The role of clinical pharmacists in general practice in England: impact, perspectives, barriers and facilitators

Abstract

Background

By 2020/1 NHS England plans to invest over 100m to ensure that there is one clinical pharmacist post in primary care for every 30,000 patients. A recent realist review identified key questions in the literature related to the implementation of a clinical pharmacist (CP) in a general practice role. These relate to the impact of the role, perspectives on the role (patients, GPs and pharmacists), and barriers and facilitators to the implementation process. The data collected in the national evaluation of the pilot scheme provides data to answer the realist questions identified.

Objectives

This paper examines the experience of implementing the clinical pharmacist in general practice role, in relation to the areas identified above.

Methods

The research took a mixed methods approach to understanding the scheme implementation and this research draws on both survey and qualitative interview data from a wide range of stakeholders.

Results

Pharmacists in the pilot phase are motivated to develop clinical skills and make a positive impact on patients. Data suggests that clinical pharmacists have a positive impact, in particular on health outcomes related to polypharmacy and long-term conditions. GPs have a broadly positive response to the CPs, in particular when they save time and money for the practice. However, GPs have to invest time in mentoring and building relationships to realise the benefits of the role. Patients appreciate the CP role for increasing access to a practitioner and providing expertise in medications. There are some barriers to successful implementation of the role, including policy and funding, lack of clarity around the role and lack of quantitative and economic validation of the role. Facilitators of success include supportive working relationships, integration and mentoring.

Conclusion

The pilot implementation of this new role was successful but there are lessons which can be learned for the success of future iterations and more work is required to economically validate the role which is likely to in turn generate positive relationships with GPs.

Introduction

The General Practice Forward View[1] outlined the measures that NHS England (NHSE) are taking to further develop general practice (Family medical centre care), the mainstay of healthcare in England. The report suggests that a range of healthcare professionals can become an integral part of the practice team, in much the same way as nurses have and emphasises the inclusion of pharmacists to contribute to patient care.

> *'Pharmacists remain one of the most underutilised professional resources in the system and we must bring their considerable skills in to play more fully.' p7*

By 2020/1 NHS England plans to invest over 100m to ensure that there is 1 clinical pharmacist post in primary care for every 30,000 patients.

A recent realist review by the authors[2] aimed to identify what works for whom in general practice This paper answers the questions raised by the literature, drawing on data from the recent national evaluation of the pilot scheme of clinical pharmacists in general practice[3].

Methods

The national evaluation research took a mixed methods approach to understanding the scheme implementation. Early data was collected from a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis exercise was undertaken with key policy and political stakeholders at the launch of the scheme comprising a paper-based response (n=33) and focus group interviews (participants n=31). A survey was distributed to stakeholders at sites hosting the pilot clinical pharmacists. Survey responses were received from GPs, colleagues (working in general practice such as nurses and practice managers), site leads and clinical pharmacists representing 68% of total sites and 40% of clinical pharmacists. A case study approach was taken to the collection of qualitative data with in-depth visits undertaken to 3 practice sites in different geographical areas of the UK. Each site was variable in size and mode of operation. At each site a range of key stakeholders comprising (total numbers) GPs (n=4), site leads (n=7), clinical pharmacists (n=7) individually interviewed and 3 patient focus groups were conducted (n=17). Overall, mixed method data was collected from a wide range of (500+) stakeholders including pharmacists, GPs and patients presenting a broad overview of the scheme, underpinned with the lens focused on 3 key sites which give deep rich descriptive insights into the operationalisation of the role on the ground.

This paper reports data from the national evaluation thematised to respond to the questions raised by a realist literature review.[2]

Results

The authors conducted a realist review of the literature prior to the evaluation.[2] This review identified key themes emerging from the literature in relation to the impact of the role, perspectives on the role (patients, GPs and pharmacists) and barriers and facilitators to the implementation process. This paper provides an overview of the key findings, drawing on data from the national evaluation[3] presented in response to the questions raised and themes arising from the realist review of the literature.

What is the impact of the role?

The role has had wide ranging impact on the work of General Practice, most notably on contributing to improved capacity and changes in workload, and in medicines optimisation and safety.

Impact on General Practice capacity and workload

There is evidence that the CP role contributes to an increase in the capacity of General Practice to see patients, at a time when demand is high, and recruitment of GPs is difficult.

