed occur, with the latter less frequently. An important question might be whether the more collaborative relationship is only associated by the surgery with the specific pharmacist or whether bonds have been strengthened with the pharmacy team.

The end of the official scheme had not necessarily meant that all collaboration had finished. There were a number of reports of ongoing pharmacist input – some remunerated and some unpaid. One pharmacist reported that they still went into the local practice when problems occurred and used her NHS card to access the clinical system – at practice staff request – to solve it:

> *The other day* [the surgery] *couldn't find something. I said, "Oh I'll come up and I've got some scripts I need you to sign, I've got a second pharmacist here". So, I took my smartcard because I've still got the access on my card for both of them* [surgeries]. *I said, "I'll come and sort it out for you". So, I still went up and did that for them the other day.* [CP01]

Another pharmacist reported that practice staff brought printouts of medication changes to them for advice before making changes on the clinical system. Yet another pharmacist reported an ongoing IT link from the pharmacy to the clinical system via the N3 network, which meant that they could log into the system from the pharmacy.

<u>Reaction from patients</u>

Many of the pharmacists reported interacting with patients that they knew from the pharmacy also in the practice:

> *when you'd got something ongoing it was like I'd be recommending something one day and then dispensing the prescription for it the next when I got back to the pharmacy, and maybe then seeing what happened a month later and having a conversation with the patients about that.* [CP04]

Pharmacists doing patient-facing reviews or clinics reported some initial surprise among patients who knew them and saw them in the practice for the first time. Once patients knew that the pharmacist was also working sessions in the practice, some pharmacists found that patients would come to them in the pharmacy to flag up issues that the pharmacist would address in their next practice session.

One pharmacist found that their quest to synchronise medicines for individuals across multiple conditions on the practice repeat prescription system proved to be very popular with patients, and word of mouth meant that a significant number of people came to ask them about this issue:

> *A lot of patients were quite keen on me for synchronising medication for them.* [Previously] *they were saying, "well just order everything" because we can't work out when things were all running out at different times and they were getting quite confused with their medication so I think me being able to do that was helpful and hopefully helped reduce wastage.* [CP13]

Not all patients expected to see the pharmacist when they were called for their annual review at the practice. Two of the five patients interviewed - [P001] and [P005] - explicitly said that they had not been told by the practice that their medication review appointment would be with the pharmacist. One patient felt that if they had known, then they would have been better prepared to ask the pharmacist relevant questions:

> *I do think that had I really known about the medication review in advance it would have been useful as I would have prepared myself before attending.* [P005]

Some patients felt it was better to see a professional who already knew them. This manifested itself in different ways. A patient who normally saw the nurse, but on this occasion saw the pharmacist – whom they did not know as it was not their

community pharmacist – preferred to see the nurse as they knew them and their problems. The peer interviewer noted:

> *The discussion with the pharmacist was OK, not fantastic but nothing to complain about. It would have been better if he had known who it was doing the review… Usually has his annual medicine review with the nurse in the surgery and is asked the same kind of questions. Feels it is better with the nurse as she knows him and understands his background and problems. [*P001]

Patients who completed the feedback forms, on the other hand, had positive views about being seen by the pharmacist at their GP surgery:

> *Pharmacists have a better knowledge of the medication so give a very thorough explanation of what it is doing to you.* [Comment 33]
>
> [Review conducted by pharmacist] *seemed more thorough than usual reviews.* [Comment 40]

One of the patients completing the feedback form also noted that having the pharmacist available at the GP surgery decreased the time they would have to wait to see the GP, a finding consistent with previous studies:

> *I think it is a good idea* [to have a pharmacist working at the GP surgery] *as normally I would have to wait six weeks to see a doctor. Also I felt* [the pharmacist] *had more time to discuss things about my* [medicines]. [Comment 4]

Additionally, two of the patients interviewed – who saw a pharmacist in the practice whom they also knew as their own community pharmacist – thought the experience was good:

> *Yes, I knew the pharmacist is the one I use, I have a good relationship with the pharmacist and this helped. As I have a good knowledge of my medication this did help and knowing my pharmacist.* [P002]
>
> *Saw [pharmacist] at GP practice. Yes, knew the pharmacist. I knew them well, a very helpful person whenever I have needed it when we visit the pharmacy. From my point of view it went well. I was fully involved. My opinions were definitely considered.* [P004]

It was not, however, important for all patients. [P005], who had not known the pharmacist – and who had originally hoped to see their GP – still felt that the

consultation had been good, and that the medicines expertise of the pharmacist meant that they could ask more detailed questions about their medicines that the GP would not have been able to answer.

Many pharmacists stressed that they always introduced themselves up front as the pharmacist, not least to define the medicine-related scope of the consultation with the patient:

> *I think it gave me more professional gravitas because I think they saw me as... or they're used to doing what the GPs tell them to do, and it carried more weight being at the surgery in that position, sat in a GP's room I suppose, but they knew I was a pharmacist because I made that quite clear at the start and a lot of patients knew me anyway, but that was definitely a real positive and the response from the patients was excellent.* [CP04]

Some pharmacists reported that patients coming for their annual medication review sometimes had other issues that they hoped to explore with the GP or the nurse, and the pharmacist was not able to address all their needs in the one appointment. This dilemma was echoed by one of the patients. The peer interviewer noted:

> *[P005] did know that he was supposed to have a medication review but thought it would be with the GP so although he felt overall that the time with the pharmacist was very worthwhile, he did have something he would have spoken to the GP about.* [P005]

Patients expressed diverse views about the skill mix advantages of having pharmacists in the practice taking on medication tasks for the GPs. One patient felt that it was a very good development to take pressure off the GP by sharing these tasks with the pharmacist:

> *The discussion was more or less the same, but it is better if we see other than the GP. They are very, very busy - getting an appointment is very difficult and can be up to 6 weeks away from you asking. This way takes some of the demand off the GP. The pharmacist knows all about the medications you take so it is a good idea for them to do this reviewing.* [P004]

Another patient, however, wanted to be convinced that this development was genuinely to improve the patient experience, and not just to free up the GP:

> *I would do this again and would think it would be better for other patients so long as they have it explained and don't think it's just about making things easy for the GP.* [P005]

One pharmacist now working full-time in surgeries also reported that their patient panel has given good feedback about medication-related queries now being properly dealt with, which had been a longstanding problem for the practice:

> *I can see a lot of feedback coming in from the patient participation group…we've got patients coming in regularly, quarterly you know in the surgery where it's being led by one of the Practice Partners and we're getting good feedback, especially with respect to the previous complaints on the timings of the appointment and the prescription queries that weren't solved all of the time, and were taking longer time. We've seen improvement in that.* [CP08]

Routinely collected service monitoring data in the patient feedback forms from those attending a medication review with the pharmacist in a GP surgery showed that 49 of the 58 respondents (84%) reported being 'extremely likely' to recommend the service to family or friends, and the other 9 respondents 'likely' to do so. In the 49 free-text comments contributed by patients, the words 'informative', 'helpful' and 'thorough' occur frequently (Appendix 2). Longer contributions about specific improvements in medicine-taking include symptom improvement, possible medicines waste reduction, associated lifestyle advice, and better inhaler technique:

> *The pharmacist service has benefited me by taking less tablets per day. I know it takes time to get it correct but the service has been first class. Also the (reduction in) swelling in my ankles has been a big plus. Thank you once again.* [Comment 4]

> *First thorough review I've ever had – I may be on meds I don't need any more, so very good.* [Comment 7]

> *I found it useful in setting advice around when I can take my medication. Also ideas around losing weight. Thanks.* [Comment 34]

Very good, learned good techniques of using inhalers that I wasn't aware of before. Seemed more thorough than usual reviews. [Comment 40]

SUMMARY

- Most pharmacists reported a positive reaction from, and integration into, the GP surgery team, although some felt unheard and isolated;
- Overall, the PCPP was perceived as successful by most pharmacists in terms of the collaborations established between the GP surgery teams and pharmacists;
- Patients were generally positive about medication reviews they had with PCPP pharmacists, and most said they would recommend the service to others;
- Some patients were not informed in advance that they would be seen by a pharmacist, leaving them unprepared to ask relevant questions, and feeling that there were some issues pharmacists could not resolve;
- Some patients would have preferred to be seen by their regular healthcare professional (e.g. nurse), who knew their conditions and needs better;
- Although patients saw the benefit of having a pharmacist at the GP surgery to offer services, some were concerned that pharmacists were there not for patient benefit, but to free the GP.

Impact of the scheme

GP workload

All pharmacists and scheme commissioners interviewed felt that GP time had been freed up in some way. Similarly, survey respondents strongly agreed that their PCPP work had decreased GP workload (89%). The PharmOutcomes service provision data also provide insight into both the amount of time PCPP pharmacists spent on different activities (Table 7) and how much GP time the pharmacists estimated had been saved (Table 8). The most frequent activity recorded by PCPP pharmacists was post-discharge medicines reconciliation based on hospital discharge letters

(n=6118 and 1253.5 hours spent), followed by medication reviews (n=3961 and 722.2 hours spent) and management of repeat medicines (3855 interventions and 775.3 hours spent).

Pharmacist time spent on logged tasks (1st October 2015 to 30th June 2016)		
Services provided	**Frequency**	**Time (Hours)**
Medicines reconciliation: TTOs	6118	1253.5
Medicines management: repeat dispensing	3855	775.3
Medicines re-authorisation: Repeat dispensing	3529	651.3
Medicines' adherence reviews	250	83.5
Patient referral (other healthcare professionals)	1493	297.3
Medication reviews	3961	722.2
Ad-hoc queries	3283	552.5
Processing of "not dispensed" claims	48	7.6
Identification of medicines for Repeat Dispensing	905	168.6

Table 7 - PharmOutcomes database: Pharmacist time spent on activities

The total estimated GP time saved by the 18,044 logged interventions was 3171.2 hours.

