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Title Page

Article Title: "*I thought it would be a very clearly defined role and actually it wasn't*": a qualitative study of transition training for pharmacists moving into general practice settings in Wales

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Contributors
AB was the study lead overseeing all activity. SB and AB designed the study protocol and data collection instruments and obtained ethics approval. KS coordinated participant recruitment, SB and AB performed data collection. Data analysis was initially undertaken by SB and themes were discussed, checked and reviewed with AB. SB produced the first paper draft and AB and KS contributed to revisions. All authors have given their approval of this version to be published and all have agreed to be accountable for all aspects of the work including matters related to accuracy or integrity.

Abstract

Objective: UK general practice surgeries are struggling to meet the health demands of an ageing population with increasing chronic conditions, exacerbated by COVID-19. Increasingly, pharmacists are contributing to the skill mix of general practice surgeries to help alleviate pressures. However, they need support in overcoming barriers to their integration. The purpose of this work was to evaluate a programme designed to support pharmacists' transition to working in general practice settings.

Intervention: A one-year transition programme in Wales starting in September 2018 to support pharmacists' transition to working in general practice settings.

Design and Setting: We employed an interpretative phenomenological approach involving ten pharmacists across Wales enrolled on the transition to general practice training programme, and their tutors. Data were collected across two sequential phases: in phase 1 telephone interviews were held with pharmacists midway through their training; in phase 2, focus groups were conducted with both pharmacists and tutors towards the end of the programme.

Results: Pharmacists enter general practice settings with a variety of prior experience. Thus, the programme needed to be flexible and tailored to individual learning needs. The tutor role was typically regarded as the most valuable component of the training, but interaction with the wider general practice team was critical to the ease the transition. Pharmacists encountered a lack of clarity about their role which impeded their integration into the workplace team. Reciprocal understanding of roles between employers, pharmacists and wider teams can help towards managing expectations and communicating the pharmacist's role to patients successfully.

Conclusions: A formal transition programme can support pharmacists' transition into general practice settings and enhance understanding of the pharmacist's role in team thus enhancing collaborative practice. We provide recommendations to facilitate pharmacist integration into general practice settings.

Strength and Limitations

- The data, collected from multiple sources (tutees and tutors), at multiple time points is a strength of the study, permitting triangulation of views.
- Results from Phase 1 informed data collection in Phase 2, therefore permitting additional follow-up and clarification of key points.
- Although the study sample was Wales-wide, we acknowledge the small participant numbers.
- The study would be strengthened by a longitudinal follow-up of tutees to explore the contributions of pharmacists to primary care teams.
- Perceptions from other members of the general practice team, and patients, would provide a further and external viewpoint on the training programme and more generally, on the pharmacist role in primary care.

Main Text

INTRODUCTION

Populations are ageing and the prevalence of chronic conditions increasing. Combined with shortfalls in recruitment of general practitioners (GPs) and practice nurses, it is challenging for general practice surgeries in the UK to meet the health demands of today's society, particularly within the context of a pandemic [1,2]. To alleviate such pressures, the composition of interprofessional care teams is broadening within primary care health systems in the UK and further afield [3,4]. This development has embraced pharmacists and resulted in substantial changes to their role which was traditionally based in either community or hospital settings. In the last decade, pharmacists have increasingly been integrated into the skill mix of general practice surgeries [4].

The introduction of pharmacists to the general practice skill mix provides a valuable asset to patients and a complementary skill set to other primary healthcare professions [1]. Specific benefits seen so far include a reduction in patient waiting time; improved screenings and diagnoses of chronic and common ailments; a reduction in medicine waste; and savings in general practice locum costs [5]. An observational study in Scotland revealed that the integration of a clinical pharmacist into a general practice released as much as five hours of general practitioner time each week [6].

However, it is not uncommon for pharmacists to be confronted with barriers to their integration. Lack of clarity on their role can result in other healthcare professionals in the team not knowing what to expect from the pharmacist [4,6]. Furthermore, in the early integration phases, rather than alleviating pressures, the pharmacist's dependence on other team members can instead create additional work for physicians and nurses [7].

Therefore, to support pharmacists transitioning into the general practice setting in Wales, Health Education and Improvement Wales (HEIW) devised a new training programme that offers tailored support to pharmacists taking up these roles. The transition programme runs over 12-months and is centred on a competency-based framework for general practice -based pharmacists as approved by the Royal Pharmaceutical Society (RPS). Pharmacists undertake self-assessments against this competency framework at months 3, 6 and 12 of the programme, which are used to inform their training needs. Each pharmacist is provided with 21-days of one-to-one support from an experienced general practice pharmacist (having a minimum of three years' experience in a clinical patient-facing role and a practicing independent prescriber) who is trained as a tutor. In months 1 to 3, the pharmacists receive support on a day-a-week basis. This reduces to one-day-a-fortnight in months 4 to 6 and to half-a-day-a-month in months 7 to 12. The role of the tutor is to support the development of a workplan for the pharmacist, provide ongoing support throughout the programme, review the pharmacist's progress against the competency framework and sign-off competencies that have been sufficiently demonstrated.

Given that the competency-based framework had previously been reviewed and approved by the RPS, the focus of this study was on training structure and support rather than curriculum and competencies. Our purpose was to evaluate the programme, focusing on the experiences of the pharmacists transiting to working in general practice settings and the views of their tutors. The specific research questions were threefold:

1. In the context of prior experience, what are the learning and support needs of the pharmacists joining the training programme?
2. What are pharmacists' and tutors' views and experience of the transition training programme?

3. What challenges do pharmacists face in transitioning into a general practice role?

METHOD

This study employed an interpretative phenomenological approach in order to provide a detailed exploration of the transition training programme that reflects the participants' personal accounts and evaluations [8]. Our target participants were pharmacists on the transition programme and their tutors as our focus was primarily experiential: the learning and support needs of pharmacists and their experiences of transition and integration into GP practice settings. The nature of the tutor role meant that they were in close contact with these pharmacists and so offered a complementary perspective of the programme.

Ten pharmacists (referred to herein as tutees) were recruited by University Health Boards (UHBs) in Wales to enrol on the transition training programme: three in Betsi Cadwaladr, three in Cwm Taf Morgannwg, two in Aneurin Bevan and one each in Hywel Dda and in Swansea Bay. All ten tutees and their tutors were invited to participate in the study. Invitations to participate in the study were drafted by the researchers and distributed via HEIW on their behalf. Data collection was undertaken in two phases between April and September 2019:

- Phase 1 (April – June): telephone interviews with tutees approximately midway through the transition training programme
- Phase 2 (September): focus groups with tutees and tutors towards the end of the transition training programme

Interviews and focus groups were carried out by authors SB and AB who had no existing relationships with participants. Interviews were semi-structured, and the study design involved a sequential approach to data collection such that data from Phase 1 were reviewed and used to inform the question schedules implemented in Phase 2.

Telephone interviews were held with tutees at a time suggested by them and focus groups took place at scheduled study days that tutees and tutors were already attending. In total, three focus groups were conducted: one with tutees only, one with tutors only and one mixed. For logistical purposes, the mixed focus group was conducted via teleconference and it was not possible to separate tutees and tutors due to access to video-conferencing at the venue. All telephone interviews and focus groups were audio recorded and transcribed verbatim. Transcriptions were checked for accuracy and transferred into NVivo software for analysis. The data were analysed thematically, following six steps [9]: familiarisation with the data, generation of initial codes, identification of themes, theme review, defining and naming themes, reporting. Codes were initially generated by one author (SB) and then discussed and agreed with a second author (AB). Final themes were mapped against the research questions for reporting.

This study was granted ethics approval from the School of Social Sciences Research Ethics Committee at Cardiff University (SREC/3082). To protect identity, all participants were assigned a pseudonym and individual UHBs are not named in the results. Participant roles (tutee, tutor) and study phases are reported to provide context and reflect the evolution and longevity of views.

RESULTS

Across both phases, data were gathered from all ten tutees, and six of the ten tutors. A total of 2 hours 50 minutes of interview data was gathered in Phase 1 from the ten participants (average of 17 minutes per interview). Focus groups in Phase 2 (table 1) yielded a total of 1 hour 21 minutes of conversation data (average of 27 minutes per focus group).

Table 1 – Summary of Focus Group Participants

	No. Tutees	No. Tutors	Total No. Focus Group Participants
Focus Group 1	3	2	5
Focus Group 2	7	0	7
Focus Group 3	0	4	4

Tutees entered the programme with a range of prior experiences in pharmacy (see table 2): all bar one had some community pharmacy experience and five had some experience in a general practice setting. Many of the tutees had been qualified for more than ten years. Three were currently working across multiple general practices within a geographical area. In the presentation of findings, we draw attention to whether participants had prior experience in general practice settings.

Table 2 – Summary of Tutees' Experience in Pharmacy Sectors prior to the Training Programme

Tutee (pseudonym)	Hospital Experience	Community Experience	GP-Practice Experience	Cluster Pharmacist
Sarah	X	X		
Anna		X		X
Jessica	X	X		
Melanie		X	X	
Alun	X	X		X
Harry		X	X	
George		X	X	
Glesni	X		X	X
Suzie		X	X	
Steffan	X	X		

Results are organised around key themes that have been mapped against our three research questions: learning and support needs of pharmacists, views and experiences of the transition training programme, and challenges for pharmacists in the general practice setting.

Learning and Support Needs of Pharmacists

In Phase 1, tutees were asked about their learning and development needs and what they hoped to gain from the transition training programme. Tutees with no prior experiences in general practice settings wanted a structured learning programme that provided a clear direction "*mapped out for you in advance*" for a relatively new role:

> "*I just think having a structure in place of what you need to cover […] rather than just floundering along and dealing with things when you get to them*." (Anna, Tutee, Phase 1)

Several also wanted to know more about the particulars of the general practice environment and gain a "*a good idea of what is required*" to develop their confidence in this setting. Tutees who already had some experience in general practice settings reported wanting to shift their focus more towards face-to-face patient interactions and so wanted to develop their consultation and clinical skills, particularly in working with patients with complex needs. Melanie described this shift in focus:

> "*When I started in primary care* [i.e. a general practice setting], *it was as a prescribing advisor, going around a variety of surgeries and helping them with auditing and cost savings and safe prescribing and things like that. So not necessarily going into like the nitty gritty and face-to-face contact with the patients*." (Melanie, Tutee, Phase 1)

If prior work experience had been in a different sector, tutees wanted to understand how primary care "*works*". Tutees both with and without prior general practice experience, welcomed the opportunity to "*learn off other people*" and gain input from experienced pharmacists *"who have done the role before*":

Views and Experiences of the Transition Training Programme

There were several key aspects of the training programme that participants commonly commented upon. These were in relation to the tutor role, pharmacists' interactions with other health care professionals, how this transition training programme had influenced their practice, and where they saw scope for improvements to the programme. Each of these is discussed in turn.

Added Value of Tutor Role

Tutees emphasised the value of the tutor role. Many commented on this, describing the tutor as *"absolutely brilliant",* "*the best thing*" and "*most important*" aspect of the programme. They emphasised that the tutor was a central component and noted that it "*isn't going to work on its own*". Alun, for example, ascribed his development to the tutor's input:

> "*My mentor* [tutor] *has been very good and he's afforded me the opportunity to upskill very quickly. I wouldn't be in the position at this stage if it wasn't for the input from them."* (Alun, Tutee, Phase 1)

Specifically, tutees commented on how tutors both tailored the structured programme to tutees' learning needs and also reduced feelings of isolation. Given the diversity of pharmacists' roles, some tutees in Phase 1 specifically commented on the need for a "*tailored*" programme that could be "*flexible to who it's for*". Tutees recognised their different starting points and expressed concern that for those with more experience, competencies geared to pharmacists new to general practice could become a "*tick-box exercise*". For example, Glesni, with prior experience of working in a general practice, commented:

> "*Some of the competencies you've done but you haven't actually got the evidence for them. So is it a bit time consuming and a lot of work just to add them*" (Glesni, Tutee, Phase 1)

However, as they progressed through the programme, it appeared that tutors were able to respond flexibly and that together, the tutee and tutor could tailor the framework to suit individual needs. One tutor explained:

> "*She* [tutee] *already knew the basics of the practice and what to do with the practice. She didn't need that front-loading. But if you had someone who was new into the role and never done it, obviously you'd need to schedule a lot more time initially either with the tutor or with other members of the team to make sure that they get the good support and the good grounding with how practices work*." (Emma, Tutor, Phase 2)

One tutee described a negotiated approach, commenting that "*it's almost an agreement between you and your tutor…. It's whatever works for you really*." (Alun, Tutee, Phase 2)

Tutors also helped to reduce feelings of isolation often experienced in pharmacy settings [10, 11] and offered a "*buddy system*" of support. Although Harry had prior experience of working in a general practice setting, he recognised the isolation issue: "*I think as pharmacists it's very easy to get isolated and put on your own"*, and highlighted the value of the tutor: *So, to be put with a tutor where you can link in with somebody, you can run things by and question, is really useful*." (Harry, Tutee, Phase 2)

The tutor as a sounding board was emphasised by others. Steffan remarked how it had been "*really good to have somebody at the end of the phone […] or send a text, just to ask questions."* (Steffan, Tutee, Phase 1). In addition to informal contact, both tutors and tutees stressed the importance of scheduling regular meetings, ensuring that this was protected time to focus on the tutee's development:

> "*Making sure that time is actually set aside to spend with your tutee, rather than just trying to do it in amongst everything else. I think having that one-to-one time when you're only focussing on the course, is really important*." (Anna, Tutee, Phase 2)

Interactions with Other Healthcare Professionals

Despite their critical role, tutors also felt it was important that tutees interacted with other clinicians in the workplace team and were not solely reliant on their tutor's expertise:

> "*From the tutor's perspective you've got enough flexibility for the students* [tutees] *to be able to do stuff with you but also with other people, so that they can get a lot of experience with the clinicians, different people that we also work with, different people in the team to gain their competencies for the different requirements*." (Emma, Tutor, Phase 2)

This was echoed by the tutees who generally spoke positively about the support they had received from general practitioners, nurses and in some cases, other pharmacists. Alun, who had no prior experience in general practice settings commented:

> "*One of the GPs says, 'actually that was good, but you could have done this, you could have considered that.' And so, I'm getting support there. The nurses are the ones I tend to interact with, I've got good working relationships with most of them*." (Alun, Tutee, Phase 1)

Tutors commented on the value of clear expectations of pharmacists on this programme. In their view, this strengthened tutees' relationships within the practices. In terms of offering advice to prospective tutees and tutors, both groups commented on the importance of "*build*[ing] *up the connections between tutors and other people in the practice as early as you can, so you can understand better how everyone works*" (George, Tutee, Phase 2). Fiona, a tutor, also argued for "*liaison between the tutor and their line manager*."