Data from SWOT analysis showed the increase in capacity for general practice a perceived strength of the scheme, from the onset, at all levels from external stakeholders and commissioners down to practice and patient level. This is reinforced by qualitative data collected through the implementation of the scheme. Open response survey data asking participants to list the biggest benefits of the scheme included 'improved access' or 'increased capacity' in over a third of responses from pharmacists and site leads. This is underpinned by interview data from case study sites highlighting ways the clinical pharmacist role freed up time in the practice which allowed greater access to appointments for patients. Several case study sites reported specifically increasing GP capacity (Site A 2 appointments per GP session, Site B 1 hour of GP time per day) as a result of the CP role.

CP survey responses highlights the tasks that they were asked to undertake in the pilot. Medications reviews were a major part of the role for 70% and a minor part for 26%, servicing prescription requests and queries was a major part of the role for 85% and a minor part for 15%, and managing discharge was a major part of the role for 78% and minor for 19%. Several GPs and site leads reported in their open responses that the CPs contribute to improvements in medicines management and care of long-term conditions which can lead to increased achievement of targets at multiple levels.

At 1 site, it was reported that CPs across all federation sites work on a centrally coordinated discharge management process. Routine service data shows that these tasks, would usually be conducted by the GP. At another the CP role contributed to a complete change in practice workload management between acute and long-term care, with the majority of long-term care provided by nurses and pharmacists, allowing GPs to manage acute care.

The CP is seen as a valuable expert addition to the Multi-Disciplinary Team (MDT) with a range of colleagues suggesting in both survey and interview data that they learn from the CPs and their unique set of specialist medication-related skills.

Impact on Medicines optimisation and safety

There is evidence of the CP role contributing to medicines optimisation in a variety of ways. This has cost saving and safety implications and can help to increase achievement of national, local and practice level targets. For example there is evidence of CPs implementing previously unimplemented National Institute for Health and Care Excellence (NICE) guidelines for prescribing for particular long term conditions, CPs carrying out Clinical Commissioning Group (CCG) led prescribing projects and conducting local federation or practice level audits.

These strategic approaches are supplemented by day to day examples of medicines optimisations directly with patients through medicines and long-term conditions reviews.

'In a medication review, chronic disease review, I would say most patients we see we make some sort of intervention... Be it very small to stop the meds, changing meds.'

CP Interview, Site B

Data suggests that the CP role can contribute to increased safety with medications in general practice. In the national survey in a free text response, safety was cited by over half of all participants (pharmacists, practice site leads, GPs and other colleagues) as a key benefit of the role. 85% of CPs surveyed believed they made a major contribution to medication safety in the practice. In the GP survey data 100% of GPs believed that CPs made a major contribution to identifying prescription errors (compared with their belief that 50% of GPs made a contribution to identifying errors). All CPs interviewed for the research believed that improved medication safety is a significant impact of their work.

Impact on patients

Data from all patient focus groups emphasised the benefits of increased access to a healthcare practitioner and the tailored appointment lengths offered by the CP. CPs reported that they offered variable appointment lengths to patients according to their time in post and to patient needs. Patients reported that they appreciated these longer appointments that offered the opportunity for an in-depth high-quality review. Several patients reported that as a result of longer appointment times they felt they had a better understanding of their medicines and health. Several examples were given (by many stakeholders across all stakeholder types) of increased medicines optimisation during the medication review – improving adherence, deprescribing, and reducing errors. Patients compare the service, very favourably, to GP appointments as they aired frustrations with inconsistency of GPs (seeing different ones, getting different advice) and of limited appointment lengths. Patients reflected on the positive experience of longer appointments tailored to need. Patients reported that personalised appointment lengths led to holistic care.

I think it is a good idea I mean I have only seen [CP] the once but she spent a lot of time with me, I was in there for 20 minutes. I was impressed with that. I have never had that level of service in this surgery.

Patient Interview, Site C

She explained things and spent time with me. It was at least 20 minutes; she went through everything with me and made sure everything was alright with me. Very informative.

Patient Interview, Site A

Patients report a clear understanding of the benefits of a specialist in medications in the Primary Care team.

It has been explained to me because we weren't actually told what they (medicines) do, how they work, when to take them. The doctor doesn't tell you that.