Estimated GP time saved by the work of PCPP pharmacists		
Services provided	**Frequency**	**Time saved (Hours)**
Seeing patients face-to-face at the GP Surgery)	760	231.8
Seeing patients in their own home	51	28.0
Telephone contacts with patients	819	201.3
Case note reviews	11119	1835.6
Activities with no recorded 'setting'	5295	874.5
Total recorded interventions	18044	3171.2

Table 8 - PharmOutcomes database: Frequency of activity and estimates of GP time saved

How this time saved actually translated into effects upon GP workload drew very diverse comments from interviewees. Some believed that there had been an impact that had resulted in the freeing up of additional appointments for patients:

> *With the discharges…some of them took an awful long time because invariably things are missed off or it wasn't clear…So, with some of them, if it was a busy GP or a duty doctor on a busy afternoon*. [They] *definitely would have been able to have seen about four more patients probably.* [CP03]

As one pharmacist reported, having pharmacists working at the GP surgery provided GPs with the opportunity to delegate tasks which would fall below GPs priority, often citing lack of time. This was a positive outcome as it ensured these tasks were resolved timely whilst allowing GPs to focus on other priorities:

> *Quite often, one of the doctors will get a job to do and they'll think "Oh, no no no - I haven't got time for this." There's just so much to it. It's almost like a jigsaw…A couple of weeks ago…there was a lady discharged on 12 different medicines…And he* [GP] *just said, "Can you sort it out?" He said, "I'm on call, I haven't got time". So, he said, "Get that list, it's coming out. Can you put her in a Nomad system, monitored dose release?" And so half an hour later, I said to him, "There - it's all on repeat, I want those prescriptions, and Nomad starts next week". And his face, it was like a child at Christmas. "Oh, thank you so much!" He said, "They don't understand how busy I am when they give me this stuff".* [CP02]

In another case, early intervention in medication-related issues stopped a problem from escalating that would otherwise occupy a significant amount of GP staff time:

> *Well if you think about it, putting these recalls on, at the time, it doesn't release any GP time, but if that lady doesn't come in for her regular checks, she's then going to have some sort of asthma exacerbation…She's going to come and see the GP and really we could have prevented all that, if she'd have had all her regular checks, because all these recalls weren't with the GP…* [They were] *for blood tests and see the nurse. So, if that had had been managed properly…they wouldn't get to the GP. So it's preventative measures really, I was mainly doing there, isn't it?* [CP01]

Some commissioners felt that the main benefit may have been to reduce the extended hours that GPs had been working after seeing patients in order to complete administrative tasks, rather than freeing up extra clinic sessions or appointments:

> *It's reduced their sort of paperwork time significantly. Whether that then means, shall we say, that the rest of their paperwork time is therefore improved because it's not as rushed I don't know. Potentially if the GPs know that they've got this in place, then potentially you could say that that does mean that they could maybe have more*

> *appointments and so on, and I think that's one thing that you could potentially tease out in the future when, shall we say, you've done it on a larger scale…I know a lot of GPs, to get the paperwork done, they might work quite late and so if we can reduce that paperwork that maybe helps as far as that's concerned.* [CM01]

This had its own benefit, however, as it meant that some of the pressure on GPs might be reduced resulting in a better quality of life:

> *The real question is how much GP time did it actually release, or did it just take some of the pressure off the workload? I think on a spectrum of actually releasing clinical time to do something different, or allowing GPs to go home at 7 o'clock rather than 9 o'clock at night, I think it's probably more of the latter rather than the former.* [CM02]

Some pharmacists noted that the GP did have to spend some time discussing patients with them, (and had also had to devote significant time during induction to help them to start their work), but that overall net benefit ensued:

> *What really struck me was how much work the GPs have got themselves, and how they managed to get through the working day with the time they've got to do what they can do, because I was struggling, I have to admit, with the time pressures. So I mean they traditionally suffer trying to get patients in for their meds reviews because they've got to fit them in with all the normal appointments for the day to day running and so I guess every single meds review I did saved the GP's time in doing it themselves - except for perhaps the little bit where I was kind of going to them for advice. So they had to spend that 10 minutes collectively from a full day's worth of me working in the practice, but if you took all the other time that I'd spent with the patients, you're looking at eight hours gained and 10 minutes lost I suppose.* [CP04]

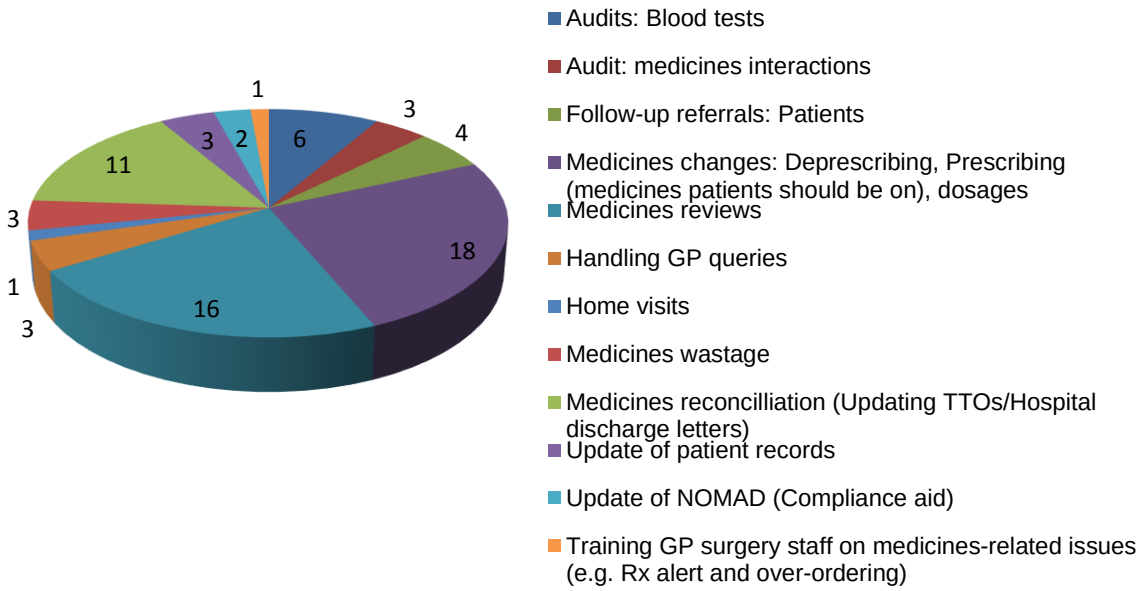
Some pharmacists felt that for some tasks they probably spent more time than the GP, so there was a complex balance between the time contributed by the two professionals. Pharmacists felt that the full benefit was more than the impact on time, including related impacts on patient safety which we consider in the next section.

Improving the delivery of care and patient safety

Pharmacists felt that their work contributed to the practice's commitment to patient safety and there were many examples in both the interviews and the survey responses. Overall, pharmacist interviewees did not feel that their GP surgeries had a major patient safety problem before their work started. However having an

independent professional looking in more depth at the medicines could identify issues that might not have been detected otherwise.

Figure 1 - PCPP Survey: Pharmacists' perceived impact of their work on patient care (Number of mentions)



Survey respondents were positive about their perceived contribution to the delivery of care (M=4.12, SD = 0.98), with 85% agreeing that their work improved patient safety and 89% agreeing it had a positive impact on patient care. They were also asked an open question about what they perceived as their biggest contribution to delivery of care and improvement of patient safety and their answers (i.e. number of times an issue was mentioned by a respondent) are summarised in Graphic 1. Here the most frequently cited contributing activity involved medicines changes (n=18) mostly linked to discharge letters (n=11), followed by medication reviews (n=16).

Some of the pharmacists interviewed identified significant patient safety issues for individuals in their work, such as patients on methotrexate and other medicines who were not being monitored frequently enough, or errors in medicines transcription from discharge letters into the repeat prescription system:

> *Yes, there were lots of safety issues. Because* [the surgery] *hadn't got recalls on people taking methotrexate, weren't having their blood tests. People on the new NOACS* [new oral anticoagulants] *rivaroxaban or apixaban, they weren't having their blood test which kidney function depends on their dose, doesn't it? We picked up a few old ladies who'd got really low kidney function, so they shouldn't have been on 20 milligrams, they should have been on 15 milligrams rivaroxaban…So yes, I picked up quite a few things like that.* [CP01]

Some pharmacists also felt that their participation in audit and case finding activities could highlight patient safety issues at a practice level:

> *I did an audit on carbamazepine and Tegretol™ prescribing and made sure that everyone was prescribed branded carbamazepine. So I suppose hopefully that might have [improved patient safety] in the long run, I don't know.* [CP03]

A small number of pharmacists were running clinics where patients with specific conditions or therapies were referred to them for review, such as a patient safety initiative to optimise gastroprotection for patients receiving aspirin or nonsteroidal anti-inflammatory drugs:

> *There was a guide in the practice at the time…to review all the patients that were on long term aspirin and non-steroidals with a view to gastroprotection and…they sent a letter out to all the patients, they could get the information from the computer, and they'd put to see the Practice Pharmacist on the letter so I got a lot of patients coming into specifically for that issue. And so I was discussing the risk/benefit, checking whether it was suitable for them to have a PPI* [proton pump inhibitor] *or not…I guess all the people who were perhaps started on a PPI or ranitidine in the long term and benefit from safer prescribing.* [CP04]

Several interviewed pharmacists noted the opportunity they had to identify a medicines-related issue in the surgery and then to pick it up in the pharmacy and follow up to ensure that it had been actioned. They believed that all these individual and cohort-related activities contributed to an improvement in patient safety. Respondents agreed their work at the surgery could be more effective and efficient than when they worked in their community pharmacy (78%), due to their access to surgery IT systems and patient records (94%). However a challenge identified was when a GP made a change to a prescription by hand and this was not carried

through to the CIS. This then meant that the original version was still on the clinical system and still needed to be addressed or the over-ordering might happen again.

A number of survey respondents also agreed that they had the opportunity to review patients' medicines lists and identify errors (e.g. patients discharged from hospital whose prescriptions had not been updated or patients who needed blood tests or changes in their medicines) that they were able to act upon, which would otherwise have been missed. Examples of these were: reviews of asthma patients; patients taking Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) who needed gastro protection; patients taking multiple painkillers prescribed by different healthcare professionals (e.g. Cocodamol with paracetamol plus Codeine prescribed in hospital); patients who were still taking medicines which had been discontinued (e.g. patient on inappropriate single platelet therapy); issues of non-adherence; or inappropriate prescriptions (e.g. patients taking medicines which were either contraindicated, inappropriate, interacted with other medicines or were contributing to/exacerbating health conditions).

Reducing medicines wastage

Most pharmacists felt their work had an impact in this area, with 60% of survey respondents agreeing their work had contributed to reducing medicines wastage. During interviews pharmacists identified medicines that could produce waste from over-ordering – and had been a target for their conversations with patients about ordering - including intermittent painkillers, glyceryl trinitrate (GTN) sprays for angina, support stockings, topical preparations, and salbutamol inhalers.