Influence on Practice

Where in Phase 1 tutees reported a desire to build their confidence, Phase 2 provided evidence that this had been achieved and tutees, both with and without prior general practice experience, had become more aware of their strengths and scope of practice:

> "*It's almost an evaluation of how you're doing: what you need to improve on and what you're doing great …. It also gives you a bit of confidence that you can do the job and you're fully aware of what is expected of you.*" (Jessica, Tutee, Phase 1)

> "*It's given me a bit of confidence… as the year has gone by it makes me think actually, I do know what I'm doing…I suppose when you're doing the work day-to-day because you're not documenting what you've done you don't realise the scope of your practice*." (Melanie, Tutee, Phase 2)

One tutee with experience in general practice settings felt that the requirement to reflect on and justify decisions during their training had helped him to practice more safely:

> "*It certainly makes you reflect on the way you practice and think about safety boundaries. I think that's worth the training course just even to do that and we can justify any decisions you make while you're practising. This programme has made me think about that*." (Harry, Tutee, Phase 2)

Areas for Programme Improvement

Tutees generally reflected positively on the transition training programme, citing it as "*extremely beneficial*" and a "*really good opportunity*":

> "*I think the content is ideal really. It covers literally everything you need to know to prepare you to do the job.*" (Sarah, Tutee, Phase 2)

Similarly, tutors felt the programme was "*really positive*" and "*hugely valuable*". Both groups reported that they would advise any pharmacist intending to move into the general practice setting to pursue the programme. That said, tutees and tutors were forthcoming in suggesting improvements to the programme. Several tutees reported a desire for greater clarity or direction in evidencing competencies:

> "*I'm used to the concept of gathering evidence to prove competence, but I think it was a little bit confusing really of exactly what evidence you needed."* (Sarah, Tutee, Phase 1)

A further area of improvement related to a more deliberate matching of tutors and tutees in terms of geography, work rotas and computer systems. It was suggested that this would help tutees to get the most out of their interaction with their tutors.

Challenges for Pharmacists in the General Practice Setting

Participants discussed broader challenges to their integration into the general practice setting. There was discussion about the lack of awareness of the pharmacist's role in such a setting. Alun (Tutee, Phase 1) remarked: "*I thought it would be a very clearly defined role and actually it wasn't.* Lack of a shared understanding of the pharmacist's role stood as a potential barrier to their training, development and integration:

> "*A lot of employers who had never had pharmacists before don't really know what we can and can't do."* (Harry, Tutee, Phase 1)

Tutees felt that this awareness needed to be reciprocal so that employers know what to expect from pharmacists and pharmacists know what is expected of them, and when to say no if asked to do something beyond their scope of practice. However, concerns were not unanimous, and levels of role clarity appeared to vary across practices:

> "*The practice where I am now, have got a really good awareness of pharmacists and what we do. I think both practices had pharmacists for a number of years, so they're quite experienced in terms of knowing what we bring to the role really*" (Steffan, Tutee, Phase 1)

Tutors also underscored the importance of employers not only understanding the pharmacist role but also recognising their commitments whilst on the programme. Tutees highlighted difficulties more related to the training programme itself. These related to the cluster pharmacists experiencing different computer systems across practices or inconsistency in computer systems across tutor and tutee practices. The logistics of working across multiple practices also presented challenges for both the tutees and tutors:

> *"I'm just doing different things every day in different surgeries, and from that perspective it's been slightly harder to plan my training time."* (Anna, Tutee, Phase 1)

> "*Having a set structured day would be much more helpful but she couldn't do that because of pressure on her from the practices."* (Fiona, Tutor, Phase 2)

Some tutees were pursuing the Independent Prescriber (IP) course in parallel to the transition training programme. However, doing both in parallel raised prioritisation issues; in some cases, portfolio development was stalled while the prescribing course was prioritised. Tutors were aware of such problems, sensing their tutees were "*overwhelmed by doing the two together*" and the general consensus among tutors was that they would not recommend that the IP course is undertaken at the same time as the transition programme. Some suggested that the pursuit of the IP course could be viewed as an appropriate next step and one tutee specifically remarked that it "*would be good if it* [the transition training] *leads onto that*".

DISCUSSION

This study yielded a rich understanding of tutees' and tutors' experience of the transition training programme in Wales. Given that many pharmacists entering general practice settings will have a range of prior experience and varied backgrounds, our results indicate the importance of having a transition programme flexible enough to tailor to different learning needs. The role of the tutor is critical in ensuring this tailored learning approach and the tutee-tutor relationship can also help to alleviate feelings of isolation. The importance of relationships with the wider general practice team are also emphasised. The competency framework embedded within the training programme can facilitate role clarity among stakeholders and assist the management of expectations.

Researchers SB and AB undertook the data collection and analysis. Their impartial position as social scientists, not influenced by working within the healthcare sector, lessened the risk of biased interpretation of the data collected. This had the disadvantage of limited contextual knowledge, but this was addressed through consultation with pharmacy education leads at HEIW and co-author, KS. Furthermore, results from Phase 1 informed data collection in Phase 2 which permitted additional follow-up and clarification of key points. Although data interpretations were not directly confirmed with participants, results were discussed with pharmacy education leads at HEIW. In terms of sample size, although Wales-wide, we acknowledge that participant numbers were small and that specifically, those who took part in the mixed focus group (comprising both tutors and tutees) may have been less candid in their responses, although there was no evidence of this in comparison to the data collected from single role groups.

The importance yet lack of role clarity and understanding of pharmacists' scope of practice is by no means a new finding. There have been reports of occasions in practice where pharmacists felt GPs'

expectations were too high and unsustainable given time constraints [6]. It has been argued that this barrier can be overcome when the pharmacist works with the general practice team to develop a job description [3,4]. Other research suggests that this job description should also be provided to the public [12]. However, we argue that a widely implemented competency framework could provide a valuable resource that pharmacists and the wider team can refer to from the outset and could be used to manage expectations.

The matter of role clarity also draws on the importance of interprofessional collaboration, endorsed by the General Medical Council (GMC) in 'Good Medical Practice' where it is stated that doctors practicing in the UK "*must work collaboratively with colleagues, respecting their skills and contributions*" [13]. Effective teamwork is recognised as key to the delivery of safe patient care and poor collaboration puts patients at greater risk of harm [14,15].

Where this study has demonstrated that pharmacists' professional relationships with the general practice team were paramount to successful integration, elsewhere, we see that such relationships are facilitated by open communication, respecting the expertise of different team members and by pharmacists exhibiting an approachable demeanour to the wider team [4]. Although a framework, such as that utilised in the transition programme, could aid interprofessional collaboration within the general practice team, it cannot guarantee mutual respect for skills and contribution to activity in general practice. The role of the tutor appears to be critical to pharmacists' transition, not only ensuring training is tailored to need, where we note that some pharmacists may not recognise gaps in their knowledge and skillset [12], but also in supporting the pharmacist to forge relationships with other general practice team members. In turn, this facilitates the general practice team working collectively in the best interests and safety of their patients.

The suggestion of the Independent Prescriber course becoming a natural follow-on from the transition programme is worthy of consideration given that it appears to be a common intention of these pharmacists and will impact on the role they can fulfil in primary care. Elsewhere, prescribing pharmacists have been seen directly to save a GP appointment for acute illnesses [1], and pharmacists who were already independent prescribers or completing the course have displayed higher self-assessed competence in their day-to-day general practice role than those without [16].

In terms of further research, we suggest that a longitudinal follow-up of tutees could valuably explore the contribution of pharmacists to primary care teams. Such longer-term follow-up could also seek reflections on the competencies, identifying those particularly relevant to the role, irrelevant, or missing. The focus of this study was to understand the pharmacists' perspective on their learning and support needs and experience of integration, and to triangulate their views with the tutors. This added to the validity of the otherwise one-sided tutee perspective. In future research, additional perceptions from other members of the general practice team, and patients, would provide a further viewpoint on the training programme and more generally, on the pharmacist role in primary care.

A programme such as this could smooth pharmacists' transition into the general practice setting, not only by supplying essential tutor support but also by providing a framework for pharmacists and other staff in the general practice team to enhance their understanding of the pharmacists' scope of practice and encourage interprofessional collaboration. In conclusion, points for consideration by stakeholders (pharmacists, general practice professionals and educators supporting this transition) are suggested. These are focused on how to support pharmacists integrating into general practice settings.

Table 3 – Points to Consider

Professional Role	Points to Consider
Pharmacists considering transitioning into general practice teams	• The transition training programme provides a competency framework to the pharmacists' role which could be used to inform expectations • Tutee-tutor relationships are integral to tutee development but good relationships with the GP healthcare team are also essential
General Practice Professionals	• It is important that the wider GP practice team has a clear understanding of the pharmacist role and their scope of practice; a standardised competency framework can support this • Building a relationship with the pharmacist (and their tutor) will also assist shared expectations and enhance integration
Educators and Tutors	• Pharmacists will enter GP settings with various learning and development needs. A transition programme must be flexible enough to be tailored to these • The IP course would be a well-positioned follow-on from the transition programme, but pursuing this in parallel to the transition training is not recommended • Cluster pharmacists can face difficulties in time management across multiple practices • Learning is supported where tutees and tutors are appropriately matched (in terms of geography, work rotas and practice computer systems)

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Competing Interests
Co-author Kate Spittle, in her role at Health Education and Improvement Wales, was associated with the implementation of the transition training programme. However, the data collection and analysis were undertaken by the other authors (SB, AB).

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Data Sharing Statement
Participants have not given their permission for data sharing outside of the research group. Thus, no additional data are available.

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Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

The following table illustrates how our manuscript meets the COREQ criteria for reporting qualitative studies (http://www.cnfs.net/modules/module2/story_content/external_files/13_COREQ_checklist_000017.pdf).

No	Item	Guide questions/description	Our response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?	SB and AB
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*	Authors SB and AB both have PhDs and relevant academic experience. Author KS has an MPharm and relevant pharmacy practice experience.
3.	Occupation	What was their occupation at the time of the study?	SB and AB are academic employees of Cardiff University, undertaking research. KS is an NHS Prescribing Lead and involved in Postgraduate Education Delivery in pharmacy.
4.	Gender	Was the researcher male or female?	All researchers are female.
5.	Experience and training	What experience or training did the researcher have?	All researchers involved in data collection (SB&AB) had prior experience of undertaking qualitative research. For this specific study, all researchers participated in a briefing prior to each round of data collection to ensure a common aim, understanding and approach.
Relationship with participants			
6.	Relationship established	Was a relationship established prior to study commencement?	SB and AB made initial contact with participants (tutees and tutors) prior to the start of the study to inform them about

No	Item	Guide questions/description	Our response
			the aims of the research and the nature of their potential involvement. KS had an existing relationship with participants due to her involvement in the training programme delivery and assisted in distributing relevant evaluation information to potential participants.
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.*g. personal goals, reasons for doing the research*	Participants were informed about the research by the information sheet, and typically received a short verbal background to the research and researcher prior to the commencement of data collection.
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic*	We report on the impartial position of researchers SB and AB as social scientists and not working within the health sector and thus lessens the risk of biased interpretations. However due to limited contextual knowledge, KS provided appropriate consultation in her role as a GP practice pharmacist and education lead.

Domain 2: study design

Theoretical framework

9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*	We used an interpretive phenomenological approach (IPA) as we sought to explore personal experience and perception from the participants' point of view (Smith & Osborn 2003)

Participant selection

10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*	We employed an opportunity sample based on pharmacists and tutors enrolled on the transition training programme.
11.	Method of approach	How were participants approached? e.*g. face-to-face, telephone, mail, email*	AB and SB attended an initial induction event for the tutors and tutees where they introduced themselves and the research, informing them that they would be invited to participate. KS, in her role in HEIW then distributed an information sheet to all potential participants on our behalf and invited participation.
12.	Sample size	How many participants were in the study?	Data were collected from 16 participants (10 tutees and 6 tutors). All 10 trainees participated in one-to-one semi-structured telephone interviews approximately midway through their training. Trainees and tutors were then invited to participate in a semi-structured focus group at the end of the training programme.
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	All pharmacists enrolled on the training programme (tutees) participated in the

			research and both points of data collection. Data were collected from 6 out of a possible 10 tutors, the remaining 4 were not present at the study day which was used to implement the endpoint focus groups. No participants dropped out of the research project.
Setting			
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace*	Telephone interviews were conducted at a location of the participants' choice. Focus group data were collected at pre-arranged study days for tutees and tutors on the transition training programme.
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	No.
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Tutee participants had a range of prior experiences in pharmacy and across sectors, and various years of experience. Tutors were experienced pharmacists working in primary care and trained in the tutor role.
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	SB and AB had a telephone interview question schedule and suggested prompts to facilitate discussion with the tutees. Results from this initial data collection informed the structure of the focus group question schedules later on. all question schedules were reviewed by KS.

18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?	All tutees participated in one-to-one telephone interviews approximately midway through their training, and in focus groups towards the end of their training (~6 months later). Tutors participated in focus groups on one occasion, towards the end of the programme.
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording only.
20.	Field notes	Were field notes made during and/or after the interview or focus group?	Interviewers made notes as a back-up to a potential failed recording but only the transcripts were analysed.
21.	Duration	What was the duration of the interviews or focus group?	On average, telephone interviews lasted 17 minutes and focus groups lasted 27 minutes.
22.	Data saturation	Was data saturation discussed?	Data saturation is not discussed as we engaged with all tutees on the training programme and therefore there were no more potential participants to engage with. Our participants also entered the programme with a variety of prior experiences so with our IPA we sought to explore the different personal experiences. Data saturation is also a contested concept within qualitative research, particularly outside the use of grounded theory (see O'Reilly & Parker (2012) 'Unsatisfactory saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. Qualitative Research 13(2), 190-197).
23.	Transcripts returned	Were transcripts returned to participants for	Transcripts were not returned to the participants for comment and/or correction.

		comment and/or correction?	All transcripts were checked and corrected by the researchers collecting the data by listening and re-listening to the audio-recordings. As data from the telephone interviews informed the question schedules used in the later focus groups, this provided opportunity to elaborate and clarify key points. All themes emerging from the full dataset was discussed with the Pharmacy group at HEIW.
Domain 3: analysis and findings			
Data analysis			
24.	Number of data coders	How many data coders coded the data?	SB developed the coding framework and agreed an analytical strategy with the project director AB. Coding was performed by SB and AB and cross checked for consistent interpretations. All themes were discussed between SB, AB and KS.
25.	Description of the coding tree	Did authors provide a description of the coding tree?	No.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data in line with an interpretive phenomenological approach.
27.	Software	What software, if applicable, was used to manage the data?	NVivo
28.	Participant checking	Did participants provide feedback on the findings?	No.
Reporting			
29.	Quotations presented	Were participant quotations presented to illustrate the themes /	Yes, quotes are presented and each quotation is identified by role and an allocated

		findings? Was each quotation identified? e.*g. participant number*	pseudonym of the individual participants.
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes.
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, notably in terms of prior experience of the general practice setting.