Patient Interview, Site C

There are several examples of impact on patient outcomes evidenced by both CPs and patients, arising from the focus groups and case studies. At site B a patient described repeated visits to the GP, each for a new condition and requiring new medication, but the review with the CP was their first opportunity to have a discussion about their overall health and understand how their medications might work together. At the same site, a difference patient reported having his asthma medication reviewed for the first time in his life which led to improvements in his condition through his increased understanding, adherence and medicine management. An additional benefit of the CP role is the increased healthy lifestyle advice and adherence to clinically important therapeutic monitoring afforded to patients, often through the use of motivational interviewing skills. Several patients reported increased quality of life and self-care as an outcome of their interaction with the CP.

Perspectives on the role

Colleagues across the pilot scheme perceived the role and the benefits differently. The evaluation explored the experience of the scheme from the perspectives of a range of professional groups. The following describes these different perspectives.

What is the patient perspective on clinical pharmacists working in GP practices?

Several participants (Pharmacists, GPs and patients) suggested that the greatest benefit of the role was increasing access to appointments. Most CPs had longer and more flexible appointments available than GPs and patients reported this was a major benefit. Patients reported that longer appointments enabled them to have in-depth appointments with the pharmacist. Patients expressed high levels of satisfaction when offered longer than usual, appointments with a clinician, in particular one who could prescribe. Data from patient focus groups also highlighted a need for patient education about both medications and lifestyle, which was often absorbed within the appointments offered by CPs, adding value to their role. Positive outcomes were often arising from holistic appointment, as outlined in the earlier section 'impact on patients'. Patients were happy to consult pharmacists once they knew what they were capable of. Data from site lead interviews suggested that a small number of patients were still reluctant initially to see pharmacists in the pilot phase and more could be done to raise awareness and promote the role of practice pharmacists to patients.

What is the general practitioner perspective on clinical pharmacists working in GP practices?

GP contributions to the scheme vary; there was often a principal GP at the lead site who positively influenced other GPs and provided overall clinical guidance to the scheme. GPs acting in the principal role were innovators and early adopters, in the diffusion of innovation model[4] as they were the first to implement the role and demonstrate acceptance of the positive contribution that CPs can make to primary care.

There is however some evidence of mismatch in professional expectations. Case study data suggests that some GPs expect CPs to arrive in a state ready to conduct more patient facing work, or high-level clinical tasks, than they actually are ready to undertake at the commencement of the role. GPs have to provide significant early investment in the CP (in terms of clinical mentoring) to realise later returns and the level of this commitment is not always recognised in advance. GPs are often happy to provide clinical lead for a CP post but rely on the support of practice site leads and Senior CPs (SCPs) to provide management support.

There is some evidence of a mismatch in expectation over both CP ability, and their costs. There is evidence from GPs and site leads that suggest that the CP role is expensive to initially implement in the practice and therefore financial benefits cannot or should not be the main (or any real) motivation for the role development. Many GPs recognise and appreciate the benefit that CPs can contribute to increasing practice capacity. However, a GP interviewed suggested that the demands of general practice are so variable and at a rate of growth that any tangible capacity benefits for the practice are difficult to realise, especially until the post(s) become well established.

Survey and interview data from GPs presents a broad view of the role, but emphasises that CPs can make a unique and vital contribution to the multidisciplinary skills mix. GPs interviewed defined the main the benefits of the CP role primarily by expertise in medication over contribution to outcomes.

Survey data suggested that GPs identified tasks for the CP role according to both the local demands of the practice, and the specialisms of the CP. This broadly led to a national CP role homogeneously focused on medications with an individualized periphery focusing on local drive and need. There was a level of frustration expressed by GPs that key performance indicators (KPIs) were not collected and reported nationally and there was evidence of sites developing local KPIs associated with the role and grounded in local evidence-based priorities.

Many GPs expressed either through the survey, or to the CPs directly, that they noticed significantly when the CP was absent (for example for holiday or training) and most would now not wish to work without the contribution of a clinical pharmacist. GPs believe the role to be sustainable; all GPs interviewed reported that they would keep the CP they are working with after the funding expires. Overall, the data collected suggests that the majority of sites, at a practice level, are seeking to employ their pharmacist when the pilot scheme funding ends.

'We see we can't survive without pharmacists; they are part of what we do.'

GP Site A

What is the pharmacist perspective on clinical pharmacists working in GP practices?

