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Evaluation of the Pre-registration Pharmacists in General Practice Project: *Final report*

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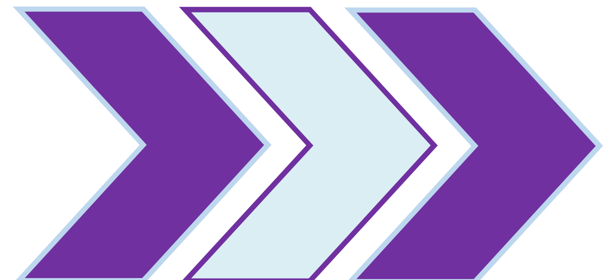

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Background

Pharmacists in Great Britain, usually undergo four years of university-based education leading to a Masters of Pharmacy (MPharm) degree, and 12 months of pre-registration training in the workplace where they are supervised by a pre-registration pharmacist tutor.[1] In most cases, the pre-registration year follows completion of an MPharm degree, but there are some intercalated or integrated 5-year programmes.

Pre-registration trainees have to meet 76 General Pharmaceutical Council (GPhC) performance standards, against which their pre-registration tutor signs them off during formal meetings after 13, 26, 39 weeks, followed by a final sign-off. Usually, pre-registration trainees undertake all 12 months of their pre-registration training in one sector, either in community or hospital pharmacy; they may undertake a short, cross-sector placement in order to be signed off against some sector-specific performance standards. Trainees also need to pass an all-day written GPhC registration assessment in order to apply for pharmacist registration with the GPhC.

In recent years, there has been a sharp growth in the number of pharmacists working in general practice to meet patient needs.[2] It is, therefore, important to equip the workforce with skills and understanding required for working in primary care to ensure a pharmacy workforce that is competent to work across different sectors. Furthermore, the GPhC introduced changes to the initial education and training of pharmacists in January 2021 that included replacement of the pre-registration year" with a foundation training year. This foundation training has been designed to make sure pharmacists are equipped for their future roles, with revised[3] learning outcomes covering the skills, knowledge and attributes needed to enable pharmacists to independently prescribe from the point of registration.

Pre-registration Pharmacists in General Practice Project

The Pharmacy Integration Fund (PhIF) invested in a cross-sector pre-registration training programme, where trainees were employed in a base pharmacy sector (community or hospital pharmacy) but spent between 13 and 26 weeks in a general practice (GP) setting. In these cross-sector placements, trainees have a pre-registration pharmacist tutor at the base setting (community/hospital) as well as a second pharmacist tutor in GP. The base tutor retains overall responsibility for the trainee throughout the pre-registration year. In this report, an evaluation of Pre-registration Pharmacists in General Practice is presented.

Trainees were supported by their tutors at each site and completed a reflective e-portfolio to demonstrate competence against the GPhC performance standards. All trainees and tutors had access to this e-portfolio, which included a number of formative assessment tools to support a trainee's development while working in general practice **(Appendix 1).** With the exception of the medication review and consultation assessment (MRCA), there was no expectation of when and how the other assessment tools are used.

The trainees were employed by the base pharmacy provider (hospital or community) for the duration of their training year and spent time at the GP practice supported by an agreement between the two providers. The structure of the placement year was at the discretion of the

employer and the host GP practice site and dependent on a number of factors including the service delivery and providing adequate supervision. It could take the form of one or more block placement(s), a split week or even split days if co-located. Providers could also use a mixed model, e.g. start with a block placement to support induction into the workplace and move to a split-week model. Guidance and handbooks containing educational support materials and other information were provided to GP host sites by HEE.

HEE regional facilitators supported trainees, tutors, employers and host sites in the development and delivery of general practice placements. In preparation for trainees starting, HEE regional facilitators supported the employing pharmacy and general practice with the development of their training plans to meet both the requirements of the GPhC as well as HEE recommended outcomes **(see Table 1)**. As part of these recommended outcomes, trainees were required to undertake basic clinical skills assessments **(Table 2)**. Once trainees commenced, the regional facilitators provided support through a structured induction as well as site visits to discuss progress and provide additional support if required.

TABLE 1: EXPECTED OUTCOMES OF THE GP PLACEMENT (TAKEN FROM HEE PRE-REGISTRATION PHARMACIST IN GP HANDBOOK)

For trainees undertaking 13 weeks in GP	For trainees undertaking 26 weeks in GP
At the end of the placement in general practice the trainee should:	*At the end of the placement in general practice the trainee should:*
○ Have a good understanding of general practice and the role of the pharmacist as part of the team	○ Have an in-depth understanding of general practice and the role of the pharmacist as part of the team
○ Have undertaken a minimum of two assessed basic face to face patient medication reviews and received feedback.*	○ Undertaken a minimum of four assessed face to face patient medication reviews, at least one of which should be a more complex review and received feedback.**
○ Undertake the basic clinical assessments listed in **Table 2**	○ Undertake the basic clinical assessments listed in **Table 2**
	○ Have completed a quality improvement project/audit cycle

**Examples of a basic medication review may include a review focused on one condition (e.g. asthma, hypertension), or a medication switch requiring a face to face consultation*

**Examples of more complex reviews include the review of multiple medications for more than one condition, patients with known adherence issues, or patients with communication issues

TABLE 2: BASIC CLINICAL SKILLS ASSESSMENTS

Basic Clinical Assessments
• Weight • Height • BMI • Heart rate • Respiratory rate • Temperature • Blood pressure • Oxygen saturation • Urinalysis • Capillary blood glucose • Peak flow

A previous evaluation of a smaller scale, cross-sector pre-registration training pilot in 2018/19 suggested that these placements provided benefits for trainees, tutors and the general practice team.[4] However, the evaluation also identified areas that required further development and challenges which needed to be addressed to enhance the delivery and implementation of pre-registration training on a larger scale. These insights informed the 2019/20 pre-registration programme evaluated here, and will inform future roll-out.

In 2019/20, 95 cross-sector pre-registration trainees were based throughout England (North= 32, Midlands and East of England= 10, London and South East= 30, South= 23) in 68 GP practice sites partnered with 64 pharmacy sites (31 hospitals and 33 community pharmacies). The duration of GP placements varied amongst placement providers nationwide (<13 weeks – 2 sites; 13 weeks – 52 sites; between 13 to 26 weeks – 9 sites; 26 weeks – 32 sites).

The **aim of this study** was to evaluate the implementation of these cross-sector GP/community and GP/hospital pre-registration pharmacy placements, and to identify the barriers to, and enablers of, implementation of a training placement that achieved its intended outcomes – referred to in this report as a 'successful training placement'.

The **main objectives** were:

- To explore pre-registration trainees', base and GP/ practice pharmacist tutors' reasons for participating in cross-sector placements
- To explore the experience of pre-registration trainees undertaking part of their training in general practice
- To establish the knowledge and skills gained by trainees during their cross-sector placements
- To identify barriers and enablers of cross-sector pre-registration training implementation
- To explore the 'added value' of a GP component to community/ hospital pharmacy pre-registration training for all stakeholders
- To explore the experience, impact and outcomes of hosting pre-registration trainees on pre-registration tutors, and other general practice staff

Methodology

This evaluation used a **qualitative study design.** The sampling strategy involved selecting **8-12 study sites,** on the basis of key situational variables and was informed by the findings of the previous pre-registration pharmacist placements in general practice pilot.[4] Study sites were purposively sampled for maximum variation, taking account of:

- Pharmacy base: community and hospital
- Number of pre-registration pharmacist trainees in base doing GP rotation
- Length of GP placement: 13 weeks vs. 26 weeks
- Organisation of GP placement: block vs. split week/day
- HEE Regions

Data collection for each study site involved semi-structured telephone interviews with trainees, pharmacy base tutor and/or GP pharmacist tutor. In order to be included in the study the trainee and at least one of their tutors had to agree to take part. Data collection took place between January and March 2020; it was then paused for two months at the start of the COVID-19 pandemic, and resumed in June to July 2020.

Interview schedules were informed by existing research,[5-9] previous evaluations of pre-registration pharmacists in GP placements,[4] and the HEE-GP pre-registration handbook. These were revised following discussions with the national HEE lead for the pre-registration pharmacist in general practice programme, with questions tailored to understand the contribution of GP placements to the achievement of pre-registration learning objectives and outcomes. Participants were also asked to reflect on their overall GP placement experience at the end of the interview.

All interviews were audio-recorded and transcribed verbatim by a university approved transcribing company. Analysis was aided by the use of NVivo, a software package that stores and arranges non-numerical data. Interview transcripts were analysed using thematic analysis, a widely used method for analysing qualitative data through the identification of patterns within the data.[10] This method provides rich detailed descriptions of the dataset under meaningful themes. Study sites were used for the sampling frame but not as the unit of analysis. Analysis across sites was undertaken with a focus on exploring inter and intra group themes. Upon completion of the thematic analysis, findings have been reported here within the context of describing the implementation of cross-sector pre-registration pharmacy placements, and identifying the barriers to and enablers of a successful training placement.

Results

Site characteristics

The characteristics of placement sites involved in this study are provided in **Table 3.** These characteristics are not identified by site to maintain confidentiality and site anonymity. Of those placement sites which did not agree to participate, reasons included: either both tutors/trainee did not have time to participate due to work commitments (n=18); base pharmacist left the employing sector (n=1); trainee had not started GP placement at time of recruitment (n=1); to protect anonymity, remaining reasons for refusal to participate remain undisclosed (n=2). Of 33 placement sites approached, 11 participated as a dyad/triad (i.e. a trainee and at least one of the tutors participated in an interview) **[Table 4].** Of these placement sites, 5 were from GP/hospital and 6 from GP/community pharmacy. Thirty-four interviews were completed (14 trainees – 8 male, 6 female; 11 base tutors – 7 male, 4 female; 9 GP tutors – 5 male, 4 female). In one placement site, the superintendent pharmacist was interviewed instead of the base tutor.

TABLE 3: CHARACTERISTICS OF PLACEMENT SITES INVOLVED IN STUDY

Characteristics of pairings	Total coverage in sampling frame
Pharmacy base	• Community pharmacy (n=6)[a] • Hospital (n=5)[b]
Organisation of GP placement	• Single block (n=3) • Multiple blocks (n=2) • Split week (n=5) • Split day (n=1)
Region	• North (n=3) • South (n=2) • London and South East (n=2) • Midlands &East (n=4)
Number of trainees in GP setting	• Multiple trainees (n=3) • Single trainee (n=8)
Length of GP placement	• 13 weeks (n=4) • <13 weeks (n=1) • 26 weeks = (n=6)

*a: **Community pharmacy:** independent (n=1), small= 6-25 chains (n=1), medium=25-200 chains (n=2), large= 200+ chains (n=2) b: **Hospitals:** university (n=3), district general (n= 1), specialist (n=1)*

TABLE 4: PARTICIPANTS INTERVIEWED IN THE STUDY

Study sites	Participants interviewed
Site 1 (hospital/GP)	Trainee Base tutor GP tutor
Site 2 (hospital/GP)	Trainee 1 Trainee 2 Base tutor
Site 3 (hospital/GP)	Trainee 1 Trainee 2 Base tutor GP tutor
Site 4 (hospital/GP	Trainee Base tutor GP tutor
Site 5 (hospital/GP)	Trainee Base tutor GP tutor
Site 6 (community/GP)	Trainee Base tutor GP tutor
Site 7 (community/GP)	Trainee Base tutor GP tutor
Site 8 (community/GP)	Trainee 1 Trainee 2 Base tutor GP tutor
Site 9 (community/GP)	Trainee Base tutor
Site 10 (community/GP)	Trainee Base tutor GP tutor
Site 11 (community/GP)	Trainee Base tutor GP tutor

Reasons for taking part in cross-sector placements

Trainees' reasons for taking part in cross-sector placements

All trainees wanted to take part in these cross-sector placements because they had previously experienced a short GP placement. While some prior learning in the setting was influential, trainees were motivated to gain experience of the GP pharmacist role and of working in general practice.

> *"I was hoping to gain a greater understanding of the role of a GP pharmacist and see what a pharmacist can do in a GP. I wanted to see what other roles there are out there, because I feel like in university it's talked a lot about industry, hospital and community but not so much about GPs". (Site 4, hospital, trainee – multiple blocks)*

Trainees also favoured the idea of learning in more than one setting. For hospital trainees the cross-sector placement provided an opportunity to gain exposure to primary care; those based in community pharmacy considered the experience would offer them the opportunity to work in a clinical setting which would be useful for their future careers.

> *"For me I was just quite keen to get as varied a pre-registration training year as possible. So I thought the best way to do that would be a joint sector placement and I knew ideally I'd want to do hospital, so hospital was top of my choices. So when I guess I saw the GP placement split come out I thought, oh, this is perfect, not only will it be able to let me experience what primary care general practice actually is like, but then it's also working in hospital". (Site 3, hospital, trainee 1 – single block)*

> *"I was hoping that it would give me the information and the skills that I'd then be able to use…to be able to get a job in general practice, so to give me that little bit of an edge". (Site 9, community pharmacy, trainee – split weeks)*

Even though some trainees were not allocated their first choice placement site, all trainees had chosen a cross-sector placement, except for one trainee who did not know they were undertaking a GP placement until they arrived at the community pharmacy. Their GP pharmacist tutor mentioned that this issue was not uncommon and expressed the need for more transparency when advertising cross-sector placements on Oriel (the online portal used for the recruitment of a variety of healthcare professions).

Overall, whether or not trainees were allocated their first choice placement did not make a difference to their satisfaction with the general practice placement.

Tutors' reasons for taking part in cross-sector placements

Both base and GP tutors primarily took part in these placements because they had the required experience to supervise trainees in cross-sector placements. They also wanted to be involved in the initial development of these cross-sector GP placements. All base and GP tutors saw these GP placements as an opportunity for their trainees to get more hands-on clinical experience. Base tutors also saw them as a chance to increase the number of pre-registration trainees in their training programme and establish better working relationships with general practice. One of the community pharmacy tutors highlighted that these placements made community pharmacy pre-registration training more attractive due to opportunities to apply clinical skills learned at university.

"Firstly what we were hoping was to gain a bit more insight into pharmacists in GP practice. But also, we were hoping to find out how better can we communicate with GP practices, how do we make our systems better so that when the patient is transferred back into community that we can provide the best care for them". (Site 4, hospital, base tutor – multiple blocks)

"We had to look at how we can attract students and make our programme more attractive and this was our solution, a cross-sector placement. Because from the feedback we got from students, what they were interested in, or what drove their decision with picking a place was, where does their career go as a result of their pre-registration choice, what opportunities do they have? Location was another one, but we can't do anything about that, and the training offered, and what we also realised was the students weren't feeling very clinically challenged in the pre-registration year, and even being pharmacists in community, they didn't feel that what they'd learned in university would be utilised to the fullest, so they were almost being deskilled. So really the primary reason was how do we make our programme more attractive that ticks all those boxes that the students want?" (Site 8, community pharmacy, base tutor – split weeks)

GP tutors mainly wanted to use these cross-sector placements to introduce the role of pharmacists in general practice to pre-registration pharmacists to potentially influence future career choices.

"I saw it as an opportunity to introduce the role of a GP pharmacist to new pharmacists coming through. I know there is a drive to recruit pharmacists into primary care and generally speaking it's pharmacists who've been qualified for a number of years and are looking for a, let's say a change to their normal role that they've been doing and then they will go into primary care. I just want[ed] to see whether we could introduce this role to them and see if we could maybe, sort of, attract or inspire people to consider this as a long-term option. (Site 1, hospital, GP tutor – single block)

Operationalising cross-sector placements

Most base tutors reported there were no major obstacles in setting up cross-sector placements. Base tutors either: used internal contacts to set up the placement; already had a well-established relationship with the general practice; or were not involved with the actual set up of the placements. As this cross-sector placement required trainees to have tutors based at both the employing pharmacy and the general practice, there were few procedural problems operationalising cross-sector placements.

"At the beginning, the organisation of what we [the base and GP pharmacist tutor] were supposed to be doing could have been better. There was some confusion at the beginning as to whether we were going to be joint tutors or not". (Site 5, hospital, base tutor – single block)

"I think there was some issue with the GPhC registered pharmacy leads, which was a bit of a problem to overcome…They didn't have one of the GP pharmacists as a registered tutor… so they weren't actually aware that we had a cross-sector placement with the surgery, which we later informed them of". (Site 6, community pharmacy, base tutor – split day)

A challenge commonly cited was structuring a timetable for the GP placement. Because base sector and GP sites had to register with HEE to provide these cross-sector placements a long time in advance, most base tutors had encountered challenges when organising/structuring the schedule for these cross-sector placements. There was a need to amend the timetable due to changes in staff

members and circumstances in both the base and GP site. For instance, in one of the study sites, the initial pairing GP site withdrew close to the start of the placement, which meant that the base tutor had to work with HEE to recruit an alternative GP placement site at short notice.

