

BMJ Open 'It's the stuff they can do better than us': case studies of general practice surgeries' experiences of optimising the skill-mix contribution of practice-based pharmacists in Wales

Sophie Bartlett , Alison Bullock , Felicity Morris

To cite: Bartlett S, Bullock A, Morris F. 'It's the stuff they can do better than us': case studies of general practice surgeries' experiences of optimising the skill-mix contribution of practice-based pharmacists in Wales. *BMJ Open* 2023;**13**:e073778. doi:10.1136/bmjopen-2023-073778

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2023-073778>).

Received 17 March 2023
Accepted 25 October 2023



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Cardiff Unit for Research and Evaluation in Medical and Dental Education, School of Social Sciences, Cardiff University, Cardiff, UK

Correspondence to

Dr Sophie Bartlett;
bartletts2@cardiff.ac.uk

ABSTRACT

Objective Pharmacists are increasingly joining the general practice skill-mix. Research is still in relative infancy, but barriers and facilitators to their integration are emerging, as well as indications that pharmacists' skillset remain underutilised. This study explores first-hand experiences and perspectives among general practice teams of the processes that underpin the effective integration and sustained contribution of pharmacists in general practice.

Design and setting This research employed a qualitative case study approach involving general practice teams in Wales. Data were collected from eight general practices where each practice represented one case study. Data were collected via online interviews (one-to-one or group) and written feedback. Data were pattern coded and analysed thematically through a constant comparative approach. Data interpretations were confirmed with participants and wider general practice teams.

Participants Eight general practice teams across Wales (comprising combinations of practice and business managers, general practitioners (GPs) and general practice pharmacists) represented eight case studies. Cases were required to have had experience of working with a general practice pharmacist.

Results Data were yielded from five practice managers, two GPs, three general practice pharmacists and a business manager. A total of 3 hours and 2 min of interview data was recorded as well as 2038 words of written feedback. Three foundations to pharmacists' effective contribution to general practice were identified: defining the role (through identifying the right pharmacist, mapping skillset to demand and utilising the increasing need for specialist skills), appropriate infrastructure and workforce review, and an appropriate employment model.

Conclusion Pharmacists are becoming increasingly critical to the general practice skill-mix and utilisation of their specialist skillset is crucial. This paper identifies how to enable the effective integration and sustained contribution of pharmacists to general practice.

INTRODUCTION

Pressures on the general practice workforce are mounting worldwide. The population is

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The eight case studies presented in this research provide geographical spread and representation of six of the seven health boards across Wales.
- ⇒ The participation of practice managers, business managers, general practitioners (GPs) and general practice pharmacists provided a more holistic perspective of experiences than research involving one participant group.
- ⇒ This study is limited by the scale and number of participants and lacks detail on the costs of employment models.
- ⇒ Data collection and analysis were undertaken by social science researchers who present an impartial position, not influenced by working within the healthcare sector. This lessened the risk of biased interpretations.
- ⇒ Data interpretations were further strengthened by discussion and confirmation with participants and wider general practice teams.

ageing and poses increasing levels of chronic conditions, medicine use and medication complexity.¹⁻⁶ In addition, general practice teams face increasing numbers of patients and appointment requests.⁷ In the UK, this amalgamation of pressures is exacerbated by ongoing shortfalls in the recruitment and retention of general practitioners (GPs). As of 2021, one in seven GP posts across the UK remained vacant.⁸ In June 2022, the Secretary of State for Health and Social Care admitted that the UK Government was not on track to meet GP recruitment targets. In 2017, a survey of 929 GPs in England identified that 49% had brought forward their plans to leave general practice. Similarly, the intention of GPs to continue in general practice for at least another 5 years decreased from 64% to 49% between 2014 and 2017.⁹ Desires to leave general practice are typically founded



in poor job satisfaction stemming from high workload and intensity, and lack of support.^{9 10} As these circumstances continue, general practice teams across the UK are fighting a losing battle to meet the health demands of today's society.¹⁻⁶

Various interventions have been introduced in attempts to combat rising pressures. One strategy becoming increasingly widespread across the UK, Canada, USA, Australia and New Zealand^{4 11 12} is the integration of pharmacists into the general practice skill-mix. In 2019, England introduced the Additional Roles Reimbursement Scheme to facilitate primary care networks (PCNs; PCNs are local groups of general practices, hospitals, pharmacies, social care, mental health and community services that work together to meet local healthcare needs) in meeting the healthcare demands of their local population. The scheme permitted PCNs to expand their multidisciplinary team and claim reimbursement for the salaries of additional roles.¹³ This scheme saw the number of pharmacists working in general practice triple between 2019 and 2021.¹⁴