BMJ Open

"I thought it would be a very clearly defined role and actually it wasn't": a qualitative study of transition training for pharmacists moving into general practice settings in Wales

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Title Page

Article Title: "*I thought it would be a very clearly defined role and actually it wasn't*": a qualitative study of transition training for pharmacists moving into general practice settings in Wales

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Contributors
AB was the study lead overseeing all activity. SB and AB designed the study protocol and data collection instruments and obtained ethics approval. KS coordinated participant recruitment, SB and AB performed data collection. Data analysis was initially undertaken by SB and themes were discussed, checked and reviewed with AB. SB produced the first paper draft and AB and KS contributed to revisions. All authors have given their approval of this version to be published and all have agreed to be accountable for all aspects of the work including matters related to accuracy or integrity.

Abstract

Objective: Pharmacists are increasingly contributing to the skill mix of general practice surgeries to help alleviate pressures faced by UK doctors working in primary care. However, they need support in overcoming barriers to their integration. The purpose of this work was to evaluate a programme designed to support pharmacists' transition to working in general practice settings. We explored the learning needs of pharmacists', the barriers and enablers to their integration and provide recommendations based on our results

Intervention: A qualitative evaluation of a one-year transition programme in Wales starting in September 2018 to support pharmacists' transition to working in general practice settings.

Design and Setting: We employed an interpretative phenomenological approach involving ten pharmacists across Wales enrolled on the transition to general practice training programme, and their tutors. Data were collected across two sequential phases: in phase 1 telephone interviews were held with pharmacists midway through their training; in phase 2, focus groups were conducted with both pharmacists and tutors towards the end of the programme.

Results: Pharmacists enter general practice settings with a variety of prior experience. The programme provided a framework that pharmacists found helpful to map their experience to but the programme needed to be flexible to individual learning needs. The tutor role was typically regarded as the most valuable component, but interaction with the wider general practice team was critical to the ease the transition. Pharmacists encountered a lack of clarity about their role which impeded their integration into the workplace team.

Conclusions: A formal programme with a designated tutor can support pharmacists' transition into general practice settings. The programme's competency framework facilitated reciprocal understanding of the pharmacist's role in the team, helped to manage expectations, and enhanced collaborative practice. Recommendations to facilitate pharmacist integration into general practice settings are provided.

Strength and Limitations

- The data, collected from multiple sources (tutees and tutors), at multiple time points is a strength of the study, permitting triangulation of views.
- Results from Phase 1 informed data collection in Phase 2, therefore permitting additional follow-up and clarification of key points.
- Although the study sample was Wales-wide, we acknowledge the small participant numbers.
- The study would be strengthened by a longitudinal follow-up of tutees to explore the contributions of pharmacists to primary care teams.
- Perceptions from other members of the general practice team, and patients, would provide a further and external viewpoint on the training programme and more generally, on the pharmacist role in primary care.

Main Text

INTRODUCTION

Populations are ageing and the prevalence of chronic conditions increasing. Combined with shortfalls in recruitment of general practitioners (GPs) and practice nurses, it is challenging for general practice surgeries in the UK to meet the health demands of today's society, particularly within the context of a pandemic [1,2]. To alleviate such pressures, the composition of interprofessional care teams is broadening within primary care health systems in the UK and further afield [3,4]. This development has embraced pharmacists and resulted in substantial changes to their role which was traditionally based in either community or hospital settings. In the last decade, pharmacists have increasingly been integrated into the skill mix of general practice surgeries [4].

The introduction of pharmacists to the general practice skill mix provides a valuable asset to patients and a complementary skill set to other primary healthcare professions [1]. Specific benefits seen so far include a reduction in patient waiting time; improved screenings and diagnoses of chronic and common ailments; a reduction in medicine waste; and savings in general practice locum costs [5]. An observational study in Scotland revealed that the integration of a clinical pharmacist into a general practice released as much as five hours of general practitioner time each week [6].

However, it is not uncommon for pharmacists to be confronted with barriers to their integration. Lack of clarity on their role can result in other healthcare professionals in the team not knowing what to expect from the pharmacist [4,6]. Furthermore, in the early integration phases, rather than alleviating pressures, the pharmacist's dependence on other team members can instead create additional work for physicians and nurses [7].

Therefore, to support pharmacists transitioning into the general practice setting in Wales, Health Education and Improvement Wales (HEIW) devised a new training programme that offers tailored support to pharmacists taking up these roles. The transition programme runs over 12-months and is centred on a competency-based framework for general practice -based pharmacists as approved by the Royal Pharmaceutical Society (RPS) (see Supplementary Material). Pharmacists undertake self-assessments against this competency framework at months 3, 6 and 12 of the programme, which are used to inform their training needs. Each pharmacist is provided with 21-days of one-to-one support from an experienced general practice pharmacist (having a minimum of three years' experience in a clinical patient-facing role and a practicing independent prescriber) who is trained as a tutor. In months 1 to 3, the pharmacists receive support on a day-a-week basis. This reduces to one-day-a-fortnight in months 4 to 6 and to half-a-day-a-month in months 7 to 12. The role of the tutor is to support the development of a workplan for the pharmacist, provide ongoing support throughout the programme, review the pharmacist's progress and all evidence they collect against the competency framework, and sign-off competencies that have been sufficiently demonstrated.

In recruiting pharmacists onto the programme, HEIW targeted all pharmacists new to a general practice role by circulating programme information flyers to general practice surgeries in Wales. HEIW specified two entry requirements for enrolment: pharmacists had to be employed within a general practice surgery and hold less than 12 months of experience in their role. A total of 10 eligible pharmacists enrolled onto the training programme.

Given that the competency-based framework had previously been reviewed and approved by the RPS, the focus of this study was on training structure and support rather than curriculum and

competencies. Our purpose was to evaluate the programme, focusing on the experiences of the pharmacists transiting to working in general practice settings and the views of their tutors. As our primary outcomes, we sought to address three research questions:

1. In the context of prior experience, what are the learning and support needs of the pharmacists joining the training programme?
2. What are pharmacists' and tutors' views and experience of the transition training programme?
3. What challenges do pharmacists face in transitioning into a general practice role?

METHOD

This study employed an interpretative phenomenological approach (IPA) in order to provide a detailed exploration of the transition training programme that reflects the participants' personal accounts and evaluations [8]. Although there is a descriptive element, which was important in the context of sensitivity towards individual perceptions and responses from participants with varied experiences prior to entering the programme, IPA allows us to go beyond description and draw out commonalities and differences across participants. Our target participants were pharmacists on the transition programme and their tutors as our focus was primarily experiential: the learning and support needs of pharmacists and their experiences of transition and integration into GP practice settings. The nature of the tutor role meant that they were in close contact with these pharmacists and so offered a complementary perspective of the programme.

Ten pharmacists (referred to herein as tutees) were recruited by University Health Boards (UHBs) in Wales to enrol on the transition training programme: three in Betsi Cadwaladr, three in Cwm Taf Morgannwg, two in Aneurin Bevan and one each in Hywel Dda and in Swansea Bay. All ten tutees and their tutors were invited to participate in the study. Invitations to participate in the study were drafted by the researchers and distributed via HEIW on their behalf. Data collection was undertaken in two phases between April and September 2019:

- Phase 1 (April – June): telephone interviews with tutees approximately midway through the transition training programme
- Phase 2 (September): focus groups with tutees and tutors towards the end of the transition training programme

The change from interviews to focus groups in Phase 2 was implemented in order to capitalise on participants' confirmed attendance at a pre-arranged event and thus minimising the impact and time it required from participants. This approach also provided a greater assurance that we would be able to capture data from all tutees on the programme. Interviews and focus groups were carried out by authors SB and AB who had no existing relationships with participants. They participated in a briefing prior to each round of data collection to ensure a common aim, understanding and approach. Interviews were semi-structured, and the study design involved a sequential approach to data collection such that data from Phase 1 were coded, reviewed and used to inform the question schedules implemented in Phase 2.

Telephone interviews were held with tutees at a time suggested by them and focus groups took place at scheduled study days that tutees and tutors were already attending. In total, three focus groups were conducted: one with tutees only, one with tutors only and one mixed. For logistical purposes, the mixed focus group was conducted via teleconference and it was not possible to separate tutees and tutors due to access to video-conferencing at the venue. All telephone interviews and focus groups were audio recorded and transcribed verbatim. Transcriptions were

checked for accuracy and transferred into NVivo software for analysis. The data were analysed thematically, following six steps [9]: familiarisation with the data, generation of initial codes, identification of themes, theme review, defining and naming themes, reporting. Codes were initially generated by one author (SB) and then discussed and agreed with a second author (AB). Final themes were mapped against the research questions for reporting.

This study was granted ethics approval from the School of Social Sciences Research Ethics Committee at Cardiff University (SREC/3082). To protect identity, all participants were assigned a pseudonym and individual UHBs are not named in the results. Participant roles (tutee, tutor) and study phases are reported to provide context and reflect the evolution and longevity of views.

Patient and Public Involvement

No patient involved.

RESULTS

Across both phases, data were gathered from all ten tutees, and six of the ten tutors (see Table 1). A total of 2 hours 50 minutes of interview data was gathered in Phase 1 from the ten participants (average of 17 minutes per interview). Focus groups in Phase 2 yielded a total of 1 hour 21 minutes of conversation data (average of 27 minutes per focus group).

Table 1 – Summary of Data Collection

Phase of Study	Data Collection Method	No. Tutees	No. Tutors	Total No. Participants
Phase 1	One-to-one telephone interviews	10	-	10
Phase 2	Focus group 1	3	2	5
	Focus group 2	7	0	7
	Focus group 3	0	4	4

Tutees entered the programme with a range of prior experiences in pharmacy (see table 2): all bar one had some community pharmacy experience and five had some experience in a general practice setting. Many of the tutees had been qualified for more than ten years. Three were currently working across multiple general practices within a geographical area. In the presentation of findings, we draw attention to whether participants had prior experience in general practice settings.

Due to our engagement with all tutees on the programme and the evident variety in their prior experiences, we sought to explore individual personal experiences and therefore data saturation is not discussed. Data saturation is also a contested concept within qualitative research, particularly outside the use of grounded theory [10].

Table 2 – Summary of Tutees' Experience in Pharmacy Sectors prior to the Training Programme

Tutee (pseudonym)	Hospital Experience	Community Experience	GP-Practice Experience	Cluster Pharmacist*
Sarah	X	X		
Anna		X		X

Jessica	X	X		
Melanie		X	X	
Alun	X	X		X
Harry		X	X	
George		X	X	
Glesni	X		X	X
Suzie		X	X	
Steffan	X	X		

*Cluster pharmacists are employed by the Health Board to work across a group of practices within a 'primary care cluster' rather than in one fixed practice.

Results are organised around key themes that have been mapped against our three research questions: learning and support needs of pharmacists, views and experiences of the transition training programme, and challenges for pharmacists in the general practice setting.

Learning and Support Needs of Pharmacists

In Phase 1, tutees were asked about their learning and development needs and what they hoped to gain from the transition training programme. Tutees with no prior experiences in general practice settings wanted a structured learning programme that provided a clear direction "*mapped out for you in advance*" for a relatively new role:

> "*I just think having a structure in place of what you need to cover […] rather than just floundering along and dealing with things when you get to them*." (Anna, Tutee, Phase 1)

Several also wanted to know more about the particulars of the general practice environment and gain a "*a good idea of what is required*" to develop their confidence in this setting. Tutees who already had some experience in general practice settings reported wanting to shift their focus more towards face-to-face patient interactions and so wanted to develop their consultation and clinical skills, particularly in working with patients with complex needs. Melanie described this shift in focus:

> "*When I started in primary care* [i.e. a general practice setting], *it was as a prescribing advisor, going around a variety of surgeries and helping them with auditing and cost savings and safe prescribing and things like that. So not necessarily going into like the nitty gritty and face-to-face contact with the patients*." (Melanie, Tutee, Phase 1)

If prior work experience had been in a different sector, tutees wanted to understand how primary care "*works*". Tutees both with and without prior general practice experience, welcomed the opportunity to "*learn off other people*" and gain input from experienced pharmacists *"who have done the role before*":

Views and Experiences of the Transition Training Programme

There were several key aspects of the training programme that participants commonly commented upon. These were in relation to the tutor role, pharmacists' interactions with other health care professionals, how this transition training programme had influenced their practice, and where they saw scope for improvements to the programme. Each of these is discussed in turn.