Placements adapted delivery during Covid, with trainees interviewed at the time reporting that they would have liked to have done more face-to-face consultations but still had opportunities to interact with patients when handling medication queries over the phone.

> *"So I did a medication review but because of the COVID situation a lot of my practice is over the phone, doing over the phone reviews… When you're usually on the phone you get a lot of questions anyway so they'll ask about their medication and they'll say, oh, I need some more of this medication and that medication … so [I'm] getting a lot of exposure just speaking to patients over the phone about their medications". (Site 10, community pharmacy, trainee – split weeks)*

Trainees' and GP site preparedness for GP placements

In order to prepare a trainee for the GP placement, all base tutors and trainees met during an induction, and focused on expectations for the cross-sector placement. In addition, many base tutors arranged for their trainees to meet the GP tutors before the placement started. Some favoured having the trainee come to the GP site to familiarise themselves with the environment and meet some of the staff before the placement started.

> *"Well, when they first started we had an induction day, so the GP [pharmacist] tutor came and explained what roughly what the pre-reg student could expect when they went there and obviously we explained what we were doing in hospital. So I felt like we had an orientation day that went well, I'm not sure how else we could have prepared them really because it was the first time that we've done it so we didn't really know what to expect either, but I think we did what we could do". (Site 2, hospital, base tutor – split weeks)*

Interestingly, one of the trainees at the split community pharmacy/GP placements believed that their base tutor had prepared them really well because they worked part time at the GP site and therefore had first-hand insight into common medications and clinical skills that the trainee needed to know before they went to general practice.

Trainees in all but one of the study sites felt that their GP tutor and other GP staff (clinical and non-clinical) were welcoming and accommodating when they arrived at the GP site. Moreover, trainees reported having sufficient workspace in the practice and access to computers. All GP tutors ensured that smart cards and computer system access were ready for when trainees arrived.

Whilst trainees believed GP staff were prepared for their arrival in that they knew they were coming and who they were, they felt that GP staff (initially) did not understand the role of a pre-registration pharmacist trainee and what they could do at the practice. Some trainees believed that GPs equated a pre-registration pharmacist trainee to a qualified junior doctor who has the autonomy to perform tasks without supervision. This lack of understanding led to situations where trainees had to clarify that they were unable to perform certain tasks (e.g. independent prescribing or administering influenza vaccinations).

"Obviously I'd introduce myself as a pre-registration pharmacist, but I feel like the GPs especially didn't really know what that meant, I think they sort of equated it to…I don't know how medical schools and doctors work, but I think they equate it to being a junior doctor, which […] I don't think that's the equivalent of what a pre-reg pharmacist is, because I think if you're a junior doctor you're actually qualified at that point and you can have autonomy, whereas as a pre-reg pharmacist, you are not qualified, you don't have that autonomy". (Site 3, hospital, trainee 1 – single block)

Lack of clear understanding around the role of a pre-registration trainee pharmacist often meant that trainees' roles had to be established when they started their GP placements. Most trainees described GP staff spending considerable time initially assessing what the trainees could do in general practice. But as time went on and GP staff became more familiar with pre-registration pharmacists' scope of practice, they were able to delegate more tasks to trainees and better incorporate them into to the GP team.

"I think the role I would play was up in the air. I think some probably didn't understand that I can't [perform certain tasks]… There's different levels of pharmacists as well, so I think they've got a problem. Some practices have a pharmacist who's an independent prescriber who they can go to and he'll sort out a prescription. Then they've got other pharmacists who come who aren't prescribers and it limits what work they can do. So I think the role I would play was a bit up in the air. They didn't really know my role but obviously as I met everyone I just said, I'll be…basically helping the practice pharmacist with his tasks and that set the ball rolling and they knew that I could do a task or hand it to him". (Site 5, hospital, trainee – single block)

"I don't know if they knew what they wanted me to do, what they wanted to get out of things. It did kind of feel that I was a missing piece and I didn't really fit anywhere, but as time went on, obviously they figured out what I can do, what I'm comfortable doing, what I'm not comfortable doing, and therefore obviously created a template around me, and that will feel like I'm contributing to the team". (Site 6, community pharmacy, trainee – split day)

GP placement models

Block vs. split placement

There were mixed views as to whether a block or split placement structure was better. Trainees and tutors often considered that the type of placement they had chosen, and thus had experience of, was working well for them. Nevertheless, interviewees highlighted a number of advantages and disadvantages for each placement structure.

Hospital tutors and trainees involved in single block placements believed that this structure enabled trainees to fully integrate in the GP setting by spending uninterrupted time there. GP tutors perceived that having a block structure made it easier to incorporate the trainee into their daily routine and delegate another member of staff to fill in if/when unavailable.

"I think it's better that it's a block because I think it gives better continuity, it allows the pre-regs to settle in because I think it is difficult for our pre-reg's rotating through these different areas and having to learn about new systems, new environments, new staff that they're working with. I feel like they need to settle into the new rotation and set objectives that are consistent and I feel that if they were to chop and change between different areas, I think that would get lost and I think it could be quite disorientating for the pre-regs to what they're

supposed to be doing, and would mean that they wouldn't necessarily settle". (Site 5, hospital, base tutor – single block)

Hospital/GP trainees and tutors were commonly of the opinion that split week placements were less suitable for hospitals because of the way hospital placements were structured (i.e. ward rotations). Hospital trainees who were initially undertaking split week hospital/GP placements corroborated this opinion, as they did not feel fully involved in activities taking place in either setting.

"It was more just, like you'd come to the hospital […] you'd get into a rotation and you'd be there for two days in one week and then you'd get used to that […] and then you'd have to move and then you're not on there again for another week and it's kind of, every week you come back you have to get used to something. And, it's just kind of like people don't notice you really". (Site 2, hospital, trainee 2 – split weeks)

Both base and GP tutors in the two study sites which provided multiple block placements mentioned specific advantages for this model over a single block placement. In the hospital/GP pairing, the trainee and their tutors felt that having three blocks (4 weeks each) enabled them to set focused targets/objectives for the end of each block. Also, tutors mentioned that they were able to strategically place each block at different time points throughout the pre-registration year based on the trainee's progression. They placed the first block at the beginning of the pre-registration year as an introduction to general practice and to allow shadowing of staff; a middle block which focused on clinical assessments; and a third block later on where the trainee would move towards providing medication reviews.

"We found that the blocks meant that you had more intensive … focused training and you didn't have to work to such short timelines to get things done. And it also meant that you could…in Block One, your end target is going to be this and Block Two, your end target's going to be this and in Block Three, your end target's going to be this. It means that you have very, very clear objectives and very clear goals for each of them. It meant that you were able to strategically place those weeks throughout the year where you could marry up what you learn in hospital with what you'll be doing in GP land and vice versa". (Site 4, hospital, base tutor – multiple blocks)

For the community pharmacy/ GP pairing involving two blocks of 13 weeks at each site (13 weeks, in the same site, with a break in the middle), both the trainee and their tutors believed that shifting between community pharmacy and GP helped maintain the trainee's skill sets in both sectors. On the whole, multiple block placements were perceived to enable trainees to spiral their learning as they rotated between the host and GP site. On the other hand, tutors and trainees in both study sites acknowledged that multiple blocks were at times frustrating for trainees as they had to leave each sector as soon as they start picking up momentum.

Views concerning the ideal number of blocks for a multiple block placement varied. Tutors at the hospital/GP pairing suggested that in future two blocks of longer duration (6/7 weeks each block) would work better than three blocks because they felt a lot of the trainees' time was lost during a one month block due to weekly training activities and study days. On the other hand, tutors in the community pharmacy/GP pairing made alterations to their trainee's second block by adding one day a week in community pharmacy.

"For the second two lots of 13 weeks, what we've done is, we've done four days in community pharmacy with one day into general practice, just so that when he returns to us in three

months' time, he hasn't forgotten everything he learnt in general practice or he's not having to relearn. So, it's like a contact day, really, for us and for him as well, where he keeps his hand in general practice. So all being well, when he transitions back over to us, it's much more seamless. (Site 7, community pharmacy, GP tutor – multiple blocks)

Regardless of host site or number of blocks, tutors and trainees felt the main disadvantage of block placements was that it required trainees to relearn or refresh some of their skills and knowledge upon returning to base sector as they had spent considerable time away.

Most community pharmacy/GP pairings, however, involved split week placements. Participants viewed this structure as helping trainees to develop in both sectors simultaneously and as enhancing cross-sector communication between community pharmacy and general practice. Trainees also mentioned feeling *"motivated"* and *"challenged"* as they were learning in different sectors. Similarly, GP tutors thought split weeks facilitated trainees' learning throughout the pre-registration year.

"I think it's absolutely brilliant. I really enjoy the split weeks. It's really nice to work on patient cases in both GP and in the community pharmacy between the two, or because I'm doing the split week …on the days I'm working in the community if I've got a query that I need to do or I'm like oh, I need to do this when I get to work tomorrow when I work in GP, I can go across, sort it out. Tell patients I'm going to sort it out for them the next day when I'm next working at the GP practice. That sort of thing is really helpful. And just building the relationship with both the colleagues in the community pharmacy and in the GP practice and things like that has been really useful. I think it's helped the community pharmacy's communication with the GP practice". (Site 9, community pharmacy, trainee – split weeks)

"But we have decided to do half a week at ours and half a week at the community. We just thought that would be best... As the pre-reg develops through the year, they could obviously see how their role would change in GP practice and how they could dissect that in community and how the difficulties in community can be communicated across to work better in GP practice". (Site 8, community pharmacy, GP tutor – split weeks)

Some trainees perceived that a shortcoming of split week placements was not always being able to resolve a problem in one setting before having to move to the other setting.

"I think it's [split weeks] good because you don't get bored or tied down doing the same thing over and over. However, …sometimes you'll get problems that'll arise sort of the start of the week and it might take multiple days for them to find a resolution for them. And if I'm splitting my week for two days on, two days off, I could be leaving problems for someone else and that other person might not completely understand what the problem is or, a lot of the information behind it on how to fix the problem". (Site 11, community pharmacy, trainee – split week)

Split days (morning GP, afternoon community pharmacy) were also perceived as enabling a trainee to learn and develop in both sectors simultaneously. This model was also viewed as supporting the development of the tutor-trainee relationship as the trainee was frequently engaging with both tutors on a daily basis which they believed made the transition between the two sectors seamless.

"Our structure [split days] is good. And actually because the pre-reg is with us half a day and in community half a day, each day, the relationship is much better as well. And if there's any queries, that he can follow them through quite easily for patients as well". (Site 6, community pharmacy, GP tutor – split days)

On the other hand, a major drawback discussed by this trainee was that they missed out on activities in both setting because they only spent half a day in each. Similarly, their base tutor was particularly concerned that the trainee missed out on the management side of community pharmacy and over-the-counter learning, which they perceived was difficult to cover by spending half a day in community pharmacy.

> *"I mean, to a certain extent, it's good, but I mean, there are opportunities or certain incidents where I miss certain components of the day to day activity of either or both the GP or the community. So, for example, because I leave early at the GP, I don't see like the med reviews that happen towards the afternoon. Or if I'm in the pharmacy, I don't actually do dispensing of the methadone or something like that, for patients who come in the morning. So I kind of sometimes miss aspects of both, but I have like snippets". (Site 6, community pharmacy, trainee – split days)*

Duration and timing of GP placement

There was a strong consensus amongst all trainees and tutors in the hospital/GP pairings that 13 weeks was an appropriate duration for the GP placement. They perceived that 13 weeks provided trainees with adequate opportunities to undertake a range of activities and learn new skills in general practice. Trainees, base and GP tutors considered fitting in all hospital activities into just 26 weeks to be very difficult.

> *"The amount of things they have to cover in the hospital setting, I think less than nine months there, three months with us probably wouldn't be sufficient to cover everything you need to cover in hospital. All that you would do if you stayed longer is just develop further. So you would develop your clinical assessment skills, you would develop your communication skills, your consultation skills. You might start seeing more complex patients. So you wouldn't necessarily do any more in terms of what you do, it would just be more complex and possibly more independent if you stayed longer." (Site 3, hospital, GP tutor – single block)*

> *"For me 13 weeks was an ideal amount of time, as I say, any shorter amount of time I may not have got to do all the tasks and not only do the tasks but feel confident to do tasks. But if I spent any longer there really, I feel that I wouldn't be adding much to my development during my pre-reg year really". (Site 3, hospital, trainee 1– single block)*

Generally, GP tutors agreed that having more than 13 weeks would allow trainees to build on the new skills learned in general practice and to work more autonomously, rather than necessarily continue to expand their skills set. In this context, it is interesting to note that overall, GP tutors seemed to focus on providing trainees with opportunities to develop new skills rather than opportunities designed to build on existing skills.

> *"Thirteen weeks is a good time, it's a good duration. Probably six months would be the best duration really for the trainee to get the full benefit. It takes about four to six weeks for them to be competent with the IT system, with the administrative side, with the management side. After the six weeks you can rely on them to do stuff on their own, they can work autonomously after that. And then they've only got four to six weeks before they're off again". (Site 5, hospital, GP tutor – single block)*

In one of the hospital/GP study sites, the trainee and their tutors considered the duration of the GP placement was not that important as long as the GP pharmacist tutor planned the placement and filled it with a sufficient range of activities. They believed that the GP pharmacist tutor was able to structure a short and concise eight week GP placement programme which allowed the trainee to cover a whole range of activities at the GP placement. The trainee felt that this condensed placement worked well for them as they were keen to return to the hospital sector.

> *"The importance is not the length, it's about the planning. So, if the GP practice know it's just got eight weeks then it will fill those eight weeks with a sufficient range of activities. Whereas, if it knows it's got a pre-reg for six months, then again it will fill those six months with the necessary activities and probably spend a little bit more developing autonomy within those roles as the pre-reg gets more familiar". (Site 1, hospital, trainee – single block)*

> *"For us we could only do eight weeks as a practice and for us it worked perfectly because within those eight weeks, the trainees were able to experience everything we wanted them to experience and all we could offer them. And within those eight weeks they also carried out certain tasks that are required of them and we thought were appropriate for them". (Site 1, hospital, GP tutor – single block)*

In community pharmacy/ GP pairings, there was agreement amongst all trainees, base (except one) and GP tutors that spending 26 weeks in each sector was appropriate. One of the base tutors highlighted that 26 weeks in each sector was reasonable because pre-registration pharmacists usually had some previous experience of working in community pharmacy during university but not in general practice.

Only one of the community pharmacy base tutors felt strongly that trainees should spend less than 26 weeks in GP. They argued that there was more than could be learnt in 26 weeks for trainees to learn at the community pharmacy and that the GPhC pre-registration exam was more orientated towards pre-registration pharmacist's daily activities in community pharmacy:

> *"I wouldn't recommend for the 50/50 period structure because there are more things to learn in the community pharmacy […] it means that they will be working only two and a half days in a week, which I believe, is very little time to learn everything. And at the end, their exam is based on what they do, most of the day to day in community pharmacy, so that is also another factor to consider. Say, if someone is going for the 50/50, then obviously they will be working only two and a half days, so they have to spend time in the dispensing, labelling… then the other process in the pharmacy, like the dosette box phase and then they have to spend time in the OTC counter dealing with the customers. Then as well as services, like engaging and your flu vaccinations and the NMS services or any other pharmacies, like the weight management or health care, diabetic monitoring, stop smoking". (Site 10, community pharmacy, base tutor – split weeks)*

In terms of community pharmacy trainees, they all favoured having 26 weeks in general practice. All trainees felt that there were lots of clinical learning opportunities at GP placements and that spending at least 26 weeks there prepared them to start an Independent Prescriber's qualification once they qualified. Nonetheless, trainees felt that spending equal time in both sectors was important because this offered the learning they perceived as important in community pharmacy, and it ensured they were well prepared for the GPhC registration assessment.

"I think it's [26 weeks] sufficient, to be honest. I think it's more than enough time to get a good feel as to what goes on in general practice and decide if you want to go into that area in the future". (Site 7, trainee)

"At the moment, I'd probably say it's perfect the way it is 26 weeks because as much as there is to do in GP, there is always a lot to do in community pharmacy as well. So I think if you're in one place more than the other, then you're kind of missing out in either place, if that makes sense". (Site 8, community pharmacy, trainee 2 – split weeks)

Most trainees and tutors felt that the timing of the GP placement in relation to the overall pre-registration year did not matter too much. Trainees, base and GP tutors held the view that activities undertaken in general practice generally differed to those in hospital/community pharmacy, so whether trainees had more/less experience in the base sector would not necessarily impact their general practice placement. One of the GP tutors mentioned that they did not see much difference between their first and second trainees who started their GP placements at different time points.