Many pharmacists reported that the CIS could be used to detect actions needed such as removing medicines that the patient no longer needed from the repeat system and that this would significantly reduce medicines wastage:

> *I mean a good thing on the computer system at the surgery is it flags up individual items as red when they've not been ordered very frequently, which I have found*

> *useful - it's just to spot things that they perhaps should have been taking regularly and weren't doing. But the other one was the PRNs…quite a few conversations around GTN sprays and frequency of ordering those, stockings as well, what we'd consider reasonable.* [CP04]

One pharmacist who said that their impact could potentially have been bigger, and had been very motivated to have conversations with patients about prescription items they did not need:

> *I mean not dramatically as much as I would have wanted it, to be honest with you. As a Community Pharmacist, I've seen a lot of waste over time, and I'm sure you know it's a nationwide issue. But yes, we've had our Community Pharmacist involved at least, and we collect the reviews and updating the repeat prescriptions. I've seen a lot of prescription wastage going through the community which I have saved because of taking off the drugs off the repeat prescription that's not been needed, or that's been unnecessarily prescribed, or unnecessarily been issued when the request is not directly made by the patient.* [CP08]

Some pharmacists noted patients' tendencies to reorder everything on their repeat slip, either through difficulty knowing which of the medicines written on the list were the ones they needed or from a feeling of ongoing entitlement to anything that had been prescribed in the past. One pharmacist acknowledged that some community pharmacies might have ordered items on patients' behalf without checking that all were still needed. Synchronisation of medicines for multiple morbidities could reduce waste:

> *I remember about when [a] patient orders odd numbers of tablets because they say "I've got too many of those and not enough of those", and they want seven tablets of these and 15 of the other medications…obviously not to produce waste at home. That is a huge job for doctors and...this is my job, because you need to do it and it takes a long time but we are trying to obviously save NHS money as well as the patient helps to manage with their medications and orders.* [CP10]

Medicines synchronisation was popular with patients. Resistance from patients had been experienced by some pharmacists in conversations which also included removing items from their repeat list. Consistent with some pharmacists' reports, one of the patients interviewed spoke about the pharmacist wanting to discontinue a cream that they wanted to continue, and was relieved that the pharmacist relented

when they said they did not want to stop it [P005]. The same patient also noted, however, another medicine whose frequency had been reduced, resulting in a smaller quantity being needed, and emphasised that they had discussed and fully agreed with this action.

Making better use of pharmacists' clinical knowledge and skills

Many pharmacists felt the experience had made good use of their clinical knowledge, and had stretched them:

> *To myself, and I think generally from speaking to other pharmacists that have done this scheme, most people find…it stretches them more and because they're using their clinical knowledge, they also go refreshing that knowledge, improving that knowledge as well.* [CP17]

Survey respondents (Table 9) also agreed about their opportunities to utilise clinical knowledge and skills (M=4.07, SD=0.99). A majority of pharmacists agreed that not only were they able to apply these at the surgery (89.3%), but that they had more opportunities to utilise them than they in community pharmacy (75.5%). Working at the GP surgery had resulted in them improving their current knowledge and skills (89.3%), and participants felt they their expertise was valued by GP practice staff (78.7%). Our survey data also indicate that the PCPP pharmacists aspired to make greater use of their clinical knowledge and skills, with 87% agreeing that they would like to have had more opportunities to conduct patient-facing activities.

Cross-sectional community pharmacists' open-ended responses on the impact of participating in the PCPP scheme on clinical knowledge and skills utilisation further corroborates their positive views, through the identification of cases where they improved patient care and/or prevented clinical errors:

[Telephoned] *many patients post discharge, who were unsure of what* [medicines] *to have, as medicines change* in hospital]*, then sometimes change back in community - i.e. CP R/Cocodamol, Hospital - Codeine + paracetamol; Referred some patients to GP, who weren't going to bother their GP, who did need to see the GP. Such patient has just had a hip replacement as a result is very happy.* [CP10]

My experience in the GP practice had a very big impact on both the GPs and patients. Several home visits were carried out during PCPP work. [One visit] *involved a patient prescribed oral nutrition supplements without indication. With some dietician support I managed to take the ONS off patient's repeats and encourage other dietary alternatives.* [CP63]

While updating medicines from [medicines discharge list from hospital] *I noticed that patient was still issued by hospital single antiplatelet therapy that was actually stopped 2 months ago (according to surgery records) have contacted hospital and patient. Patient carried on single antiplatelet therapy; provided patient with oral anticoagulant therapy information and monitoring booklet* [CP64]

Clinical Knowledge and Skills						
Instrument items	**N**	**Mean**	**Std. Deviation**	**Strongly or somewhat disagree**	**Neither agree nor disagree**	**Strongly or somewhat agree**
Felt my knowledge and skills were valued by the GP surgery team	47	4.21	0.95	2 (4.3%)	8 (17.0%)	37 (78.7%)
Improved my clinical knowledge and skills	47	4.43	0.83	5 (10.6%)	0 (0%)	42 (89.3%)
Was able to apply my clinical knowledge and skills	47	4.40	0.88	2 (4.3%)	3 (6.4%)	42 (89.3%)
Used my clinical knowledge and skills more than in community pharmacy*	45	4.22	1.00	2 (4.4%)	9 (20%)	34 (75.5%)

* Missing data: 2

Table 9 - PCPP Survey: pharmacists' opportunities to use their clinical knowledge and skills

Many pharmacists had felt motivated to 'look things up' that they encountered in their surgery work. Pharmacists raised the subjects of blood tests and local prescribing guidelines as common topics about which they had to improve or refresh their knowledge:

You're familiar with the blood tests…and these weren't new as such, it was just not necessarily knowing off the top of your head some of the latest guidelines and such like because you don't tend to have to utilise that in the pharmacy setting all the time. [CP04]

One pharmacist explained the contrast between the knowledge needed in their work in the two settings. In the pharmacy, accuracy of dispensing was uppermost in their mind whereas in the surgery, as they did not have to dispense the medicine, they became more involved in whether it was the right one for the patient:

> *So a lot of the tasks that you have to do…when you're working in a Community Pharmacy are…accuracy checks…yes, you do a clinical check on the prescription, but you do also accuracy checks alongside that. In this* [practice review] *case you always have got the patient with you and you are always focussed on the clinical side of the tablets more than the accuracy of the tablets that you're giving because you don't dispense anything.* [CP06]

Some pharmacists felt that they had benefited from conversations with GPs that highlighted how they made prescribing decisions. These insights into the ways GPs thought and did things had influenced pharmacists' approaches in the pharmacy. One told, for example, how this had changed the way they looked at a prescription, and how they would present a query now to the GPs with pre-prepared possible solutions:

> *So in the past we'd ring up and say "I've not got this item, what's the alternative?" And what happens now is we say "This item is not available, but these two are", and it gives them an option for a recommendation. They may choose a third option that's completely different, but giving them those two - I would say seven times out of 10 they go with what's been recommended. [*CP09]

A minority of pharmacists interviewed already had independent prescribing qualifications, and one interviewee had been supported by their practice to undertake this course because of this scheme.

One scheme commissioner reflected on the variation in the way that GP surgeries had utilised pharmacists' clinical knowledge. Some had only been used for "administrative" tasks, arguably using little extra knowledge, whereas others had more wide-ranging activities:

> *I think there was a recognition overall* [that] *the pharmacist had greater knowledge of medicines and why not tap into that…But…I know certainly some pharmacists felt that they were just doing administrative work, really.* [CM03]

As we have seen earlier, some work perceived by pharmacists as administrative and straightforward was in fact utilising professional expertise and judgement (e.g. making decisions and recommendations during post-discharge medicines reconciliation). In other cases pharmacists themselves sometimes defined their "useful" knowledge more narrowly, as in the example here where the pharmacist felt that it was their background knowledge about pack sizes and manufacturer shortages that was useful in the practice:

> *I suppose for me, working in the community, what was quite useful was that I knew things like pack sizes and I knew things that would come up in the pharmacy that would be potential risks for error…Or if things were out of stock, or manufacturing issues, I knew about them if questions came through on that as well. So, in that terms of things, that was really quite helpful.* [CP03]

SUMMARY

PCPP pharmacists' work was widely reported to free up GP time.

- There were differing perceptions about how the time saved might have been utilised in seeing more patients or catching up with admin tasks;
- There is evidence from the evaluation of work done to increasing patient safety, increasing the detection of medication-related errors and preventing the escalation of known errors which would otherwise require a significant amount of GP staff time;
- Pharmacists agreed that having access to patient records made their work at the surgery in resolving medicines-related problems more effective and efficient compared with what they were able to achieve in the community pharmacy;
- Contributions to the reduction of medicines wastage, included synchronising repeat medicines and, during medication reviews, detecting medicines that might no longer be needed. Discussion with the patient offered an opportunity for shared decision making. Most pharmacists felt that they were able to make good use of, and improve, their clinical knowledge and skills.

Improving communication and relationships

Survey respondents agreed that the PCPP scheme allowed them to improve their relationships (83%) with the GP surgery and communication between the surgery and community pharmacy (78%). Opinion was split on whether participating in PCPP had resulted in more referrals from GPs to their community pharmacy, with 48% of respondents agreeing that this was the case. One of the pharmacists interviewed felt that PCPP had been an opportunity for them to 'fill the gaps' in the GPs' knowledge about pharmacy services, such as MUR and NMS, which might increase referral of patients who would benefit:

> *I think I've certainly had a few more of the NMS ones [referrals by a GP] because I guess the one thing that you get is an opportunity to speak to the GPs and fill in their gaps on knowledge, because they can have all sorts of preconceptions or misconceptions about the services that we're offering…and that made the difference, I think.* [CP04]

Responses to the open-ended survey question about the perceived impact of their work on their own current practice in the community pharmacy mirrored the quantitative findings, with the majority of respondents talking about improved relationships with the GP practice (n=11) followed by improved communication (n=10). Pharmacists interviewed also talked about communication impacts with a number of parties, but principally with the practice team. Although a number of pharmacists felt that their relationship with the practice had been positive before the scheme began, many reflected that their relationship had now reached a deeper level. Some felt that they were now seen as an integrated part of the practice team, which had greatly improved the relationship between the practice and the pharmacy:

> *I think it*[communication]*'s improved, it's 100% improved...it's like I'm a member of their staff as well as the pharmacy, that's one thing…I think the perception of the whole pharmacy team and the surgery team changed, and they work much better together, a lot better.* [CP10]

Others described themselves as a 'bridge' between the practice and the pharmacy in the way they could take action about a problem in both settings and follow an issue through to completion:

> *I was…the bridge between the surgery and the pharmacy and I think a lot of things I can see there in the surgery then send it back to the pharmacy in a very quick way and I think it was very helpful, especially when you have the surgery next door.* [CP15]

Not everyone felt the same. Two pharmacists felt that they were isolated in the practice, and had no real contact with staff beyond responding to queries:

> *If I was based in the same office as say the assistant manager, then I'd actually get to talk to them. If I needed to speak to some of the other GPs, then yes, I could, and to the nurses, but…there wasn't a close working relationship as such or anything.* [CP03]

Some pharmacists illustrated the change in their relationship through their actions with prescription queries. For example, whilst before the scheme they might have left their query with the reception team until they found time to pass it through to the GP. Now, improved communication with both the GPs and the reception staff meant that they might go directly and quickly to the GP. This might result from either being encouraged by more friendly reception staff, or feeling empowered by their face-to-face sustained collaboration:

> *The GPs are very busy and often before [the scheme], if I needed to contact the surgery…if I've got a query about medication for patients [I would] often leave it with the receptionist…but on occasions I felt I needed to ask the question twice because…the thing that I was asking hadn't been transferred in the way that I wanted, so I got an answer to a slightly different question. Whereas once I started to work there, I think the reception staff felt a little bit more like I belonged with them as well, so…if I went late morning, they'll say "They're free - just go through".* [CP13]

A minority of pharmacists talked about being a conduit between other community pharmacists and the practice during their work:

> *When I was there…they allowed me to talk to the pharmacies locally, so sometimes I became the middle man and I could speak to the pharmacies and find out why, and*

> *was it urgent. They would always ask to speak to a GP and sometimes it was something I could deal with…so the communication improved between the surgery and the other pharmacies because they didn't always have to speak to a GP.* [CP09]

One community pharmacist - who was now employed as a practice pharmacist - arranged a meeting with local pharmacists soon after coming into post, to let them know they were a contact for them.