Added Value of Tutor Role

Tutees emphasised the value of the tutor role. Many commented on this, describing the tutor as *"absolutely brilliant",* "*the best thing*" and "*most important*" aspect of the programme. They emphasised that the tutor was a central component and noted that it "*isn't going to work on its own*". Alun, for example, ascribed his development to the tutor's input:

> "*My mentor* [tutor] *has been very good and he's afforded me the opportunity to upskill very quickly. I wouldn't be in the position at this stage if it wasn't for the input from them."* (Alun, Tutee, Phase 1)

Specifically, tutees commented on how tutors both tailored the structured programme to tutees' learning needs and also reduced feelings of isolation. Given the diversity of pharmacists' roles, some tutees in Phase 1 specifically commented on the need for a "*tailored*" programme that could be "*flexible to who it's for*". Tutees recognised their different starting points and expressed concern that for those with more experience, competencies geared to pharmacists new to general practice could become a "*tick-box exercise*". For example, Glesni, with prior experience of working in a general practice, commented:

> "*Some of the competencies you've done but you haven't actually got the evidence for them. So is it a bit time consuming and a lot of work just to add them*" (Glesni, Tutee, Phase 1)

However, as they progressed through the programme, it appeared that tutors were able to respond flexibly and that together, the tutee and tutor could tailor the framework to suit individual needs. One tutor explained:

> "*She* [tutee] *already knew the basics of the practice and what to do with the practice. She didn't need that front-loading. But if you had someone who was new into the role and never done it, obviously you'd need to schedule a lot more time initially either with the tutor or with other members of the team to make sure that they get the good support and the good grounding with how practices work*." (Emma, Tutor, Phase 2)

One tutee described a negotiated approach, commenting that "*it's almost an agreement between you and your tutor…. It's whatever works for you really*." (Alun, Tutee, Phase 2)

Tutors also helped to reduce feelings of isolation often experienced in pharmacy settings [11, 12] and offered a "*buddy system*" of support. Although Harry had prior experience of working in a general practice setting, he recognised the isolation issue: "*I think as pharmacists it's very easy to get isolated and put on your own"*, and highlighted the value of the tutor: *So, to be put with a tutor where you can link in with somebody, you can run things by and question, is really useful*." (Harry, Tutee, Phase 2)

The tutor as a sounding board was emphasised by others. Steffan remarked how it had been "*really good to have somebody at the end of the phone […] or send a text, just to ask questions."* (Steffan, Tutee, Phase 1). In addition to informal contact, both tutors and tutees stressed the importance of scheduling regular meetings, ensuring that this was protected time to focus on the tutee's development:

> "*Making sure that time is actually set aside to spend with your tutee, rather than just trying to do it in amongst everything else. I think having that one-to-one time when you're only focussing on the course, is really important*." (Anna, Tutee, Phase 2)

Interactions with Other Healthcare Professionals

Despite their critical role, tutors also felt it was important that tutees interacted with other clinicians in the workplace team and were not solely reliant on their tutor's expertise:

> "*From the tutor's perspective you've got enough flexibility for the students* [tutees] *to be able to do stuff with you but also with other people, so that they can get a lot of experience with the clinicians, different people that we also work with, different people in the team to gain their competencies for the different requirements*." (Emma, Tutor, Phase 2)

This was echoed by the tutees who generally spoke positively about the support they had received from general practitioners, nurses and in some cases, other pharmacists. Alun, who had no prior experience in general practice settings commented:

> "*One of the GPs says, 'actually that was good, but you could have done this, you could have considered that.' And so, I'm getting support there. The nurses are the ones I tend to interact with, I've got good working relationships with most of them*." (Alun, Tutee, Phase 1)

Tutors commented on the value of clear expectations of pharmacists on this programme. In their view, this strengthened tutees' relationships within the practices. In terms of offering advice to prospective tutees and tutors, both groups commented on the importance of "*build*[ing] *up the connections between tutors and other people in the practice as early as you can, so you can understand better how everyone works*" (George, Tutee, Phase 2). Fiona, a tutor, also argued for "*liaison between the tutor and their line manager*."

Influence on Practice

Where in Phase 1 tutees reported a desire to build their confidence, Phase 2 provided evidence that this had been achieved and tutees, both with and without prior general practice experience, had become more aware of their strengths and scope of practice:

> "*It's almost an evaluation of how you're doing: what you need to improve on and what you're doing great …. It also gives you a bit of confidence that you can do the job and you're fully aware of what is expected of you.*" (Jessica, Tutee, Phase 1)

> "*It's given me a bit of confidence… as the year has gone by it makes me think actually, I do know what I'm doing…I suppose when you're doing the work day-to-day because you're not documenting what you've done you don't realise the scope of your practice*." (Melanie, Tutee, Phase 2)

One tutee with experience in general practice settings felt that the requirement to reflect on and justify decisions during their training had helped him to practice more safely:

> "*It certainly makes you reflect on the way you practice and think about safety boundaries. I think that's worth the training course just even to do that and we can justify any decisions you make while you're practising. This programme has made me think about that*." (Harry, Tutee, Phase 2)

Areas for Programme Improvement

Tutees generally reflected positively on the transition training programme, citing it as "*extremely beneficial*" and a "*really good opportunity*":

> "*I think the content is ideal really. It covers literally everything you need to know to prepare you to do the job.*" (Sarah, Tutee, Phase 2)

Similarly, tutors felt the programme was "*really positive*" and "*hugely valuable*". Both groups reported that they would advise any pharmacist intending to move into the general practice setting to pursue the programme. That said, tutees and tutors were forthcoming in suggesting improvements to the programme. Several tutees reported a desire for greater clarity or direction in evidencing competencies:

> "*I'm used to the concept of gathering evidence to prove competence, but I think it was a little bit confusing really of exactly what evidence you needed."* (Sarah, Tutee, Phase 1)

A further area of improvement related to a more deliberate matching of tutors and tutees in terms of geography, work rotas and computer systems. It was suggested that this would help tutees to get the most out of their interaction with their tutors.

Challenges for Pharmacists in the General Practice Setting

Participants discussed broader challenges to their integration into the general practice setting. There was discussion about the lack of awareness of the pharmacist's role in such a setting. Alun (Tutee, Phase 1) remarked: "*I thought it would be a very clearly defined role and actually it wasn't.* Lack of a shared understanding of the pharmacist's role stood as a potential barrier to their training, development and integration:

> "*A lot of employers who had never had pharmacists before don't really know what we can and can't do."* (Harry, Tutee, Phase 1)

Tutees felt that this awareness needed to be reciprocal so that employers know what to expect from pharmacists and pharmacists know what is expected of them, and when to say no if asked to do something beyond their scope of practice. However, concerns were not unanimous, and levels of role clarity appeared to vary across practices:

> "*The practice where I am now, have got a really good awareness of pharmacists and what we do. I think both practices had pharmacists for a number of years, so they're quite experienced in terms of knowing what we bring to the role really*" (Steffan, Tutee, Phase 1)

Tutors also underscored the importance of employers not only understanding the pharmacist role but also recognising their commitments whilst on the programme. Tutees highlighted difficulties more related to the training programme itself. These related to the cluster pharmacists experiencing different computer systems across practices or inconsistency in computer systems across tutor and tutee practices. The logistics of working across multiple practices also presented challenges for both the tutees and tutors:

> *"I'm just doing different things every day in different surgeries, and from that perspective it's been slightly harder to plan my training time."* (Anna, Tutee, Phase 1)

> "*Having a set structured day would be much more helpful but she couldn't do that because of pressure on her from the practices."* (Fiona, Tutor, Phase 2)

Some tutees were pursuing the Independent Prescriber (IP) course in parallel to the transition training programme. However, doing both in parallel raised prioritisation issues; in some cases, portfolio development was stalled while the prescribing course was prioritised. Tutors were aware of

such problems, sensing their tutees were "*overwhelmed by doing the two together*" and the general consensus among tutors was that they would not recommend that the IP course is undertaken at the same time as the transition programme. Some suggested that the pursuit of the IP course could be viewed as an appropriate next step and one tutee specifically remarked that it "*would be good if it* [the transition training] *leads onto that*".

DISCUSSION

This study yielded a rich understanding of tutees' and tutors' experience of the transition training programme in Wales. Given that many pharmacists entering general practice settings will have a range of prior experience and varied backgrounds, our results indicate the importance of having a transition programme flexible enough to tailor to different learning needs. The role of the tutor is critical in ensuring this tailored learning approach and the tutee-tutor relationship can also help to alleviate feelings of isolation. The importance of relationships with the wider general practice team are also emphasised. The competency framework embedded within the training programme can facilitate role clarity among stakeholders and assist the management of expectations.

Researchers SB and AB undertook the data collection and analysis. Their impartial position as social scientists, not influenced by working within the healthcare sector, lessened the risk of biased interpretation of the data collected. This had the disadvantage of limited contextual knowledge, but this was addressed through consultation with pharmacy education leads at HEIW and co-author, KS. Furthermore, results from Phase 1 informed data collection in Phase 2 which permitted additional follow-up and clarification of key points. Although data interpretations were not directly confirmed with participants, results were discussed with pharmacy education leads at HEIW. In terms of sample size, although Wales-wide, we acknowledge that participant numbers were small and that specifically, those who took part in the mixed focus group (comprising both tutors and tutees) may have been less candid in their responses, although there was no evidence of this in comparison to the data collected from single role groups. We also recognise the limitation of a Wales-only study but suggest that our recommendations are relevant to wider interprofessional general practice teams.

The importance yet lack of role clarity and understanding of pharmacists' scope of practice is by no means a new finding. There have been reports of occasions in practice where pharmacists felt GPs' expectations were too high and unsustainable given time constraints [6]. It has been argued that this barrier can be overcome when the pharmacist works with the general practice team to develop a job description [3,4]. Other research suggests the need for regular meetings between pharmacists and other practice staff [13] and ongoing stakeholder consultation [14]. However, we argue that a widely implemented competency framework could provide a valuable resource that pharmacists and the wider team can refer to from the outset and could be used to manage expectations. Nonetheless we recognise there is not a 'one-size-fits-all' and consideration should also be given to the needs of the individual general practice, and not merely assuming a rigid national role description [15].

The matter of role clarity also draws on the importance of interprofessional collaboration, endorsed by the General Medical Council (GMC) in 'Good Medical Practice' where it is stated that doctors practicing in the UK "*must work collaboratively with colleagues, respecting their skills and contributions*" [16]. Effective teamwork is recognised as key to the delivery of safe patient care and poor collaboration puts patients at greater risk of harm [17,18].

Where this study has demonstrated that pharmacists' professional relationships with the general practice team were paramount to successful integration, elsewhere, we see that such relationships are facilitated by open communication, respecting the expertise of different team members and by pharmacists exhibiting an approachable demeanour to the wider team [4]. Although a framework, such as that utilised in the transition programme, could aid interprofessional collaboration within the general practice team, it cannot guarantee mutual respect for skills and contribution to activity in general practice. The role of the tutor appears to be critical to pharmacists' transition, not only ensuring training is tailored to need, where we note that some pharmacists may not recognise gaps in their knowledge and skillset [19], but also in supporting the pharmacist to forge relationships with other general practice team members. In turn, this facilitates the general practice team working collectively in the best interests and safety of their patients.

The suggestion of the Independent Prescriber course becoming a natural follow-on from the transition programme is worthy of consideration given that it appears to be a common intention of these pharmacists and will impact on the role they can fulfil in primary care. Elsewhere, prescribing pharmacists have been seen directly to save a GP appointment for acute illnesses [1], and pharmacists who were already independent prescribers or completing the course have displayed higher self-assessed competence in their day-to-day general practice role than those without [20].

In terms of further research, we suggest that a longitudinal follow-up of tutees could valuably explore the contribution of pharmacists to primary care teams. Such longer-term follow-up could also seek reflections on the competencies, identifying those particularly relevant to the role, irrelevant, or missing. The focus of this study was to understand the pharmacists' perspective on their learning and support needs and experience of integration, and to triangulate their views with the tutors. This added to the validity of the otherwise one-sided tutee perspective. In future research, additional perceptions from other members of the general practice team, and patients, would provide a further viewpoint on the training programme and more generally, on the pharmacist role in primary care.

A programme such as this could smooth pharmacists' transition into the general practice setting, not only by supplying essential tutor support but also by providing a framework for pharmacists and other staff in the general practice team to enhance their understanding of the pharmacists' scope of practice and encourage interprofessional collaboration. In conclusion, points for consideration by stakeholders (pharmacists, general practice professionals and educators supporting this transition) are suggested in Table 3. These are focused on how to support pharmacists integrating into general practice settings.

Table 3 – Recommendations

Professional Role	Suggestions
Pharmacists considering transitioning into general practice teams	• The competency framework for the pharmacists' role, provided by the transition training programme should be used to inform expectations • A formal tutor is integral to tutee development but pharmacists should also establish good relationships with the GP healthcare team
General Practice Professionals	• The wider GP practice team should utilise a standardised competency framework to facilitate their understanding of the pharmacist role and their scope of practice

	• The GP practice team should aim to build a relationship with the pharmacist (and their tutor), to share expectations and enhance integration
Educators and Tutors	• Pharmacists will enter GP settings with various learning and development needs. A transition programme must be flexible enough to be tailored to these • The IP course would be a well-positioned follow-on from the transition programme, but pursuing this in parallel to the transition training is not recommended • Cluster pharmacists can face difficulties in time management across multiple practices; this needs to be considered in any transition programme • Learning is supported where tutees and tutors are appropriately matched (in terms of geography, work rotas and practice computer systems)

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Competing Interests
Co-author Kate Spittle, in her role at Health Education and Improvement Wales, was associated with the implementation of the transition training programme. However, the data collection and analysis were undertaken by the other authors (SB, AB).

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Data Sharing Statement
Participants have not given their permission for data sharing outside of the research group. Thus, no additional data are available.

Ethics Approval
This study was granted ethics approval from the School of Social Sciences Research Ethics Committee at Cardiff University (SREC/3082).

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Knowledge and Capability Guide: GP Pharmacists (1)

Knowledge items taken from the RPS Knowledge Interface Tool (KIT)

Throughout the programme, the following skills should be demonstrated during assessments on the below topics where appropriate:

- Self Reflection
- Documentation in records
- Interaction with patients and other health care professionals
- Awareness of personal clinical and skills limitations
- Ability to refer appropriately
- Communication skills to include Consultation Skills and Telephone Skills

All competencies should have a variety of evidence sources including knowledge and self-direct learning but MUST include experiential learning to demonstrate practical application of knowledge and skills in the GP Practice setting.

Demonstrate knowledge, understanding and experiential learning for the following:

Topic	Knowledge Item
GP Practice Structure	Structure of a General practice, to include size, patient demographics, staff profile, administration processes and appointment systems
Repeat Prescribing Processes	Repeat prescribing process in a General Practice
Acute Medication Prescribing Process	Acute prescribing process in a General Practice

GP Computer System	Ability to use the GP computer system, to check Patient Medication Records, relevant clinical information and drug monitoring
IT Systems	Ability to access information on the Trust Intranet e.g. clinical guidelines, Formulary, Trust policies
IT Systems	Ability to access the local laboratory test results system
Dosing Information	Factors to be taken into consideration when advising on dose calculations in adults and children - including determination of body surface area, weight, age, kidney function; and an ability to calculate doses from relevant parameters
Adverse Drug Reactions	Yellow Card Scheme for reporting adverse drug reactions, and the role of the MHRA in monitoring data on adverse drug reactions.
Allergies	Pathophysiology of, and risk factors for the development of allergies; primary and secondary prevention of allergies; and the mechanism of action, pharmacology, pharmacokinetic characteristics and clinical use of treatments for allergies
Drug Formulations	Ability to advise on the manipulation of drug formulations to maximise compliance/ effectiveness
Drug Formularies	Use of a local formulary and an ability to appropriately manage requests for non-formulary medicines.
Clinical Governance	Clinical governance process in a general practice and the health board.
Clinical Governance	Incident reporting system; an ability to contribute to the reporting and promotion of appropriate reports

Adverse Drug Reactions	Types of adverse drug reactions e.g. Type A, Type B, idiosyncratic etc.; the mechanism and clinical significance of adverse drug reactions; the factors to consider when assessing the likely cause of an adverse reaction; an ability to advise on the management and/or avoidance of side effects and adverse drug reactions;
Yellow Card Reporting	Yellow card scheme for reporting of adverse drug reactions: an ability to identify and report adverse drug reactions in children and adults; and promotion of appropriate reports when notified of drug related adverse events.
Answering Medicines Information Enquiries	Common types of medicines-related enquiries for the following:
	Drugs interactions
	Administration of medicines
	Adverse drug reactions
	Alternative medicines
	Common ailments and medicines use
	Use in children
	Unlicensed/off-label medicines.
Answering Medicines Information Enquiries	Renal impairment
	Liver impairment

	Breast-feeding
	Pregnancy
	Therapeutic drug monitoring
Medication Reconciliation and Review	Ability to differentiate between the use of the following processes: medicines reconciliation; medication review; medicines use review
Medicines Reconciliation	Ability to accurately document the medicines reconciliation process and outcome(s) in accordance with local policy.
	Ability to resolve issues identified, or refer to another healthcare professional if appropriate when undertaking medicines reconciliation
	Ability to prioritise the issues identified according to their importance
Medicines Management	Ability to review and risk assess suitable alternative medications and/or formulations during periods of local or national supply shortages.
	Issues around supply of medication to care home residents and processes involved
Medicines Management	Most appropriate treatments for acute conditions; and an ability to make recommendations on the most appropriate treatment for acute conditions by applying clinical knowledge
	Most appropriate treatments for chronic conditions; and an ability to make recommendations on the most appropriate treatment for chronic conditions by applying clinical knowledge
	Concept of shared care, and the role of the pharmacist
Medication Review	Accurately obtains a medical and medication history from a variety of sources e.g. patient, carer, general practitioner; and an ability to accurately obtain a drug history including current and previously prescribed medicines, non-prescribed medicines, supplements, complementary remedies, allergies and intolerances.