"I've not noticed too much difference actually in terms of what they can and can't do between the first and the second one. Because what we do here is slightly different from what you do in hospital, actually it is a complete new learning curve when you come here, so it doesn't really matter what stage you are in the pre-reg year, it's still going to be a different skillset that you're using here." (Site 3, hospital, GP tutor – single block)

Although there was no strong opinion in relation to the specific timing of the GP placement, most trainees and base tutors in block placements believed it was preferable for trainees to spend their initial three months in the base sector (up until the 13 week appraisal). This initial three month period was perceived to help trainees get accustomed to their base site; develop some initial skills there; complete some of their hospital accreditations and logs (if hospital based); and build confidence. Similarly, some of the community pharmacy base tutors involved in split placement models thought that it was better for trainees to start with two full weeks in community pharmacy as well as general practice to support induction into the workplace and then move to a split-week model.

"It's quite nice just being in the community a bit, just to find my feet. With all the medications. Obviously going from university to pre-reg was a little bit different because you had to have all the knowledge of the medications on hand pretty much at a moment's notice. So it's quite nice to be able to refine that during those first thirteen weeks, because that was then required a lot more during the GP placement with things such as med re-authorisations and counselling patients on meds and that side of things" (Site 7, community pharmacy, trainee – multiple blocks)

Managing transition between sectors

The most common challenges faced by trainees transitioning between sectors were adjusting to a new work environment, building rapport with staff and learning how to use the GP computer system (i.e. SystmOne). Some trainees, who spent the first 13 weeks in hospital, initially felt the transition from hospital to GP was a step backwards because they went from having a more active role in hospital to shadowing/observing staff in general practice.

The trainee who took part in the split day community pharmacy – GP placement mentioned that it was a "stressful transition" because they started these split days from the outset and had to adjust

quickly and perform two different pre-registration trainee roles in the same day. They found the day-to-day transition particularly difficult at the start of the pre-registration year when they had less knowledge and experience.

> *"It's a very stressful transition, to be honest with you…I mean, one in terms of the community, it's very pick up the prescription, dispense, label, check and then obviously hand out, but with the GP side of things, more, you know, plan your appointments for patients, see if we need to refer them and all that kind of stuff". (Site 6, community pharmacy, trainee – split day)*

Nonetheless, the trainees' and tutors' overall impression was that trainees managed the transition from base to GP sector really well, with a range of factors contributing to easing transition. Having an effective induction which covered policies, procedures and mandatory training in general practice was vital. Trainees initially spent most of their time shadowing receptionists (i.e. non-clinical staff) and felt it was useful to understand the non-patient facing side of general practice (i.e. using the IT system, booking patients in for appointments, referring patients and then scanning in the clinic letters).

> *"I spent a little bit of time with the reception team, kind of just to understand, get a little bit of a handle on the IT system and also to understand kind of how the appointment system worked, the triaging of patients …I think it was just good to understand the non-patient facing side of the GP surgery; and I think I probably underestimated how large that was to be honest. (Site 1, hospital, trainee – single block)*

The value of getting to know the systems and processes, and shadowing non-clinical staff and was not always recognised until later, when trainees reflected on their experiences:

> *"I do feel it was somewhat necessary [spending time with non-clinical staff]. I mean, I didn't understand it at the time, but obviously now I understand what happens when you have out of stock stuff and ordering and all that kind of stuff, so it's pretty useful". (Cases study 6, community pharmacy, trainee – split day)*

> *"I think the feedback I got from the trainee was that she initially didn't understand why she needed to do those things, because it was an administrative task, it was something that a receptionist does. But after discussion she understood the purpose of doing those tasks is to get a wider understanding of how everything fits together in general practice, how things are triaged, how people end up in certain clinics and once that was explained to her she appreciated the task in hand a bit better. (Site 4, hospital, GP tutor – multiple blocks)*

Trainees then sat in with healthcare professionals during their routine clinics (GP pharmacist tutor, GPs, nurse practitioners, healthcare assistants) and observed them conducting consultations for a caseload of patients. Some trainees had the opportunity to shadow clinical staff during care home visits and observed how polypharmacy was managed. Trainees perceived these care home medication reviews to be very beneficial because there was considerable opportunity for/ exposure to medicines optimisation procedures.

> *"The practice was linked with a nursing home so every Monday and Thursday morning it would be myself, the pharmacist, and the elderly care specialist GP would go over to the nursing home and that for me was more just a shadowing, observing role, just seeing how, you know, managing polypharmacy, the GP would be asking the pharmacist questions in terms of what medications to use and I'd just be there going round with them seeing how they managed that day to day". (Site 3, hospital, trainee 1 – single block)*

Base and GP tutors emphasised the importance of good communication between each other particularly at hand-over to ensure all processes/procedures were set-up for the trainee when they arrived at the GP site. Base tutors described maintaining contact with their trainees during their GP placement via telephone calls, email, texts, and WhatsApp. Base and GP tutors kept in touch infrequently on an ad-hoc basis. On reflection, some GP and base tutors felt there could have been more contact with each other whereas others felt ad-hoc communication was sufficient.

> *"We meet probably every two or three months. So I'll always pop in just to see how things are going at least once while the pre-reg pharmacist is over there and just observe them in practice and make sure that they're obviously behaving appropriately without any inappropriate advice. I think it's working quite effectively at the moment and I don't think there's a need to change anything". (Site 3, hospital, base tutor – single block)*

Some base tutors found it challenging having less direct involvement with their trainees during the GP placement. Hospital tutors perceived that there was some extent of deferral to and dependence on the GP pharmacist tutor to ensure their trainees would get adequate supervision and learning opportunities at the GP site. Community pharmacy tutors involved in split week placements found it difficult to monitor their trainees' progress at community pharmacy because they were not on-site for the whole week.

> *"Sometimes you kind of feel a little bit distant. Like me as a hospital pre-reg tutor sometimes I feel like my trainee's been away for a long time and, you know, having that contact with them it feels so far away sometimes… So, you kind of feel like sometimes you doubt yourself, you know, have I done everything that I can to make sure that my trainee is okay? But whilst you put them in the hands of somebody else of course… have I made sure that they're okay, are they doing okay in GP land, and that sort of thing?" (Site 4, hospital, base tutor – multiple blocks)*

> *"One of the issues I did have initially was, and even now I think it's the hearts and minds of tutors, because getting their heads around the fact that, number one, you're not the sole tutor, you don't have ownership or lordship over this one person, you've got to share them, and also they're not going to be with you all the time, they're going to be somewhere else." (Site 8, community pharmacy, base tutor – split weeks)*

Base tutors in the hospital/ GP pairings mainly provided support by acting as a safety net to ensure their trainees' learning needs were being met at the GP site.

> *"Our current pre-reg pharmacist that is in GP practice has communicated that she didn't feel like she had enough coming her way. So we had a little bit of a discussion and she went back to the practice pharmacist. So that was fed back to the practice pharmacist and straightaway more responsibilities and more opportunities were provided". (Site 3, hospital, base tutor – single block)*

In the community pharmacy/ GP pairings, base tutors provided support by supplementing some of the clinical knowledge and skills their trainees developed at the GP site. In some of the study sites, community pharmacy tutors would review activities undertaken at the GP site with their trainees and ask them clinical questions.

> *"The community, he [base tutor] would ask me, what did you get up to today at the GP, and ask me questions and test me, quiz me on my clinical knowledge, so I feel like he has been supporting me". (Site 6, community pharmacy, trainee – split day)*

Base tutors also mentioned the importance of keeping the trainee linked into the base sector too, so they could still be part of everything that happened there. All base tutors made sure that their trainees had access to regular learning sets and specific training days at the base site during their GP placement:

> *"We also offer specific training days. So we have some training days that have got specific topics…whether it's about the pre-reg exam or calculations, or whatever, they can just go and visit those. So again, because of the close ties between the surgery and the pharmacy, there's been no problems if he's wanted to attend one of those days. He can book himself out and go and attend the extra training". (Site 7, community pharmacy, base tutor – multiple blocks)*

> *"They still have access to all of the study days that we have in hospital, so they came back to the study days. So yeah, they were given lots of opportunities to make sure that they still felt part of the hospital even though they were on a GP practice placement". (Site 5, hospital, base tutor – single block)*

There were some other site specific factors which facilitated the transition from the base to GP. In some study sites, base tutors and their trainees mentioned that the general practice was a learning focused training site which trained a large number of medical students and was therefore well set up for training.

> *"It [GP placement site] also is a training practice, so they have a lot of medical students and they've got a lot of training of registrars, so the practice itself is quite used to training up healthcare professionals, so I guess that worked in my favour really. I mean, I've heard around the grapevine that maybe other pre-registration pharmacists didn't have as good experiences in practices which weren't a training practice and sort of training and learning focused maybe wasn't there as much". (Site 3, hospital, trainee 1 – single block)*

Trainees and tutors in some community pharmacy/GP pairings believed that having both sites located close to each other was a key success factor. Also, the GP and base tutors (in a few study sites) worked part time in the pairing site which meant they were more accessible to the trainee and able to provide guidance on both placements. Overall, the transition to general practice was perceived to be less challenging for community pharmacy trainees compared to those in hospital mainly because of the placement structure (all community pharmacy used a split-placement model) and because of closer working ties between the community pharmacy and GP pairing site.

Progression of types of activities undertaken by trainees in GP placements – and supervision to support work-based learning

The structure of GP placements differed for each site as it had to fit with the role and schedule of the GP pharmacist tutor at the site to ensure adequate supervision and meet the requirements of the GPhC. Nonetheless, there was some degree of commonality in the way GP placements were structured in all sites. In most, there was a weekly or monthly timetable with a set of objectives for the trainees to complete, with the number of responsibilities growing each week. The aim of these timetables was to make sure that there was a good combination of shadowing, observing and doing activities.

Trainees described their work in general practice as "quite different each day". The sequence of day-to-day activities at the placements varied depending on which member of clinical staff was available;

what tasks the GP pharmacist tutor or other members of the team might have for the trainee; and the number of discharge summaries they had to review from hospital. Some days, trainees would spend most of the time in clinics with their tutors, GPs or nurses, whereas other days, trainees would be doing mainly administrative/audit work.

> *"It's different every day. I mean, sometimes I shadow the GPs or the nurses, I do some care home activities. Sometimes I don't do any patient-based stuff, but I do a lot of admin […]. It's all very different". (Site 6, community pharmacy, trainee – split day)*

> *"In general practice it's a little bit different. So you might have a supervised clinic in the afternoon, but in the morning you'll have a load of tasks to get on with from other staff, obviously supervised by the pharmacist, but it's a little bit more flexible in how you work really. I mean, you do have stuff to do, but you have to allocate your time a bit more wisely to what you do. (Site 7, community pharmacy, trainee – multiple blocks)*

The kinds of activities trainees undertook whilst in general practice are listed in **Table 5**. Trainees were also given dedicated time to conduct their audit project. Some trainees were involved in additional activities such as preparing for CQC inspections and taking part in CCG-led prescribing initiatives, public health campaigns and outreach clinics.

TABLE 5: CLASSIFICATION OF ACTIVITIES UNDERTAKEN (UNDER SUPERVISION) BY PRE-REGISTRATION PHARMACISTS IN GENERAL PRACTICE

Classification of activities undertaken by pre-registration pharmacists in general practice
• Shadowing clinical and non-clinical staff • Administrative tasks • Quality improvement audit/project • Public health campaigns and prescribing practices initiatives • Preparing for CQC inspections • Discharge reconciliations • Care home work • Medication queries • Minor ailments • Telephone consultations • Clinical assessments • Medication review clinics

The general view amongst all GP tutors was that any work undertaken by the pre-registration pharmacist trainee required some degree of supervision to ensure patient safety and compliance with indemnity requirements. However, the amount of supervision trainees needed changed over time depending on the trainee's confidence and competence, which developed progressively and was dependent on the nature of the activity.

Initially, GP tutors would supervise trainees quite closely, so that trainees could gain confidence. With time, trainees became more comfortable performing clerical tasks, audits, dealing with different kinds of medication queries on the telephone (e.g. queries about patient medications, repeat prescriptions) and reconciling medications for patients who had recently been discharged from hospital.

GP tutors supported their trainees' learning and development by providing formative feedback and learning opportunities. This involved GP tutors discussing the key learning points for any activities undertaken with the trainees; asking trainees thought-provoking questions; and getting trainees to read/look up relevant information for self-study (e.g. learning modules and guidelines). Most GP tutors tested their trainees on the spot by quizzing them, which was perceived to be highly effective by both trainees and tutors.

In one site, the GP pharmacist tutor made sure the trainee had identified a learning need and a SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objective attached to each of their evidences. They described how they spent time with their trainee looking and reviewing their evidences to find where the trainee could make better use of their learning opportunities.

> *"One of the things that I did focus on with her was using all of her learning opportunities and really looking at her pieces of evidence and making sure she's got a good sort of learning need and SMART objective attached to them. I think initially her evidences were very I did this, this is what I achieved, rather than looking into it in more detail about what she could learn from that experience". (Site 4, hospital, GP tutor – multiple blocks)*

In another site, the GP pharmacist tutor set up weekly tutorial sessions where they went through a clinical topic. These sessions involved teaching, role plays and formulating questions for trainees. Both trainees found these tutorial sessions to be very useful:

> *"I also have tutorials once a week as well. So we pick a topic, sort of one that I think I need to develop on or would like to do more of and she will, well, do some teaching with me and do role plays with me, which is really good. I think that's really benefited me, because I'm not sure that everybody gets that. So, for example, like, one of the first ones I did, well, firstly, it was about the GP set-up and how general practice works and a bit about communication. And then, for example, a topic was hypertension, because I was then going to be doing a hypertension clinic, so she was getting me set up for that. And so she would ask me questions to see what I knew already and then we would…she would teach me and then would be, like, so I've got a 55 year old patient who is blah, blah, blah, so what are you going to do?" (Site 3, hospital, trainee 2 – single block)*

> *"Oh, she was really good, she spent so much time with me going through, every week we'd have a tutorial session going through like a different clinical topic and she made some practice questions for me and stuff, so yeah, really helpful, a lot of teaching really". (Site 3, hospital, trainee 1 – single block)*

More examples of how GP tutors supported their trainees can be found in **Box 1**.

Box 1: Examples of GP tutors supporting trainees learning and development

> *"So even when they're doing, for example, the medicines reconciliation work from hospital discharge summaries…for them it's very much a learning process and looking at okay, this patient's been discharged with DVT, take the time to go and look up what is the guidance around treating DVTs. So it's around adding to your education till you see a real patient and then you have time to actually look at the guidelines, do some self-study to help develop in different areas. If a GP has a medication query I try and give it to the pre-reg so they can develop their medicines information skills, but again I still have to check it".* ***(Site 3, hospital, GP tutor – single block)***
>
> *"Yeah, it's intense especially in the beginning because you're having to feedback every…it could be every ten minutes, it could be every half an hour, it could be every hour, depending on how many queries you get from them. So, it is intense and it is nonstop. So, for example if you're sitting with me and we go over all the discharges and I'm literally just bombarding him with clinical queries from the discharge, what does this stand for? What does this acronym mean? Why have they prescribed this drug for this condition? Why are their bloods like this, all this kind of stuff? You're giving them clinical advice, testing them on the spot, I'm just doing a basic review but it seems basic to me but to the pre-regs it's not, so I'm asking him hey what's the monitoring for ramipril, what's the monitoring for this, constantly having to put them on the spot with these questions. I think that's where they learn the most as well because the guy's notebook at the end of the rotation was completely full. Because he's obviously making notes every time I tell him something and it's never-ending information".* ***(Site 5, hospital, GP tutor – single block)***
>
> *"In terms of actual teaching, when we were going through clinics, after each clinic they [GP pharmacist tutor] would go through it with me, identify the main issues and key learning points really. So one particular example, one of those was a medication review for mirtazapine. The patient was started on 15 milligrams, and that causes more drowsiness than 30 milligrams and 45 milligrams, and that was something that I picked up then and there, just from the pharmacist discussing that with me. So there's like an academic side there. So after each appointment I was able to learn something just based on the case we'd been through, which was quite useful in terms of going through to the GP reg exam".* ***(Site 7, community pharmacy, trainee – multiple blocks)***
>
> *"So, for example, I remember the "ranitidine story" that broke during my time in GP and there was a patient who I remember was asking about whether they should still be on ranitidine and my supervising pharmacist thought this would be a good opportunity for me to kind of use a bit of that evidence-based medicine to try and help a patient. So, he handed that query over to me; I did a bit of research, checked what I found with the pharmacist and then I relayed it all back to the patient.* ***(Site 1, hospital, trainee – single block)***

The common theme was that it took trainees quite some time to build up their confidence to undertake patient-facing activities such as clinical assessments and medication reviews because they had had very limited exposure to practice during the undergraduate degree programme.