Pharmacists in the role came from a wide range of backgrounds and often had portfolio careers holding multiple roles. Many came into the role to develop clinical skills and have close contact with patients. Data from CPs in the national survey suggests that those undertaking the role enjoy high levels of satisfaction. 89% agree or strongly agree that they enjoy working in their role, 89% agree or strongly agree that they work autonomously in their role, 87% agree or strongly agree that they work closely with others in the practice and 89% agree or strongly agree that they are accepted by other professionals in the practice. This is underpinned by qualitative data from CPs in the role who report that they enjoy the opportunity to work clinically, and in an MDT, utilising their specialist skills in medicines.

Mentoring, induction and training experiences were variable but important – those pharmacists who felt integrated were successful in the role and mentoring was important to developing the pharmacist. The tasks undertaken by the pharmacist varied widely depending on their practice and their own motivations – although the majority spent most of their time initially conducting medication reviews, often polypharmacy focused. Pharmacists were

involved in a wide range of non-patient facing tasks which benefit the GP practice, including education and networking.

Barriers and Facilitators

A number of factors were identified which acted as barriers and facilitators in the implementation of the CP role across implementation, integration, mentoring, training and evaluation. Some were relevant as both a barrier and facilitator – for example good quality mentoring was a facilitator but the absence of such acted as a barrier.

Implementation

Support for pilot sites from NHSE centrally was limited (low numbers of centralised support staff) and at local area team level it was variable and often financially unsupported. Sites with limited previous experience had a greater learning curve with no base to build upon. Most sites were significantly experienced at partnership working and offering mentoring, and were likely to be innovators, but this is likely to reduce over any wider rollout of the scheme. Whilst this is not a barrier to the current scheme, it implies a potential barrier for future implementation as the pool of available pharmacists reduces with subsequent recruitment from mainstream rather than innovation positions.

Strong local level clinical and business management appears vital to the success of schemes. The Site Lead role and the way it is implemented is wide ranging but case study site data showed the role to be vital to the success of the operationalization of the scheme, especially in scaffolding the earliest stages from the proposal stage to the end of the scheme's first year of the. Site leads reported that a centralised approach to HR and business management can benefit operationalisation, especially in the first year. Close links between the site lead and the local area team facilitated the implementation of the scheme. Choosing the right person for the role was crucial to the success of the scheme and sites reported that combined clinical and management recruitment approaches were beneficial.

The initial SWOT analysis raised issues around indemnity highlighted by participants in both survey and interview data. Procuring indemnity was often problematic, time consuming and expensive for those with no previous experience of negotiating indemnity for pharmacists.

The pilot scheme planned CPs should work to a ratio of 1:30,000 patients. There was evidence that the patient list size would limit the embeddedness of role and quality of service. The majority of sites in the pilot wave selected a ratio of pharmacists to list size of 1:15,000 (or less) as optimal. There was evidence that at the higher ratio, there were disadvantages to smaller sites whose pharmacist's time was proportionally less on site than at larger sites. Sites with pharmacists working part-time took longer to realise benefits than those working full-time, and consequently smaller GP practices are likely to benefit at a slower rate than larger ones. For example, there was a site where 1 full-time CP works across 5 different sites, covering a large rural area, attending each site for 1 day per week which limits his time and opportunity to be embedded at a single site. While most CP survey participants only worked in 1 practice (59%) or 2 practices (27%), there was evidence that 14% of CPs worked in more than 2 practices and 2 CPs worked across 6 practice sites.

Integration

Good quality CP site-level integration seems to be vital to the success of the role. Data suggests that integration is achieved in several ways. Firstly, CP participants benefitted from

maximizing time spent on site and there was evidence that those who spent less than 2 days per week at a site took longer to feel integrated or did not feel well integrated into a team. CPs suggested they benefitted from shadowing key staff and one CP suggested they benefitted from time spent telephone triaging / on reception to fully understand all stages of the care pathway. CPs reported that to supplement national training they felt integrated when offered localised area or practice-based training.

There was evidence that successful sites often had a nominated person in a role which supported CPs and the role implementation especially in the early pilot phase. Some utilised existing project management roles, others allocated senior CP time to these tasks. Site lead roles were not funded by the NHS scheme funding and there is variable evidence of creative internally funded, short term roles which lack sustainability but are vital to the success of the scheme. Some senior CPs expressed concern that their roles may appear less sustainable in the long-term to the practice, due to spending a significant proportion of their time in supporting the scheme and other CPs, leaving them less time to see patients and build evidence of meeting scheme KPIs. Sites reported that they benefitted from localising work activity based on practice needs and the abilities and interests of the CP.