Although research into such integration is still in relative infancy,^{15 16} the realised benefits are emerging. Integration of pharmacists has yielded reductions in GP workloads, medication costs and emergency visits among patients¹⁷ as well as prompted improvements to prescribing safety,^{17 18} patient assessments and medicine management.^{17 18}

More recent research has turned to the barriers and facilitators surrounding pharmacists' integration. These factors often work both ways: where the absence of an element stands as a barrier, its presence is a driving facilitator. Key barriers to pharmacists' integration typically relate to the general practice teams' lack in understanding of the pharmacist's role in terms of their expertise as well as their boundaries;¹⁹⁻²¹ conversely, a clear and well-defined role is facilitative.^{4 22} Pharmacists' integration suffers in the absence of structured training or supervision.^{18 21} Again, practices where staff are actively involved in developing the role of the pharmacist and that invest time in pharmacists' development, providing mentoring and training, appear to benefit from smoother integration.^{12 21-23}

Nonetheless, despite the growing evidence of the benefits of general practice pharmacists and recommendations for successful integration, research has demonstrated that pharmacists' knowledge and skillset often remain underutilised.^{17 24 25} The aim of this study was to carry our understanding a step further, beyond the initial introduction of a pharmacist to general practice and towards their ongoing, maintained contribution. We sought to identify the first-hand experiences and perspectives among general practice teams of the ongoing processes and mechanisms that underpin effective integration and ensure the ongoing and sustained contribution of pharmacists in general practice.

This study focuses on general practices in Wales, UK, where the National Health Service (NHS) is delivered

across seven geographical health boards. Each health board is responsible for the organisation and delivery of primary, community and secondary care services across their geographical area, as well as specialist services, dentistry, optometry, pharmacy and mental health.²⁶ In terms of general practice pharmacists, Wales has a number of employment models: pharmacists can be employed directly by the practice or employed by the health board. Those employed by the health board are often referred to as 'cluster pharmacists' who work across a group of local practices.

METHOD

This study did not seek to identify the outcomes or effects of integrating pharmacists into general practice settings but sought to uncover and understand processes and mechanisms that led to a practice pharmacist's successful integration and sustained contribution. A case study approach, whereby each practice represented one case study, was judged as an appropriate method for capturing such information due to their capacity to account for complexities and search for detail within a particular circumstance.²⁷ What case studies lack in breadth, they make up for in depth and complement questions of operational events occurring over time, and more personal accounts and experiences.²⁸ We were also recognisant that a methodology requiring large participant numbers would not be conducive to the insurmountable pressures faced by general practices. Health Education and Improvement Wales (HEIW) acted as gatekeepers to potential case studies, distributing an invitation email (see online supplemental material) to all 389²⁹ active general practice surgeries across Wales via practice managers or reception teams. Practice teams with experience of working with a general practice pharmacist were invited to attend an online interview (group or one-to-one), and those interested in participating were advised to contact author SB directly where they were provided with a detailed information sheet. Those who requested to participate were invited to complete a consent form.

It was apparent that many practices lacked capacity to contribute to 'non-essential' activity and release staff from daily duties to participate in the study. To facilitate participation, practice teams were provided with a summary of the question schedule so that teams could discuss the elements internally as a group and then select one member of their team to attend the interview and provide their collective views. Practices that wanted to participate but did not have capacity to release a member of staff to attend a group interview or a telephone interview were invited to complete a written feedback form comprising a condensed version of the interview question schedule (see online supplemental material).

All data collection took place between March and April 2022. All practices that responded to the initial email were invited to interview. Three practices, after arranging a date for an interview, did not attend and

did not respond to a follow-up email nor the option to provide written feedback. All interviews were semistructured and followed a question schedule (see online supplemental material) that was constructed based on a literature review and through consultation with HEIW, including staff with experience of working as general practice pharmacists and wider general practice staff. Interviews were recorded, transcribed verbatim and transferred into NVivo software³⁰ (V.12) for pattern coding. Written responses were transferred into NVivo. Analysis was thematic,³¹ following a constant comparative approach (CCA)³²: on each occasion that a piece of data was coded, it was compared against previous data coded in the same way, permitting the identification of the range of conditions and dimensions which then informed common themes.^{24 32} The CCA aligns well with the process of comparing experiences across different cases and identifying commonalities and differences. All data were initially coded by author SB, and codes were then reviewed by and discussed and agreed with authors AB and FM.