"I do a lot of phone calls. So that's just people with medication, maybe they can't get their meds…, any issues with medication, that will come through to us in the pharmacy team, in the

GP practice. And my tutor in the GP practice will pick off specific telephone calls that she thinks I can handle and we discuss that to make sure that, well, I know what I'm doing and I'm competent to do that". (Site 3, hospital, trainee 2 – single block)

Trainees believed their confidence and competence in performing clinical assessments and medication reviews significantly improved with time as their GP tutors gradually supported them in taking a more leading and active role. For example, GP tutors adopted a stepwise approach in getting their trainees to undertake face-to-face medication reviews. In the beginning, trainees would sit in with their GP tutors and observe how they conducted medication reviews. In preparation, trainees would go through the medications for patients that were coming in for medication reviews, identify any problems and discuss changes as well as counselling points with their tutor.

"We watched the pharmacist do medication reviews and then he'd kind of give us patients that were coming in and research into the problems they might be having; going through their medication list, picking out any kind of health thing we want to do. It was kind of doing what they're doing but in the prep beforehand, obviously, because we weren't experienced enough to do it ourselves". (Site 2, hospital, trainee 2 – split weeks)

Trainees learned different consultation styles and refined their clinical skills through spending time with nurses and GPs during their clinics. Trainees perceived that spending time with nurses was particularly valuable for learning how to build rapport with patients; whereas observing GPs helped them learn how to manage their time effectively within a 10-minute consultation.

"In terms of the GP side of things, in terms of what I've learned from those guys, one of the main things is making clinics timely. Those guys only had ten minutes to do their appointments, so had quite a bit of how to make the appointments faster. So, for example, making the notes as you're talking to the patient, and also showing me different techniques for doing different clinical assessments. So in terms of blood pressure they showed me easier ways to hear the knocking noises when you need to, and also assessment of certain other conditions that I might not utilise as a pharmacist but it's quite nice to know. So the test for gallstones perhaps. So I think in terms of the GP side of things it was nice just to broaden the knowledge a little bit, to experience some of the medical side of things as well, which obviously feeds into the pharmaceutical. With the nurses, again quite similar to the GP. I was just able to refine some clinical techniques with them as well. So they had more time to do their appointment. Just observing those guys it was quite nice to see how they formed a rapport with patients as the patients seemed to be very friendly with the nurses". (Site 7, community pharmacy, trainee – multiple blocks)

There was a shared belief amongst some trainees that there was more time and opportunity for nurses to feedback to trainees or take questions in nurse clinics. Moreover, GPs sometimes had to deal with more complex issues within a consultation so there was less opportunity to involve trainees during their consultations.

"When I would shadow GPs, some GPs I would just be in the background not really saying anything, but then with other GPs it would be working with them, so they would say what do you think I should prescribe for this kind of situation". (Site 4, hospital, trainee – multiple blocks)

"A lot of my time was with nurse practitioners. Where, usually, it would be sitting in clinics with them, either watching them or running the clinics myself and kind of throughout that process it was often quite a bit of two-way learning. I don't know, you might have had a

patient coming in on a medication that the nurse didn't recognise but I did; so, it would be talking about that to them. Or, it would be a patient coming in with a kind of presenting complaint that I couldn't really resolve. So, there would be an element of learning for me there because it would be watching the nurse kind of handle that and differentially diagnose and treat that". (Site 1, hospital, trainee – single block)

After non-participant observation, trainees began to develop their clinical skills under supervision. The required clinical assessment skills for the GP placement set out by HEE are provided in **Table 2**. The type of clinical assessments performed by trainees was dependent on the clinical focus of their GP pharmacist tutor's clinics. Trainees in respiratory clinics mainly performed asthma and COPD reviews. Trainees in hypertension clinics, performed blood pressure reading, capillary blood testing, weight, height and BMI. One of the trainees also had the opportunity to do foot checks under the nurse's supervision for patients with diabetes.

As trainees developed, GP tutors would select one or two patients who did not require a complex medication review(e.g. one involving a single medication or single chronic disease medication review) for trainees to complete under supervision.

"Usually after the first four weeks they've been here, so for weeks five until the end, I'll pick out at least one or two patients from that list for them to actually do the review with me sitting in with them. So they're starting to do the consultation skills, they might have to do a blood pressure check, they might have to do a peak flow". (Site 3, hospital, GP tutor – single block)

Most trainees began to conduct clinical medication reviews under less direct supervision as they learned how to apply their clinical knowledge to provide face-to-face reviews more independently. Most GP tutors described adapting the approach used with undergraduate medical students where a trainee provides a consultation without the tutor in the room. A discussion would have prepared the trainee beforehand, who would then debrief with their GP pharmacist tutor in front of the patient after each consultation.

"At the start with the clinics I'd be directly supervised with someone in there at the start, and now it's more of a debrief now. So after I've done the consultation the healthcare professional would come in with the patient still there and I'll explain everything just to make sure everything's safe. So there's always been supervision there, it's just the degree of it has gone down as I've displayed my competence really". (Site 7, community pharmacy, trainee – multiple blocks)

"We've used the same structure as what we would do for the undergraduate medical students…. where he will see a patient and we'll protect some time straight after, you know, for the supervisor which is myself. Then he'll see the next patient and then there'll be some protected time to debrief in front of the patient. So, we've used the same for the pre-reg pharmacists and that seems to work really well because then he's got confidence that if there's something he's unsure about, there's going to be somebody, you know, there straightaway for him to handover to". (Site 7, community pharmacy, GP tutor – multiple blocks)

The extent to which trainees moved onto more complex medication reviews, such as reviews with multiple medications for more than one condition, depended on their competence/confidence and the placement duration.

"It all depends on how confident and competent I think they are as to where we get to in terms of their reviews. So it could be that actually at the end of the 13 weeks we still need to keep it quite simple because they're not quite ready. Whether that's just in terms of their confidence in speaking to patients or whether it's their confidence in giving advice about certain drug groups, we just play it by ear as to what they can or can't do, and whether or not I'm happy." (Site 3, hospital, GP tutor – single block)

"With my trainee he started doing face to face reviews for example for asthma in the last two to three weeks [of 13 week placement] … He felt confident and comfortable to do that towards the end of his rotation. And in the last week we started to do COPD… And you never know that might have developed into other conditions like diabetes or whatever". (Site 5, hospital, base tutor– single block)

All trainees felt their GP tutors were very supportive throughout the GP placement. Trainees described having open and regular communication and being able to approach their tutors for support easily

"I know I can go to her with anything and she will be there to help me. So I had a calculations test the other day and one of the questions I didn't quite understand, so I went and asked and she sat down with me and we went through it together". (Site 3, hospital, trainee 2 – single block)

None of the trainees had any issues with GP tutors' availability. When GP tutors were not available on a certain day (due to other commitments), trainees did not perceive this too negatively because GP tutors always made sure an alternative healthcare professional was available. Furthermore, periods of GP tutor absence offered trainees time for independent learning, which trainees valued to read up on things they experienced. They believed it was useful to consolidate observational and hands-on learning with independent study at the GP site.

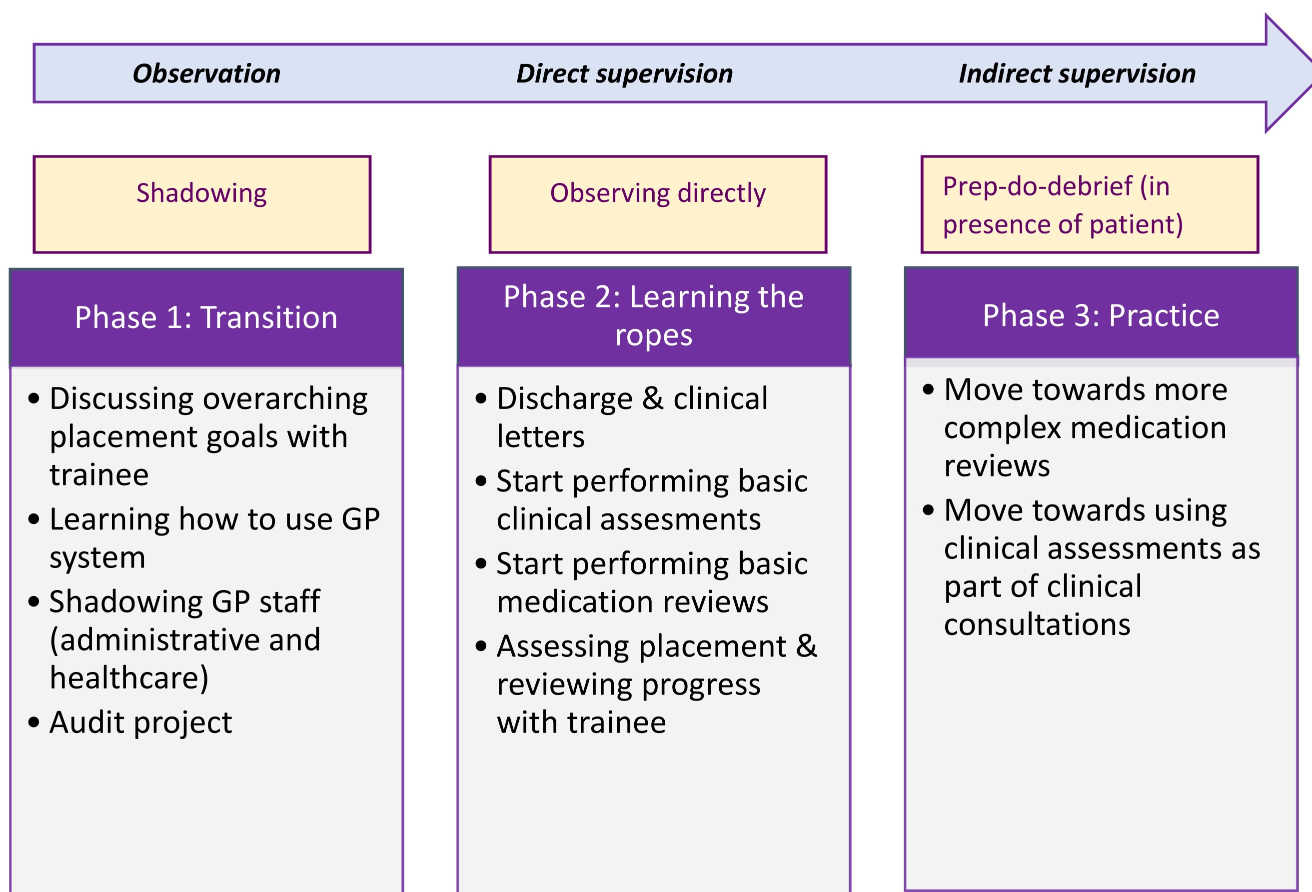
"She's [GP pharmacist tutor] very available whenever I need her, but because there's another pharmacist or another clinical pharmacist on the team, I could always go to him if I can't reach her, and he is very accommodating as well". (Site 6, community pharmacy, trainee – split day)

Trainees reported that the structure for GP placements were more learner-centred and tailored to the learning needs of the trainee compared to community pharmacy or hospital placements. They were content with having a flexible learner-centred placement structure with overarching goals, reviewed periodically and evolving over time. This model was perceived to be effective as it set out clearly what trainees needed to achieve yet offered flexibility **(Figure 1).**

"it was quite flexible in the sense that I felt like if I wanted more time in a certain thing or less time, we were able to manipulate the timetable, so both outcomes were achieved". (Site 2, hospital, trainee 1 – split week)

"I think it [GP placement structure] was [effective] for me. It's quite a slow burning method of learning. I was able just to learn from each day and pick out one or two topics from each day and then go over them in my own time based on the notes I'd made, which is the best way I normally learn". (Site 7, community pharmacy, trainee – multiple blocks)

FIGURE 1: GENERAL OVERVIEW OF HOW GP PLACEMENTS WERE MODELLED



Trainees reported very limited engagement with trainees from other healthcare professions and a lack of opportunities to bring pre-registration pharmacist and trainees from other professions together. One base tutor would have liked to have pre-registration pharmacists and medical students at the GP site review a caseload of patients together but did not have the capacity to organise this. Similarly, a GP pharmacist tutor in another site wanted to have GP registrars and pre-registration pharmacists work together and share their experiences on long-term condition queries.

> *"One thing which we discussed that I thought would have been really ideal to have completed was the practice has medical students that come through, and likewise, they're given their own caseloads, so their own patients to review. And we'd originally planned that the pre-reg pharmacists and the medical students would work together to review those patients. And I don't think that they had the time or the opportunity to do that during the first rotation. So I think that's something that we just acknowledged that wasn't completed in this rotation or the first block of training but maybe we could do in future blocks". (Site 3, hospital, base tutor – single block)*

> *" I'm working quite closely with her [GP] in trying to make sure that as we plan for next year with their new registrars and our new pre-regs that we're getting involved particularly with the long-term condition discussion … So that would include an hour, a lunchtime meeting, talking about long-term conditions with the pharmacist being asked to present the pharmacological side and things like treatment, but obviously with the GP registrar thinking about the diagnosis. And obviously in terms of the two groups, working together and sharing their experiences". (Site 10, community pharmacy, GP tutor – split weeks)*

Monitoring trainees' progress during GP placement

GP tutors had catch-up sessions with trainees to check progress and discuss queries.

> *"More or less kind of every week it would be like, oh, how have you found the week? Is there anything else you want to do? Is there anything you want to change? What's gone well? It was kind of a constant stream of input and feedback". (Site 1, hospital, trainee – single block)*

Trainees described using self-reflection when writing evidences to demonstrate their competence, and feedback they received from their GP pharmacist tutor to monitor their progress.

> *"It was quite often just through self-reflection to be honest, through doing that evidence, there's an element of self-reflection. And I think it was an observable improvement in my ability to kind of like handle the workload and the different tasks of a GP pharmacist and I was also able to do that more confidently and more competently throughout and I saw a real improvement in that myself. And I would say that's probably the main way that it was monitored; by continuous self-reflection and also, like, feedback from my supervisor at the same time". (Site 1, hospital, trainee – single block)*

> *"So evidences were a big one because I was quite keen to get through as many evidences as possible in my thing [e-portfolio], so that was a big component of my progress. I don't know what else would constitute…just sort of becoming more familiar with each drug I'd see and sort of understanding basically the monitoring, indication, side-effects, et cetera, to get more used to what was going on there, that sort of improvement in my own knowledge and development". (Site 3, hospital, trainee 1 – single block)*

Some GP tutors felt that the main challenge for them was to assess/gauge their trainees' competencies/capabilities without a sector-specific competency framework for pre-registration pharmacists in general practice. Hence, it was common for GP tutors to err on the side of caution until they developed a better understanding of the trainees' capabilities. Some GP and base tutors strongly believed that moving forward, GP placements needed to incorporate more formal assessment of trainees' competence to undertake patient facing activities at the GP site. Furthermore, base and GP tutors were keen to be provided with reassurance that they were providing the GP placement appropriately, particularly as this type of cross-sector placement was still in its infancy.

> *"…there's no competency framework for pre-regs, so this is where we struggled a bit. But it's a case of how many times do you get them to check a temperature or listen to a chest or do a peak flow before you can say that they're competent to do it on their own, given the fact they did it for four to five years as part of the undergraduate degree as well. But, you know, you take confidence in how the pre-reg comes across and when you repeat the checks and balances that they have done and, you know, if they're the same, then eventually, you know, you say, yes, okay, you're confident in knowing what they're doing is probably accurate. Although there's no competency framework to sign them off, to say they're accurate" (Site 7, community pharmacy, GP tutor – multiple blocks)*

> *"I think it's just making sure that we're doing everything to the standards that HEE want, if that makes sense. Because there is a little bit of, as I said, a bit of flexibility in how the programme's created, I guess that does kind of leave you thinking, as the person that's created the programme, have I done everything correctly? So I don't know whether maybe a checklist*

of all of the essentials that has to happen in one document would be really helpful in the future". (Site 3, hospital, base tutor – single block)

In the hospital/GP pairings, two base tutors described procedures they had put in place to quality assure the GP training placement including extra logs for the trainee to complete and using the targets and competencies set by the Clinical Examination and Procedural Skills Assessment Record (CEPSAR) workbook for GP pharmacists.