Many pharmacists interviewed talked about contacting the hospital for information about unclear discharge letter instructions. This contact was with the ward and no instances of communication with hospital pharmacists were reported.

The development of Trust

One of the underpinning elements of the scheme that commissioners were keen to explore was the impact of PCPP on the development of trust over time between the pharmacist and the practice staff. Their perception was that trust might be an enabler that was independent of the attributes of the pharmacist or the amount of direction given by the CCG team about what pharmacists could hope to achieve.

One scheme commissioner identified the development of trust between the professionals as the most challenging element of the mobilisation phase of the project:

> *I think when we actually got into mobilisation I think the biggest challenge was developing the relationship of trust between the GPs and the Community Pharmacist…I think in some areas it worked very easily, went very well. I think for some Practices it was much more challenging to find the time, because we actually asked the Practices to commit a lead GP to establish the relationship with the Community Pharmacist and actually to provide the link into the Practice.* [CM02]

Two commissioners perceived that successful GP surgeries had been able to develop the role of their pharmacist as trust had developed:

> *I think there was possibly some insight we gained and that was sort of a curve that increased as time went on so the trust developed and the relationship grew and the competence or knowledge of the pharmacists in that setting developed. Then they were able to be more efficient and more effective.* [CM03]

> *I think that the learning from my perspective was, this takes a while to get set up, it takes longer to get the relationships established but once you get to that point, once you get to the point of trust, then you start to see "Oh, so you could do that for me" and "You're interested in doing that." So you start to see that sort of innovation start to occur at a practice level.* [CM02]

Five of the 12 community pharmacists interviewed spontaneously mentioned trust as one of the factors that was important in their relationship with the practice. They linked development of trust to a recognition of their ability to contribute to the work of the practice:

> *I think they gained trusting me a lot, they know I can do things. At the beginning... they weren't sure if I'm able to do things and the quality of the things – "Why does it take me so long?" Some simple things…barriers at the beginning, where nowadays it's all changed.* [CP10]

Even in situations where the pre-scheme relationship seemed to be strong, trust could deepen during the project:

> *So I think it probably maybe cemented their feelings that in the past they've always probably looked at it and said "Yes, we trust him" and now it's probably even more of a case of that.* [CP12]

Another pharmacist made a contrasting statement about trust that underlined its importance to make inter-professional progress. They felt that their ability to make IT links with their practice would be compromised by a lack of trust between the professions in general, where pharmacy as a whole could be let down by poor practitioners within:

> *In the community pharmacy, all we need is the IT link…Access to SystmOne…But again then, they've got to trust us, haven't they? So, they wouldn't give it to everybody, that's the thing. And we can't be trusted, let's say look at all these bad examples where there's always someone that lets us down.* [CP01]

Another pharmacist felt that trust could be developed by having a community pharmacist working in both environments, and this would result in patient benefit:

> *When you establish a relationship with the Surgery I found it much easier to work together. It might be you can establish a kind of trust, with having you working in both of the places, to make things easier and simpler for the patient.* [CP06]

Perceived and actual conflicts of interest

Some pharmacists had reflected on their role in the surgery and where the new work produced ethical dilemmas and potential conflicts of interest that had to be considered.

An example was where a pharmacist knew that when working in the surgery they had the ability to go and print off prescriptions for patients who had prescriptions dispensed at their pharmacy. They insisted upon the practice doing this, to keep their PCPP surgery role and dispensing role separate:

> [My access] *on the smart card has been amended by the secretary in the practice to access certain aspects of SystmOne so I can access all of the patient notes and what have you…What I can't do is stuff I don't need to do, like I don't need to print prescriptions and things…Because if I want prescriptions, that's fine but I'm not gonna print my own prescriptions or I'll ask somebody else to do it…because it needs to be quite…quite clear that I don't go in there and print any prescriptions…I can ask them that's fine, but you know, just for the sake of integrity, security…it's just appropriate that I should do that.* [CP02]

Some of the pharmacists interviewed had been reluctant to suggest to patients in the surgery that they might have a MUR or NMS at the pharmacy, fearing that this might be interpreted as a conflict of interest.

Only one adverse incident was mentioned during interviews, where one commissioner reported a case where a pharmacist had been found to be changing the pharmacy nomination of some patients to their own pharmacy, but that this had been an isolated incident.

SUMMARY

- The PCPP scheme contributed to the improvement of the relationships established between pharmacists and the GP surgery, and communication between the GP surgery and community pharmacy;
- The scheme appears to have helped to bridge the gap between GP surgeries and community pharmacy, improving GP knowledge of services offered in the community such as MURs and NMS, resulting in increased referrals;
- The development of trust between healthcare professionals was seen as one of the most challenging aspects of the mobilisation phase of the scheme, and seen as a crucial aspect of success during the scheme;
- PCPP pharmacists recognised the development of trust linked with the recognition by the GP staff of the pharmacists' knowledge, expertise, and ability to contribute to the GP surgery work.

Features of engaging community pharmacists in practice work

In this section we present findings in relation to the perceived strengths, drawbacks and challenges of the implementation at scale of community pharmacists working in GP surgeries.

Positive features

Many of the PCPP pharmacists interviewed felt that it was important to engage practising community pharmacists in this work as there were benefits to be drawn for GP surgeries and their patients from the pharmacist's presence in both work settings.

For patients and GP surgeries

Some, but not all, PCPP pharmacists worked in a community pharmacy local to the practice. They might be the health professional who saw the patients most often, particularly those who called at the pharmacy for their repeat prescriptions. Even for pharmacists who did not do medication reviews face to face with patients in the practice, their knowledge of the patients from the pharmacy helped them to advise the GPs effectively. A pharmacist remarked that one of the GPs was surprised by how many of the surgery's patients were already known by the pharmacist:

> *I've always had a very good relationship with them* [patients], *and I remember one of the doctors said to me, "Oh you know everybody." I said, "Yeah, they do know me and I know them." Because it's…a relationship, because in the pharmacy you meet them face to face. Sitting in the surgery you don't have as much - you see names, but you don't know the faces. But because I work in the pharmacy I can put the face to their name, and I know them and they know me.* [CP10]

During the interviews, there was one example of a pharmacist who had network linkage to the practice clinical system so was able to log in from the pharmacy and address patients' medicines issues when the surgery was closed. They had been offering medication reviews on a Thursday afternoon from the pharmacy, when Sheffield GP surgeries are traditionally closed. In our survey, the sharing of information between GP surgery and community pharmacy IT systems was identified by the majority of respondents as important (87%) to improve the delivery of care. To this effect, one respondent pointed out that a large number of activities conducted by PCPP pharmacists at the GP surgery could be conducted in community pharmacy if they had access to CIS patient records.

Community pharmacists' and pharmacy technicians' familiarity with, and up-to-date knowledge of products and pack sizes, manufacturers' delays or shortages, were also a valuable resource for GP surgeries which could save time both in dealing with external prescription queries and decision-making in the practice.

There was an opportunity for community pharmacists to follow up with patients in the pharmacy for whom they had addressed issues on the clinical system, and conversely to receive queries from patients in the pharmacy that they could investigate and resolve at their next session at the surgery if the query was not urgent.

For pharmacists and employers

Pharmacists enjoyed the variety and nature of the combined practice and pharmacy work and found it satisfying:

> *I hope that they take it* [scheme] *forward and I think the reason this project works is because they had community pharmacists working in GP surgeries not people that were purely employed in GP surgeries; I think for me it was the split role gave the benefit to this whole thing because you could bring your expertise and the expert knowledge into a surgery and vice versa…so that's something that made this whole thing work and I really enjoyed it and I wish it had carried on.* [CP09]

Participating in PCPP motivated some community pharmacists to aspire to work in a GP surgery and a small number were subsequently employed by the practice in which they had been placed. Although a positive for the pharmacists and the practices, this potentially meant that employers could lose pharmacists to surgery work. Most of the pharmacists were employees and had an established framework of line management, employment and pharmacy professional support through their pharmacy company that would not have been as accessible if they had been employed only by the practice. One employer commented:

> *So for me having it done this way where they're still employed by an Employer in most cases, so they've still got a line management structure that they can come to for both support and can keep them in check to make sure they are delivering against whatever outcomes have been assigned to them. It's just got to be the most sensible way to go.* [CPE03]

Employers felt that their companies benefited from the greater engagement with local GP surgeries:

> *They [commissioners] were talking about it for months before they actually got the [PMCF] money…So, it was all going to be really exciting and we were quite excited about it. We thought "Yes, we really want to have a closer working relationship with GPs" and yes, it sounded great, so we were like "Oh yes, we're all for that"…I think it did improve our relationships with the GP surgeries and actually if we'd had been in a different position in March-time (2016), we would have been like "okay, right, we're going to look at trying to offer this as a service to GP surgeries". We would have tried to promote it…but with the cuts and everything we just didn't want to be taking that risk.* [CPE01]

Negative Features

<u>For patients and GP surgeries</u>

As we have seen earlier in the report, the majority of PCPP pharmacists worked a weekly half-day session in the surgery. Availability of locum cover and difficulties securing half-day locums meant that it was more feasible for a small number of pharmacists to take part when working one full-day session at the surgery once a fortnight. The surgeries were flexible and worked out with their pharmacist what the work pattern would be. Pharmacists could not always honour their commitment to their sessions in the practice. If, for example, backfill cover was not available in the base pharmacy, pharmacists had to decide whether to prioritise their pharmacy and employer or the surgery. This appeared not to be a common occurrence but when it did the pharmacist prioritised the pharmacy. The example below shows how pharmacists and surgeries discussed and agreed the way they would work together:

> *In the original meeting, when we went to discuss it with the doctors…I was being realistic and saying, "We can only come when we've got a locum"…So I said "it might be Tuesday, it might be Thursday, it might be Monday afternoon, but I will let you know in advance when I'm coming. We might have to miss a week if everybody's on holiday. I'm sorry - the pharmacy's the priority". And I set that out.* [CP01]

Another rare but important issue was how PCPP pharmacists explained to patients who they were and what their role in the surgery was when speaking on the telephone. This relates to how surgeries communicated to patients that they now had a pharmacist working as part of their team. One pharmacist reported some confusion if a pharmacist contacted a patient on behalf of the surgery who was not one of their pharmacy clients:

> *I think there was the occasional one when where when you ring someone up and it's not your patient…they would say "but I don't use you"…I would always introduce myself as "I am the Pharmacist from the Surgery"…Just to clarify that it wasn't a Doctor. But if they asked you "Who are you?" You'd say "I'm from [name of Pharmacy]" and they'd say "but I don't use you". You'd then have to say "I'm not ringing you from the Pharmacy - I'm ringing you on behalf of the Surgery".* [CP12]

Some pharmacists interviewed commented on the difficulty of keeping up with activities like discharge letter queries when they were only in the practice once a fortnight, as the queries arrived almost daily and needed prompt attention. In our survey 81% of survey respondents agreed that they should spend more time at the GP surgery if similar schemes were to be developed in the future..