Following coding and theme identification, data interpretations were confirmed at an online event that invited attendees of the interviews as well as staff at other general practices. The event involved sharing results, and attendees were invited to provide commentary and feedback on the authors' interpretations. This event ran twice, on different days of the week to maximise attendance, yielding a total of 22 participants (10 and 12, online supplemental material for summary of attendees). Participants verified results and no actions were taken. A favourable ethical opinion was granted for this study by the Cardiff University School of Social Sciences ethics committee (reference number 42).

Patient and public involvement

No patient or public participant was involved.

RESULTS

Data were yielded for eight case studies (general practices). Each case was described by one or a combination of a practice manager, a business manager, a GP and a general practice pharmacist as summarised in [table 1](#). In total, key informants for these case study practices included five practice managers, one business manager, two GPs and three pharmacists. The eight case studies provided wide geographical spread, representing six of the seven health boards in Wales. Four practices had cluster-based pharmacists whose time was committed to multiple practices, and four practices had a practice-based pharmacist employed solely by their practice. In total, 3 hours and 2 min of interview data were recorded from five group interviews; interview durations spanned from 17 min to 47 min, with an average duration of 37 min. Two practices (case studies 2 and 5) wanted to engage in the study but could not arrange release from practice, so they provided written feedback. This yielded 2038 words of written feedback.

Case studies (practices) varied in the degree of success they had experienced in utilising the expertise of a pharmacist within their skill-mix. Success was subjective and not quantifiable but was instead determined by the reflections of the participants and the circumstances surrounding what they perceived a valuable contribution and conditions whereby the pharmacist provided added value to the practice, adding to or enhancing services, as opposed to more general workload relief. Key similarities were apparent among the approaches and processes implemented by the practices that perceived to have optimised their skill-mix through pharmacist integration. It was also evident that these processes were often absent in cases where the pharmacist's contribution was perceived to be narrow or curbed by other factors.

Three foundations to a pharmacist's effective contribution to general practice were identified. This process is summarised in [figure 1](#) and detailed in the following sections.

Table 1 Summary of case studies and participants

Case study	Health board	Professional role of participants within case	Cluster or practice pharmacist	Approx. experience in that practice
1	1	Practice manager	Cluster	2 years
2	1	Practice manager	Practice	5+ years
3	2	GP	Cluster	1 year
4	3	Business manager	Practice	2 years
5	4	Practice manager and pharmacist	Practice	5+ years
6	5	GP	Cluster	3 years
7	6	Practice manager and pharmacist	Practice	5+ years
8	2	Practice manager and pharmacist	Cluster, then practice	2 years as cluster pharmacist, now 4 years as practice pharmacist

GP, general practitioner.