"We've (base and GP tutors) built in some extra logs that they complete in GP practice now and that's something which we thought was to sort of quality assure the training process. I'd say going forward, just from a point of view that if there were any concerns or if something went wrong or there was any sort of liability issues, that we've got everything on paper that that person was 100 per cent trained to an acceptable standard. So that's something that we've built into the programme now" (Site 3, hospital, base tutor – single block)

"They also have the workbook [CPPE clinical skills workbook for GP pharmacists], …they're expected to reach these targets essentially through that workbook and, therefore, we can see what the progress is as well. And there's also like competencies that you have to complete. So, I'm aware…like we've built up like a sheet where you do x number of NHS health checks under supervision and, therefore, you are now okay to do NHS health checks with a little less monitoring, you know, and that sort of thing. So, we kind of employ these competencies to be able to show what the progress is" (Site 4, hospital, base tutor – multiple blocks)

In terms of the formal GPhC required 13 weekly progress reviews/appraisals, base and GP tutors shared responsibility for these and all trainees were satisfied with this arrangement. The process for conducting these progress reviews differed between study sites: In some, base and GP tutors would go through all of the evidences together and agree which performance standards they were happy to sign off, and which they felt the trainee needed to improve on. Both tutors would then meet with their trainee at the GP site and conduct the review together. In others, the GP pharmacist tutor would send feedback on the trainee's performance electronically to the base tutor. The formal review would then be conducted independently by the base tutor at the base site. Regardless of process, there was general agreement between trainees, base and GP tutors that the base tutor held the main accountability for appraisals but relied heavily on feedback received from the GP pharmacist tutor.

"How we planned it [formal appraisal] was that the employing tutor and I would have a catch up before the formal appraisal. We would go through all of the evidences together and we would agree which performance standards we were happy to sign off, which areas we felt the trainee needed to do a bit more work on and had a bit of a discussion around how we can support the trainee to achieve that. And then we would sit down at the appraisal, the three of us, so both tutors and the trainee, and go through the performance standards and identify any areas which we felt that the trainee needed to do a bit more work on". (Site 4, hospital, GP tutor – multiple blocks)

"I did an appraisal with him [base tutor]. I provided the whole A4 summary of achievements so far and whatever and sent that back to the tutor at the hospital and they used that to guide their 26 week review." (Site 5, hospital, GP tutor – single block)

All participants believed that the e-portfolio software VQ manager fulfilled its purpose of providing an electronic platform for trainees to document evidences and for tutors to review them. Some base tutors and trainees believed that VQ manager could be improved to be more user-friendly and more

easy to navigate. For instance, tutors and trainees noted that VQ manager did not notify them when new evidence or comments had been uploaded.

> *"On there [VQ manager] sort of go back and have a look at evidences and see what evidences have been accepted and what performance standard you're working towards, and which one you need to focus on. I think the only downside to that is, well if the pharmacist and your tutor were able to give you feedback, as a student, you don't get a notification about that. So you have to go back and view every evidence if you want to see if there's been a comment left, but those comments are quite often useful. So you have to be really proactive in looking for those comments". (Site 2, hospital trainee 1 – split weeks)*

Support received by tutors and trainees during the GP placement

Support provided by HEE

All base and GP tutors were satisfied with the amount of support provided by HEE. They found their HEE regional facilitators to be approachable and responsive to any issues or queries. One community pharmacy base tutor would have preferred it if their HEE regional facilitator had involved them when setting up the split placement, instead of only liaising with head office of the multiple pharmacy.

> *"The main facilitator who I email all the time, the regional supervisor… was top-notch, couldn't say anything else really. Speedy response, very prompt, very helpful. They even met me and my pre-reg face to face for a catch up, which was really nice because you wouldn't really expect that". (Site 5, community pharmacy, GP tutor – single block)*

> *"When they were sort of more setting stuff up with our head office… It might have been nicer if they'd have included the tutors at that point, so that we could get some idea of what we were going to be doing, rather than being set up by head office and then told you're going to be a tutor". (Site 7, community pharmacy, base tutor – multiple blocks)*

In terms of resources provided by HEE, most tutors and trainees thought that the HEE handbook was helpful as it provided an overview of the GP placement. The list of suggested activities mapped to performance standards was particularly valued.

> *"But I think the GP handbook gave a good overview. I think they [trainee] found that useful as well. There is a lot of information in it. So, I think initially it certainly gave me a very good overview of what the pre-reg could do in practice. And then rightly or wrongly, we weren't constantly referring to it. I think obviously the general, the background, the introductory information was really useful, and the expectations was helpful, just so that I knew okay, well, they need to do this assessment and that assessment. So I probably read through it completely once. And then the rest of the time I was just dipping in and out of it occasionally to make sure I'd got the right paperwork or things were being done at the right frequency". (Site 1, hospital, base tutor – single block)*

> *"I remember there was a list of kind of suggested activities to complete in the practice and I remember it had the pre-reg performance standards linked to it, which was quite useful, largely just when it came to writing up evidence it was useful. But also, just if there was ever some time free you could always have a look through that list and see, oh what have I not done? And therefore, what could I do?" (Site 1, hospital, trainee – single block)*

Trainees and tutors had mixed views of the CPPE learning programmes cited in the HEE handbook. Some trainees felt the CPPE learning programmes were useful to understand what was expected from them at the beginning of the GP placement. One trainee found the CPPE clinical examination and procedural skills assessment record (CEPSAR) handbook to be particularly useful in terms of improving their clinical skills.

"Yes, so we had a lot of booklets, and things, to read through and use and, like, the CPPE stuff, which definitely, I think, was all good to read, well, before starting and during the first few weeks at the beginning as well, actually what was expected from us and stuff. (Site 3, hospital, trainee 2 – single block)

Other trainees and tutors felt the CPPE learning programmes were too long and text heavy.

"I was trying to follow some CPPE…it was like weekly online learning thing. It was quite text heavy. It wasn't that good". (Site 5, hospital, trainee – single block)

Some tutors felt that CPPE supervision resources were useful whereas others felt it was better to learn by experience during the GP placement:

"I did the CPPE webinars, they were quite useful for me, because this is my first pre-registration trainee…to get a basis of how we would be assessing and what the sort of criteria were". (Site 7, community pharmacy, base tutor – multiple blocks)

"Definitely too long, yeah, the whole CPPE thing as well, the whole module, the e-learning…the three modules you had to do beforehand, I don't know if you know much about it, we had to do these three evening sessions, like two hours for CPPE before we start. Yeah, they were a waste of time. To be honest each supervisor learns differently and teaches differently as well. You can't have one approach that fits all. That's what I found from the CPPE module, it's just a generalist thing isn't it? This is how you should give feedback. Good news, bad news, whatever, well everyone's different, you can't just use one approach for everyone". (Site 5, hospital, base tutor- single block)

Some trainees highlighted that finding the time to look at these additional resources was a challenge, particularly while also preparing for the registration assessment. Similarly, most base and GP tutors found it challenging to access the CPPE learning programmes within their busy work schedules. A few trainees viewed access to certain e-books (e.g. Martindale, BNF) which helped them to answer queries in general practice and which would thus expand their learning as more important.

"So in terms of the CPPE stuff, it's widely available, it's just for me trying to find the time to do it is a little bit difficult, because in terms of priorities, and I'm currently prioritising learning about the medications and the BNF first of all to be sure I pass the exam". (Site 7, community pharmacy, trainee – multiple blocks)

"My aspiration was to complete or look at more of that than I actually was able to. If that makes sense. So, I know I've got access to the fundamentals of GP practice and I think that would be really interesting to be able to do that. But I thought I couldn't fit that in alongside everything else that was I doing. And I think when I spoke also with the practice pharmacist about the fundamentals, and even the consultation styles, he was saying well, he didn't think that they needed to necessarily come with a preconception about the style. Or having worked through the whole programme, because they're going to learn that while they're there". (Site 1, hospital, base tutor – single block)

Overall, base and GP tutors believed that the HEE handbook provided general guidance only. There were conflicting opinions on whether it was preferable to keep the handbook generic or make it more prescriptive. Some tutors wanted a more prescriptive handbook which outlined how their trainees could meet the overall objectives for the GP placement. Others preferred having a generic handbook from which tutors could build the placement whilst allowing for flexibility and variation. Nonetheless, tutors generally expressed a preference for a site-specific GP placement workbook to supplement the HEE handbook.

"The HEE booklet on what's expected during a GP practice placement was a really good foundation that we used, so we got the pre-reg pharmacists to complete that during their placement. But then we've also built our own local book to complete alongside which is complemental to that, but the main bulk of the training we took from the HEE manual". (Site 3, hospital, base tutor – single block)

"So I think the challenge I had with the handbook is that it's very generic. It wasn't very prescriptive and because this was a new role it was very much do what you want to help them meet their objectives. I think for me I would have liked something a bit more prescriptive, particularly being part of the pilot project. As a result I ended up developing a handbook, like a training pack for the pre-reg trainee, for her to work through, because that was my way of ensuring that she was able to do everything that she needed and I was on track with what I needed her to do. (Site 4, hospital, GP tutor – multiple blocks)

Whilst most of the GP tutors did not mention any concerns with the expectations set by the HEE handbook, one of the GP tutors felt that these were disappointingly low. The GP pharmacist tutor's concern focussed particularly on the number of assessed medication reviews trainees were required to perform by the end of the GP placement. They were concerned that setting low expectations risked trainees being allocated administrative tasks instead of further developing their consultation skills.

"I just thought the expectations were a little bit disappointing, that by the end of 13 weeks you should have done two medication reviews. I mean, what are they doing for the other 13 weeks? So for me the expectations didn't meet what I feel they should be achieving in general practice. They'd done their two medication reviews by the end of week five. I think it's a good starting point. For me, I suppose my concern would be with that, that if that's what pre-reg tutors thought they had to cover they might not give their pre-reg the experience that they should be getting. If they were like okay, well, we only need to do two, so actually why don't you just sit and issue repeat prescriptions. That would be my concern. Or just go and sit on reception rather than actually developing their skills as a pharmacist". (Site 3, hospital, GP tutor – single block)

In some study sites, tutors felt it was important that the handbook was available early – and for everyone:

"That GP placement handbook wasn't available when we put it [GP placement] all together, it came after we had put everything together. So, that would have been useful for us because we're kind of like, well this sounds like it'd be good to do this, and, oh, does this work, does this not work, would this happen, would that happen, can we do this, you know, from a legal standpoint? (Site 4, hospital, base tutor – multiple blocks)

"I think because I maybe didn't get the information up front, I didn't necessarily know what that was going to involve. Handily, my pre-reg gave me the handbook for me to read but that was only through their own initiative… it would have been nice to have received the handbook

from HEE, rather than via my pre-reg, that's a little bit embarrassing, from my perspective to have not received that information via formal means, you know?" (Site 5, hospital, base tutor – single block)

Most tutors found the HEE induction event and tutor training days very helpful. Tutors in all settings believed that these events provided them with reassurance by having the opportunity to share ideas and compare how they supported their trainees. Hence one of the tutors suggested having supervisors who have been through this placement experience to talk about the positives/negatives and some of the learning points, in the upcoming year. Two of the base tutors were unable to attend the HEE induction event with one of them expressing disappointment the event was only offered on one particular day.

"To have the GP pre-reg get together date at the beginning of the year [was helpful]. It's just good to share with other people what their challenges might be, what they think their challenges might be or what they know they already are if they were already running a programme. So they'd say we've not done that before. So that was good to do that. And I was involved early on just going over the performance standards and things that would be possible to achieve during the placement". (Site 1, hospital, base tutor – single block)

"When we've attended these days with other tutors, it's been interesting to know what everyone's doing, you know, so that we can get ideas. And actually I can get my pre-reg to do this and pre-reg to do that. Yeah, when it was done by Health Education England, delivery of the pre-reg sort of meets for the tutors, then there was a presentation done on the types of things that the pre-reg could get involved with, but there's no clear guidance on, okay, if we get them involved with this, are they insured? I know the onus is on the pre-reg for the insurance, but we don't know, like we don't want to put the pre-reg in a position where, actually they're not supposed to be doing something, and we're getting them involved with it". (Site 6, community pharmacy, GP tutor – split day)

Use of formative assessment tools

GP tutors at all of the study sites only mentioned the formative assessment tools **(Appendix 1)** when prompted. It became clear that tutors either used these tools rarely or not at all. In one, the GP pharmacist tutor did not feel the formative assessment tools were practical when they used them and preferred a less structured approach. Similarly, their trainee did not find the Mini-Clinical Evaluation Exercise (Mini-CEX) or the Medication Review and Consultation Assessment (MRCA) very helpful and preferred something less prescriptive. Both the trainee and GP pharmacist tutor felt it was more effective for the trainee to perform consultations and receive immediate and direct verbal feedback. The trainee felt the formative assessment tools mainly benefited their base tutor as evidence they could use during the formal assessment.

"I think it was a case of just observing other practitioners, seeing what the different styles they used, consultation skills, asking questions when necessary. I thought that was more hands on and it was a case of, you know, I wasn't always looking at the sheet to see, you know, what do I need to look at next, it was a case of I will chip in when I needed to. It was, you know. I think it worked out better that way". (Site 1, hospital GP tutor – single block)

"I think we did, so I think they did the mini CEX and the MRCA. Personally, I didn't actually find them that helpful because I think, I felt they were a bit prescriptive. Like the main way that I learned was just through doing consultations and receiving feedback on them more or less directly after because I was being observed. And I felt like the MRCA and the mini CEX were

more for the benefit of the hospital. As in it was, because it's…it was kind of acting as evidence to them that I am being formally assessed. And I, because I had my 13-week appraisal in the middle of that placement and it was useful for them to just have something to talk about at that appraisal. (Site 1, hospital, trainee – single block)

In two other study sites which used some of the formative assessment tools, the MRCA was perceived to be somewhat useful by GP tutors. One of the GP pharmacist tutor mentioned that using the MRCA gave their trainees a better understanding of how consultations were structured. Examples of how these formative assessment tools were used are provided in **Box 2**.

BOX 2: EXAMPLE OF HOW FORMATIVE ASSESSMENT TOOLS WERE USED IN GP PLACEMENTS

*"The intervention one I think we've used. Well, I think they are useful. I think the consultation skill one, the MRCA one is quite useful because what I've asked them to do as well is I've done them for them and I've asked them to do for me, so that actually they can have a think about well, what specifically is she doing when she's consulting, and is that different from how I do it. So you can see it's quite useful to actually think about the structure, because it's easy to watch a consultation, you might not really be noticing the structure of it, because it might not look like there is a structure to the consultation. But actually when you look at it and you're okay, yes, she did introduce herself, she did do this, she did summarise at the end, and so it's looking at okay, actually, what can I pick up from that, as well as me assessing them as well". **(Site 3, hospital, GP tutor – single block)***

*"Yeah, there was that MRCA I think. Did a few of them. Especially after the reviews, the face to face reviews. We did one at the beginning…I think two at the beginning and then a few…a couple at the end as well. Obviously the consultation skills developed over time. My first one, one of the comments was he spent about 45 minutes on a review and I knew that was long, but I let the pre-reg dictate the consultation, even though I know I'm running late and there's patients waiting. Obviously one of the feedback was how you structure your time within an appointment. If you've only got 15 minutes you don't want to spend 45 minutes and what do you focus on, what's important, what's not important? That was for example feedback on the MRCA and then as he progressed that time keeping improved and things like that". **(Site 5, hospital, GP tutor – single block)***

In one of the community pharmacy/GP pairings, the base tutor discussed with the GP pharmacist tutor that they would be adding the Clinical Examination and Procedural Skills (CEPS) learning log entries to the trainee's E-portfolio and running the Multi-Source feedback tool for the trainee at the GP site. This GP tutor perceived these additional GP based tools to be a good way of documenting/evidencing quality assurance.

One trainee described these formative assessment tools as an 'afterthought' because they were not requirements of the placement (except MRCA) and they preferred them to remain optional.

Peer support

In terms of peer support, trainees in hospital/GP pairings reported networking with other pre-registration pharmacists through regular meetings and in house-training at the base site. Trainees in community pharmacy/GP pairings mostly networked with other pre-registration pharmacists within their area via Buttercups training (a national pharmacy training provider, which provides blended learning and teaching). All trainees also described attending HEE pre-registration pharmacist regional days and setting up WhatsApp group chats with other pre-registration trainee pharmacists doing split GP placements. Despite this, trainees in this study felt that the split GP placement was "an individual experience" because they were the only pre-registration pharmacist at their GP site. This was strongly expressed by trainees involved in community pharmacy/GP pairings as they were often the only pre-registration pharmacist in the base sector as well.