	Concordance and adherence; an ability to identify and discriminate between intentional and non-intentional non-adherence; the behaviours, health beliefs and psychology that affect adherence; barriers to adherence; and an ability to identify solutions/support for overcoming barriers to adherence.
	Ability to identify pharmaceutical issues in order to optimise patient care. Demonstrates knowledge and understanding of, and an ability to appropriately follow up on interventions made
	Ability to provide non-pharmacological advice on lifestyle management to support priority NHS targets, e.g. smoking cessation, reduction in alcohol intake, exercise etc.
	Range of models of consultation and consultation skills; an ability to choose an appropriate consultation model to engage patients in discussion; and an ability to take the individual beliefs of patients into account to improve and optimise treatment success.
	Person centred care; identifying patient priorities including shared decision making; and communicating risk and benefits.
	Medication review for patients in the care home setting; an ability to develop a process for review, appropriate documentation in the GP practice and care home, referral when needed and follow up
Interpretation of Blood Tests	Biochemical tests and the clinical consequences of abnormal results; the common medicines and diseases that cause abnormalities in laboratory tests
Patient Safety	Role the National Patient Safety Agency used to have, and the range and status of the safety alerts it used to issue.
Clinical Examination Skills	Ability to use common diagnostic aids for assessment of the patient's general health status e.g. stethoscope, sphygmomanometer, thermometer, O2: an ability to recognise and respond to common signs and symptoms that are indicative of clinical problems and to refer appropriately
Communication	Strengths and weaknesses of the different communication methods used to deliver medicines information e.g. telephone, e-mail, person to person, formal letters etc.; and an ability to select the most appropriate method depending upon complexity and situation to ensure effective communication
	Ability to maintain patient confidentiality
Communicating with Health Professionals	Ability to demonstrate, effective communication skills when giving information about medicines to health professionals
	Ability to record interventions appropriately
Communicating with Patients	Ability to demonstrate effective communication skills when giving information to patients about their medication.
Communicating with colleagues	Ability to refer complaints to the appropriate member of practice / pharmacy staff.

Pharmacy Service Roles and Responsibilities	Roles and responsibilities of pharmacy technicians in the GP practice setting
Multidisciplinary Working	Structure of the services and systems of care; the roles of the healthcare professionals and other relevant teams, disciplines or agencies involved in patient care, including clinical nurse specialist and tissue viability nurse, dietitian, speech and language therapist, physiotherapy and occupational therapy; and referral pathways.
Communication	Ability to demonstrate effective communication when using the telephone
	Ability to manage difficult consultations appropriately
	Ability to work as part of a multidisciplinary team including interface considerations, social care etc
Performance Management and Development	Ability to provide constructive feedback to colleagues with respect to their performance, including both positive and negative feedback
Workload Management	Ability to delegate tasks and queries appropriately.
	Ability to negotiate deadlines e.g. with patient, colleagues, other staff members.
Documentation Management	Ability to keep appropriate records, and work within relevant clinical governance frameworks.
Change Management	Demonstrates knowledge and understanding of managing change
Education and Training	Ability to advance knowledge and understanding through continuing professional development and life-long learning.
	Ability to appraise own competence and limitations and formulate a development plan to address weakness identified.
	A ability to appraise own competence as a clinical practitioner, and formulate a development plan to address weaknesses identified.
	Ability to reflect on own learning needs in relation to their training and development activity undertaken.

	Ability to independently develop clinical pharmacy knowledge and skills in order to identify, prioritise and resolve complex pharmaceutical problems.
Medicines	Demonstrates knowledge and understanding of all aspects of medications, including: 1. mechanism of action; 2. pharmacology; 3. pharmacokinetics; 4. pharmaceutical aspects; 5. adverse effects, contraindications and interactions; 6. usual doses and routes of administration; 7. place in therapy; 8. monitoring requirements for the following conditions
	Hypertension
	Dyspepsia and GORD
	Arrhythmias and AF (to include anticoagulants)
	Analgesics
	Antidepressants
	Management of Diabetes (Oral Medication)

	Management of Diabetes (injectables)
	Management of Asthma
	Management of COPD
	Antibiotics

QUESTION SCHEDULE FOR TUTEES, MIDWAY THROUGH THE TRAINING PROGRAMME

Experience to date

What experience do you have in pharmacy to date? (years qualified, sector)

Motives

What were your **motives for moving** into the primary care setting?

What were your motives for **enrolling on the training programme**?

What are you hoping to **gain** from the training programme?:

- Skills
- Confidence
- Experience

Prior to the training, what **skills** did you have that you think are useful in the GP setting?

Experiences of the programme

What have been your general **experiences of the programme** so far?

Do you feel so far, the training programme is suited to your **learning needs**?

What **support** have you had from your tutor?

What is the **added value** of having a tutor?

What support have you had from **other staff** at the primary care practice?

Has the programme met your **expectations**?

So far, what have you found to be the **most useful** aspect of the programme?

Are there any aspects of the training that you felt were **not applicable or useful** to you?

Future

Do you have any suggestions for how the programme might be **improved**?

What sort of training or support do you feel is necessary for the **successful transition** of a pharmacist into a GP setting?

Where do you hope to see yourself in the future? Could you describe your **ideal job**?

QUESTION SCHEDULE FOR TUTEES, AT THE END OF THE TRAINING PROGRAMME

General Experiences

How has the transition training **been for you**? How might you **describe** the programme to a colleague?

How do your experiences of the training programme **compare with your initial expectations**?

Do you feel you **gained** everything from the programme that you'd initially hoped?

Fit-for-Purpose

To what extent do you think the training programme **prepares pharmacists for practice** in the primary care setting?

What do you see as the **most useful** aspects of the training programme for the trainees?

Were there any aspects of the training programme that were **not particularly useful or relevant**?

What were the key **challenges** of completing the programme?

Overall, do you think the training programme is **fit-for-purpose**?

Looking to the Future

Can you suggest any **improvements** to the transition training programme?

Would you **recommend** the training programme to a pharmacist looking to move into the primary care setting? **Why**? Do you think the programme might **suit some more than others**? Who? Why?

What **advice** would you offer to someone considering pursuing the transition training programme?

What do you **plan** to do once you have completed the training programme? Is there anything that you still **do not feel prepared for**? What are your **goals** for the next 5 years?

Any other comments?

QUESTION SCHEDULE FOR TUTORS, AT THE END OF THE TRAINING PROGRAMME

General Experiences

How has the transition training **been for you**? How might you **describe** the programme to a colleague?

How do your experiences of the training programme **compare with your initial expectations**?

Fit-for-Purpose

To what extent do you think the training programme **prepares pharmacists for practice** in the primary care setting?

What do you see as the **most useful** aspects of the training programme for the trainees?

Were there any aspects of the training programme that you feel were **not particularly useful or relevant** to the pharmacists?

What were the key **challenges** of completing the programme? (for you, or your tutee)

Overall, do you think the training programme is **fit-for-purpose**?

Looking to the Future

Can you suggest any **improvements** to the transition training programme?

Would you **recommend** the training programme to a pharmacist looking to move into the primary care setting? **Why**? Do you think the programme might **suit some more than others**? Who? Why?

What **advice** would you offer to a **pharmacist** considering pursuing the transition training programme?

What **advice** would you offer to someone considering being a **tutor** on the transition training programme?

Any other comments?

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

The following table illustrates how our manuscript meets the COREQ criteria for reporting qualitative studies (http://www.cnfs.net/modules/module2/story_content/external_files/13_COREQ_checklist_000017.pdf).

No	Item	Guide questions/description	Our response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?	SB and AB
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*	Authors SB and AB both have PhDs and relevant academic experience. Author KS has an MPharm and relevant pharmacy practice experience [title page].
3.	Occupation	What was their occupation at the time of the study?	SB and AB are academic employees of Cardiff University, undertaking research. KS is an NHS Prescribing Lead and involved in Postgraduate Education Delivery in pharmacy. [title page]
4.	Gender	Was the researcher male or female?	All researchers are female.
5.	Experience and training	What experience or training did the researcher have?	All researchers involved in data collection (SB&AB) had prior experience of undertaking qualitative research. For this specific study, all researchers participated in a briefing prior to each round of data collection to ensure a common aim, understanding and approach. [page4]
Relationship with participants			

No	Item	Guide questions/description	Our response
6.	Relationship established	Was a relationship established prior to study commencement?	SB and AB made initial contact with participants (tutees and tutors) prior to the start of the study to inform them about the aims of the research and the nature of their potential involvement. KS had an existing relationship with participants due to her involvement in the training programme delivery and assisted in distributing relevant evaluation information to potential participants. [page4]
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.*g. personal goals, reasons for doing the research*	Participants were informed about the research by the information sheet, and typically received a short verbal background to the research and researcher prior to the commencement of data collection. [page4]
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic*	We report on the impartial position of researchers SB and AB as social scientists and not working within the health sector and thus lessens the risk of biased interpretations. However due to limited contextual knowledge, KS provided appropriate consultation in her role as a GP practice pharmacist and education lead. [pages9+10]

Domain 2: study design

Theoretical framework

9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*	We used an interpretive phenomenological approach (IPA) as we sought to explore personal experience and perception from the participants' point of view (Smith & Osborn 2003) [page4]

Participant selection

10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*	We employed an opportunity sample based on pharmacists and tutors enrolled on the transition training programme. [page4]
11.	Method of approach	How were participants approached? e.*g. face-to-face, telephone, mail, email*	AB and SB attended an initial induction event for the tutors and tutees where they introduced themselves and the research, informing them that they would be invited to participate. KS, in her role in HEIW then distributed an information sheet to all potential participants on our behalf and invited participation. [page4]
12.	Sample size	How many participants were in the study?	Data were collected from 16 participants (10 tutees and 6 tutors). All 10 trainees participated in one-to-one semi-structured telephone interviews approximately midway through their training. Trainees and tutors were then invited to participate in a semi-structured focus group at the end of the training programme. [pages4+5]
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	All pharmacists enrolled on the training programme (tutees) participated in the

			research and both points of data collection. Data were collected from 6 out of a possible 10 tutors, the remaining 4 were not present at the study day which was used to implement the endpoint focus groups. No participants dropped out of the research project. [page5]
Setting			
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace*	Telephone interviews were conducted at a location of the participants' choice. Focus group data were collected at pre-arranged study days for tutees and tutors on the transition training programme. [page4]
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	No.
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Tutee participants had a range of prior experiences in pharmacy and across sectors, and various years of experience. Tutors were experienced pharmacists working in primary care and trained in the tutor role. [pages5+6]
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	SB and AB had a telephone interview question schedule and suggested prompts to facilitate discussion with the tutees. Results from this initial data collection informed the structure of the focus group question schedules later on. all question schedules were reviewed by KS. [page 4+supplementary material]

18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?	All tutees participated in one-to-one telephone interviews approximately midway through their training, and in focus groups towards the end of their training (~6 months later). Tutors participated in focus groups on one occasion, towards the end of the programme. [pages4+5]
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording only. [page4]
20.	Field notes	Were field notes made during and/or after the interview or focus group?	Interviewers made notes as a back-up to a potential failed recording but only the transcripts were analysed.
21.	Duration	What was the duration of the interviews or focus group?	On average, telephone interviews lasted 17 minutes and focus groups lasted 27 minutes. [page5]
22.	Data saturation	Was data saturation discussed?	Data saturation is not discussed as we engaged with all tutees on the training programme and therefore there were no more potential participants to engage with. Our participants also entered the programme with a variety of prior experiences so with our IPA we sought to explore the different personal experiences. Data saturation is also a contested concept within qualitative research, particularly outside the use of grounded theory (see O'Reilly & Parker (2012) 'Unsatisfactory saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. Qualitative Research 13(2), 190-197). [page5]
23.	Transcripts returned	Were transcripts returned to participants for	Transcripts were not returned to the participants for comment and/or correction.

		comment and/or correction?	All transcripts were checked and corrected by the researchers collecting the data by listening and re-listening to the audio-recordings. As data from the telephone interviews informed the question schedules used in the later focus groups, this provided opportunity to elaborate and clarify key points. All themes emerging from the full dataset was discussed with the Pharmacy group at HEIW. [page10]
Domain 3: analysis and findings			
Data analysis			
24.	Number of data coders	How many data coders coded the data?	SB developed the coding framework and agreed an analytical strategy with the project director AB. Coding was performed by SB and AB and cross checked for consistent interpretations. All themes were discussed between SB, AB and KS. [page4]
25.	Description of the coding tree	Did authors provide a description of the coding tree?	No.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data in line with an interpretive phenomenological approach.[page4]
27.	Software	What software, if applicable, was used to manage the data?	NVivo [page4]
28.	Participant checking	Did participants provide feedback on the findings?	No. [page10]
Reporting			

29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.*g. participant number*	Yes, quotes are presented and each quotation is identified by role and an allocated pseudonym of the individual participants. [pages6-9]
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes.
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, notably in terms of prior experience of the general practice setting. [page5]

BMJ Open

"I thought it would be a very clearly defined role and actually it wasn't": a qualitative study of transition training for pharmacists moving into general practice settings in Wales

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Title Page

Article Title: "*I thought it would be a very clearly defined role and actually it wasn't*": a qualitative study of transition training for pharmacists moving into general practice settings in Wales

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Contributors
AB was the study lead overseeing all activity. SB and AB designed the study protocol and data collection instruments and obtained ethics approval. KS coordinated participant recruitment, SB and AB performed data collection. Data analysis was initially undertaken by SB and themes were discussed, checked and reviewed with AB. SB produced the first paper draft and AB and KS contributed to revisions. All authors have given their approval of this version to be published and all have agreed to be accountable for all aspects of the work including matters related to accuracy or integrity.