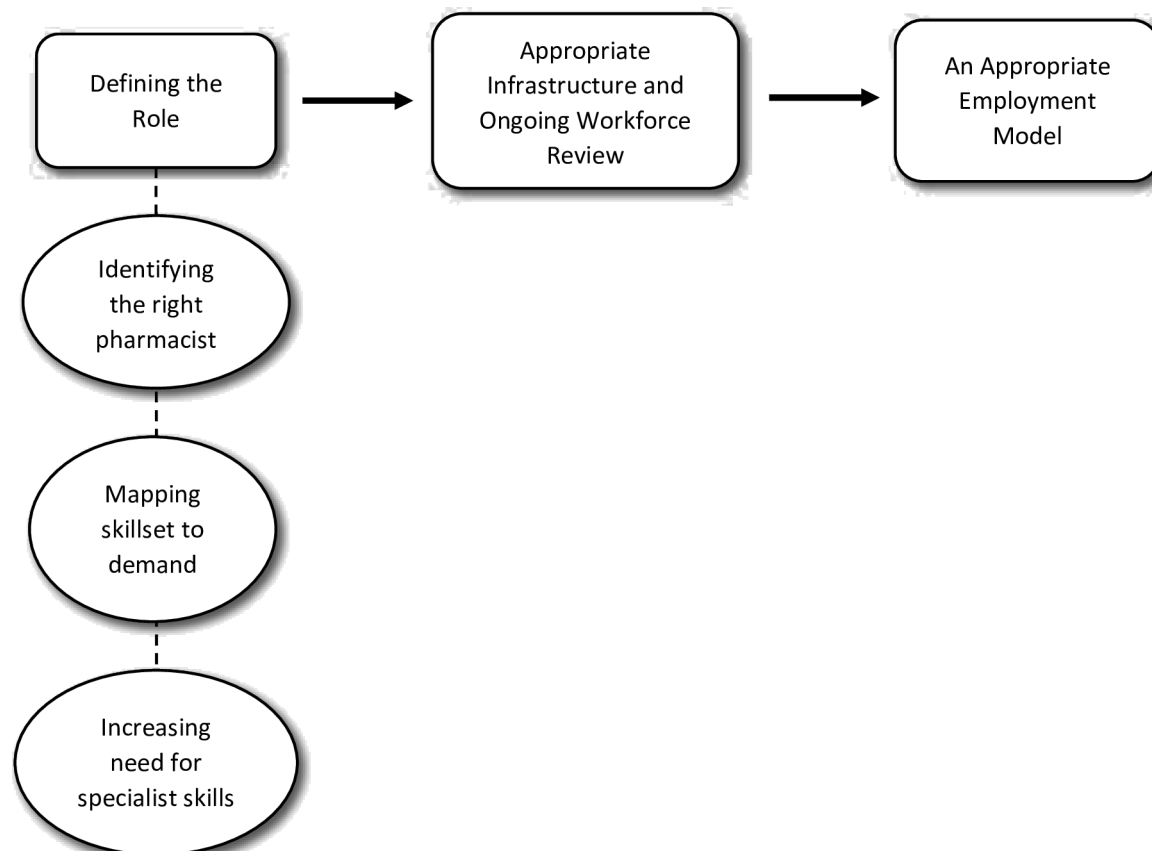


Figure 1 The three foundations to pharmacists' effective contribution to general practice.

Defining the role

In cases where the process of integration was successful and the pharmacist's contribution to the general practice skill-mix was capitalised on, it was apparent that these practices approached their recruitment of a pharmacist with a clear understanding of a pharmacist's expertise and had a distinct vision for their role:

In our practice he [pharmacist] actually does a whole minor illness surgery. [...] one of the big things he does all the DOAC [direct oral anticoagulants] reviews, he used to do the heart failure clinics [...] if we have any difficult medicine reviews, any difficult medication queries, he will do them. [GP, Case 6]

At first, I dealt with re-authorisation of medication and then was given medication requests from secondary care and then dealt with discharge letters as well. I also began to do medication reviews, blood test forms and referrals. [Pharmacist, Case 5]

Alternatively, in practices where integration had been less successful, participants reflected on their uncertainty around how the pharmacist was best utilised:

Our GPs... they don't really know what to use him [pharmacist] for. [Practice Manager, Case 1]

When these discussions were being done, as far as I understand, there wasn't anything particular, it was

just for practices to use his [pharmacist] time as they wished. [GP, Case 6]

Identifying the right pharmacist

Participants often used the phrase 'the right pharmacist', emphasising the importance of careful pairing of the pharmacist to the practice. Although pharmacists have a core remit with common responsibilities (such as medication reviews and queries, medicine reconciliations, assisting in the Quality Assurance and Improvement Framework agenda, performing DOAC and NOAC (new oral anticoagulant) reviews), the particulars of a pharmacist's role align to their specific skillset and experiences:

As I have experience of working in the hospital sector and in pharmacy retail [community] I think this gives me insight into how things are run and I am able to advise both patients and GPs more effectively than perhaps a pharmacist who only has hospital experience or has only worked in retail. [Pharmacist, Case 5]

Across the case studies, pharmacists all had slightly different roles, and participants recognised this variation:

What you do have to bear in mind though is that pharmacists come with very different skillsets and it's fitting the right pharmacist to the right practice. So, another practice in [location], they don't

have advanced nurse practitioners, they don't have a nurse prescriber and they have recruited pharmacists with community pharmacy backgrounds to do a lot of their minor ailments. I don't touch minor ailments, we have two nurses that are very well qualified to deal with that. So, it's about getting that skill-mix [Pharmacist, Case 8].

It was perceived that a pharmacist might perform a highly valuable role in one practice, but this contribution would be of less value elsewhere, due to different patient groups, a different skill-mix and different demand:

Every practice is slightly different and works in different ways, they're no two surgeries that work the same, so if I were to move somewhere else and try and do the job I'm doing now, it might not fit the way that that practice works. I might not be doing the things that they need me to do... because every practice is different. [Pharmacist, Case 7]

Cases in which participants felt their pharmacist provided a narrow contribution to their skill-mix also reported on their need for 'the right person' and how having the 'right' pharmacist would likely yield more benefits to the practice. In these cases, the practice team appeared to have less comprehension of the pharmacist's role and the expertise they could offer:

Our pharmacist, he's nice, but I don't think he applies himself like he could do... he doesn't really tell us what we can use him for [...] But actually, I think it probably would be more of a benefit if you have the right person. [Practice Manager, Case 1].