> *"I'd meet my [region] pre-regs during our HEE study days every so often and our in-house training days I guess, that was always there so if I had any problems I could speak to them. But yeah, I guess it would be hard for them to help me out if none of them has gone through it if you see what I mean". (Site 3, hospital, trainee 1 – single block)*

> *"There was a GP pre-reg day in September, so I've got a little WhatsApp chat going with the different GP pre-regs. So now we can just talk about certain things if we need help. But it's not a particularly active group, to be honest. So I'd say in terms of peer support it's quite an individual experience. There's not a lot of group work going on there, like there would be potentially in hospitals where there's five or six pre-regs in the same place". (Site 7, community pharmacy, trainee- multiple blocks)*

Having two trainees simultaneously at the GP site was tried in one community pharmacy/GP pairing where the trainee had another pre-registration pharmacist join them for 2 weeks. The trainee thought that having another pre-registration pharmacist throughout would have improved their efficiency, confidence and morale:

> *"Yes, I think it would've helped with my learning…if there was another pre-reg. I feel …we'd have the same kind of knowledge if you know what I mean. So, we could probably refer to each other very easily. I think it would improve it a little bit if we had another pre-reg there because I did have a friend of mine, another pre-reg coming down for two weeks to share my placement here. And while he was here, it was fantastic. So, we'd work on the same things at the same time and we'd find out we'd get things done a lot faster and to a higher standard when we worked together. So, I think just having that extra person with the same sort of knowledgebase as you with the same background as you would just make me feel a little bit more confident. (Site 11, community pharmacy, trainee – split weeks)*

These perceptions were corroborated by the two trainees doing alternating weeks at the GP site who found it useful to have each other for peer support:

> *"I think it was beneficial to have that other person [trainee], although we were never on the same site at the same time, we were still able to bounce ideas off each other, tell each other our experiences and support each other. The only downside I think of it is sometimes if the other person's opinion was strong, it might affect your learning because if they've had a bad experience, you might feel inclined to not enjoy that experience too, which it can be difficult when you've got a predisposition in your head before you go into, say, a clinic or something and you've heard not very good things about it. And also, if they weren't enjoying a particular thing and they mentioned that to the pharmacist, I felt like sometimes they were a bit lumped*

together in that sense, and because one of us wasn't enjoying it, we wouldn't do that. Whereas I think it needs to be a bit more individual sometimes". (Site 2, hospital, trainee 1 – split weeks)

Placement outcomes

Trainees, base and GP tutors were asked about the benefits of a GP placement. All participants thought that trainees' consultation, and clinical examination skills significantly improved, and that the GP placement allowed trainees to apply knowledge and skills from their undergraduate education in practice.

"Consultation skills, I think is one of the real skills that they've brought back with them. Because with the best will in the world, when a trainee is purely hospital based then they will …not [see] that many pharmacists …doing actual consultations. So, we're doing the meds rec but we're perhaps not delving as deeply". (Site 1, hospital, base tutor – single block)

"So with consultation skills, for pharmacists anyway I feel it's something we don't do enough of at university. Unlike our medic colleagues who see patients all through their degree, we might do a two week placement here and there but actually when we do consultation skills it's usually with a member of staff as your patient or one of your fellow students as a patient. So you never really develop how to speak to a real person in front of you. So I think that's an important part of what I try and do here is to develop those skills, because I think they're the ones that we're missing as pharmacists. And it is something that you have to develop your own way of consulting. So you can watch other people and see how they do it, but you need to develop your own way and your own confidence, and it's nice to see that over the 13 weeks you see that starting to develop. And it might only be in a couple of areas that they're really comfortable, but actually once you're comfortable you can then develop that. So, yeah, I think it's really exciting to see these young pre-regs come through, quite nervous, maybe making a couple of silly mistakes and then by the end of it you're just like okay, wow, you've come so far from when you started". (Site 3, hospital, GP tutor – single block)

Base and GP tutors confirmed that trainees had more time at general practice to build up their consultation, and clinical examination skills. Hospital and GP tutors explained that whilst in general practice, trainees were able to spend more time discussing medication issues with different types of patients in a non-acute setting. Similarly, base and GP tutors in community pharmacy/GP pairings described trainees as being given more time to learn clinical skills because they were considered "supernumerary" in GP placements whereas in community pharmacy trainees were often viewed as employees. Moreover, GP tutors and trainees highlighted that unlike hospital, trainees had the opportunity to build rapport with patients in the GP setting because they communicated with them on numerous occasions. All GP tutors felt these skills were necessary for the patient facing, clinical roles that pharmacists needed to work in primary care networks:

"In general practice it's a bit more varied [compared to hospital]. Yes, you will do medicines reconciliations from discharge but you also see patients in clinic, you'll be able to diagnose and also carry out those practical clinical assessments on the patient to actually form a decision. I think those are the kinds of skills that our pre-regs need to be able to develop considering the amount of pressure that the NHS is under to see these patients". (Site 4, hospital, base tutor – multiple blocks)

GP placements changed trainees' understanding of the role of clinical pharmacists in general practice, of which all trainees felt that they developed a good understanding. Some trainees were

surprised by how much more clinical practice was involved than merely medication queries. One trainee defined the role as bringing the core skills and knowledge of a pharmacist into general practice and making these available in the provision of patient care there. Moreover, they perceived that an advantage of having a pharmacist in general practice was that they had more time to spend with patients compared to GPs.

> *"My idea of it is essentially it brings in the core skills and knowledge that you have as a pharmacist into general practice, firstly, to allow quicker access to that knowledge for GPs…and I think they [pharmacists] are just able to spend that little bit longer understanding the patient's experience and understanding their expectations and coming up with a bit more of a joint plan". (Site 1, hospital, trainee – single block)*

All participants agreed that exposure to two different sectors produced a well-rounded pre-registration pharmacist who could work seamlessly in two sectors. Cross-sector working also enabled trainees to be flexible/adaptable, learn new skills quickly, and form new relationships with different members of the clinical team.

> *"I would probably say that their knowledge is probably about 25 per cent higher than you'd get in a single placement. They're very knowledgeable. They've got a wide breadth of knowledge of the system and I think that's really important to have. I think sometimes when you're in a single placement you become so insular, then you tend to assume things. Whereas if you've got your cross-sector kind of placement you're able to have a broader appreciation of what the patient has to go through and, therefore, you're able to apply yourself a lot more in those situations". (Site 4, hospital, base tutor – multiple blocks)*

Trainees in the hospital/GP pairings emphasised having a greater appreciation of the importance of good communication between general practices and hospital. Similarly, trainees in community pharmacy/GP pairings commonly reported how working cross-sectors had made them more aware of the patient's primary care pathway and ways to prevent/resolve prescription issues between these settings.

> *"I think it gives you a really good holistic view of healthcare, in that I think I'm now much more able to kind of understand a patient's journey from GP to hospital. But I think the bigger benefit of that actually is me understanding the importance of communication between the two sectors. […] Because in hospital you are told a lot to make sure your discharge summaries are clear, otherwise they are a nuisance for the GPs. But now I've actually seen the other end of it and had to fix those things". (Site 1, hospital, trainee – single block)*

> *"So now I can work in two different places quite seamlessly, which I am doing at the moment. So I think you learn to be a bit more flexible in your working and adapt in that sense as to what you're doing on a daily basis. You can't get set in your ways. It's always changing. I think as well as that it helps that you've seen the whole process of primary care really – well, almost anyway – to see how medications are prescribed, reauthorized, sent across to the pharmacy and then dispensed. You can see the whole process there rather than just having access to one bit of it in that sense". (Site 7, community pharmacy, trainee – multiple blocks)*

Base tutors held similar views to trainees and provided examples where trainees applied some of the knowledge learned from general practice at the hospital/community pharmacy setting **(Box 3)**.

Box 3: EXAMPLES OF TRAINEES APPLYING LEARNING FROM GENERAL PRACTICE IN BASE SECTOR

*"So there's a situation where they [trainee] learnt about the thyroid where when they were in GP land and then when they came into hospital, they saw a patient with thyroid function tests that were a bit odd. But she was able to interpret those results from what they learnt in GP land and be able to advise that you have a discussion with the pharmacist and with the doctors as to what the appropriate course of action would be. So, that's a really nice kind of transition from learning to application". **(Site 4, hospital, base tutor – multiple blocks)***

*"Counselling patients for one, and actually helped me with obviously the NMS service, he [trainee]'s helped me a lot with that, and just general queries with patients and communicating with people". **(Site 6, community pharmacy, base tutor – split day)***

*"If she's doing like a review into a medication, she does it very thoroughly and I can see that some of the skills that she has learnt in GP practice and she is using them in hospital". **(Site 2, hospital, base tutor – split weeks)***

*"We offer some health checks on community days, where a small pharmacy team goes out to maybe rural locations and offers free health checks and health advice to patients on an ad hoc basis. And me, I've been involved with those as well, so he [trainee] 'll go with the team and run blood pressures and cholesterol testing on site as well. So clinical skills that he's picked up in the surgery, have probably been used in that way as well, in the community side of things". **(Site 7, community pharmacy, base tutor – multiple blocks)***

Some hospital trainees, however, perceived that they had missed out on learning at their base site, and that their specialist knowledge was less than their hospital only peers. In community pharmacy/GP pairings, most base tutors and trainees acknowledged that trainees solely based in community pharmacy were better at managing the store and dispensary.

"…it's neither better or worse. It's just different; so their [single-sector hospital trainees] clinical knowledge and their hospital-based skills are definitely superior to mine; but to make up for that I would say I'm much better at consultations with patients and I just have a better understanding of kind of the progression of care from GP to hospital; stepping down the care from hospital to GP, how to communicate between those sectors". (Site 1, hospital, trainee – single block)

"Probably pre-regs doing the solidly community pharmacy, benefits of that, obviously they can help…they understand how to actually manage the actual dispensary and the whole store, whereas my pre-reg, I don't think he has that capacity as yet". (Site 6, community pharmacy, base tutor – split day)

When being asked about their future career choice, all trainees were open to working in general practice at some point in their career. Trainees with a hospital base commonly felt that working in hospital was a more appropriate step after qualifying, as this would allow them to gain more clinical knowledge and experience before moving into a full-time general practice role. Moreover, they perceived working in hospital with a large team of pharmacists provided a better learning environment compared to general practice where they would be the sole pharmacist or one of only a few pharmacists.

"Yeah, and I think getting that initial experience is important, I would strongly advise against people going straight into a primary care practice role, because, you're taking on a lot of responsibility, clinical and professionally, and without that experience behind you, I don't know if you'd be able to do that effectively. And also in general practice as a pharmacist you're quite isolated because you don't have other pharmacists around you, whereas in hospital you've got a whole pharmacy department. So that's the thing, just be aware that it can be…there's potential for it to be isolating working in general practice, so that's why you've got to at least have some experience of the competence to do so". (Site 3, hospital, trainee 1 – single block)

"I think at one part of my career, not early on. You just don't have enough clinical knowledge to for example do it straight after pre-reg. No, it would be a no way situation – in my opinion – a no way situation. I really would need a good hospital background, personally feel especially things like bloods, stuff like that. And if you want to be an independent prescriber you need a bigger clinical background". (Site 5, hospital, trainee – single block)

On the other hand, most community pharmacy trainees wanted to work in general practice as soon as the opportunity became available, and felt confident about working in general practice earlier on their careers having done these GP placements.

"Yes, yes, that's initially why I think why I did the role. I was really interested in GP practice pharmacy and, yes, even now I would love to get a role in GP pharmacy. Obviously if the opportunity comes, I will grab it with both hands". (Site 10, community pharmacy, trainee – split days)

"It's definitely made me feel a lot more confident about being a GP pharmacist and the fact that I want to be a GP pharmacist predominantly over a community pharmacist …. I thought I was going to be a community initially, and then by working in GP I've obviously gained the knowledge and gained the confidence to think that I can actually do." (Site 9, community pharmacy, trainee – split weeks)

Hospital trainees preferred working in split hospital/GP pharmacist roles after qualifying to outright moving into a full-time GP pharmacist role. However, they highlighted the lack of opportunity for cross-sector training following registration. Whilst community pharmacy trainees were keener to work as GP pharmacists earlier on in their career, they also recognised the lack of a direct pathway into general practice straight after qualifying. On the whole, trainees and base tutors from both sectors were disappointed that there were barriers to newly qualified pharmacists working in general practice and building on the knowledge and skills gained. They considered that a dedicated pathway or GP pharmacist programme was needed for newly qualified pharmacists.

"I think there's a little bit of a gap in that they are rolling out this new, this brand new split GP/hospital pre-reg but I think there's a bit of a lack of opportunity to follow it up after pre-reg. Because I think it's basically the route after pre-reg is you go into hospital or you go into community, and there's no real opportunity to continue improving that knowledge and skills from GP. (Site 1, hospital, trainee – single block)

"I think I would, [consider working as a GP pharmacist]. But I think the issue is that there's a number of qualifications and experiences that I'd need to get outside of general practice before I go back in. There's no direct path really from GP pre-reg straight to GP pharmacist. Yeah. It might be nice to have a GP foundation pharmacist programme or something for people who've recently qualified". (Site 7, community pharmacy, trainee – multiple blocks)

"As far as I'm aware, to take on a split clinical role …or to work on the CPPE GP pathway, I'm not sure if there is a minimum requirement of having registered for two years already, before you can undertake that. So it seems a bit silly that we can do a pre-registration that's split, but then they can't be put onto the pathway, for then a couple of years after qualification". (Site 7, community pharmacy, base tutor – multiple blocks)

All GP tutors in this study were willing to supervise pre-registration pharmacists again in the future; they perceived pre-registration pharmacist placements to be a positive and enjoyable learning experience. The common perception amongst GP tutors was that the time invested in supervision also helped GP tutors improve their clinical knowledge, refine clinical skills and develop their soft skills. They emphasised how supervising a pre-registration pharmacist in general practice had impacted their own professional growth and self-development **(Box 4)**.

BOX 4: IMPACT OF CROSS-SECTOR PLACEMENT ON GP PHARMACIST TUTORS

"I think it's made me more evaluative of myself, I looked at myself and because I was going to be under observation a lot of the time, I felt I improved as a pharmacist, especially within …honing my communication skills in the way I delivered not only to the patient but also to the trainee and in my technical knowledge as well". ***(Site 1, hospital, GP tutor – single block)***

"I found it a really enjoyable experience. Because my practice is very pro-pharmacist, seeing a pre-registration pharmacist come into the practice was a really nice moment for me, because it's showing the profession is developing and expanding. So from that perspective it was a great experience. But also it allowed me to develop some of those soft skills that I probably haven't needed to use for some time and being able to develop that in order to support my student was a good professional development for me. It was a balance. So my workplace is very flexible, so that always helps. and being able to invest time in my trainee allowed me to reap the reward, so if she was able to support me with doing things. So whilst I had to invest some of my time, she's supporting with my work, so it just works out". ***(Site 4, hospital, GP tutor – multiple blocks)***

"I think like it was good development for me as well, because I've not had a pre-reg in general practice before, so it was kind of…it pushed me as well to, you know, think, okay, how am I going to manage my time, and how I am going to make sure my pre-reg gets the best use out of this opportunity, and making sure it is a success, really." ***(Site 6, community pharmacy, GP tutor – split days)***

"I think it's helped me as well when you're doing clinical sessions or when you're doing the admin tasks. You do them much more thoroughly, you explain things, so that helps you best understand things as well. Certainly, insofar as using consultation models when you're doing clinical sessions, it helps structure your consultations because you're trying to structure the pre-reg's consultations as well. So, we've looked at all of that. So, I think it's been helpful for me, and obviously when they have clinical queries and then, you know, you're trying to work through them. So, it's improves your clinical knowledge as well". ***(Site 7, community pharmacy, GP tutor – multiple blocks)***

Benefit and limitations of undertaking cross-sector placements

Benefit of pre-registration pharmacist trainees undertaking cross-sector placements

All trainees felt they became a useful resource and valued member of the general practice team as GP placements progressed. In all study sites, trainees believed that they helped with some of the workload at the GP site even though they were not yet qualified pharmacists. Trainees perceived themselves as a "go-to person" for other healthcare professionals such as GPs, nurses and advanced nurse practitioners, who had medication queries when a qualified pharmacist was unavailable. Trainees also mentioned supporting their GP with tasks such as queries from the on-call phone list and discharge medication reconciliations.

> *"At first I did kind of feel like I was a weight or a burden to obviously the GP, because I had to be taught everything from the beginning, but as time went on, I do feel like I'm being invited more, and people are coming to me more and asking me, can you help with this, or can you help with that issue. And so I do feel like I am becoming a valued member of the team, and therefore feel that I'm not out of place and I'm not being a burden, but being someone that is of help basically". (Site 6, community pharmacy, trainee – split day)*

Similarly, GP tutors mentioned that having an extra pair of hands helped GP staff with workload. GP tutors held the view that their trainees' availability to deal with hospital discharges and respond to queries from nurses, GPs and HCAs made them a good point of contact for all clinicians at the GP site. Moreover, GP tutors were able to deal with more advanced clinical tasks because their trainees managed many of the administrative tasks. Furthermore, some GP tutors reported that trainees had helped with quality improvement at the GP site by carrying out audits and sharing the information with the practice.