<u>For pharmacists and employers</u>

Occasionally pharmacists felt torn between their pharmacy and practice work. One pharmacist interviewed, for example, felt that their work in the pharmacy became more disjointed because their practice session and day off resulted in two days away from the business, in which time a lot could happen. Another pharmacist felt that their employer had been unreasonable as they had insisted on them doing a 2-hour shift in the pharmacy after their surgery session as their pharmacy shift would normally be longer than a practice session.

Employers saw some of their pharmacists become interested in practice work after taking part in PCPP experience and leaving the company to take up full-time practice

employment. One employer perceived this as the CCG 'poaching' pharmacists. They felt that a condition of future involvement in a similar scheme would need to avoid this. The balance between opportunities and challenges of the work was illustrated clearly by an owner pharmacist. Whilst they found the experience enriching personally, and as a pharmacist, they also recognised that there might be mixed effects on the pharmacy business:

> *It was quite enriching, actually*… [In the pharmacy] *you normally do your job and you talk to patients about their medication,* [but] *you feel that you cannot complete the job. You can't really get a proper resolution for the patient 100% of the time. When you're in the Doctor's Surgery and you're doing the same thing, it's just satisfying to be able to actually sort that patient - and to be honest not necessarily as an Owner, that was probably just as a Pharmacist. As an Owner, yes, it was swings and roundabouts. I think it was useful to enhance the relationships we had with the Doctors…In terms of [whether] it made me money, they obviously paid me and it was marginally more than the locum rate, but the problem is that of course when I'm not there the business does not run as well. So after a year of having done it I've now had to go back and concentrate very hard on lifting dispensing back in the Pharmacy again.* [CP12]

These views illustrate the importance of the leadership in the community pharmacy, how this is sustained when the "pharmacist in charge" is not there, and the role of locum pharmacists and the rest of the pharmacy team in ensuring the operation of the pharmacy is at the appropriate level when the pharmacist is absent.

An employer had felt that it was very important to take part in the evaluation as their frustrations with the scheme should be shared in order to progress and improve, otherwise the experience might be of questionable benefit:

> *Well it is a complicated picture and I'll be honest it's worth my…time because if you're going to be involved in these things you do so hopefully with an open mind at the start, but you see it progress and then it does become a bit frustrating, and you do then get to a point where "So what was it all about?" if we can't keep it going and moving it on.* [CPE03]

SUMMARY

- Pharmacists' knowledge of patients and medicines in the community were a valuable resource for GP surgeries;
- Community pharmacy access to relevant information in the CIS was identified as crucial to improve the delivery of care. In the small number of cases where this happened, the pharmacists were able to operate more efficiently by following up issues in the pharmacy ;
- Community pharmacy employers felt that the PCPP scheme benefitted their companies, offering more engagement with local GP surgeries although securing locum cover was a challenge;
- The limited time pharmacists spent at the GP surgery every week meant that follow-up tasks could not always be done promptly for patients when required;
- The role of the pharmacist at the surgery was sometimes confusing to patients, largely dependent on how or whether the GP surgeries communicated that the pharmacist was part of the GP surgery team;
- Community pharmacy employers expressed some concern that opportunities for pharmacists to work in GP surgeries could adversely affect their ability to retain pharmacist staff.

Reflections upon the future development of similar schemes

Overall there was a high level of positivity about PCPP from the stakeholders who took part in our evaluation. The majority of survey respondents agreed that they enjoyed working at the GP surgery (88%) and 89% agreed that if there was a future similar scheme they would like to be involved. However evaluation participants identified a number of issues to be taken into consideration in the development of future schemes.

Induction and scope of activity

Before a future iteration of the work commenced, it was felt that general practice and pharmacy representatives should each consider the benefits of the scheme for them and use this to inform future work. Mutual appreciation by each professional group of the benefit to them and their patients would be good for both sides. As the example below shows, having the opportunity to work together brought insights for both pharmacists and GPs into their respective ways of thinking and doing:

> *My GP said "You've brought me a different outlook on how you look at things"…his comment to me at the end was "You've made me look at things in a different way" as I've looked at things in a different way, just the way I'm bothered whether he's written tablets or capsules, I am bothered whether it's 28 or 30 - to me that matters, and it didn't* [to him], *so it just changed. I think that's why the scheme worked, because it changed both parties hopefully for the better.* [CP09]

The majority of pharmacists interviewed thought that future schemes would benefit from investment in a more detailed induction process. Survey respondents (75%) also identified more training as essential for any future scheme. Learning about how to work effectively in the surgery involved a mix of the technical and the practical and importance was placed upon "learning on the job":

> *There has to be engagement between sort of like with the GP and the staff and so on as far as making the most of it…You can get basic training quite easily through the CCG but I've done that for EMIS and it's helpful but it's nothing like actually doing it on the job I'm afraid; you need to be using it to really learn how to use a system - the same way you do with pharmacy systems. So I think that's the main sort of thing is making sure that there is an appropriate amount of time given right at the start on training to use the system and what the GPs expect and as far as the important, shall we say, systems in general as far as recalls and so on and how they do things within their surgery and so on, you know, what time the blood man goes, which blood tests you want done for certain patients and things like that…a sort of induction, you need to do this, you need to be aware that you can information from here for this, this, this and this, and so on to help you.* [CP17]

Training on the clinical system that they would work with was given high priority by the pharmacists interviewed as an enabler of being able to work effectively and efficiently:

> *I think I would've appreciated a little bit more training on SystmOne as I know other people had a short instruction from a member of staff who'd been using it for some time…I could have done with going on a training day or a couple of days or something. I felt there was so much more I could've done with SystmOne if I'd have known, and some of the things I do know now but I didn't at the beginning.* [CP13]

External training should be complemented by training from practice staff in the particular ways that they used the system. Ensuring that pharmacists had appropriate access to clinical systems, including ICE, would enable them to start their activity promptly.

Employers, owners and commissioners were concerned that any future time-limited scheme should set its dates well in advance to aid planning, avoid ad hoc extensions that made workforce planning difficult, and that an exit strategy for the scheme should also be made explicit.

There was some evidence to suggest that those who went in with a good existing relationship and openness on both sides to explore different pharmacist roles were likely to succeed. As one pharmacist put it, 'to have a plan' was essential, and the plan had to be tailored to the surgery's unique needs:

> *Many of my friends had done it [the scheme] before in Sheffield and I know why their things were not so successful. Because they came to the surgery and nobody knew how their skills can be used, there were no plans. I think before starting anything like that you need to have a plan, like me and [Doctor] we had a plan, we knew what we're planning, we could reflect - we could assess, you know. That's completely different when you have the structure...and it can't be a pharmacist designing these, because pharmacists coming to the surgery have not got a clue what to do...describing and*

> *designing their job role, and what the particular surgery needs. Because…it's different surgery to surgery, and that plan is really essential.* [CP10]

Skill mix

Different pharmacists highlighted the benefits from closer future working with other members of the practice team. Some felt that more engagement with reception staff was needed, as an important gatekeeping and stakeholder group. Others expressed an interest in closer working with practice nurses, recognising that pharmacists would need upskilling on some physical examination skills so that they could make a full contribution:

> *With diabetes, I wasn't doing the medicine review for the patient with diabetes because obviously they [nurse] do some tests, they check the feet, and I didn't have the training to do that. Maybe it's simple training, maybe it's just one day and you can do it. So there was this area of customers that I wasn't able to review.* [CP06]

Some pharmacists felt that more specialisation and independent prescribing qualifications among pharmacists would reduce the amount of input needed from GPs for tasks that they should be able to complete independently but which, at the moment, needed ratification:

> *Somebody that can be already a prescriber then they can work even more, not treating independently but without needing to refer every time. You know they will be even more independent in their activities, in you know, helping the customer and releasing the GP as well.* [CP06]

One pharmacist, who had engaged in complex clinical tasks during their time in the project and was now an employed practice pharmacist, already felt that pharmacy technicians could assist them by taking care of the routine administrative tasks thus freeing up the practice pharmacist for more complex clinical work:

> *It would be a good idea…to employ a Pharmacist and a Technician. Purely because things like re-authorisation and discharge letters and searches and some of the medication reviews can also be done by the Technicians. Where that will dramatically improve my time as a Pharmacist and I could spend a lot more time running the clinics and doing a lot more complicated cases where it needs my attention.* [CP08]

Another summarised the ideal role of the pharmacist by saying that 'anything medicines-related' should be routed to them:

> *Yes so I think [it's a] two-way process - the pharmacists knowing what goes on in surgery and then…the staff at the surgery knowing "Yes, okay, anything medicines related - go and ask the pharmacist".* [CP03]

Use of technology

Several pharmacists and employers knew that it was technically possible to create networked links between the practice and pharmacy so that the pharmacist could work on practice queries remotely from the pharmacy:

> *I think it would be really good if pharmacists could actually do some of their work back at the community pharmacy…If we manage that, then I think it would be fantastic because you could nip into the GP surgery for 20 minutes, half an hour, think of everything you might need, log on to the system from the pharmacy and do the work in between prescriptions. So, actually you're kind of combining everything.* [CPE01]

This would have the added effect of extending access for patients with medicine-related queries as they could ask at the pharmacy even when the practice was closed. During the scheme, several pharmacies and surgeries were helped to create this link, because it was a joint decision that resulted from closer working:

> *There are a few of the Community Pharmacists that are in premises that are actually co-located with Practices. On a couple of sites I think we actually invested in supporting them. Directly plumbed the Community Pharmacist into the clinical system of the Practice so they could work remotely and they could actually work much more flexibly. All of that sort of came out of the relationships that developed over time rather than sort of jumping straight in.* [CM01]

In reflecting on the barriers that were experienced in PCPP and how they had been, in many cases, overcome a commissioner summarised some of the main challenges that they had seen – the need for community pharmacists to learn about work in surgery settings, a perceived lack of pharmacist confidence and assertiveness, and lack of leadership and commitment in the surgery in some cases:

> *I think the barriers were real, and in many places they were overcome, but I think…it's helpful to know what could be put in place for future work of this kind to make it work better. The barriers were the inexperience of pharmacists in primary care. Very few [community pharmacists] had experience of wider primary care. And there were barriers around communication skills, the level of confidence or assertiveness and sense of professional autonomy…[on] an equal footing to their clinical counterpart in primary care. I think the level of that determines how effective the pharmacist was able to be as well… I think there was a lot of inexperience in the surgeries so I think if there was good leadership…then you were on to a winner, no matter how inexperienced the pharmacist was. But if there was no leadership and a hands-off approach…then it was a disaster and it was sad because in some ways it meant that the surgery reaped what it sowed - or didn't.* [CM03]

SUMMARY

- The majority of pharmacists enjoyed being part of PCPP and wanted to be involved in any future similar schemes;
- Pharmacists gained greater insight into GP surgery workload and processes which benefitted their practice;
- The majority of pharmacists felt that a formalised induction process was needed, including training about the GP surgery's clinical system;
- Pharmacy technicians could enhance skills mix to enable the most effective deployment of pharmacist resource in clinical work;
- This evaluation has provided some evidence of the potential value of remote access from the pharmacy to the CIS.