Mapping skillset to demand

Practices that appeared to have found the 'right pharmacist' reflected on having undertaken a mapping exercise to identify the skillset and experience they required to suit the needs of their practice. Practices had reviewed their staffing profile and their skills and responsibilities and mapped these against the needs and demands on the practice. This process ensured that staff were performing the tasks that are most suited to their expertise, permitting everyone's time to be used most appropriately. Several participants used the phrase 'stuff only they can do':

What practices need to do is work out what they want. These are the skills that a pharmacist can bring you, these are the skills that we actually need in our practice. Now find the right pharmacist to meet that. [Pharmacist, Case 8]

Instead of having one very expensive GP (who may not have had the skills or interests the other staff brought to the mix) we had three other staff members, this meant we had staff with the right skills for specific jobs therefore allowing the GPs to do the stuff only they could do. [Practice Manager, Case 5]

You're constantly reviewing your workforce planning [...] We also audit weekly, all of our appointments, our demand and what's actually happening... So, you've got your natural team changes and things that happen, you then do a review and rather than instantly just go like-for-like, you say actually what do we need, what's our demand looking at? [...] Is it only a GP can do that piece of work or who else can do that piece of work? So, we're always asking ourselves those questions. [Practice Manager, Case 7]

This approach to task assignment also appeared to enable a more efficient execution of processes, and patients were able to see the most appropriate healthcare professional for their needs:

He'll [the pharmacist] deal with it much more quickly, much more efficiently from the patient perspective [...] they [the patient] actually get a much better result. [Practice Manager, Case 7]

Increasing need for specialist skills

Practices emphasised that the need for specialist medicine knowledge is intensifying with the increasing complexity of medication, rises in polypharmacy and more medication being pushed out of secondary care and into primary care:

Patients are more and more complex in terms of the medication, more and more medication is being pushed out into primary care from secondary care, so a lot of Shared Care Agreements [an agreement between the patient, their GP and their hospital consultant detailing responsibilities surrounding medication and prescriptions], they need a lot of close adherence... you really need that specialist eye. [Business Manager, Case 4]

This specialist knowledge of medication was perceived as beyond the remit of the GP, whose role, by definition, is *generalist*. Instead, this was expertise that could only be provided by pharmacists:

It's the stuff that they can do better than us. I know that sounds awful, they can... the more complicated, multi-morbidity, complex polypharmacy, it's really handy to have a second pair of eyes and the knowledge about medication. [...] We are generalists and although we know medicines, we don't know them like the pharmacists know them. [GP, Case 3]

A pharmacist has got specific knowledge that the doctors and clinicians don't, and to have that person, specialising, was great. [Practice Manager, Case 8]

Appropriate infrastructure and ongoing workforce review

Identifying the role of the pharmacist in the team was just the first step to integration. To ensure they continued to provide effective contribution required appropriate infrastructure within the practice to support the pharmacist's development. Such infrastructure included

suitable administrative support, a clear line of management, resources and appropriate personnel to train and develop the pharmacist:

I think the practice needs to know what they need the pharmacist to do first, and then, infrastructure wise, how they're going to be clinically managed, what their line is in regards to support and queries and what their role is going to be. [GP, Case 3]

You could employ a lower grade pharmacist and then train them, but you've got to make sure that you've got the right skill-mix to be able to train them or to be able to find the right people to be able to train and mentor them or put them through IP or whatever else you need to do. That takes time, it takes money, and it takes investment. [Business Manager, Case 4]

Support should also be continuous, with ongoing review. This enables the pharmacist's role to evolve and *mould* to the needs and demands on the practice and helps them to feel valued in their role:

It's a very different job than I was recruited for whilst trying to retain some of the initial stuff that I did decision making and that sort of level. I probably wouldn't have foreseen the development to where I am now. [Pharmacist, Case 7]

You get a gut feeling when you've worked in a few practices, but a big bit is getting the support and not being completely left to your own devices. [...] Even four years on, I have an allocated 20-minute slot with the GP once a week for anything that's come up that is outside my remit or goes beyond my competence [...] It's knowing that you've got that support. [Pharmacist, Case 8]

Practice managers also emphasised the importance of review and reconfiguration to maintain an appropriate workload for the pharmacist and preventing them from being overburdened. It was emphasised that an escalation in workload for the pharmacist can quickly become unmanageable if not regularly monitored:

What we've noticed is that the pharmacist, has come in and taken on anything medication related, including queries and everything else. And it's utterly overwhelming; great for the GPs, but she's kind of burned herself out in some respects. So, we're trying to re-configure the role a bit. [Business Manager, Case 4]

Workload monitoring [is needed] for the pharmacist. As much of a GP role is prescribing, monitoring, reviewing, and amending prescriptions, for all GPs to delegate the majority of this to one pharmacist could create an overload of work... [You need] a sensible and manageable workload that is monitored and reviewed regularly. [Practice Manager, Case 2]

An appropriate employment model

It was evident that the pharmacists' integration and ongoing contribution to the practice were influenced by

wider organisational structures, and some pharmacists' integration was hindered by their employment model.