Abstract

Objective: Pharmacists are increasingly contributing to the skill mix of general practice surgeries to help alleviate pressures faced by UK doctors working in primary care. However, they need support in overcoming barriers to their integration. The purpose of this work was to evaluate a programme designed to support pharmacists' transition to working in general practice settings. We explored the learning needs of pharmacists', the barriers and enablers to their integration and provide recommendations based on our results.

Intervention: A qualitative evaluation of a one-year transition programme in Wales starting in September 2018 to support pharmacists' transition to working in general practice settings.

Design and Setting: We employed an interpretative phenomenological approach involving ten pharmacists across Wales enrolled on the transition to general practice training programme, and their tutors. Data were collected across two sequential phases: in Phase 1 telephone interviews were held with pharmacists midway through their training; in Phase 2, focus groups were conducted with both pharmacists and tutors towards the end of the programme.

Results: Pharmacists enter general practice settings with a variety of prior experience. The programme provided a framework that pharmacists found helpful to map their experience to but the programme needed to be flexible to individual learning needs. The tutor role was typically regarded as the most valuable component, but interaction with the wider general practice team was critical to ease the transition. Pharmacists encountered a lack of clarity about their role which impeded their integration into the workplace team.

Conclusions: A formal programme with a designated tutor can support pharmacists' transition into general practice settings. The programme's competency framework facilitated reciprocal understanding of the pharmacist's role in the team, helped to manage expectations, and enhanced collaborative practice. Recommendations to facilitate pharmacist integration into general practice settings are provided.

Strength and Limitations

- The data, collected from multiple sources (tutees and tutors), at multiple time points is a strength of the study, permitting triangulation of views.
- Results from Phase 1 informed data collection in Phase 2, therefore permitting additional follow-up and clarification of key points.
- Although the study sample was Wales-wide, we acknowledge the small participant numbers.
- The study would be strengthened by a longitudinal follow-up of tutees to explore the contributions of pharmacists to primary care teams.
- Perceptions from other members of the general practice team, and patients, would provide a further and external viewpoint on the training programme and more generally, on the pharmacist role in primary care.

Main Text

INTRODUCTION

Populations are ageing and the prevalence of chronic conditions increasing. Combined with shortfalls in recruitment of general practitioners (GPs) and practice nurses, it is challenging for general practice surgeries in the UK to meet the health demands of today's society, particularly within the context of a pandemic [1,2]. To alleviate such pressures, the composition of interprofessional care teams is broadening within primary care health systems in the UK and further afield [3,4]. This development has embraced pharmacists and resulted in substantial changes to their role which was traditionally based in either community or hospital settings. In the last decade, pharmacists have increasingly been integrated into the skill mix of general practice surgeries [4].

The introduction of pharmacists to the general practice skill mix provides a valuable asset to patients and a complementary skill set to other primary healthcare professions [1]. Specific benefits seen so far include a reduction in patient waiting time; improved screenings and diagnoses of chronic and common ailments; a reduction in medicine waste; and savings in general practice locum costs [5]. An observational study in Scotland revealed that the integration of a clinical pharmacist into a general practice released as much as five hours of general practitioner time each week [6].

However, it is not uncommon for pharmacists to be confronted with barriers to their integration. Lack of clarity on their role can result in other healthcare professionals in the team not knowing what to expect from the pharmacist [4,6]. Furthermore, in the early integration phases, rather than alleviating pressures, the pharmacist's dependence on other team members can instead create additional work for physicians and nurses [7].

Therefore, to support pharmacists transitioning into the general practice setting in Wales, Health Education and Improvement Wales (HEIW) devised a new training programme that offers tailored support to pharmacists taking up these roles. The transition programme runs over 12-months and is centred on a competency-based framework for general practice -based pharmacists as approved by the Royal Pharmaceutical Society (RPS) (see Supplementary Material). Pharmacists undertake self-assessments against this competency framework at months 3, 6 and 12 of the programme, which are used to inform their training needs. Each pharmacist is provided with 21-days of one-to-one support from an experienced general practice pharmacist (having a minimum of three years' experience in a clinical patient-facing role and a practicing independent prescriber) who is trained as a tutor. In months 1 to 3, the pharmacists receive support on a day-a-week basis. This reduces to one-day-a-fortnight in months 4 to 6 and to half-a-day-a-month in months 7 to 12. The role of the tutor is to support the development of a workplan for the pharmacist, provide ongoing support throughout the programme, review the pharmacist's progress and all evidence they collect against the competency framework, and sign-off competencies that have been sufficiently demonstrated.

In recruiting pharmacists onto the programme, HEIW targeted all pharmacists new to a general practice role by circulating programme information flyers to general practice surgeries in Wales. HEIW specified two entry requirements for enrolment: pharmacists had to be employed within a general practice surgery and hold less than 12 months of experience in their role. A total of 10 eligible pharmacists enrolled onto the training programme.

Given that the competency-based framework had previously been reviewed and approved by the RPS, the focus of this study was on training structure and support rather than curriculum and competencies. Our purpose was to evaluate the programme, focusing on the experiences of the

pharmacists transiting to working in general practice settings and the views of their tutors. As our primary outcomes, we sought to address three research questions:

1. In the context of prior experience, what are the learning and support needs of the pharmacists joining the training programme?
2. What are pharmacists' and tutors' views and experience of the transition training programme?
3. What challenges do pharmacists face in transitioning into a general practice role?

METHOD

This study employed an interpretative phenomenological approach (IPA) in order to provide a detailed exploration of the transition training programme that reflects the participants' personal accounts and evaluations [8]. Although there is a descriptive element, which was important in the context of sensitivity towards individual perceptions and responses from participants with varied experiences prior to entering the programme, IPA allows us to go beyond description and draw out commonalities and differences across participants. Our target participants were pharmacists on the transition programme and their tutors as our focus was primarily experiential: the learning and support needs of pharmacists and their experiences of transition and integration into GP practice settings. The nature of the tutor role meant that they were in close contact with these pharmacists and so offered a complementary perspective of the programme.

Ten pharmacists (referred to herein as tutees) were recruited by University Health Boards (UHBs) in Wales to enrol on the transition training programme: three in Betsi Cadwaladr, three in Cwm Taf Morgannwg, two in Aneurin Bevan and one each in Hywel Dda and in Swansea Bay. All ten tutees and their tutors were invited to participate in the study. Invitations to participate in the study were drafted by the researchers and distributed via HEIW on their behalf. Data collection was undertaken in two phases between April and September 2019:

- Phase 1 (April – June): telephone interviews with tutees approximately midway through the transition training programme
- Phase 2 (September): focus groups with tutees and tutors towards the end of the transition training programme

The change from interviews to focus groups in Phase 2 was implemented in order to capitalise on participants' confirmed attendance at a pre-arranged event and thus minimising the impact and time the evaluation required from participants. This approach also provided a greater assurance that we would be able to capture data from all tutees on the programme. Interviews and focus groups were carried out by authors SB and AB who had no existing relationships with participants. They participated in a briefing prior to each round of data collection to ensure a common aim, understanding and approach. Interviews were semi-structured, and the study design involved a sequential approach to data collection such that data from Phase 1 were coded, reviewed and used to inform the question schedules implemented in Phase 2. All question schedules are provided in the Supplementary Material.

Telephone interviews were held with tutees at a time suggested by them and focus groups took place at scheduled study days tutees and tutors were already attending. In total, three focus groups were conducted: one with tutees only, one with tutors only and one mixed. For logistical purposes, the mixed focus group was conducted via teleconference, and it was not possible to separate tutees and tutors due to access to video-conferencing at the venue. All telephone interviews and focus groups were audio recorded and transcribed verbatim. Transcriptions were checked for accuracy

and transferred into NVivo software for analysis. The data were analysed thematically, following six steps [9]: familiarisation with the data, generation of initial codes, identification of themes, theme review, defining and naming themes, reporting. Codes were initially generated by one author (SB) and then discussed and agreed with a second author (AB). Final themes were mapped against the research questions for reporting.

This study was granted ethics approval from the School of Social Sciences Research Ethics Committee at Cardiff University (SREC/3082). To protect identity, all participants were assigned a pseudonym and individual UHBs are not named in the results. Participant roles (tutee, tutor) and study phases are reported to provide context and reflect the evolution and longevity of views.

Patient and Public Involvement

No patient involved.

RESULTS

Across both phases, data were gathered from all ten tutees, and six of the ten tutors (see Table 1). A total of 2 hours 50 minutes of interview data was gathered in Phase 1 from the ten participants (average of 17 minutes per interview). Focus groups in Phase 2 yielded a total of 1 hour 21 minutes of conversation data (average of 27 minutes per focus group).

Table 1 – Summary of Data Collection

Phase of Study	Data Collection Method	No. Tutees	No. Tutors	Total No. Participants
Phase 1	One-to-one telephone interviews	10	-	10
Phase 2	Focus group 1	3	2	5
	Focus group 2	7	0	7
	Focus group 3	0	4	4

Tutees entered the programme with a range of prior experiences in pharmacy (see table 2): all bar one had some community pharmacy experience and five had some experience in a general practice setting. Many of the tutees had been qualified for more than ten years. Three were currently working across multiple general practices within a geographical area. In the presentation of findings, we draw attention to whether participants had prior experience in general practice settings.

Due to our engagement with all tutees on the programme and the evident variety in their prior experiences, we sought to explore individual personal experiences and therefore data saturation is not discussed. Data saturation is also a contested concept within qualitative research, particularly outside the use of grounded theory [10].

Table 2 – Summary of Tutees' Experience in Pharmacy Sectors prior to the Training Programme

Tutee (pseudonym)	Hospital Experience	Community Experience	General Practice Experience	Cluster Pharmacist*
Sarah	X	X		

Anna		X		X
Jessica	X	X		
Melanie		X	X	
Alun	X	X		X
Harry		X	X	
George		X	X	
Glesni	X		X	X
Suzie		X	X	
Steffan	X	X		

*Cluster pharmacists are employed by the Health Board to work across a group of practices within a 'primary care cluster' rather than in one fixed practice.

Results are organised around key themes that have been mapped against our three research questions: learning and support needs of pharmacists, views and experiences of the transition training programme, and challenges for pharmacists in the general practice setting.

Learning and Support Needs of Pharmacists

In Phase 1, tutees were asked about their learning and development needs and what they hoped to gain from the transition training programme. Tutees with no prior experiences in general practice settings wanted a structured learning programme that provided a clear direction "*mapped out for you in advance*" for a relatively new role:

> "*I just think having a structure in place of what you need to cover […] rather than just floundering along and dealing with things when you get to them*." (Anna, Tutee, Phase 1)

Several also wanted to know more about the particulars of the general practice environment and gain a "*a good idea of what is required*" to develop their confidence in this setting. Tutees who already had some experience in general practice settings reported wanting to shift their focus more towards face-to-face patient interactions and so wanted to develop their consultation and clinical skills, particularly in working with patients with complex needs. Melanie described this shift in focus:

> "*When I started in primary care* [i.e. a general practice setting], *it was as a prescribing advisor, going around a variety of surgeries and helping them with auditing and cost savings and safe prescribing and things like that. So not necessarily going into like the nitty gritty and face-to-face contact with the patients*." (Melanie, Tutee, Phase 1)

If prior work experience had been in a different sector, tutees wanted to understand how primary care "*works*". Tutees both with and without prior general practice experience, welcomed the opportunity to "*learn off other people*" and gain input from experienced pharmacists *"who have done the role before*".

Views and Experiences of the Transition Training Programme

There were several key aspects of the training programme that participants commonly commented upon. These were in relation to the tutor role, pharmacists' interactions with other healthcare professionals, how this transition training programme had influenced their practice, and where they saw scope for improvements to the programme. Each of these is discussed in turn.

Added Value of Tutor Role

Tutees emphasised the value of the tutor role. Many commented on this, describing the tutor as *"absolutely brilliant",* "*the best thing*" and "*most important*" aspect of the programme. They emphasised that the tutor was a central component and noted that the programme "*isn't going to work on its own*". Alun, for example, ascribed his development to the tutor's input:

> "*My mentor* [tutor] *has been very good and he's afforded me the opportunity to upskill very quickly. I wouldn't be in the position at this stage if it wasn't for the input from them."* (Alun, Tutee, Phase 1)

Specifically, tutees commented on how tutors both tailored the structured programme to tutees' learning needs and also reduced feelings of isolation. Given the diversity of pharmacists' roles, some tutees in Phase 1 specifically commented on the need for a "*tailored*" programme that could be "*flexible to who it's for*". Tutees recognised their different starting points and expressed concern that for those with more experience, competencies geared to pharmacists new to general practice could become a "*tick-box exercise*". For example, Glesni, with prior experience of working in a general practice, commented:

> "*Some of the competencies you've done but you haven't actually got the evidence for them. So is it a bit time consuming and a lot of work just to add them*" (Glesni, Tutee, Phase 1)

However, as they progressed through the programme, it appeared that tutors were able to respond flexibly and that together, the tutee and tutor could tailor the framework to suit individual needs. One tutor explained:

> "*She* [tutee] *already knew the basics of the practice and what to do with the practice. She didn't need that front-loading. But if you had someone who was new into the role and never done it, obviously you'd need to schedule a lot more time initially either with the tutor or with other members of the team to make sure that they get the good support and the good grounding with how practices work*." (Emma, Tutor, Phase 2)

One tutee described a negotiated approach, commenting that "*it's almost an agreement between you and your tutor…. It's whatever works for you really*." (Alun, Tutee, Phase 2)

Tutors also helped to reduce feelings of isolation often experienced in pharmacy settings [11, 12] and offered a "*buddy system*" of support. Although Harry had prior experience of working in a general practice setting, he recognised the isolation issue: "*I think as pharmacists it's very easy to get isolated and put on your own"*, and highlighted the value of the tutor: "*So, to be put with a tutor where you can link in with somebody, you can run things by and question, is really useful*." (Harry, Tutee, Phase 2)

The tutor as a sounding board was emphasised by others. Steffan (Tutee, Phase 1) remarked how it had been "*really good to have somebody at the end of the phone […] or send a text, just to ask questions."* . In addition to informal contact, both tutors and tutees stressed the importance of scheduling regular meetings, ensuring that this was protected time to focus on the tutee's development:

> "*Making sure that time is actually set aside to spend with your tutee, rather than just trying to do it in amongst everything else. I think having that one-to-one time when you're only focussing on the course, is really important*." (Anna, Tutee, Phase 2)

Interactions with Other Healthcare Professionals

Despite their critical role, tutors also felt it was important that tutees interacted with other clinicians in the workplace team and were not solely reliant on their tutor's expertise:

> "*From the tutor's perspective you've got enough flexibility for the students* [tutees] *to be able to do stuff with you but also with other people, so that they can get a lot of experience with the clinicians, different people that we also work with, different people in the team to gain their competencies for the different requirements*." (Emma, Tutor, Phase 2)

This was echoed by the tutees who generally spoke positively about the support they had received from general practitioners, nurses and in some cases, other pharmacists. Alun, who had no prior experience in general practice settings commented:

> "*One of the GPs says, 'actually that was good, but you could have done this, you could have considered that.' And so, I'm getting support there. The nurses are the ones I tend to interact with, I've got good working relationships with most of them*." (Alun, Tutee, Phase 1)

Tutors commented on the value of clear expectations of pharmacists on this programme. In their view, this strengthened tutees' relationships within the practices. In terms of offering advice to prospective tutees and tutors, both groups commented on the importance of "*build*[ing] *up the connections between tutors and other people in the practice as early as you can, so you can understand better how everyone works*" (George, Tutee, Phase 2). Fiona, a tutor, also argued for "*liaison between the tutor and their line manager*."