> *"The HCAs, the nurses, the GPs, a lot of the time they were asking my pre-reg a query before they ask me. It was a good point of contact to have in the surgery… And then obviously if he isn't able to answer the question then he'll just ask me at a suitable time". (Site 5, GP tutor – single block)*

Initial expectations of how much pre-registration trainees could/could not contribute to reducing workload seemed to differ amongst GP tutors depending on their supervision experience. For instance, one of the GP tutors who was supervising a pre-registration trainee for the first time had expected less hands on supervision and a reduction in their own workload. A more experienced GP pharmacist tutor, on the other hand, recognised that the purpose of the GP placement was about the trainees' learning and development rather than their contribution to workload. Nonetheless, all GP tutors agreed that whilst having a trainee on site added value, supervision required significant time and commitment.

> *"I was envisioning, oh yes, the trainee will come in and do everything. But obviously, you've got to work through that and... I wouldn't say it's a negative. Again, you're thinking they will help you with tasks, they do help with the tasks, but then obviously you need to explain everything again to make sure it's gone in. So, again, let's say you've done a letter with them and sorted out a patient with them, you're still going to have a good five-minute chat afterwards to explain exactly what's gone on and why you've done what you've done and what they've done well, what would they have done better. So, it's not like that's really reducing my workload per se. I don't mind it. Obviously, that's my job, but just because there's*

more hands on deck, doesn't mean actually I'm more free at all". (Site 8, community pharmacy GP tutor – split week)

"… I've got a phone call list, let's say I've got 12 patients, I might be able to give my pre-reg four of those phone calls to do, but we have to look at the patient first, … we have to discuss what is likely going to happen during that phone call, what do we want to check when we do the phone call. So you have to do almost a mini review before you even phone the patient, whereas I could have phoned that patient and had it done within five minutes. So yes, they can take on work, but actually they're also adding to your workload as well. So for me it's not about actually what can they take off my plate, because it's not as simple as that, it's around developing pharmacists. So for me it's not actually yes, they're coming here so they can be cheap labour" (Site 3, hospital, GP tutor – single block)

Hospital base tutors agreed that supervising trainees provided insight into some issues that primary care have with secondary care. Because of trainees' first-hand experience at the partner GP site, they were able to influence hospital practice to improve or enhance collaborative working with partner GP site.

"Yeah, I think it is useful because you get an insight into how primary care works and they can see the barriers between transition of care from secondary to primary care because they've been on the other end, so we can work them and gain insight into what happens, to improve our communication with primary care. For example, issues with discharge letters that we weren't aware were a problem, they've [trainee] reported back to say that this is a big problem and we've been able to change practice here. So it's useful to have that further link and collaborative working with primary care and I think going forward, that's going to happen in the NHS as a whole, so it's good to have trainees used to that before they even start work as a pharmacist". (Site 1, hospital, base tutor – single block)

Trainees in the community pharmacy/GP pairings mentioned that spending time in general practice added depth to their dispensing at the community pharmacy because they had access to disease information that a community pharmacist would not otherwise see. Thus, trainees were able to make a link between a patient's prescription with an underlying clinical condition and identify relevant drug interaction or clinical factors. Trainees were also able to build rapport with patients at the community pharmacy as well as follow through some of their queries because they saw patients regularly at the GP site.

"Yeah, I think one of the main effects is that I knew a lot of the patients, I'd seen a lot of the patients in consultations in the general practice, so when I've seen them come into the community now I've got a better rapport with them which just helps in that regard in terms of being friendly with patients. But also another side of things, in general practice when checking medication regimens and reauthorising them there's other things to consider in terms of the monitoring side of things. You can actively see the comorbidities they have. (Site 7, community pharmacy, trainee – split week)

"I would say, because I understand what happens from the GP aspect, I can then apply my knowledge at the community pharmacy. So kind of liaising with the GP practice is a lot easier for me to do when you're doing queries and things like that. It's also been really useful for me when I have been doing putting patients on electronic repeat dispensing as well. There have been times where some of the patients that I've put on electronic repeat dispensing at the GP practice, the next day I would come and pick up the prescription and then dispense it from the community end so it kind of…so it helps me see the full cycle and it also helps me see the result

of my work from one end to the next as well". (Site 10, community pharmacy, trainee – split weeks)

Similarly, community pharmacy base tutors explained that trainees doing split placements were well prepared to educate patients because they had developed insight and knowledge about the patient's condition. Due to increased patient facing time in general practice, community pharmacy base tutors felt that their trainees were generally more confident in taking on some of the patient facing roles in community pharmacy. Moreover, all community pharmacy base tutors felt that having a trainee undertake split placements significantly improved cross-sector communication between the community pharmacy and the partner GP site. They explained that it was easier for trainees to liaise with the partner GP site and clarify prescriptions issues because they understood the system for the GP site and knew the GP staff.

Limitations of pre-registration pharmacists undertaking cross-sector placements

Participants were asked about limitations of cross-sector placements. The main concern discussed by most hospital/GP trainees was having to meet the same criteria (logs, assessments etc.) as single-sector trainees despite spending less time and having shorter rotations at the hospital. Some trainees found it challenging to catch up with the workload when retuning to the hospital and were concerned about falling behind.

"I think my only slight issue that I'm having with it is obviously now I have much less time in hospital but I still have a lot of the same kind of set criteria that I need to cover. I'm finding that quite difficult and time-consuming and I will be finishing those much later than my peers, which means I have just that extra worry when really the focus should be on finishing the pre-reg year and passing the exam". (Site 1, hospital, trainee – single block)

"But I found that in hospital mainly I would be behind in a lot of things. So, for example, my dispensing competencies. Because I had GP in it the way that they structured my pre reg year they kind of cut certain rotations that normally for the other previous years would be two weeks, now mine is one week, or it would be four weeks, now mine is three weeks. But they've kind of kept the same expectations as if I was there the whole time. So because of that I found that I struggled in hospital because I have limited time to do something. So I still have to do the same amount of things but with less time. (Site 4, hospital, trainee – multiple blocks)

All hospital base tutors anticipated split-placement trainees would catch up with the hospital workload upon their return from the GP sector. However, one base tutor highlighted that there was a need to consider whether the expectations for split-placement trainees should be the same as for trainees based in the hospital full time:

"Well we're kind of learning as we go along. So, I think for the one trainee that's been through so far, I think he was a bit daunted about the fact that he's coming back and everybody else had got so far with their various logs that they need to do in the department. So, there's dispensing and labelling and meds rec and he was behind. But again, he's very pragmatic about it. So, he basically just put his head down and got on with it. And I envisaged that he'll catch up. But I think we need to reflect and perhaps work out in terms of the numbers of these logs and assessments, et cetera, whether our expectation is too great for someone who's been out of the department for eight weeks. Whether it's fair to put the same parameters on them as people who aren't hospital based all year round. Because we haven't said oh well, you've

eight weeks left here, so you can do fewer numbers of this or fewer numbers of that. They've all got the same numbers to do. So, we're going to have a think about that for next year and the year after". (Site 1, hospital, base tutor – single block)

Some of the trainees at the hospital site were also initially worried that they would not have the same learning experience as other trainees because they missed out on opportunities at the hospital. However, these initial concerns were mostly allayed with time as trainees realised that any opportunities missed at the hospital sector were balanced out by what they learned at the GP site.

"I think the biggest thing that was difficult to understand was having half the time on each rotation in the hospital and you felt like you were missing out on half of the work, but you had to really consider, well, you were gaining things from the GP side and you might not have a cardiac clinic in the GP surgery but you were still seeing cardiac patients. So negatively, probably the biggest thing that was difficult at first, but I now understand that I didn't really have half the time, I was still gaining as much knowledge as everybody else and was still gaining knowledge from the GP side". (Site 2, hospital, trainee 1 – split weeks)

Split community pharmacy/GP trainees were less concerned about catching up or falling behind. However, most of the community pharmacy base tutors and trainees acknowledged that it was more difficult for cross-sector trainees to learn the management side of things at the community pharmacy (i.e. how to run a branch and manage people). In these study sites, base tutors attributed this impact to the way they structured their split-placements **(see GP placement models)**.

"The only negative I can think of is as a full time member of staff you're actually in a quite unusual place in a community pharmacy. Working five days a week in a community pharmacy gives you quite a lot of control over what happens in the pharmacy because you are the one that's there all the time because of the fact that I only work there three days a week…the impact I can have on changing the systems and improving systems in the community pharmacy is a lot less than I was hoping to have". (Site 9, community pharmacy, trainee – split weeks)

"I think we've tried to incorporate more of how to actually run a branch and how to manage the people. But that seems to have gone down a little bit. It is something that students have specifically to do, that they thought was maybe lacking a bit at the management side, and just on the day to day running of a pharmacy branch really". (Site 7, community pharmacy, base tutor – multiple blocks)

Nonetheless, all of the trainees perceived more gain (than loss) because the GP placement provided opportunities to develop clinical skills and knowledge.

"I think it's made up for because on the GP surgery side, you have more time to look into things. So, a lot times in community there's too many things to do for you to just say, stop, and think about sort of your learning. So, for example, when I'm dispensing, ideally, I'd have time to think about each medication, think about side effects, interactions, things like that, but there just isn't really enough time. So, you're kind of on autopilot. You just that matches that, that matches that, next item, next item. But within GP surgery, you have more time to break things down. So, I'd get requests, and then if it's a medication that I've never heard of or I'm not particularly familiar with, I'd spend maybe 10, 15 minutes just researching it, and then I feel a lot more confident with it. So, I always felt like I learnt a lot more in the actual GP surgery than I did in community." (Site 11, community pharmacy, trainee – split weeks)

Regardless of sector, the impact of hosting a cross-sector trainee was perceived as negligible. Most tutors felt the time commitment and procedure for running this type of cross-sector placement was

similar to single sector placements. However, one hospital base tutor felt this cross-sector placement required more time commitment from them due to a lack of experience in running a split GP placement.

> *"I think as a pre-reg tutor, the challenge is having sufficient time within the working week to support the pre-reg and I think that's probably a reflection from all tutors… because last year, I managed someone who was solely hospital, you know, it's a similar process, you're looking at the standards, you're looking at if they're competent, how are they getting on with the exam syllabus. So it's doing the same thing, it's just they're not with you the whole time". (Site 2, hospital, base tutor – split weeks)*

> *"I feel like that's been challenging, it wasn't necessarily something that I anticipated to be as difficult a struggle as it has been … so, I feel like yes, it's required more from me, in terms of the commitment than it has previously and whether that's because we were figuring things out as we went along a little bit and realising problems as we went and trying to trouble-shoot and maybe we've learnt things now that could be implemented next year, which will mean that it won't take up quite as much of my time. But I feel that yes, it has taken up more than I would have expected". (Site 5, hospital, base tutor – single block)*

All hospital base tutors perceived the impact on the base sector as a result of their trainee spending time away at the GP placement as minimal. Similarly, most community pharmacy base tutors explained that they had planned for their trainee to have a "supernumerary" role in community pharmacy so that losing them would not impact the day to day running of the pharmacy.

> *"I can't really say that it's been negative, it was always something that we were expecting, and so we tried to make it so that the student is in effect, an extra member of staff. They're not there as part of the actual team that's in that day, so they're always supernumerary. So that any removal from the sector for…you know, the cross sector placement or training days away, holidays, et cetera, that they don't impact on the day to day running of the pharmacy". (Site 7, community pharmacy, base tutor – multiple blocks)*

However, one of the community pharmacy base tutors argued that having a trainee doing split placements negatively affected the staffing level in the community pharmacy because they had to hire another member of staff to compensate for the hours their trainee spent in general practice. This base tutor emphasised that funding for this split-placement programme was unfair on the community pharmacy sector given that their pre-registration pharmacist's employment and training costs were not shared by the GP surgery. They considered taking on trainees doing split placements was an *"unnecessary extra burden"* financially because pre-registration pharmacists would spend less time at community pharmacy and become more inclined towards working at general practice.

> *"Disadvantage what I felt was obviously the GP surgery is something new, a new concept. What my experience in the last one year is that the pre-reg is more focused towards the GP surgery rather than the community pharmacy. So this is something like it's unfair, to be honest….they are more influenced towards the GP surgery rather than the community pharmacy….For example, say, if GP surgery has any meeting to attend, whether that meeting is important or not, the pre-reg will not think about their importance to have, to be present in the community pharmacy for that day. Another thing is the funding for this programme I feel enough of it, it's not been well funded to the community pharmacies…if you go for the split period, they will be working only 20 hours with you and you will be still paying the full of their employment. So obviously it will badly effect the staff level in the community pharmacy. So*

obviously if we have to compensate those hours, we have to hire another member of staff, which I feel is unnecessary staff cost for the pharmacy. So it's an unnecessary extra burden to the community pharmacy especially at the time of, already the NHS has done the funding cuts everything to the community pharmacy. So this is another factor which we will need to consider, to be honest. Because obviously we are compromising with the number of hours. At the same time we are spending more money on the pre-reg training as well. And another thing is that, after doing that, the pre-regs are still more inclined towards the GP surgeries, which is also one of the, I would say, negative factor". (Site 10, community pharmacy, base tutor – split weeks)

GP tutors did not report any negative effects except at the beginning when trainees were having their induction and settling in (transition phase). Another issue raised by GP tutors was having to reconfigure the trainees' timetable if a member of staff who was allocated to spend time with the trainee became unavailable. However, these were perceived to be common supervision issues that were not specific to the pre-registration pharmacist.

"I don't think so, everyone was very happy with the trainee. The only issue we had was trying to…for example I would do the timetable and then someone would go on annual leave, for example […]. And that was the only issue we had, maybe if someone was sick on the day that was supposed to be supporting the trainee, we would have to find someone else but those kind of things are going to happen anyway whatever you do, you can't really avoid them, can you?" (Site 1, hospital, GP tutor – single block)

"No, not really. I think obviously at the beginning whilst he was having the induction training, there's obviously an impact on the rest of the staff. But that's going to be with every new member of staff that starts and that's not just isolated to him and the fact that he's a pre-reg. But once he had settled, he was absolutely fine". (Site 7, community pharmacy, GP tutor – multiple blocks)

Overall GP placement experience

At the end of the interview, participants were asked to reflect on their overall GP placement experience. All base and GP tutors were positive about pre-registration pharmacist placements and felt that this was grounded in strong collaborative supervision and a learning environment which enabled trainees to identify and address their learning needs. Comprehensive planning of the GP placement ahead of the pre-registration year was deemed essential for a successful cross-sector placement experience. All base and GP tutors stressed the importance of having a good relationship with each other and maintaining communication throughout the placement. In addition, GP sites' experience ("know-how") of training healthcare professionals was seen as contributing to the success of GP placements. Selections of quotes from some of the study sites on "what made the pre-registration pharmacist cross-sector placement experience successful" are provided in **Box 5.**

Box 5: What made this pre-registration pharmacist cross-sector placement experience successful

"In terms of it being successful I think it's actually really down to the people that you work with. So, it's been really good working with the GP pharmacy tutor. She's been absolutely excellent and I think, again, us working together, and I think because we have such a positive working relationship, we made sure that this was about the trainee and the patient and because our focus was so singular it meant that we were able to create a really good GP programme. So, I think that's been really positive. And I think having a really excellent pre-reg as well who's got the motivation, that self-drive, the passion that's been really important as well. If you have…I think the attitudes from all three people have to be the same. It has to be on point otherwise it's not going to be successful. Planning is so essential. So, we had so many planning sessions running up to actually the start of the year to make sure, have we covered everything". ***(Site 4, hospital, base tutor – multiple blocks)***

"I definitely think it was successful. I think it was successful because initially there was good communication from the hospital tutor with myself, the expectations are clear what we were trying to achieve or what they wanted and what we thought we could do or not do. And then obviously meeting up with trainees before the actual placement within the hospital environment, just getting to know them, I think that was positive. Having the trainees come before the actual placement so they can see me in my environment, so to speak and see where they're going to be, meet some of the staff. But it was all down to the trainee, I would say, really, because the trainee was very proactive, wanted to learn, was confident, willing to take on new challenge. I thought the trainee actually got the most out of the training whereas with the same programme maybe someone else if they weren't as open or willing, they might not have got as much. I think it's all down to the trainee, really". ***(Site 1, hospital, GP tutor – single block)***

"I think from the very beginning we have a very good working relationship with the community pharmacy across from us. We engage very well, we talk regularly and we communicate frequently. That's helped. The fact that we knew this was always a joint placement, so we've taken equal responsibility. And even whilst the pre-reg has been on his community placement, like I say, I've gone cross-sector, so we've been peripatetic as well. It's almost like we've been mobilising with the pre-reg. So, it's almost like, you know, we've been shadowing each other. And equally, the community pharmacist, you know, he has been given the opportunity to be mobile as well. So, when the pre-reg comes here, the community pharmacist is here as well. So, we've never lost contact with one another for that three-month block and I think, for me, that's really been the underpinning success of all of this. And then obviously the pre-reg, he knows he can contact either of us or both of us and he has done that frequently". ***(Site 7, community pharmacy, GP tutor – multiple blocks)***

"I think being a training practice helped, because the surgery is already set up for having trainees, so they're much more open to trainees joining in with meetings and meeting with the other GP trainees and all that sort of stuff, so I think being a training practice really does help. And me working full-time here has probably helped as well, so I'm always here whenever the pre-reg is able to come really. And can devote that time, that daily clinical time, just sit with him and run through things". ***(Site 11, community pharmacy, GP tutor – split weeks)***

Discussion

This research used a qualitative, dyad/triad approach where both a trainee and their tutor(s) were interviewed to explore views on cross-sector GP/community and GP/hospital pre-registration pharmacy placements, and to identify the barriers to, and enablers of, a successful training placement. Eleven study sites were involved: five study sites were GP/hospital and six GP/community pharmacy pairings.