Participants emphasised how cluster pharmacists are often *spread quite thinly* [Pharmacist, Case 8]. The point surrounding the diversity of practices with different needs and demands means cluster pharmacists face different expectations in every practice:

The cluster pharmacists, they do go into individual practices and every practice they go to ask them to do something different. So, it gives pharmacists broad experience, but it's a bit of a hodgepodge. [Business Manager, Case 4]

The lack of continuity in a cluster pharmacist's presence in the practice also appeared to limit their level of contribution. The practice manager from Case 5 emphasised that they 'wish we had a pharmacist every day':

He's [pharmacist] only in the building one day a week, that makes it more difficult, and I think that maybe that's possibly put them [GPs] off a little bit because they're like, 'well, he doesn't do much.' [Practice Manager, Case 1]

Pharmacists with experience of working both across a cluster and within a single practice emphasised how the latter arrangement permitted more effective integration and allowed them to induce a greater impact on services:

[As a cluster pharmacist] you can only do so much... you come in, you did your job, you left. There's limited ability to be able to help contribute to that skill matrix and that team [...] if you want to make an impact, I believe that you need to be employed by the practice to be really integrated. [Pharmacist, Case 8]

Some participants were explicit in their view that the cluster pharmacist role was an inappropriate arrangement for the long term, and again, with the increasing complexity of medication and polypharmacy, the need for pharmacists in general practice is only increasing:

They're not meant to be in clusters long term. That's not the right role for them. [Business Manager, Case 4]

I think the way things are going, we're all going to need a pharmacist [...] we're all, in the future, going to need that extra specialist medicine-based support. [GP, Case 3]

DISCUSSION

This study engaged with eight general practices across Wales. Each presented a case study of first-hand experiences of integrating a pharmacist into their skill-mix. What worked as an effective facilitator in maximising a pharmacist's contribution in successful cases was often absent in cases where pharmacists remained underutilised. From the experiences of these case studies, it is argued that the employment model of pharmacists should

be considered and practices should be mindful of the valuable yet limited contributions of cluster pharmacists. Where there is value in reviewing the existing practice skill-mix in order to define the pharmacist's role before recruitment, this review should be ongoing, after employment, to ensure skills remain appropriately mapped to changing demands, and there is appropriate support and development infrastructure in place.

This study was undertaken by social science researchers who present an impartial position, not influenced by working within the healthcare sector. This lessened the risk of biased interpretation. Data interpretations were further strengthened by discussion and confirmation with participants and wider general practice teams.

The eight case studies provide geographical spread and representation of six of the seven health boards across Wales. The participation of practice managers, business managers, GPs and general practice pharmacists provided a more holistic perspective of experiences than research involving one participant group. Nonetheless, the study is limited by its scale and number of participants. Due to limited capacity to release staff, not all case studies provided the voice of multiple roles in the general practice teams. Although data saturation was not reached, this was not an objective of this research. Instead, the case study approach provided rich accounts of in-depth perspectives and experiences of integrating pharmacists into general practice and sustaining their contribution to the skill-mix. Despite the focus on one UK nation, our findings offer parallels to international research.

The pharmacist's role in general practice is no longer new, and barriers and facilitators to their integration are increasingly evidenced. The importance of establishing a well-defined role for the pharmacist ahead of their employment is apparent^{4 20} and extends to other roles in general practice settings;²¹ however, GPs often experience challenges in realising the full benefits of a pharmacist due to the variability in demands on the practice.²³

Other studies have taken a wider view of the general practice skill-mix, beyond focusing on a single practitioner. They emphasise the importance of creating a 'skill-matrix' by matching the patient to the practitioner³³ and aligning professional roles to the goals of the practice.²¹ Our study focuses specifically on pharmacists, offering more detail to the intricacies at play. We also extend beyond matching practitioners to patient consultations, just one of many demands on general practices, and recommend matching wider demands on the practice to the appropriately skilled practitioner. All three studies however point to the importance of ongoing review of roles and demands, and ensuring appropriate infrastructure is in place to support staff development, such as a clear line of management, administration and resources and personnel to support further training.