Influence on Practice

Where in Phase 1 tutees reported a desire to build their confidence, Phase 2 provided evidence that this had been achieved and tutees, both with and without prior general practice experience, had become more aware of their strengths and scope of practice:

> "*It's almost an evaluation of how you're doing: what you need to improve on and what you're doing great … It also gives you a bit of confidence that you can do the job and you're fully aware of what is expected of you.*" (Jessica, Tutee, Phase 1)

> "*It's given me a bit of confidence… as the year has gone by it makes me think 'actually, I do know what I'm doing'…I suppose when you're doing the work day-to-day because you're not documenting what you've done you don't realise the scope of your practice*." (Melanie, Tutee, Phase 2)

One tutee with experience in general practice settings felt that the requirement to reflect on and justify decisions during their training had helped him to practice more safely:

> "*It certainly makes you reflect on the way you practice and think about safety boundaries. I think that's worth the training course just even to do that and we can justify any decisions you make while you're practising. This programme has made me think about that*." (Harry, Tutee, Phase 2)

Areas for Programme Improvement

Tutees generally reflected positively on the transition training programme, citing it as "*extremely beneficial*" and a "*really good opportunity*":

> "*I think the content is ideal really. It covers literally everything you need to know to prepare you to do the job.*" (Sarah, Tutee, Phase 2)

Similarly, tutors felt the programme was "*really positive*" and "*hugely valuable*". Both groups reported that they would advise any pharmacist intending to move into the general practice setting to pursue the programme. That said, tutees and tutors were forthcoming in suggesting improvements to the programme. Several tutees reported a desire for greater clarity or direction in evidencing competencies:

> "*I'm used to the concept of gathering evidence to prove competence, but I think it was a little bit confusing really of exactly what evidence you needed."* (Sarah, Tutee, Phase 1)

A further area of improvement related to a more deliberate matching of tutors and tutees in terms of geography, work rotas and computer systems. It was suggested that this would help tutees to get the most out of their interaction with their tutors.

Challenges for Pharmacists in the General Practice Setting

Participants discussed broader challenges to their integration into the general practice setting. There was discussion about the lack of awareness of the pharmacist's role in such a setting. Alun (Tutee, Phase 1) remarked: "*I thought it would be a very clearly defined role and actually it wasn't."* Lack of a shared understanding of the pharmacist's role stood as a potential barrier to their training, development and integration:

> "*A lot of employers who had never had pharmacists before don't really know what we can and can't do."* (Harry, Tutee, Phase 1)

Tutees felt that this awareness needed to be reciprocal so that employers know what to expect from pharmacists and pharmacists know what is expected of them, and when to say no if asked to do something beyond their scope of practice. However, concerns were not unanimous, and levels of role clarity appeared to vary across practices:

> "*The practice where I am now, have got a really good awareness of pharmacists and what we do. I think both practices had pharmacists for a number of years, so they're quite experienced in terms of knowing what we bring to the role really*" (Steffan, Tutee, Phase 1)

Tutors also underscored the importance of employers not only understanding the pharmacist role but also recognising their commitments whilst on the programme. Tutees highlighted difficulties more related to the training programme itself. These related to the cluster pharmacists experiencing different computer systems across practices or inconsistency in computer systems across tutor and tutee practices. The logistics of working across multiple practices also presented challenges for both the tutees and tutors:

> *"I'm just doing different things every day in different surgeries, and from that perspective it's been slightly harder to plan my training time."* (Anna, Tutee, Phase 1)

> "*Having a set structured day would be much more helpful but she couldn't do that because of pressure on her from the practices."* (Fiona, Tutor, Phase 2)

Some tutees were pursuing the Independent Prescriber (IP) course in parallel to the transition training programme. However, doing both in parallel raised prioritisation issues; in some cases, portfolio development was stalled while the prescribing course was prioritised. Tutors were aware of

such problems, sensing their tutees were "*overwhelmed by doing the two together*" and the general consensus among tutors was that they would not recommend that the IP course is undertaken at the same time as the transition programme. Some suggested that the pursuit of the IP course could be viewed as an appropriate next step and one tutee specifically remarked that it "*would be good if it* [the transition training] *leads onto that*".

DISCUSSION

This study yielded a rich understanding of tutees' and tutors' experience of the transition training programme in Wales. Given that many pharmacists entering general practice settings will have a range of prior experience and varied backgrounds, our results indicate the importance of having a transition programme flexible enough to tailor to different learning needs. The role of the tutor is critical in ensuring this tailored learning approach and the tutee-tutor relationship can also help to alleviate feelings of isolation. The importance of relationships with the wider general practice team are also emphasised. The competency framework embedded within the training programme can facilitate role clarity among stakeholders and assist the management of expectations.

Researchers SB and AB undertook the data collection and analysis. Their impartial position as social scientists, not influenced by working within the healthcare sector, lessened the risk of biased interpretation of the data collected. This had the disadvantage of limited contextual knowledge, but this was addressed through consultation with pharmacy education leads at HEIW and co-author, KS. Furthermore, results from Phase 1 informed data collection in Phase 2 which permitted additional follow-up and clarification of key points. Although data interpretations were not directly confirmed with participants, results were discussed with pharmacy education leads at HEIW. In terms of sample size, although Wales-wide, we acknowledge that participant numbers were small and that specifically, those who took part in the mixed focus group (comprising both tutors and tutees) may have been less candid in their responses, although there was no evidence of this in comparison to the data collected from single role groups. We also recognise the limitation of a Wales-only study but suggest that our recommendations are relevant to wider interprofessional general practice teams.

The importance yet lack of role clarity and understanding of pharmacists' scope of practice is by no means a new finding. There have been reports of occasions in practice where pharmacists felt GPs' expectations were too high and unsustainable given time constraints [6]. It has been argued that this barrier can be overcome when the pharmacist works with the general practice team to develop a job description [3,4]. Other research suggests the need for regular meetings between pharmacists and other practice staff [13] and ongoing stakeholder consultation [14]. However, we argue that a widely implemented competency framework could provide a valuable resource that pharmacists and the wider team can refer to from the outset and could be used to manage expectations. Nonetheless we recognise there is not a 'one-size-fits-all' and consideration should also be given to the needs of the individual general practice, and not merely assuming a rigid national role description [15].

The matter of role clarity also draws on the importance of interprofessional collaboration, endorsed by the General Medical Council (GMC) in 'Good Medical Practice' where it is stated that doctors practicing in the UK "*must work collaboratively with colleagues, respecting their skills and contributions*" [16]. Effective teamwork is recognised as key to the delivery of safe patient care and poor collaboration puts patients at greater risk of harm [17,18].

Where this study has demonstrated that pharmacists' professional relationships with the general practice team were paramount to successful integration, elsewhere, we see that such relationships are facilitated by open communication, respecting the expertise of different team members and by pharmacists exhibiting an approachable demeanour to the wider team [4]. Although a framework, such as that utilised in the transition programme, could aid interprofessional collaboration within the general practice team, it cannot guarantee mutual respect for skills and contribution to activity in general practice. The role of the tutor appears to be critical to pharmacists' transition, not only ensuring training is tailored to need, where we note that some pharmacists may not recognise gaps in their knowledge and skillset [19], but also in supporting the pharmacist to forge relationships with other general practice team members. In turn, this facilitates the general practice team working collectively in the best interests and safety of their patients.

The suggestion of the Independent Prescriber course becoming a natural follow-on from the transition programme is worthy of consideration given that it appears to be a common intention of these pharmacists and will impact on the role they can fulfil in primary care. Elsewhere, prescribing pharmacists have been seen directly to save a GP appointment for acute illnesses [1], and pharmacists who were already independent prescribers or completing the course have displayed higher self-assessed competence in their day-to-day general practice role than those without [20].

In terms of further research, we suggest that a longitudinal follow-up of tutees could valuably explore the contribution of pharmacists to primary care teams. Such longer-term follow-up could also seek reflections on the competencies, identifying those particularly relevant to the role, irrelevant, or missing. The focus of this study was to understand the pharmacists' perspective on their learning and support needs and experience of integration, and to triangulate their views with the tutors. This added to the validity of the otherwise one-sided tutee perspective. In future research, additional perceptions from other members of the general practice team, and patients, would provide a further viewpoint on the training programme and more generally, on the pharmacist role in primary care.

A programme such as this could smooth pharmacists' transition into the general practice setting, not only by supplying essential tutor support but also by providing a framework for pharmacists and other staff in the general practice team to enhance their understanding of the pharmacists' scope of practice and encourage interprofessional collaboration. In conclusion, points for consideration by stakeholders (pharmacists, general practice professionals and educators supporting this transition) are suggested in Table 3. These are focused on how to support pharmacists integrating into general practice settings.

Table 3 – Recommendations

Professional Role	Suggestions
Pharmacists considering transitioning into general practice teams	• The competency framework for the pharmacists' role, provided by the transition training programme should be used to manage expectations • A formal tutor is integral to tutee development, but pharmacists should also establish good relationships with the GP healthcare team
General Practice Professionals	• The wider general practice team should utilise a standardised competency framework to facilitate their understanding of the pharmacist role and their scope of practice

	• The general practice team should aim to build a relationship with the pharmacist (and their tutor), to share expectations and enhance integration
Educators and Tutors	• Pharmacists will enter GP settings with various learning and development needs. A transition programme must be flexible enough to be tailored to these • The IP course would be a well-positioned follow-on from the transition programme, but pursuing this in parallel to the transition training is not recommended • Cluster pharmacists can face difficulties in time management across multiple practices; this needs to be considered in any transition programme • Learning is supported where tutees and tutors are appropriately matched (in terms of geography, work rotas and practice computer systems)

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Competing Interests
Co-author Kate Spittle, in her role at Health Education and Improvement Wales, was associated with the implementation of the transition training programme. However, the data collection and analysis were undertaken by the other authors (SB, AB).

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Data Sharing Statement
Participants have not given their permission for data sharing outside of the research group. Thus, no additional data are available.

Ethics Approval
This study was granted ethics approval from the School of Social Sciences Research Ethics Committee at Cardiff University (SREC/3082).

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ROYAL PHARMACEUTICAL SOCIETY

Knowledge and Capability Guide: GP Pharmacists (1)

Knowledge items taken from the RPS Knowledge Interface Tool (KIT)

Throughout the programme, the following skills should be demonstrated during assessments on the below topics where appropriate:

- Self Reflection
- Documentation in records
- Interaction with patients and other health care professionals
- Awareness of personal clinical and skills limitations
- Ability to refer appropriately
- Communication skills to include Consultation Skills and Telephone Skills

All competencies should have a variety of evidence sources including knowledge and self-direct learning but MUST include experiential learning to demonstrate practical application of knowledge and skills in the GP Practice setting.

Demonstrate knowledge, understanding and experiential learning for the following:

Topic	Knowledge Item
GP Practice Structure	Structure of a General practice, to include size, patient demographics, staff profile, administration processes and appointment systems
Repeat Prescribing Processes	Repeat prescribing process in a General Practice
Acute Medication Prescribing Process	Acute prescribing process in a General Practice

GP Computer System	Ability to use the GP computer system, to check Patient Medication Records, relevant clinical information and drug monitoring
IT Systems	Ability to access information on the Trust Intranet e.g. clinical guidelines, Formulary, Trust policies
IT Systems	Ability to access the local laboratory test results system
Dosing Information	Factors to be taken into consideration when advising on dose calculations in adults and children - including determination of body surface area, weight, age, kidney function; and an ability to calculate doses from relevant parameters
Adverse Drug Reactions	Yellow Card Scheme for reporting adverse drug reactions, and the role of the MHRA in monitoring data on adverse drug reactions.
Allergies	Pathophysiology of, and risk factors for the development of allergies; primary and secondary prevention of allergies; and the mechanism of action, pharmacology, pharmacokinetic characteristics and clinical use of treatments for allergies
Drug Formulations	Ability to advise on the manipulation of drug formulations to maximise compliance/ effectiveness
Drug Formularies	Use of a local formulary and an ability to appropriately manage requests for non-formulary medicines.
Clinical Governance	Clinical governance process in a general practice and the health board.
Clinical Governance	Incident reporting system; an ability to contribute to the reporting and promotion of appropriate reports

Adverse Drug Reactions	Types of adverse drug reactions e.g. Type A, Type B, idiosyncratic etc.; the mechanism and clinical significance of adverse drug reactions; the factors to consider when assessing the likely cause of an adverse reaction; an ability to advise on the management and/or avoidance of side effects and adverse drug reactions;
Yellow Card Reporting	Yellow card scheme for reporting of adverse drug reactions: an ability to identify and report adverse drug reactions in children and adults; and promotion of appropriate reports when notified of drug related adverse events.
Answering Medicines Information Enquiries	Common types of medicines-related enquiries for the following:
	Drugs interactions
	Administration of medicines
	Adverse drug reactions
	Alternative medicines
	Common ailments and medicines use
	Use in children
	Unlicensed/off-label medicines.
Answering Medicines Information Enquiries	Renal impairment
	Liver impairment

	Breast-feeding
	Pregnancy
	Therapeutic drug monitoring
Medication Reconciliation and Review	Ability to differentiate between the use of the following processes: medicines reconciliation; medication review; medicines use review
Medicines Reconciliation	Ability to accurately document the medicines reconciliation process and outcome(s) in accordance with local policy.
	Ability to resolve issues identified, or refer to another healthcare professional if appropriate when undertaking medicines reconciliation
	Ability to prioritise the issues identified according to their importance
Medicines Management	Ability to review and risk assess suitable alternative medications and/or formulations during periods of local or national supply shortages.
	Issues around supply of medication to care home residents and processes involved
Medicines Management	Most appropriate treatments for acute conditions; and an ability to make recommendations on the most appropriate treatment for acute conditions by applying clinical knowledge
	Most appropriate treatments for chronic conditions; and an ability to make recommendations on the most appropriate treatment for chronic conditions by applying clinical knowledge
	Concept of shared care, and the role of the pharmacist
Medication Review	Accurately obtains a medical and medication history from a variety of sources e.g. patient, carer, general practitioner; and an ability to accurately obtain a drug history including current and previously prescribed medicines, non-prescribed medicines, supplements, complementary remedies, allergies and intolerances.