5. Discussion and Conclusions

The stakeholders who participated in this evaluation have added to knowledge and understanding about the PCPP and its implementation. Although overall there was much positivity about the scheme a number of issues were identified, some resolvable and others less so. The PCPP was implemented at scale, in a short timescale, and in a primary care environment where GP surgeries inevitably had differing levels of engagement and enthusiasm because effectively they could not opt out of the scheme. The uniqueness of the PCPP experiment and its context make its achievements impressive. This evaluation has enhanced existing evidence by adding the perspectives of the pharmacists themselves, patients and organisations (pharmacy employers and commissioners). Taken together with the GP perspective obtained in the Sheffield Hallam work[4] this enables some triangulation of data and a fuller picture which can inform policy and practice more widely.

Quantitative and qualitative data from a number of sources indicate that:

- Patients found engagement with a pharmacist to be informative and helpful;
- There was a significant saving of GP time from the pharmacists' work (more than 850 half-day session equivalents in 9 months);
- Innovative partnerships and better integration improved patient safety and the delivery of patient care;
- Some activities could lead to a reduction in medicines wastage;
- Pharmacists experienced positive change in their individual practice ;
- There were many positive features of having community pharmacists doing this work, but it was not without its challenges.

Sheffield primary care policymakers have plans to maintain pharmacist input into the city's GP surgeries – it is hoped that this evaluation will help the strategists to optimise the contribution of community pharmacists as innovation continues.

In this section we begin by revisiting the evaluation objectives and discussing the findings in this context.

Has the PCPP affected the nature and potential of the patient-pharmacist relationship? If so, how?

The work of many PCPP pharmacists involved direct contact with patients. There were two main ways this occurred – through conducting medication reviews and when dealing with medicines queries that cropped up during repeat prescription authorisation or post-discharge medicines reconciliation.

In the case of medication reviews the patient contact was either face to face (in the surgery or in the patient's home) or remotely via telephone. In the survey 51% reported conducting medication reviews with patient involvement compared to 32% who did case note medication reviews only and 17% who did no medication reviews. At surgery level the PharmOutcomes database showed that a majority had recorded medication reviews being conducted with patient involvement. Where medicines queries were concerned many were dealt with over the telephone with the patient.

Many pharmacist interviewees felt there had not been a fundamental change in their relationship with patients because they already had regular positive contact with their pharmacy customers. It is however, noteworthy that a large proportion of survey respondents agreed they would have liked to have had more opportunities to conduct patient-facing activities in the surgery. Some of the pharmacists interviewed whose surgeries had introduced pharmacist medication reviews were disappointed. Patients sometimes did not attend and some of those who did attend had not been

informed by the practice that they were going to see a pharmacist. This was not necessarily a problem, but because some patients had expected to see a GP or nurse and had other non-medication issues that they might have wished to explore during the same consultation.

Some of the pharmacists who did face to face medication reviews, however, reported that there was greater engagement and commitment from the patient, attributed by the pharmacists to being in the surgery environment.

Other pharmacists reported being able to solve problems for patients at the surgery, that they would never have been able to achieve from the pharmacy. Some felt that they were better able to serve patients by having a link with the surgery. Before the PCPP they could respond to patients' medicines-related concerns in the pharmacy up to a point, but then had to rely on the goodwill and focus of GP surgery staff to effect changes on the clinical system to solve the problem and prevent it from happening again. The PCPP had enabled them to take responsibility for identifying and solving patients' problems themselves, without creating extra workload for GP surgery staff. This included problems that were significant for the patient - such as unequal quantities of monthly medicines for different conditions that would benefit from being synchronised - but as they were not posing clinical risks they might not be a priority for busy GPs.

A key area of work for PCPP pharmacists was medicines reconciliation from hospital discharge letters, reported by 89% in our survey. During interviews pharmacists spoke about the need to effect these changes quickly and accurately so that patients had seamless care. Prompt actioning of discharge medicines changes can also prevent issuing of previous repeat medicines and reduce wastage. There were examples of complex cases including provision of monitored dosage systems that the pharmacist could tackle, and through their work in the surgery could reassure the anxious patient that the changes had been made.

It is possible that the PCPP has affected patients' perceived effectiveness of their pharmacist. Whilst past promises of problem resolution depended on surgery staff involvement, pharmacists could assume more professional autonomy in the PCPP that was visible to patients. To this effect, survey respondents reported that working at the GP surgery seemed to improve the trust respect patients had for them as pharmacists (n=8) compared to their current practice.

In what ways has community pharmacist expertise supported general practice prescribing?

Many community pharmacists who took part in this evaluation felt that they had been able to contribute significantly to sharing the workload of the surgery and impacting positively by improving patient safety and the delivery of care, and reducing medicines wastage. The data also indicate that PCPP pharmacists contributed to making medicines-related work in their surgery more efficient through releasing time (for example that a GP would otherwise spend re-authorising repeat prescriptions) and enabling more prompt actioning of prescribing changes initiated and recommended at discharge from hospital.

The vast majority of pharmacists in the survey reported that had been able to improve and make better use of their clinical knowledge and skills, and that they used these skills more in the surgery than in their community pharmacy. As with every new development, however, there was variation of experience. Some of the pharmacists interviewed reported a frustrating and uninspiring period of work in the surgery. A small number felt their surgery had not moved their work beyond mundane administrative tasks and they had still felt physically isolated from the practice team.

A number of factors influenced this contribution to supporting general practice prescribing. The pharmacists were generally motivated and positive about their PCPP work. Indeed a number had enjoyed the work so much that they had considered changing to this new role. One pharmacist had become a full-time practice pharmacist, and others were still doing sessional work. Many community pharmacists, however, said that they enjoyed working in both settings and that they would not wish to leave the pharmacy entirely. Some pharmacists also argued that patients benefited from their presence in both places; they felt that they were able to identify, respond to, and follow up a patient's concerns in the pharmacy, offering a completed episode of care. This synergy could not only increase surgery efficiency but also improved the patient's experience and prevented some problems from "falling through the net". As such it was a bonus that occurred when the PCPP pharmacist's community pharmacy was local to the surgery

Another important factor was whether the impact of building a closer relationship and trust was a defining factor in the success for certain pharmacies and GP surgeries in the scheme. It was notable that many pharmacist interviewees felt that their relationship with their local practice/s had been positive before the scheme began, and that even so, many thought that the relationship had deepened during the scheme. Some innovations – such as connecting the pharmacy remotely to the surgery clinical system - became possible during the project because the partnership reached a point of trust where they were confident to go ahead. So it is likely that the development of trust had an impact on the effectiveness of joint working.

It also seems likely from our interview data that pharmacists who were self-assertive and enthusiastic about the opportunity made things happen in the surgery by simply looking for opportunities and responding to a positive welcome from surgery staff – however tentative it might have been. Other pharmacists referred to 'having a plan' as their explanation for success.

Evaluation data suggest that the unstructured and organic approach enabled leading-edge and creative surgeries and pharmacists to innovate. It also allowed surgeries to utilise their pharmacist resource in line with identified or indicative patient need. However it may also have hampered those who had a genuine wish to be productive but had little or no idea about what to actually do to deploy the pharmacist resource to best effect. The 12-month scheme period allowed most surgery/pharmacist partnerships to formulate and complete some activities. There is inevitably a trade-off between the degree of direction of activities and a looser framework which has room for innovation and 'positive deviance'. Specific criteria for success were therefore not pre-specified to participants. In any future iteration of a PCPP-type scheme, these issues could usefully be explored so that commissioners' expectations of patient-centred outcomes would be defined, operationalised and shared more explicitly.

What is the impact of the GP surgery-community pharmacy joint-working, on professional relationships and patient care beyond the PCCP scheme?

Following the completion of the PCPP scheme, a large proportion of community pharmacists report to having maintained close links with GP surgeries. Likewise, in recognition of the contribution community pharmacists have to offer to GP surgery work and patient care, eight GP surgeries who participated in the scheme hired a community pharmacist to continue supporting their work. In some GP surgeries who did not formally hire community pharmacists after the scheme ended, community pharmacists continue to be contacted regularly to go in to provide support and resolve medicines-related queries.

The GP surgery-community pharmacy joint-working provided the opportunity for community pharmacists to learn how GP surgeries work and their processes has contributed to the minimisation of fragmented care, which has been confirmed by patients who completed the feedback forms. To this extent, patients were satisfied

that they could see their community pharmacist both at their GP surgery and community pharmacy, which allowed community pharmacists to follow patients through their care pathway and provide them with continued support. Community pharmacists' access to GP clinical systems through their GP surgery also provides them with a bigger picture of what help or support patients may require, with direct consequences on their ability to make informed clinical decisions and provide effective, integrative care.

Understand and describe patients' experiences of medicines consultations with community pharmacists in the PCPP

The data from peer interviews of patients who had a medication review in the surgery together with the routinely collected data from patient feedback forms provided some insights into the patient perspective. Patients who saw the community pharmacists in the surgery were generally very positive about the experience, as indicated by the two questions on the feedback forms. Most patients were 'extremely likely' to recommend the service to others. Many patients characterised the visit in the response to the question about benefit as informative and helpful, and suggested that they had received a level of detail about the medicines that they had not received before.

The peer interviews – albeit with a small sample – provide some extra detail that highlights where improvements could be made. Some patients, for example, were not made aware before the appointment that they would be seeing the pharmacist, and not the GP or nurse. Another notable theme was about seeing someone who knew them, regardless of which professional it might be – this suggests that building a relationship over time is important to the process. Community pharmacists who already knew the patient from their work in the pharmacy may have had an advantage in having instant rapport and background knowledge.

Identify and describe what has changed from the community pharmacists' perspective

Community pharmacists reported impacts - both on themselves as individuals and clinicians - and on their own pharmacy practice as part of a primary care team.
Some pharmacist interviewees reported a boost to their own professional identity as someone who became valued by their GP surgery colleagues and patients. Most pharmacists enjoyed the work. They felt that their clinical knowledge was being better used in surgery work, and that they were stretching themselves to broaden their knowledge of subjects such as blood tests and local prescribing guidelines.

Most pharmacists reported that communication and relationships had deepened with their GP surgery, including where these were previously perceived as good. One employer acknowledged that pharmacist turnover meant that these effects might only last as long as key staff remained in the pharmacies. The high turnover of pharmacists is a feature of this profession.[8] Some pharmacists spoke of changes to their practice, informed by the discussions they had had with GPs about how they made prescribing decisions. An example of this was a pharmacist who was thinking more strategically about how they would present multiple possible solutions to a GP if a product was not available, rather than just stating the problem.