Trainees and tutors considered GP placements as successful, with the following factors contributing to this success:

- Placement planning was important, with good inductions and contingency arrangements for cover in place when the GP tutor was unavailable;
- Tutors working together and communicating regularly;
- Good support by the GP tutor, with regular contact with the trainee, to support reflection, identify learning needs, and create opportunities for learning and application;
- Clear and meaningful integration of GP placements within the training year, accompanied by specific and complementary learning/training activities at base during GP placement.

A lack of the above factors impacted negatively on the GP placement experience.

When comparing our results to the previous pre-registration pharmacist in general practice training evaluation,[4] many of our findings are confirmatory. As with the previous evaluation, trainees completed a wide range of activities and gradually moved from more administrative (e.g. medication queries and medication reconciliations) to clinical tasks (e.g. medication reviews, basic clinical assessments). This was facilitated by a workplace culture and learning environment that was learner-centred and underpinned by a supervision model which enabled gradual development of competence and capability supporting development of increasingly autonomous practice. Thus trainees gradually built up confidence to provide patient-facing care, with more direct supervision required at the beginning and moving to indirect supervision using debriefing later. Whilst some trainees were sceptical of the relevance and/or importance of shadowing non-clinical staff (i.e. reception and administrative team) at the start of placements, most trainees recognised the value later, as they understood using the IT system, booking patients in for appointments, referring patients and then scanning in the clinic letters. It may be important to be more explicit about the purpose of these activities with future cohorts, so that trainees are better prepared and understand the intention and value from the outset.

Compared to the previous evaluation, issues around working space and facilities in general practice (e.g. access to computers) were less notable in this study. However, our findings indicate that issues identified in the previous evaluation around GP host organisations withdrawing closer to start of the placement or GP tutors leaving their practice sites, reoccurred. These issues are likely to continue in the future as GP placements are dependent on the availability of a single clinical pharmacist at the GP site.

In terms of placement structure and duration, with a single exception (split day), all models (block/split) in this study were acceptable. In fact, the model which was experienced was found to

be the preferred option by those interviewed. This may at least in part be because GP placements were designed to suit the specific pairing site's set-up and requirements, and to support the trainee's learning and development using a supervision model that allowed for both planned/formal and opportunistic/informal learning. Support and the creation of supervised learning opportunities by GP tutors were key elements for a good learning experience. This involved GP tutors discussing the key learning points for any activities undertaken with the trainees; asking trainees thought-provoking questions; getting trainees to read/look up relevant information for self-study and setting up regular tutorial sessions.

Whilst all models (whether block(s) or split weeks) had been decided on locally depending on the needs of each site, our split day study site suggests that switching roles during the day between base and GP settings could be challenging. This was also noted in the previous evaluation.

There was a strong consensus amongst trainees and tutors that 13 weeks in general practice was an appropriate minimum duration. Similar to the previous evaluation, resistance to/ lack of flexibility in reducing hospital experience and tasks/ logs in favour of multi-sector placements was evident in this study. Hospital/GP participants thought that 26 weeks in general practice were very difficult to accommodate, whilst also fitting all hospital activities into the 52-week pre-registration timetable. On the other hand, trainees and tutors in the community pharmacy/GP placements perceived 26 weeks in each sector to be preferable. Whilst there was a view that some learning of community pharmacy branch and staff management may be less well developed, a longer time in GP allowed for important learning of clinical and consultation skills. Thirteen weeks appeared sufficient to introduce trainees to the GP setting, with additional time helping to consolidate this learning further, increase development and autonomy as a clinical pharmacist.

The particular contribution which GP placements appeared to make to pre-registration learning, over and above what was learnt in either the community or hospital setting, were consultation, and clinical examination skills. GP placements were also beneficial more broadly to all trainees, tutors and host organisations, regardless of placement structure and duration. Adding a GP component to community/hospital pharmacy pre-registration training produced a well-rounded pre-registration pharmacist who could work in two sectors (hospital/community pharmacy and general practice). Trainees felt more confident with clinical skills and in patient consultations, and understood the importance of taking a holistic approach to patient care. Moreover, they believed taking part in these cross-sector placements gave them a better understanding of the patient journey. This greater understanding impacted beyond the trainee's learning, and improved cross-sector communication and resolved some transfer of care issues in primary and hospital care.

Considerable time for supervision, particularly at the beginning, was offset as the GP placement progressed and pre-registration pharmacists became able to deal with administrative tasks and queries which helped reduce others' workload. GP tutors did not feel that hosting a pre-registration pharmacist had any substantial negative effects on the GP site, particularly where the trainee was considered supernumerary in both settings, with little impact on the base sector when trainees were at the GP sector. Where trainees were not supernumerary but were considered more as staff than a learner, the loss of the trainee's contribution to the workforce whilst away at the GP site was more palpable.

The previous evaluation highlighted the importance of having a pharmacist tutor at the GP site. This was so that they could bridge the understanding of what a clinical pharmacist in GP is and does, and also what pre-registration pharmacists can and cannot do in general practice. This study confirmed that the requirement to have a GP based pharmacist tutor was indeed important. Many non-pharmacists had limited understanding of the knowledge and skills of a pre-registration trainee pharmacist, and what they could/not delegate. GP tutors in this study perceived that there may be scope for inter-professional learning, as some of the GP sites were training sites that hosted trainees from other professions, yet there were no formal arrangements to facilitate this. Trainees and tutors in the previous evaluation highlighted the advantage of having links to other trainees – pharmacy only or from other professions – for peer support. However, trainees in this study did not perceive access to a wide network of pre-registration pharmacists to have a strong influence on their GP placement experience because they had sufficient support and learning opportunities offered by their tutors.

In terms of supporting tutors in their supervision, tutors valued having an induction event as well as tutor training days and the availability of their regional facilitators. Some tutors surveyed in the previous evaluation indicated that they still needed support – particularly in appraisal/assessment, human resources (e.g. contracts) and insurance. In this study, all base and GP tutors were content with the amount of support received by HEE.

What was, however, identified as needed was a quality assurance framework for trainee learning, supervision, and assessment. Base and GP tutors thought they and trainees would benefit from a clear set of competencies to be achieved during the GP placement. Whilst learning of, and feedback on trainees' clinical and patient-facing consultation skills was deemed important by all participants, there were mixed views on the usefulness of the range of valid/reliable (established) assessment tools provided. It appeared that most GP tutors were not familiar with the assessment tools provided, so commonly did not use them and instead preferred a more informal approach to feedback. Nonetheless, when used, formative assessment tools facilitated active, learner-centred learning and offered some standardization for assessing patient-facing practice.

When rolling these types of cross-sector placements out on a larger scale, it will likely be important for standards set by GPhC to be more closely aligned with assessment tools, and indeed create a broader governance framework which can ensure minimum standards and consistency for the whole 12 month of pre-registration.

In line with findings from the previous evaluation, upon reflection, all trainees, base and GP tutors in this study perceived involvement in a pre-registration pharmacist cross-sector GP placement to be a positive and enjoyable learning experience. All base and GP tutors were willing to supervise pre-registration pharmacists again in the future. Similarly, all trainees were interested in working in general practice at some point in their career but highlighted the lack of a recognised pathway or GP or cross-sector training pharmacist programme for newly qualified pharmacists.

Limitations:

It is important to note that this was a qualitative study which provides insights that are useful for future pre-registration pharmacist cross-sector placements; however, findings are not intended to be generalisable. Moreover, we sampled according to site characteristics rather than personal characteristics of trainees. Hence, there were more males than females in this study which does not reflect the actual distribution of male - female trainees in this cross-sector training programme. Finally, there was a level of self-selection as participants volunteered to be interviewed and therefore, findings may be generally more positive towards this cross-sector pre-registration training programme.

What can future cohorts of pre-registration pharmacists in general practice and policymakers learn from this evaluation?

In 2019/2020, the Pharmacy Integration Fund (PhIF) funded the delivery of cross-sector pre-registration training based in hospital or community pharmacy and between 3 to 6 months in general practice. GP placements were developed and organised as one (or more) blocks, or as spilt weeks/days across base sector (hospital/ community) and general practice, so that they could be adaptable and acceptable for the local context. As this variation in the structure and duration of split GP placements is likely to continue, there are important lessons and recommendations emerging from our evaluation findings relevant for future cohorts of pre-registration pharmacists in general practice, particularly in light of the recently published new GPhC standards for the initial education and training of pharmacists and their focus on clinical and patient-centred skills**. Our recommendations are listed below**, identifying the audience/ stakeholder groups which each is most relevant to**:**

Recommendations	Relevant audience
• **GP placements particularly support the development of consultation and clinical assessments skills for trainees**, which appear more difficult to achieve in hospital and community pharmacy settings. Sufficient time in general practice should be allocated during initial education and training for pharmacists to enable them to develop these competences and capabilities. **(Section: Placement outcomes)**	**NHSE**
• As **consultation and clinical assessments skills** also underpin independent prescribing, the inclusion of GP placements (which help develop pharmacists as autonomous clinicians) in pre-registration (foundation) training will be important in realising the policy direction for future pharmacists to qualify as independent prescribers upon initial registration. **(Section: Placement outcomes)**	**NHSE**

• In order to ensure quality and consistency of the learning experience as the number of these cross-sector placements is expanded, it is important to develop and implement a **quality assurance framework** that underpins the arrangements/requirements for trainee learning, supervision, and assessment. This should involve clarity on which pre-registration trainee competencies should be achieved during the GP placement. **(Section: Monitoring trainees' progress during GP placement)**	**NHSE**
• **GP placement models:** GP training needs to be flexible. The minimum duration for a GP placement appeared to be 13 weeks; with additional time providing further opportunity for application, deepening of learning, increased autonomy, and the move to providing care for more complex cases. A duration longer than 13 weeks appeared particularly welcome in community pharmacy pairings. **(Section: GP placement models)**	**NHSE & HEE**
• The structure of the GP placement (whether they were arranged as blocks or split days/ weeks) was of relatively little importance; it was most important that this suited local circumstances and need. **(Section: GP placement models)**	**HEE**
• **GP placement tutors need to be pharmacists**, as other types of staff do not yet understand the role of a pre-registration pharmacist trainee and what they could do at the practice. **(Section: Trainees' and GP site preparedness for GP placements)**	**HEE**
• **Supervision:** GP placements should be progressive so that trainees develop an understanding of general practice, from processes and administrative tasks through to applied consultation and clinical skills. This requires a supervision model (similar to medical supervision)[11] that is designed to support the trainee's learning and development which starts with shadowing and observing, and is followed by incremental but supported increases in autonomy. **(Section: Progression of types of activities undertaken by trainees in GP placements – and supervision to support work-based learning)**	**HEE & host sites**
• To operationalise this supervision model, tutor support needs to be very direct initially and gradually move to a model of pre- and de-briefing, which facilitates trainees taking an increasingly independent (yet supported) approach to their clinical and patient-facing practice. **(Section: Progression of types of activities undertaken by trainees in GP placements – and supervision to support work-based learning)**	**HEE & host sites**

• **Contingency planning:** With a significant gap (commonly many months) between registering for and then starting placements, host organisations need to have contingency plans which account for changes in staff and circumstances. This is particularly relevant in the event that the proposed GP pharmacist tutor leaves the organisation before or during the GP placement. It will be important for HEE to have systems in place to support host organisations in such circumstances. **(Section: Operationalising cross-sector placements)**	**HEE & host sites**
• **Support for tutors:** The HEE handbook provides a good reference source for tutors, which could be supplemented with a site-specific GP placement workbook. **(Section: Support received by tutors and trainees during the GP placement)**	**HEE**
• HEE induction events and tutor training days are valued, for the information which is imparted and particularly the opportunity for tutors to share experiences and learn from each other. Alternative options (dates or online availability) may be valuable for tutors who are unable to attend these events, particularly at induction. **(Section: Support received by tutors and trainees during the GP placement)**	**HEE**
• There may be opportunities to better integrate pre-registration pharmacists and trainees from other professions together to enhance **interprofessional learning and multidisciplinary teamwork**. This may be particularly relevant in training sites which host other healthcare professional trainees, offering further opportunities for interaction and joint learning. **(Section: Progression of types of activities undertaken by trainees in GP placements – and supervision to support work-based learning)**	**HEE**
• Successful cross-sector placements benefit from good **communication** between base and GP tutor, and a joined-up approach to supervision. **Better integration** of the general practice site and its tutor within the overall pre-registration training year is likely to be beneficial for the overall training experience. Particularly in hospital pairings, it may be helpful to view GP placements as one of the pre-registration rotations **(Section: Overall GP placement experience)**	**Host sites**
• Having community pharmacy/GP training sites closely located is important for future GP/community pharmacy placement models as this facilitates good communication and joined-up supervision between base and GP tutors. **(Section: Overall GP placement experience)**	**Host sites**

• **Trainee induction to general practice:** Supporting trainees' transition to general practice will require an effective induction period which covers policies, procedures and mandatory training in general practice along with shadowing clinical staff and having opportunities to experience different aspect of practice (e.g. care homes). It will also be important to explain the reasons for this, particularly shadowing, so that trainees appreciate the importance of understanding the GP system and non-clinical staff roles from the outset. **(Section: Managing transition between sectors)**	**Host sites**
• Trainees in GP placements were viewed as "supernumerary" rather than "members of staff" which facilitated effective supervision and time for learning, and it is important that this culture of learning is shared across all training sites. **(Section: Benefit and limitations of undertaking cross-sector placements)**	**Host sites**

Summary:

Given the varied nature of work/patients in general practice, the structure of GP placements during 12 months of pre-registration training needs to offer some flexibility, so that it can fit with local needs. This is particularly important when rolling out GP placements at scale, where restrictions in the training programme may limit/reduce involvement of some sites. GP placements should allow for both planned/formal and opportunistic/informal learning; underpinned by well-defined expectations that ensure trainees further develop their consultation skills and are not limited to administrative tasks.[13] Good supervision is key, involving regular contact and meaningful feedback, which supports and enables trainees to move from needing direct supervision to testing out more independent and autonomous practice in a well-managed and safe way. Good communication and handover between the base and GP tutors are important, and a clear set of competencies to be achieved in GP will be valuable. A broader governance framework with minimum expectations and requirements of training sites and tutors will also be important to ensure standards and consistency.

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Appendix 1: List of formative assessment tools

List of formative assessment tools				
Evidence Attribute	**Mini-Clinical Evaluation Exercise (Mini-CEX)**	**Intervention Recording (IR)**	**Case Based Discussion (CBD)**	**Medication Review and Consultation Assessment (MRCA)**
What does the tool support the development of?	Behaviour Judgement and reasoning in a range of clinical scenarios	Intervention Recommending, justifying and communicating interventions	In-depth discussion Depth and breadth of knowledge on a clinical area inspired by the management of a patient	Ability to deliver a medication review consultation Ability to initiate, participate and conclude a patient-centred medication review consultation
When to use?	Real-time	Retrospectively	Retrospectively	Real-time
Preparation required?	No	Yes – up to 45 mins	Yes – 2 hours	Yes – up to 1 hour (data gathering)
Time taken	5-15 mins	15 mins	30-40 mins	20-30 mins
Who can complete tool with pre-reg?	Any healthcare professional with knowledge in clinical area	Any healthcare professional with knowledge in clinical area	Any healthcare professional with knowledge in clinical area	Any healthcare professional with knowledge in clinical area
Example of when tool could be used	Discussion of clinical reasoning decisions in real-life scenarios • Responding to a medication query • Conducting medicines reconciliation • Medication Review	When a clinical intervention is being considered by the trainee • Medicines reconciliation - intervention picked up as a result • Responding to a medication query • Medication review • Chronic disease review	To explore a complex patient and their care in greater depth in order to deepen understanding of disease/medicine • Complex medication regime reduced (deprescribing) • Complex medicines reconciliation process • Complex medical condition with specific medication regime	When the trainee delivers a supervised face to face medication related consultation for a patient
Other information	More exercises completed for range of activities, better it is for informing further development	Snapshot recording of interventions made to improve patient care	Discussion that can be presented as a case study on a chosen patient to demonstrate learning and development	Summary assessment of a range of activities

**Taken from HEE Pre-registration Pharmacist in GP Handbook*