Spooner and colleagues provide recommendations for maximising skill optimisation within general practice, though emphasise that their evidence is founded on close working arrangements between practitioners.³³

They highlighted the uncertainty of how such processes would work where practitioners are spread across multiple practices, much like the working arrangement of cluster pharmacists in our study. Other studies have similarly advocated the need for further research into appropriate employment models in general practice.²² Our study has provided first-hand experiences of such difficulties faced by pharmacists working across multiple practices. Practices working with cluster pharmacists saw this arrangement as limiting skill-mix optimisation and providing a less impactful contribution to services. Some participants also highlighted that cluster-based roles were not a feasible long-term arrangement, particularly as polypharmacy and medication complexity rises and the need for pharmacists in general practices increases.

Pharmacists' positive experiences of integration are often reported to be underpinned by peer support and mentorship.²³ Comparatively, where pharmacists report poor integration experiences, common reflections include the limited support and lack of appraisals.^{12 19} This study has highlighted that to ensure the pharmacist not only integrates but continues to provide a sustained, valuable contribution to the practice, the pharmacist's role must receive ongoing support and review so that the role can evolve with the needs and demands on the practice. If pharmacists become unsupported or overburdened with workload, this could lead to a similar position that is faced by GPs. Evidence is already coming to light that some practices are facing difficulties in retaining their pharmacists.²³

The case for the integration of pharmacists into general practice is ever strengthened by the increasing health demands that society is placing on general practices. As medication becomes increasingly complex and polypharmacy rises, the specialist knowledge and expertise of pharmacists are a necessity for matching this demand. This study provides detailed, first-hand experiences and guidance for practices who are looking to integrate a pharmacist or are struggling to identify how they are best utilised and maximise their contribution. A separate output of this research includes an online mixed-media toolkit, freely available for all general practices. These have been accessed by over 500 individuals. Links to the toolkit and accompanying material are provided in online supplemental material.

Twitter Sophie Bartlett @SBartlett123 and Alison Bullock @CUREMeDE

Acknowledgements The authors would like to acknowledge Cardiff University for funding this study. We would also like to thank Health Education and Improvement Wales (HEIW) for their invaluable support in participant recruitment. We are most grateful to all participants who kindly gave up their time and took part in the study. We would also like to thank our reviewers for their valuable recommendations in developing our manuscript.

Contributors SB is responsible for the overall content of this article as the guarantor. AB was the study lead overseeing all activity. SB, AB and FM designed the study protocol, data collection instruments and performed data collection. Data analysis was initially undertaken by SB, and themes were discussed and reviewed with AB and FM. SB produced the first paper draft, and AB and FM contributed to development and revisions.



Funding This work was supported by the Cardiff University Innovation for All scheme, grant number JA3019IF72.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study was approved by the School of Social Sciences Research Ethics Committee at Cardiff University, reference SREC/42. Participants (general practice staff) gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available. No data are available due to the requirements we conformed to in our ethics approval.

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ORCID iDs

Sophie Bartlett <http://orcid.org/0000-0001-6958-0910>

Alison Bullock <http://orcid.org/0000-0003-3800-2186>

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Supplementary Material

Invitation Email (English version provided, however emails were also sent out in Welsh)

As someone working in a general practice surgery, Cardiff University and HEIW **invite you to participate in a knowledge exchange event.**

The event will involve **two-way exchange of knowledge and perspectives on the place of pharmacists in general practice surgeries**, their potential for added value, as well as challenges to their effective integration into the general practice skill-mix.

We are eager to hear the views of practices who have **some degree of experience of working with a general practice pharmacist**. This includes pharmacists who are:

- employed by the practice
- employed by the Health Board
- working full-time or less than full-time in your practice

We are also looking to capture the views of a range of general practice surgery staff, including **clinical and administrative staff**.

The events will be in the medium of English and will be held virtually on Microsoft Teams on the following dates at both lunchtime (12:00-13:00) and evening (19:00-20:00):

- Tuesday 5th April
- Thursday 7th April
- Tuesday 12th April
- Thursday 14th April

If you or any members of your team can attend one of these events, please **contact Sophie Bartlett** on BartlettS2@cardiff.ac.uk. It is your choice to decide **who and how many** of your team attend.

An Information Sheet is attached to this email with further details of the initiative, what participation involves and how data will be used and stored. The initiative is being led by Professor Alison Bullock from Cardiff University who you can contact with any queries on BullockAD@cardiff.ac.uk

We look forward to seeing you soon!

Interview Question Guide

Background

Please tell me about your current role and day-to-day tasks and responsibilities:

How long have you worked in your current practice?

The practice team

The staffing profile: What staff members (in terms of their roles) do you currently work with?

Probe: Nurse practitioners, advanced practitioners, physicians' assistants, etc.

