



# Evaluation of the Pharmacy Integration Fund Learning Pathways

**Final Report**

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A report submitted by [ICF Consulting Services Limited](#)  
in association with

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# Executive Summary: Evaluation of the Pharmacy Integration Fund Learning Pathways (Final Report)

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## Background

- This mixed-methods evaluation was commissioned by NHS England in March 2019 from ICF and the Centre for Pharmacy Workforce Studies (CPWS) at the University of Manchester.
- Four of the learning pathways funded by the Pharmacy Integration Fund (PhIF) were in scope: Medicines Optimisation in Care Homes (MOCH) for pharmacists and pharmacy technicians; Integrated Urgent Care (IUC) for pharmacists; post-registration programmes (PRP) mainly aimed at community pharmacists; and Accuracy Checking for Pharmacy Technicians (ACPT).
- These learning pathways aimed to support pharmacy professionals to develop enhanced skills, and expand their scope of practice, thus contributing to developing the primary care pharmacy workforce. They were flexible, free to the learner, and combined learning delivered by providers commissioned by Health Education England (HEE) and experiential learning; for the MOCH and IUC pathways, new roles and access to independent prescribing (IP) were also funded.
- By examining learners' experiences and outcomes (and those of supervisors and employers), the findings aim to inform funding decisions and plans for workforce development after registration.
- The delivery of the learning pathways and learners' experiences were further shaped by the COVID-19 pandemic in 2020-21, about which the evaluation provides additional insights.

## Methodology

- This was a mixed methods evaluation, with four principal work packages: A) analysis of learner data shared by HEE; B) a cross-sectional survey of learners (385 respondents) with longitudinal follow-up; C) in-depth telephone interviews with learners, supervisors and stakeholders (81 interviews across all four pathways, including 51 learners); and D) stakeholder engagement including a workshop at the start of the evaluation, and key informant interviews.
- The Theoretical Domains Framework (TDF) model of behaviour change was used as the basis for integrating the findings and understanding how learning and policy interventions have led to changes in practice, informing the evaluation framework and approach to analysis and synthesis.

## Key findings

- Analysis of learner data to March 2021 showed that 2,923 pharmacy professionals had engaged with the in-scope pathways; post-registration learners in community pharmacy accounted for more than half of the learners. Pathways were largely taken up by early and mid-career professionals, with 79% of learners aged between 25 and 44. Their gender and ethnicity profile was broadly reflective of the wider pharmacy workforce and take-up was spread across England.
- Learners' main motivations for taking part were to enhance their practice in their current job, working in a new sector of practice, and improving career prospects. Gaining a transferable, recognised qualification was also valued, and for pharmacists, so was the potential to gain an IP qualification and the opportunity to practise clinically in more patient-facing roles.
- Learners valued the approach to online and remote learning that was a key part of pathways even before the pandemic, although face-to-face contact and peer support networks were also

considered important. During the COVID-19 pandemic, learners reported several challenges including less time for learning due to exhaustion, increased workload, and fewer opportunities to apply skills; learning providers responded by reducing assessment load and by extending deadlines.

- Both educational and clinical supervision supporting experiential learning were a key resource for learners.
- A majority of pharmacists and pharmacy technician respondents on all pathways reported feeling either fairly or extremely confident in many of the target behaviours related to enhanced clinical practice as a result of their learning. Most learners also agreed that they had sufficient knowledge to apply learning in practice, although not all learners felt supported or able to do so in their workplace, particularly community pharmacists.
- The in-depth interviews revealed the importance of applying skills in practice for gaining confidence and self-awareness, and becoming a more reflective and holistic practitioner.
- The development of leadership, clinical reasoning, and communication through practice made a significant contribution to changes in learners' own behaviour, and the practice of other health professionals. Learners and employers also highlighted organisational benefits and improvements to patient care.
- Overall, PhIF funding and learning pathways appear to have acted as a catalyst for the advancement of roles and opportunities available to the pharmacy workforce (both pharmacists and pharmacy technicians), pushing the boundaries of what the workforce can and is expected to do.

## Key policy implications and recommendations

- Learning enhanced skills such as communication, clinical decision making, using evidence in practice, and interprofessional collaboration enabled practitioners to be more reflective, lifelong learners and were closely linked to better patient care and being an effective, more autonomous practitioner. The combination of clinical skills relevant to primary care and community pharmacy with wider applied skills (including leadership skills among pharmacy technicians as well as pharmacists) should therefore continue to be a focus of future learning pathways for the pharmacy workforce.
- There is strong demand from many pharmacy professionals to develop enhanced skills and prepare for more clinical roles in primary care. Opportunities for learners to apply new skills in their roles, supported by high quality educational and clinical supervision should be the focus of a proactive and strategic national approach to the development of pharmacy professionals in the future.
- By developing a framework for learning a consistent set of skills at each level from foundation, through to enhanced, advanced and consultant levels, policy makers will be able to support a progressive post-registration pathway for recent registrants as well as the existing pharmacy workforce.
- Future learning pathways should take account of widespread portfolio working in primary care and prioritise the acquisition of the transferable skills that are relevant across multiple settings. Ensuring that the different supervisory roles can provide a consistent offer of high quality support, based on the learning from this evaluation, coupled with consideration of how credentialing can be used to support transferability, will also be important for enabling joined-up career pathways in primary care and community pharmacy.