There was notable turnover of staff with 15 sites reporting turnover of 1 CP post and 13 sites reporting turnover of more than 1 CP post. There was also a high turnover of participating sites with 5 sites who reported turnover of 1 GP practice and 10 sites greater than 1. If high levels of turnover are sustained they represent a clear barrier to the scheme success.

Terminology around the role of CP is unclear, especially for patients. Patients do not clearly understand the difference between a community pharmacist and one working in general practice. The CP term is controversial and not widely accepted through the profession. There is a clearly defined 'senior' role but a reluctance to also have a named 'junior' role and a clear route of progression for the role.

Mentoring

GPs play a vital role in being a clinical mentor to CPs. GPs have to invest significant time in mentoring but are unlikely to realise the benefits until after the first year of the scheme once the CP is established in the post. Some GPs and Pharmacists suggested that GPs who are not site leads and do not mentor CPs, take longer to understand the role and its benefits. There was wide variance in the mentoring experiences described by CPs.

Good quality CP site level mentoring is vital to the success of the role. Survey data showed that clinical mentoring was offered by GPs or Senior CPs or Site Leads, or combinations of these senior staff and CPs suggested they learned most when mentoring was offered by multiple staff within the practice. Most mentors utilized the standard registrar model of the reduced scaffolding approach, scaling tasks according to ability and confidence.

Training

Lack of competence assessment and capability frameworks initially for the CP role acted as a barrier and led to wide variance in ability, working practices and outcomes. This was mitigated to some extent by the training provided to CPs which acted as a facilitating factor to the role and scheme.

The ongoing commitment to, and funding of, external training was a key facilitator of the scheme. Maximizing the beneficial impact of externally commissioned training and reducing the cost, time and stress implications for practice and CPs would be beneficial. Commitment displayed by several participants to the development of a national advanced practitioner in primary care role for pharmacists offers opportunities for the long-term development of the role.

Stakeholders report that they benefit from sharing good practice – between sites, across sites, across areas, and nationally. Good communication by NHSE to both CCG level and directly to sites could facilitate clear understanding of the role. Ongoing communication should continue with a wide range of stakeholders including community pharmacy, pharmacy professional leadership bodies, patient groups, academics, and training providers.

There was evidence of great variance in local training and induction and usually no financial support for training at the local level. In the pilot scheme, training for CPs was externally commissioned by Health Education England on behalf of NHSE using a centralised model. The training had a high opportunity cost as it was time and resource intensive; this had benefits for CPs but often significant cost to practices whilst paying salaries without the CPs being on the premises. Over 65% of CP survey participants expressed that online learning was useful to the role, and over 70% expressed their residential and face to face training was useful to the role. However over 10% of participants did not feel training was useful to their role. Within the operationalization of the pilot some early training was offered at very short notice, or too late in the scheme to allow pharmacists to be released from their patient facing duties to attend. There was qualitative evidence that initial training which was standardized and not personalized to different levels of CPs ability and experience was ineffective for a small number of learners. During the pilot there was no assessment or competency management associated with training which many stakeholders deemed in SWOT analysis as vital to the role.

The lack of a ready-made supply of independent prescribing pharmacists means that the CP role requires the time and investment to include University level prescriber training alongside CP training – a further time and cost implication to practice through GP provision for mentoring time.

Evaluation

There were significant limitations to the value of the current routine service data collected. The focus of key performance indicators requested by national scheme leads in the pilot scheme were clinical skills, cost and value, for example number of appointments undertaken by the CP and numbers of medications prescribed. These centrally mandated key performance indicators were not collated and analyzed and there was no ongoing centralised analysis of the scheme outputs; This disengaged some sites from collecting and returning data making monitoring and evaluation difficult. There was limited support offered for localised evaluation and reporting and no coordinated analysis of localised scheme outputs. Evaluation should inform future practice, but later phases of the scheme were rolled out before the pilot national evaluation was complete and reported. This is a barrier to success since ongoing measures of outcome has the potential to guide the role in a continuous quality improvement process.

Discussion

This empirical study adds value and discussion to the previous literature review[2] (Anderson, Zhan, Boyd et al 2019) using data collected in the national pilot evaluation[3] (Mann, Anderson, Avery et al 2018).