Are they full or part time at the practice?

Management structure –who makes the staffing decisions? What influences these decisions?

Probe: Is it practice or health board managed?

Changing skill-mix

What first made you / the practice team think about bringing a pharmacist into the practice team?

Was there anything in particular you were trying to address/achieve through bringing in a pharmacist?

Probe: Was there anything that you thought you'd change about the practice or the way you worked before including a pharmacist?

What was the process of finding a pharmacist? How easy/difficult was it to recruit someone suitable?

Probe: Were you looking for any particular skills/characteristics during the recruitment process?

What are the day-to-day roles and responsibilities of your pharmacist?

Are they based in your practice? Probe - number of days, who did they report to, etc?

What is the general practice team's understanding of the role of the pharmacist?

Do you feel bringing in a pharmacist met yours and the general practice team's expectations?

Probe: Why?

What do you perceive to be the value (if at all) of having a pharmacist within your skill-mix?

Probe: What is their contribution to the skill-mix?

What has been the patient reaction to seeing a pharmacist? Has there been any positive or negative feedback?

Probe - If negative, how do you overcome that?

Looking back on the process of bringing in a pharmacist, what helped/hindered establishing this skill mix? How were difficulties overcome?

Do you feel the general practice staff work as part of a team? In what way?

Teamwork and roles

In your view, what would help you to make better use of the pharmacy professionals in your team?

Would you recommend other general practices consider bringing a pharmacist into their skill-mix?

What advice would you offer to practices considering this?

Do you have any other comments or reflections that we haven't discussed?

Written Feedback Form

Please tell us a little about your role. (e.g. your responsibilities, how long you've worked in your current practice)

Can you describe the staffing profile of your practice? (e.g. what healthcare professionals and other staff members work in your practice? Are they full time/part time? Are there any other healthcare professionals that you connect with outside of the practice?)

What first made you/your practice think about bringing a pharmacist into the practice team? (e.g. to alleviate workload, to provide a particular service, to overcome a particular challenge)

What was the process of finding a pharmacist? How easy/difficult was it to recruit someone suitable?

What are the day-to-day roles and responsibilities of your pharmacist? (are they based in your practice? How many days do they work with you?)

What do you perceive to be the value (if at all) of having a pharmacist within your skill-mix? (how does this compare with your initial expectations?)

What is the general practice team's understanding of the role of the pharmacist? (do the practice staff work as a team?)

What has been the patient reaction to seeing a pharmacist? Has there been any positive or negative feedback?

Looking back on the process of bringing in a pharmacist, what helped/hindered establishing this skill mix? How were difficulties overcome?

Would you recommend other general practices consider bringing a pharmacist into their skill-mix? What advice would you offer to practices considering this?

Do you have any other comments?

Attendees of knowledge mobilisation event

22 individuals attended the two online knowledge mobilisation events (10 and 12 attendees). The roles of such attendees were:

- 1 Business Manager
- 6 GPs
- 7 Practice Managers
- 2 Pharmacists
- 1 GP and General Practice Training Director
- 1 Assistant Director of Primary Care for a Wales Health Board
- 4 HEIW staff

Further details and demographic information surrounding the case studies

Case study	Health Board	Area	Clinical staff
1	1	Suburban	4 GPs 1 Advanced Nurse Practitioner 3 Practice Nurses 1 Healthcare Assistant 2 Phlebotomists 1 Cluster Pharmacist
2	1	Suburban	6 GPs 1 Advanced Nurse Practitioner 3 Practice Nurse 1 Healthcare Assistant 1 Phlebotomist 1 Practice Pharmacist
3	2	City	6 GPs 2 Practice Nurses 1 Healthcare Assistant 2 Prescribing Clerks 1 Cluster Mental Health Worker 1 Cluster Physiotherapist 1 Cluster Pharmacist
4	3	Suburban	7 GPs 4 Practice Nurses 2 Healthcare Assistants 1 Practice Pharmacist
5	4	Suburban	6 GPs 1 Advanced Nurse Practitioner 4 Practice Nurses 1 Psychotherapist 1 Practice Pharmacist
6	5	City	7 GPs 5 Practice Nurses 1 Healthcare Assistant

			1 Cluster Pharmacist
7	6	Rural	7 GPs Advanced nurse practitioners (exact number not provided) 1 chronic disease nurse 1 paramedic 1 physician associate
8	2	Suburban	4 GPs 1 advanced nurse practitioner 2 Practice nurse 1 Phlebotomist

Links to Online Toolkit

English language: https://xerte.cardiff.ac.uk/play_18377

Welsh language: https://xerte.cardiff.ac.uk/play_18895