Access to the same clinical information as the GP surgery team, and a release from the pressure of dispensing prescriptions, empowered pharmacists to focus their attention on the patient, taking a holistic view of their situation and identifying what they – as a pharmacist – could bring to the patient's primary care experience.

Explore pharmacy employer and scheme commissioner perspectives - including perceived benefits, drawbacks and opportunity costs

Pharmacy employers and scheme commissioners were arguably more reflective and balanced about the positive and negative features of the scheme than individual pharmacists, who were generally very positive. The set-up of the scheme had presented a number of challenges for employers and scheme commissioners alike – most notably recruiting enough pharmacists and securing contracts with a range of stakeholders. Mobilisation of the scheme had thrown up a number of issues that they had to address – there had been some failed partnerships (most often with single-handed GPs) and one pharmacist identified who had acted in an unethical manner. Setting the PCPP in the context of the adoption of innovations it would be inevitable that adoption might be partial or unsuccessful in some places. This evaluation has identified key learning points from multi-stakeholder perspectives that can inform future work both locally and more widely.

Pharmacy employers identified two main linked issues that challenged them: retention of pharmacists, and balancing the income received from the scheme with the likely benefit to their company. They were aware that some of their pharmacists might be attracted to full-time GP surgery work; one cautioned that future schemes must not 'poach' their pharmacists. They also recognised that the funding for the scheme had been marginally more generous than simply funding backfill, but that there were opportunity costs as pharmacists could otherwise be released to do activities that would actually generate income. Some employers also recognised and mentioned the intangible benefits from more collaborative working with local practices.

Commissioners reflected upon their decisions not to introduce inclusion criteria for participating pharmacists and not to be prescriptive about their guidance to surgeries on the types of work that pharmacists should do. They felt that – with hindsight – they might insist upon several years of pharmacy experience which they felt would mean more confidence and assertiveness among the pharmacist cohort. Interestingly our survey data show that the majority of respondents had been

qualified for at least 2-3 years at the start of the scheme. Whilst one implicit aim of the service was to see if the development of trust resulted in more activity and creativity in the partnerships, they reflected afterwards that perhaps they should have given more direction as some partnerships struggled to devise a plan.

Both groups' commitment to the principle and benefit of closer working between community pharmacy and general practice persisted, however, and they mused that a future iteration of the scheme might involve networked links between the surgery and pharmacy so that community pharmacists could work remotely on clinical tasks between prescriptions as well as having a presence in the surgery.

Conduct secondary analysis and report on key findings from routinely collected service data regarding PCPP pharmacists' activities in GP practice-based work

The PCPP team had already conducted an initial analysis of the service provision data logged by pharmacists over the 9 months between October 1st, 2015 and June 30th, 2016. The Sheffield Hallam team conducted further secondary analysis which categorised the extent of activity at GP surgery level to inform understanding of the degree of adoption of PCPP.[4] In our work we drilled down further into the service provision data to explore patterns of PCPP pharmacists' medication review work, and to examine the extent of their direct contact with patients. We also investigated the extent to which particular activities had been conducted across the cohort of GP surgeries.

Our analyses showed that although at the start of the scheme PCPP pharmacists were not necessarily expected to conduct patient-facing activities these were widespread. Pharmacists conducted face-to-face medication reviews in 40% of surgeries, and visited patients at home to conduct reviews in one in five surgeries. Remote medication reviews by telephone were conducted in 40% of surgeries. This level and spread of patient-facing activity denotes some confidence and trust by the

GP surgery team in their pharmacists' clinical knowledge and skills, in utilising them beyond case note medication reviews. Many of these tasks would otherwise have needed to be conducted by GPs. Our survey data provide further detail, with examples given by respondents including medication interactions, the identification of medicines that are no longer appropriate, or medicines a patient should no longer be on but are still being prescribed.

6. Limitations of the Data

Collecting data from several sources (i.e. interviews, PCPP survey, service provision data and patient feedback forms) allowed for a robust evaluation of the PCPP scheme by triangulating different sources to ensure maximum representativeness and reach. However a number of limitations of the data have been identified, which may have influenced the findings presented in this report. These limitations are discussed next.

Qualitative interviews

Originally, the research team intended to recruit 12 community pharmacists, 12 patients, six community pharmacy employers and three commissioners. However, of the 30 patients contacted by their GP surgeries inviting them to participate, only five agreed to be interviewed. Similarly, only two community pharmacy employers agreed to participate. While this limitation was offset by triangulating data from the interviews with the patient feedback forms, perspectives of community pharmacy employers may be underrepresented, making it difficult to ascertain whether all the challenges and benefits of the PCPP scheme for community pharmacy were explored and identified.

A convenience sample was also used to recruit participants for the interviews, and while community pharmacists were recruited following strategies to ensure maximum

variability and representativeness (see appendix 1 - methods), patients' recruitment criteria were restricted to ensuring the patients contacted to participate had been seen by pharmacists recently (i.e. up to six weeks prior to the scheme came to an end). No other variables were controlled in the recruitment of patients, as a consequence of protecting their identity and confidentiality from the research team (GP surgeries selected and contacted patients directly, and only those who agreed to participate by sending the consent form were made known to the research team).

Service provision data: PharmOutcomes database

For the PCPP scheme, a new module was created in the PharmOutcomes database for pharmacists to log their activities throughout the scheme. They were able to record the setting and type of activity, the amount of time spent and GP time saved, and the outcomes of each activity. However, registering activities was not mandatory, with pharmacists logging them in the database at their own discretion. As a result, while some surgeries logged hundreds of activities, others logged as little as two. Hence, it is evident that, notwithstanding the large number of activities logged in total (18,044 activities in total), a large number of activities were not logged, precluding the opportunity to fully investigate variables such as the total amount of GP time saved, or how many medication reviews were conducted by PCPP pharmacists. It is possible that other activities which have not been discussed in this report were conducted by pharmacists but have not been logged. Simultaneously, it is not possible to ascertain whether some GP surgeries allowed pharmacists to fully realise their potential more than other GP surgeries (i.e. by allowing pharmacists to be involved in complex clinical activities such as medication reviews) due to the assumed missing data.

Finally, pharmacists only logged PCPP activities from October 1st 2015 to June 30th 2016, although the PCPP scheme ran until March 31st 2017. Although it is not possible to investigate what activities were conducted by pharmacists from July 2016

to March 2017, or how much more GP time was saved, the data collected are sufficient to infer the cumulative benefit of having pharmacists working at the GP surgery.

PCPP Survey

The PCPP questionnaire was developed based on interview notes and transcripts from the study participants, to ensure it was robust. Furthermore, the strong recruitment strategies for interview participants ensured a wide range of views and experiences, providing further representativeness to the questionnaire items. It was not possible, however, to validate the questionnaire quantitatively using a small sample of PCPP pharmacists, given the small population of pharmacists who participated in the scheme (n=71). Choosing not to use PCPP pharmacists to validate the questionnaire quantitatively allowed for the surveying of the entire population of PCPP pharmacists, thus maximising response-rates whilst avoiding familiarity and reducing the burden to some of the participants, who would have had to respond to the questionnaire twice. However, qualitative validation of the PCPP questionnaire was conducted by the research team with non PCPP pharmacists with experience in the GP surgery setting. The purpose of qualitative validation was to ensure that the questionnaire items reflected the reality of a pharmacist working at the GP surgery, and were therefore relevant to the context in which they were intended. This validation proved the questionnaire to be relevant and sensitive to GP surgery work experiences that were deemed by interviewees as relevant and describe their experiences of the PCPP scheme.

7. Issues for consideration by different audiences

Issue	Pharmacists	Practice staff	Commissioners	Employers	Patients	Policymakers
Retain flexibility in new primary care pharmacist schemes to employ community pharmacists who still also practise in a community environment in part-time or job-sharing arrangements.			x			x
Consider ways of linking the pharmacist to the surgery by an IT link into the pharmacy.		x	x	x		x
Devise an induction checklist for the surgery.		x				
Provide access through the CCG to SystmOne/EMIS training for pharmacists, and consider making this a mandatory requirement before working in a surgery.			x			
Ensure that pharmacist smartcards are enabled for ICE access and both read/write permissions (at minimum as for supplementary prescriber level).		x	x			x
Consider strategies for provision of accredited technician resource to deal with basic queries (e.g. reception staff queries about medication names, pack sizes, manufacturer/stock queries).	x		x	x		
Agree a framework for referral into NMS/MUR to extend patient access for advice about their medicines when surgeries are closed.	x	x		x		x
Develop a quality assurance process (recruitment and ongoing) for practice community pharmacists.	x		x		x	
Set up a discussion forum for CP in the area to	x		x			

Issue	Pharmacists	Practice staff	Commissioners	Employers	Patients	Policymakers
share experiences of surgery work.						
Retain the PCPP list of suggested activities, and complement this with case studies to illustrate different tasks, to stimulate practice ideas for what their pharmacist could do.	x	x	x		x	x
Ethical framework for PCPP work – consider possible conflicts between pharmacy and surgery work.	x	x	x	x	x	x
Look at the initiative carefully from both a pharmacist and GP point of view, building the case for both parties to get involved.	x	x	x	x	x	x
Promote popular tasks such as pharmacist synchronisation of multiple repeat medications (also ideal task for technicians to do). It may offer a good path into more complex tasks by the goodwill generated.	x	x	x		x	
In practices that opt for patient-facing medication reviews, inform patients that this will be a pharmacist-led review as their appointment is made.	x	x			x	
Devise a set of criteria against which patient-centred success can be measured.	x	x	x		x	

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Ethical Approval

Ethical approval was granted by the Health Research Authority to evaluate the PCPP (reference 17/LO/0595).

Conflict of interest

None declared.

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Appendices

Appendix 1 – Methods of data collection and analysis

Mixed-methods of data collection and analysis were used to meet the evaluation's aims and objectives and included semi-structured telephone interviews, a cross-sectional survey, and secondary analysis of routinely collected anonymised service data (patient feedback forms from medication reviews conducted in the surgery and the database of activities recorded by pharmacists on PharmOutcomes). The PCPP formally ended on 31st March 2017; data collection was conducted between May and July 2017. We worked with the PCPP scheme lead and with patient and public involvement (PPI) members of Sheffield's PMCF patient engagement group (Citizens Reference Group Monitoring Panel) to develop sampling and data collection strategies. Those PPI members who had received training in interviewing for research and evaluation conducted peer interviews with patients in our evaluation.

Interviews

Patients, community pharmacists, community pharmacy employers and scheme commissioners were invited to participate in semi-structured qualitative interviews. 'Scheme commissioners' is used here to describe people who had a strategic and organisational role in the scheme.