The realist review identified a unifying model which suggested that positive perspectives and a strong model of delivery would lead to a clinical pharmacist successfully working in general practice. This is underpinned by the evidence presented in this paper.

Recent publications show the emergence of positive perspectives beyond the pilot evaluation. Sims and Campbell[5] argue the important of integration into the GP team for the success of the role. Bradley, Seston, Mannall et al[6] discuss methods for negotiating the inter-professional interaction between GPs and Pharmacists to develop positive working relationships. Karampakatis, Patel, Stretch et al[7] suggest that the positive perspective will spread to community pharmacy as awareness raises leading to stronger relationships and better practices between GPs and community pharmacy which benefit the patient experience. Hampson[8] suggests that in order to be successful a positive relationship between CP and GP is vital.

Multiple qualitative studies point to the positive effective impact the role can have on patients.

There is still limited quantitative national data about the effectiveness of the role, although localized studies are appearing which demonstrate methods used to monitor work and evaluate impact of the role as an intervention. Bush, Langley, Jenkins et al[9] suggest that 5.4 (WTE) Clinical Pharmacists working for 9 months in one area of the UK saved the local budget £1 million (although there is limited evidence of the cost investment required to produce this return). The lack of cohesive big data collection is identified as a weakness in the national evaluation report. Further research methods and evidence will be required to provide a full ROI model over time. Sims and Campbell[5] ague this is important to acknowledge investment in order to acknowledge the return. Williams, Hayes, & Lawrence[10] suggest it is vital to develop metrics to evaluate the effectiveness of the role. Deeks, Kosari & Naunton[11]agree this level of economic evaluation is important but problematic and should be a key priority for future research.

The factors identified in this study for facilitating success including supportive leadership, mentoring, and integration into the team. There is evidence that where the role was undertaken for less than 2 days per week at each site, it took longer for the CP to be embedded in local practices and provide consistent patient service. This research identified the importance of positive support from GPs and the practice team and integration is linked closely to this. Hampson[8] suggests that in order to be clinically effective, CPs need to be successfully integrated into the practice team. Mentoring is key to the growth of the role and linked closely to the relationships in the team.

The above discussion shows the importance of developing quantitative evidence of the value of CPs to the practice, GP workload, patient care and CCG costs. This evidence is likely to generate positivity in the relationship with GPs therefore leading to their willingness to invest in the role, and provide the mentoring and integration required for success.

Research data in this study suggests that overall CPs have a very positive impact on General Practice. Barnes, Ashraf & Din[12] suggest that GP Pharmacists will soon be so normalized that having one as a member of the GP team will soon be 'essential'. As this paper has identified, further research will be required over time to assess how CPs become better integrated into the GP team under this scheme.

Strengths and Limitations

The particular method chosen for this research (mixed methods with case studies) is aimed at 'painting a picture of practice' and so enabled a rich description of stakeholder experience of CPs, GPs, patients and colleagues who have experienced implementation of CPs in England. The participation of a range or different participants, including patients, provided opportunity to gain a deep insight into each of the case study sites.

Detailed quantitative data acquisition was limited due to time and resource available. The survey was made available widely to pharmacist participants producing good descriptive measures of activity, however this could be subject to selection and response biases. It was not possible to capture detailed independent measurements of activities, patient outcomes and associated costs. The data collected however provides useful insights into how further statistical and economic data might be collected. The sample for survey data was largely opportunistic and in the absence of overall cohort data makes no claim about generalisability.

This evaluation was restricted to a specific implementation context (i.e., pilot scheme in England), to which its results are directly relevant, further generalisability of findings may be difficult, but transferability of findings to future iterations of the scheme or other schemes is may be possible.

Conclusion

The CP scheme has a positive impact in several ways – increasing capacity in general practice and changing workload relieving GPs of medication tasks and improving medication safety. Patients had a positive perspective on the role, in particular enjoying the longer appointments and medication expertise offered in their appointments with a pharmacist. General practitioners appreciated the role, and its benefits, although there was evidence of some initial mismatches in expectation over both CP ability and costs. Pharmacists in general practice in the pilot phase of the role implementation report high levels of satisfaction in working clinically and autonomously, but there are high levels of turnover suggesting some initial difficulties integrating into the role. A number of factors were identified as key barriers or facilitators of the scheme including implementation factors, integration factors, mentoring, training and evaluation. There are key lessons identified which would benefit future development and implementation of the role in England, and across the globe.

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