	Concordance and adherence; an ability to identify and discriminate between intentional and non-intentional non-adherence; the behaviours, health beliefs and psychology that affect adherence; barriers to adherence; and an ability to identify solutions/support for overcoming barriers to adherence.
	Ability to identify pharmaceutical issues in order to optimise patient care. Demonstrates knowledge and understanding of, and an ability to appropriately follow up on interventions made
	Ability to provide non-pharmacological advice on lifestyle management to support priority NHS targets, e.g. smoking cessation, reduction in alcohol intake, exercise etc.
	Range of models of consultation and consultation skills; an ability to choose an appropriate consultation model to engage patients in discussion; and an ability to take the individual beliefs of patients into account to improve and optimise treatment success.
	Person centred care; identifying patient priorities including shared decision making; and communicating risk and benefits.
	Medication review for patients in the care home setting; an ability to develop a process for review, appropriate documentation in the GP practice and care home, referral when needed and follow up
Interpretation of Blood Tests	Biochemical tests and the clinical consequences of abnormal results; the common medicines and diseases that cause abnormalities in laboratory tests
Patient Safety	Role the National Patient Safety Agency used to have, and the range and status of the safety alerts it used to issue.
Clinical Examination Skills	Ability to use common diagnostic aids for assessment of the patient's general health status e.g. stethoscope, sphygmomanometer, thermometer, O2: an ability to recognise and respond to common signs and symptoms that are indicative of clinical problems and to refer appropriately
Communication	Strengths and weaknesses of the different communication methods used to deliver medicines information e.g. telephone, e-mail, person to person, formal letters etc.; and an ability to select the most appropriate method depending upon complexity and situation to ensure effective communication
	Ability to maintain patient confidentiality
Communicating with Health Professionals	Ability to demonstrate, effective communication skills when giving information about medicines to health professionals
	Ability to record interventions appropriately
Communicating with Patients	Ability to demonstrate effective communication skills when giving information to patients about their medication.
Communicating with colleagues	Ability to refer complaints to the appropriate member of practice / pharmacy staff.

Pharmacy Service Roles and Responsibilities	Roles and responsibilities of pharmacy technicians in the GP practice setting
Multidisciplinary Working	Structure of the services and systems of care; the roles of the healthcare professionals and other relevant teams, disciplines or agencies involved in patient care, including clinical nurse specialist and tissue viability nurse, dietitian, speech and language therapist, physiotherapy and occupational therapy; and referral pathways.
Communication	Ability to demonstrate effective communication when using the telephone
	Ability to manage difficult consultations appropriately
	Ability to work as part of a multidisciplinary team including interface considerations, social care etc
Performance Management and Development	Ability to provide constructive feedback to colleagues with respect to their performance, including both positive and negative feedback
Workload Management	Ability to delegate tasks and queries appropriately.
	Ability to negotiate deadlines e.g. with patient, colleagues, other staff members.
Documentation Management	Ability to keep appropriate records, and work within relevant clinical governance frameworks.
Change Management	Demonstrates knowledge and understanding of managing change
Education and Training	Ability to advance knowledge and understanding through continuing professional development and life-long learning.
	Ability to appraise own competence and limitations and formulate a development plan to address weakness identified.
	A ability to appraise own competence as a clinical practitioner, and formulate a development plan to address weaknesses identified.
	Ability to reflect on own learning needs in relation to their training and development activity undertaken.

	Ability to independently develop clinical pharmacy knowledge and skills in order to identify, prioritise and resolve complex pharmaceutical problems.
Medicines	Demonstrates knowledge and understanding of all aspects of medications, including: 1. mechanism of action; 2. pharmacology; 3. pharmacokinetics; 4. pharmaceutical aspects; 5. adverse effects, contraindications and interactions; 6. usual doses and routes of administration; 7. place in therapy; 8. monitoring requirements for the following conditions
	Hypertension
	Dyspepsia and GORD
	Arrhythmias and AF (to include anticoagulants)
	Analgesics
	Antidepressants
	Management of Diabetes (Oral Medication)

	Management of Diabetes (injectables)
	Management of Asthma
	Management of COPD
	Antibiotics

QUESTION SCHEDULE FOR TUTEES, MIDWAY THROUGH THE TRAINING PROGRAMME

Experience to date

What experience do you have in pharmacy to date? (years qualified, sector)

Motives

What were your **motives for moving** into the primary care setting?

What were your motives for **enrolling on the training programme**?

What are you hoping to **gain** from the training programme?:

- Skills
- Confidence
- Experience

Prior to the training, what **skills** did you have that you think are useful in the GP setting?

Experiences of the programme

What have been your general **experiences of the programme** so far?

Do you feel so far, the training programme is suited to your **learning needs**?

What **support** have you had from your tutor?

What is the **added value** of having a tutor?

What support have you had from **other staff** at the primary care practice?

Has the programme met your **expectations**?

So far, what have you found to be the **most useful** aspect of the programme?

Are there any aspects of the training that you felt were **not applicable or useful** to you?

Future

Do you have any suggestions for how the programme might be **improved**?

What sort of training or support do you feel is necessary for the **successful transition** of a pharmacist into a GP setting?

Where do you hope to see yourself in the future? Could you describe your **ideal job**?

QUESTION SCHEDULE FOR TUTEES, AT THE END OF THE TRAINING PROGRAMME

General Experiences

How has the transition training **been for you**? How might you **describe** the programme to a colleague?

How do your experiences of the training programme **compare with your initial expectations**?

Do you feel you **gained** everything from the programme that you'd initially hoped?

Fit-for-Purpose

To what extent do you think the training programme **prepares pharmacists for practice** in the primary care setting?

What do you see as the **most useful** aspects of the training programme for the trainees?

Were there any aspects of the training programme that were **not particularly useful or relevant**?

What were the key **challenges** of completing the programme?

Overall, do you think the training programme is **fit-for-purpose**?

Looking to the Future

Can you suggest any **improvements** to the transition training programme?

Would you **recommend** the training programme to a pharmacist looking to move into the primary care setting? **Why**? Do you think the programme might **suit some more than others**? Who? Why?

What **advice** would you offer to someone considering pursuing the transition training programme?

What do you **plan** to do once you have completed the training programme? Is there anything that you still **do not feel prepared for**? What are your **goals** for the next 5 years?

Any other comments?

QUESTION SCHEDULE FOR TUTORS, AT THE END OF THE TRAINING PROGRAMME

General Experiences

How has the transition training **been for you**? How might you **describe** the programme to a colleague?

How do your experiences of the training programme **compare with your initial expectations**?

Fit-for-Purpose

To what extent do you think the training programme **prepares pharmacists for practice** in the primary care setting?

What do you see as the **most useful** aspects of the training programme for the trainees?

Were there any aspects of the training programme that you feel were **not particularly useful or relevant** to the pharmacists?

What were the key **challenges** of completing the programme? (for you, or your tutee)

Overall, do you think the training programme is **fit-for-purpose**?

Looking to the Future

Can you suggest any **improvements** to the transition training programme?

Would you **recommend** the training programme to a pharmacist looking to move into the primary care setting? **Why**? Do you think the programme might **suit some more than others**? Who? Why?

What **advice** would you offer to a **pharmacist** considering pursuing the transition training programme?

What **advice** would you offer to someone considering being a **tutor** on the transition training programme?

Any other comments?

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

The following table illustrates how our manuscript meets the COREQ criteria for reporting qualitative studies (http://www.cnfs.net/modules/module2/story_content/external_files/13_COREQ_checklist_000017.pdf).

No	Item	Guide questions/description	Our response
Domain 1: Research team and reflexivity			
Personal Characteristics			
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?	SB and AB
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*	Authors SB and AB both have PhDs and relevant academic experience. Author KS has an MPharm and relevant pharmacy practice experience [title page].
3.	Occupation	What was their occupation at the time of the study?	SB and AB are academic employees of Cardiff University, undertaking research. KS is an NHS Prescribing Lead and involved in Postgraduate Education Delivery in pharmacy. [title page]
4.	Gender	Was the researcher male or female?	All researchers are female.
5.	Experience and training	What experience or training did the researcher have?	All researchers involved in data collection (SB&AB) had prior experience of undertaking qualitative research. For this specific study, all researchers participated in a briefing prior to each round of data collection to ensure a common aim, understanding and approach. [page4]
Relationship with participants			

No	Item	Guide questions/description	Our response
6.	Relationship established	Was a relationship established prior to study commencement?	SB and AB made initial contact with participants (tutees and tutors) prior to the start of the study to inform them about the aims of the research and the nature of their potential involvement. KS had an existing relationship with participants due to her involvement in the training programme delivery and assisted in distributing relevant evaluation information to potential participants. [page4]
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.*g. personal goals, reasons for doing the research*	Participants were informed about the research by the information sheet, and typically received a short verbal background to the research and researcher prior to the commencement of data collection. [page4]
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic*	We report on the impartial position of researchers SB and AB as social scientists and not working within the health sector and thus lessens the risk of biased interpretations. However due to limited contextual knowledge, KS provided appropriate consultation in her role as a GP practice pharmacist and education lead. [pages9+10]

Domain 2: study design			
Theoretical framework			
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*	We used an interpretive phenomenological approach (IPA) as we sought to explore personal experience and perception from the participants' point of view (Smith & Osborn 2003) [page4]
Participant selection			
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*	We employed an opportunity sample based on pharmacists and tutors enrolled on the transition training programme. [page4]
11.	Method of approach	How were participants approached? e.*g. face-to-face, telephone, mail, email*	AB and SB attended an initial induction event for the tutors and tutees where they introduced themselves and the research, informing them that they would be invited to participate. KS, in her role in HEIW then distributed an information sheet to all potential participants on our behalf and invited participation. [page4]
12.	Sample size	How many participants were in the study?	Data were collected from 16 participants (10 tutees and 6 tutors). All 10 trainees participated in one-to-one semi-structured telephone interviews approximately midway through their training. Trainees and tutors were then invited to participate in a semi-structured focus group at the end of the training programme. [pages4+5]
13.	Non-participation	How many people refused to participate or dropped out? Reasons?	All pharmacists enrolled on the training programme (tutees) participated in the

			research and both points of data collection. Data were collected from 6 out of a possible 10 tutors, the remaining 4 were not present at the study day which was used to implement the endpoint focus groups. No participants dropped out of the research project. [page5]
Setting			
14.	Setting of data collection	Where was the data collected? e.*g. home, clinic, workplace*	Telephone interviews were conducted at a location of the participants' choice. Focus group data were collected at pre-arranged study days for tutees and tutors on the transition training programme. [page4]
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?	No.
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Tutee participants had a range of prior experiences in pharmacy and across sectors, and various years of experience. Tutors were experienced pharmacists working in primary care and trained in the tutor role. [pages5+6]
Data collection			
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	SB and AB had a telephone interview question schedule and suggested prompts to facilitate discussion with the tutees. Results from this initial data collection informed the structure of the focus group question schedules later on. all question schedules were reviewed by KS. [page 4+supplementary material]

18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?	All tutees participated in one-to-one telephone interviews approximately midway through their training, and in focus groups towards the end of their training (~6 months later). Tutors participated in focus groups on one occasion, towards the end of the programme. [pages4+5]
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audio recording only. [page4]
20.	Field notes	Were field notes made during and/or after the interview or focus group?	Interviewers made notes as a back-up to a potential failed recording but only the transcripts were analysed.
21.	Duration	What was the duration of the interviews or focus group?	On average, telephone interviews lasted 17 minutes and focus groups lasted 27 minutes. [page5]
22.	Data saturation	Was data saturation discussed?	Data saturation is not discussed as we engaged with all tutees on the training programme and therefore there were no more potential participants to engage with. Our participants also entered the programme with a variety of prior experiences so with our IPA we sought to explore the different personal experiences. Data saturation is also a contested concept within qualitative research, particularly outside the use of grounded theory (see O'Reilly & Parker (2012) 'Unsatisfactory saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. Qualitative Research 13(2), 190-197). [page5]
23.	Transcripts returned	Were transcripts returned to participants for	Transcripts were not returned to the participants for comment and/or correction.

		comment and/or correction?	All transcripts were checked and corrected by the researchers collecting the data by listening and re-listening to the audio-recordings. As data from the telephone interviews informed the question schedules used in the later focus groups, this provided opportunity to elaborate and clarify key points. All themes emerging from the full dataset was discussed with the Pharmacy group at HEIW. [page10]
Domain 3: analysis and findings			
Data analysis			
24.	Number of data coders	How many data coders coded the data?	SB developed the coding framework and agreed an analytical strategy with the project director AB. Coding was performed by SB and AB and cross checked for consistent interpretations. All themes were discussed between SB, AB and KS. [page4]
25.	Description of the coding tree	Did authors provide a description of the coding tree?	No.
26.	Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data in line with an interpretive phenomenological approach.[page4]
27.	Software	What software, if applicable, was used to manage the data?	NVivo [page4]
28.	Participant checking	Did participants provide feedback on the findings?	No. [page10]
Reporting			

29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.*g. participant number*	Yes, quotes are presented and each quotation is identified by role and an allocated pseudonym of the individual participants. [pages6-9]
30.	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes.
31.	Clarity of major themes	Were major themes clearly presented in the findings?	Yes.
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, notably in terms of prior experience of the general practice setting. [page5]