Patients were recruited through two GP surgeries in which the PCPP pharmacist had conducted medication reviews with patients. Each surgery nominated a member of their team to review the list of patients who were seen by the pharmacist between mid-February and the end of March 2017, to identify potential participants. This person was not involved in providing clinical care to the patients. They contacted 15 patients by letter (n=30), explaining the purpose of the study, asking if the patient would consider participating and to obtain permission for one of our peer interviewers (PPI representatives) to contact them about the interview. Reminders

were sent to patients who had not replied 15 days after initial contact, upon which no further contact was attempted.

The PCPP cohort included community pharmacists who worked in pharmacies local to GP surgeries, some locum pharmacists (as the number of community pharmacists was not sufficient to cover all GP surgeries), and a small number of pharmacists who were already employed by surgeries. We focused on local community pharmacies because we particularly wanted to explore any impact of PCPP participation on whether and how pharmacists' contribution to advising GPs and on their relationship with patients changed in the pharmacy as well as the surgery. The scheme lead produced an anonymised spreadsheet from which we selected a sample maximising diversity in terms of: pharmacy type (independent/small multiple/regional multiple/large multiple); proximity to the GP surgery (e.g. adjacent or distant from the GP surgery); size of the GP surgery (i.e. ranging from 1,646 to 29,390 patients); and training vs. non-training GP surgeries. The community pharmacists were approached initially by the scheme lead and asked for expressions of interest in taking part in an interview. The same strategy was employed to recruit community pharmacy employers and scheme commissioners. Individuals who expressed interest in participating provided the scheme lead with a postal address which was used to send an invitation letter with a participant information sheet and a consent form by post together with a Freepost envelope to return the signed consent form. Once the consent form was received, participants were contacted by either a PPI representative (for patients) or by a member of the research team (community pharmacists, community pharmacy employers, and NHS commissioners), using the preferred contact details they had provided on the consent form, to agree a convenient date and time for the interview. Reminder letters were sent to those who had not replied 15 days after initial contact, upon which no further contact was attempted.

All but two interviews were conducted by telephone. Two interviews – one with a scheme commissioner and one with a community pharmacist – were conducted face-to-face as they coincided with an early context-setting trip to Sheffield by Dr Gray.

Interviews with pharmacists, scheme commissioners and employers were recorded, with the participants' permission, on digital audio and transcribed verbatim. During transcription, identifiers of people or locations were removed. Written notes were also made by the interviewer. At the end of each interview, a summary of 1-2 pages was prepared. The peer interviewers did not audio record the conversation with patients but took written notes.

A framework analysis grid[9] was prepared using an Excel spreadsheet. Each interview constituted a row in the spreadsheet and each issue raised was represented by a column. Most column headings were pre-populated with issues anticipated from the interview schedule e.g. ways in which the scheme released GP time and comments about information technology, other columns represented emergent issues as the interviews progressed (e.g. perceived conflicts of interest). Text from the interview summaries was used to populate the framework analysis grid for each participant. In this way, it was possible to analyse the commonality and variation in views expressed across the interview cohort. Patterns of comments in the grid underpin the narrative in the Results section of this report; extracts from peer interviewer field notes for patients or verbatim quotes from pharmacist, employer and commissioner interviewees, are presented as examples to illustrate the issues raised. Analysis was informed by a theoretical framework derived from the work of Glasgow, et al. (1999)[10] and Proctor, et al. (2011).[11] These frameworks were used to identify behaviours, processes and systems that have facilitated or impeded the implementation of the PCPP and achievement of the two key objectives that are the focus of this evaluation.

Cross-sectional survey of PCPP pharmacists

A cross-sectional survey was conducted with pharmacists participating in the PCPP scheme to investigate their views and experiences. Questionnaire content-setting was based on findings from the qualitative interviews and on the objectives of PCPP. Interview transcripts and summaries were used to construct a set of statements pertaining to pharmacists' experiences and views as instrument items for the questionnaire. A total of 37 instrument items were drafted: thirty corresponding to pharmacists' experience of participating in the PCPP scheme, and seven corresponding to their views of how learning from the Sheffield scheme should influence any future roll out. A five-point Likert scale was chosen to rate the level of agreement of future survey respondents to each instrument item, ranging from *Strongly disagree* (1) to *Strongly agree* (5). The initial set of items was then sent to three researchers (two pharmacists and one non-pharmacist health researcher) for consensus before validation. In this initial review of the draft survey two open questions were added: one focused on the perceived benefit for patient safety; the second asked about how participants felt their participation in the scheme had impacted on their current practice.

The instrument items were then qualitatively validated for their content (face validity) in six cognitive interviews with a convenience sample of pharmacists with experience of working in GP surgeries. Cognitive interviews were used because they allow the verbalisation of participants' experiences (Think-aloud) to describe each instrument item and discuss its relevance to the measurement of future survey participants' experiences and views.[12] In these interviews, participants were presented with the instrument items one by one, and for each were asked to describe a recent GP surgery experience that related to the instrument item and its relevance. They were also asked whether each instrument item was clear and unambiguous. Items were reworded or changed as result of participants' suggestions, but no instrument item

was deleted as they were all considered relevant. Participants were also asked to complete the questionnaire and comment on the ease of completion and time taken to complete it. They reported that the questionnaire took between five to ten minutes to complete, was easy to complete, accessible, and its appearance was participant-friendly.

The questionnaire was sent to all 71 PCPP pharmacists in June-July 2017. Participants were sent a cover letter with a copy of the questionnaire and a stamped addressed envelope to return their completed questionnaire. Both questionnaire design and the strategy for distribution were based on literature about maximising response rate. For example stamps were used instead of pre-paid return envelopes, and additional publicity about the importance of the survey was secured.

Each questionnaire included a numeric code representing the individual respondent and this was used to minimise the sending of reminders to those who had already returned their questionnaire. Participants were told about this code in the survey information sheet and assured that it would not be used for any purpose other than to prevent unnecessary reminders being sent. A first reminder was sent two weeks after the initial contact to those pharmacists who had not yet returned the questionnaire. A second, and final, reminder was sent after a further two weeks. For each completed questionnaire received, £2.50 was donated to the Pharmacist Support Charity, an independent charity that provides support to pharmacists and their families in times of need. Participant anonymity was ensured at all times, with questionnaires only asking general questions about participants' characteristics (e.g. experience, age, ethnicity, job role, pharmacy type, etc.).

Routinely-collected Service data

Two sources of service data were utilised in the evaluation:

- the database of activities recorded by pharmacists on PharmOutcomes (Service Provision data)
- patient feedback forms from medication review consultations in the surgery (Patient Feedback data)

Service provision data were recorded by individual pharmacists in a web-based PharmOutcomes database from the beginning of the PCPP in October 1st, 2015 until June 30th, 2016. The software has the capability to generate simple frequency counts and produce data tables and charts. The database is anonymised and individual pharmacists or GP surgeries cannot be identified. Pharmacists were required as part of their PCPP contract to record the activities they undertook at the surgery, the time taken for each activity, and their estimate of GP time saved. Each activity recorded represents an individual episode (e.g. conducting a medication review; reconciling discharge medicines; managing repeat medicines; or answering a query from a member of the surgery team relating to a patient's prescribed medicines;).

Patient Feedback Data – The PCPP included patient feedback forms being given to patients who attended a GP surgery for a medication review with the pharmacist as part of routine data. Patients were asked to answer the question "How do you think you have benefitted from seeing the pharmacist today?" This question was determined by the PMCF patient engagement group (Citizens Reference Group Monitoring Panel*)* as an additional local question supplementing the "friends and family" test question*.* The response was therefore in two parts; a scaled question of how likely they were to recommend the pharmacist medication review to family and friends, and an open written response to the question about benefit. The feedback form was anonymous and did not identify patient, pharmacist or surgery. The evaluation team was provided with a set of copies of all patient feedback forms from the PCPP.

Appendix 2: Medication Reviews: Patient Feedback

Summary of feedback from patients surveys (October 2016)

58 surveys have been received to date with 49 patients saying they were extremely likely to recommend the service and 9 patients saying they were likely to recommend it.

Comments in response to the question, "How do you think you have benefitted from seeing the pharmacist today?"* are as follows:

I received a quick call from the pharmacist. Had I waited for the doctor, it would have been over 2 weeks. I went to seek an alternative medication that I had previously taken but the doctor had said it was now unavailable, yet the pharmacist was able to prescribe the alternative. Very happy!
I found the pharmacist very easy to understand. He was very explicit and caring.

1. I would like to say how polite and efficient the service was and very informative.
2. The pharmacist service has benefited me by taking less tablets per day. I know it takes time to get it correct but the service has been first class. Also the (reduction in) swelling in my ankles has been a big plus. Thank you once again.
3. I found the service very informative and helpful in answering questions about daily diet/life duties.
4. I think it's a good idea as normally I would have to wait 6 weeks to see a doctor. Also I felt he had more time to discuss things about my meds.
5. First thorough review I've ever had – I may be on meds I don't need any more, so very good.
6. Very informative, good advice and very relaxed.
7. Very good, lots of information and very helpful.
8. Very informative.
9. Found it helpful and informative and able to clear up any concerns.
10. The pharmacist was very helpful.
11. Very important to get all the information you need.
12. Very beneficial explained everything to me, easy to understand.
13. I was reassured with the advice given to me and felt more positive within myself because of this.
14. A good help.
15. It saves a doctors appointment. It's about issue you wouldn't normally bring up.
16. OK.
17. Quite good.

18. I have learnt a lot about my medication and the way it affects me. Found it very helpful.
19. Extremely helpful. Explained very well.
20. I know now about the medication I am taking and I am confident in the lady who came to see me. She has been very helpful.
21. Very good.
22. Happy with service.
23. Very helpful advice.
24. Very helpful and explained everything thoroughly.
25. Very good.
26. I find it has been helpful.
27. How to use my spray not that I didn't know already but slowly.
28. He explained to me in my talk about my medication not using long words that I wouldn't have understood. I'd recommend him to everyone I know. He's good at talking to patients and making them feel at ease.
29. Very well. Very professional and helped me out a lot.
30. Very good outcome. Health better.
31. It's a good service, to review all the medication with pharmacist.
32. I found it useful in setting advice around when I can take my medication. Also ideas around losing weight. Thanks.
33. The pharmacists have a better knowledge of the medication so give a very thorough explanation of what it is doing for you.
34. Very well. Would see him again.
35. Told me all about my medication, so I could understand why I take them and what they are for.
36. Very beneficial your questions and concerns answered.
37. It kept me up to date with my medication and why I need to take it.
38. Very good, learned good techniques of using inhalers that I wasn't aware of before. Seemed more thorough than usual reviews.
39. Very helpful.
40. Explained things a lot clearer to me regarding my medication.
41. Nice lad. Very pleasant.
42. Excellent. Satisfied.
43. Very well. Learnt more information about my condition and medicines and that I was taking my meds incorrectly.
44. Excellent – very helpful.
45. In depth about medication. Brilliant session.
46. Very helpful, would recommend, told me a lot about blood pressure etc.
47. Put my mind at rest that my medication is working ok.

**This question was determined by the PMCF patient engagement group (Citizens Reference Group Monitoring Panel) as an additional local question supplementing the friends and family test question.*