## Acknowledgements

We would like to thank the **NHS England Pharmacy Integration Fund for funding this evaluation, as well as Health Education England for its support throughout the evaluation.**

We would also like to thank those who participated in the early key informant interviews and the stakeholder engagement workshop which helped inform the evaluation and how it was carried out.

A particular thank you goes to pathway providers and, of course, all participants who have generously given their time for the surveys and interviews.





# 1 Introduction and background

The aim of this wide-ranging, mixed methods evaluation was to understand the views of learners, employers and supervisors taking part in four of the Pharmacy Integration Fund (PhIF) funded learning pathways. The PhIF learning pathways can be described as a set of interventions that aimed to incentivise pharmacy professionals (and their employers) to extend or enhance their scope of practice – developing their clinical skills across primary care (including community pharmacy), in both new and existing roles.

Commissioned by NHS England from ICF and the Centre for Pharmacy Workforce Studies (CPWS) in March 2019, the purpose of this study was to inform future funding decisions and plans for primary care pharmacy education and training after registration. In addition, the evaluation findings reveal wider insights about the development of the future pharmacy workforce in primary care, the barriers to transformation and how they might be overcome, as well the likely impact on learners, employers and patients. Due to the importance of applied, work-based learning, the evaluation findings and recommendations are also likely to be relevant in the context of the imminent changes to the initial education and training of pharmacists and the introduction of a pharmacist foundation year (in place of the current pre-registration training year).

The delivery of the learning pathways and learners' experiences were further shaped by the COVID-19 pandemic in 2020-21. The evaluation therefore also yields valuable insights into how the workforce and education providers responded to this uniquely challenging time, and what might be learned from changes in education and pharmacy professionals' roles and learning during this period.

## 1.1 Scope of the evaluation

The programmes in scope of the evaluation were all commissioned via Health Education England (HEE) from a range of higher education institutions and learning delivery partners.

Throughout this report, we use the term '**learning pathways**' (rather than 'course' or 'programme') as this allows us to better capture the full range of activity, including experiential learning and training that takes place in varied ways across a range of providers and employers over a range of timeframes.

The four in-scope pathways for this evaluation were:

- **Post-registration programmes** (1,953 learners). The largest pathway in terms of learner numbers, with a diverse range of providers catering to pharmacists working in community pharmacy or health and justice.
- **Medicines Optimisation in Care Homes (MOCH) for pharmacists and pharmacy technicians** (459 learners). A learning pathway undertaken by pharmacy professionals taking up roles working in and with care homes. The pathway merged with the separately evaluated Clinical Pharmacists in General Practice Pathway into the Primary Care Pharmacy Education Pathway (PCPEP) in 2020/2021. Both included access to a funded independent prescribing (IP) qualification.
- **Integrated Urgent Care (IUC) pathway for pharmacists** (167 learners). This pathway was open to any pharmacist working a required number of hours in NHS111 or similar settings. It also included access to a funded IP programme.

- **Accuracy Checking Pharmacy Technician (ACPT) programme for pharmacy technicians** (382 learners). This distinct learning pathway focused on developing skills as final accuracy checking pharmacy technicians, as well as leadership skills for teams and support for the delivery of patient-facing services.

Note that where we refer collectively to the MOCH / PCPEP and IUC pathways in this report (and summary), we have termed them the ‘primary care pathways’ or PCPs.

Other programmes funded under the PhIF, such as the Clinical Pharmacists in General Practice or the Mary Seacole leadership programme, were evaluated separately. Independent prescribing, insofar as it was part of the MOCH and IUC learning pathways, is relevant to the evaluation.

## 1.2 Research questions and methodology

The evaluation was commissioned with the following key questions (summarised from the statement of requirements):

- Describing those taking part in the learning pathways, including their characteristics relative to the wider workforce; and
- Describing the experience of those undertaking and providing the learning pathways, including learners, clinical supervisors, education supervisors, and employers and (to which, as a result of our scoping work, we added non-participating pharmacy professionals and employers who may have known about the learning pathways but did not take up the opportunities).

In response, ICF and CPWS developed a mixed-methods evaluation structured into four work packages with two principal elements of fieldwork, the methodologies for which are described in detail in chapter 2:

- A cross-sectional survey of learners on the in-scope pathways, distributed on two occasions (February and October 2020) and longitudinal follow-up of a small subset of learners. The detailed findings of this work are shown in chapter 4 of this report.
- Qualitative research consisting of in-depth interviews with learners, employers, education and clinical supervisors, and wider stakeholders. Some were interviewed prior to the COVID-19 pandemic, while others were interviewed during it. The detailed findings of this work are shown in chapter 5.

These tasks were supplemented by a separate analysis of the data on learners held by HEE in its Professional Education Training and Development (PETD) database (see chapter 3).

Note that, during the scoping phase, the funder requested that the evaluation scope be expanded to further incorporate the cross-sector Pre-registration Pharmacists in General Practice project. This project focused on a different target group of learners to the others in scope of the evaluation (i.e. pre-registration pharmacists as opposed to already qualified and registered pharmacy professionals). The findings from this work are published separately. The study provides additional valuable insight into how to develop pharmacy roles and practice across primary care.

## 1.3 Overview of the policy context

Pharmacists' roles are changing and, in recent years, pharmacy professionals (pharmacists and pharmacy technicians) have increasingly been widening their scopes of practice and taking on more patient-facing, clinical work. Since the arrival of COVID-19, pharmacists in all sectors have been carrying out a great deal of valuable work on the frontline of the pandemic – making the case for further developing their roles in future.

These changes align with, and support, key aims of the NHS, including greater integration across primary care at the local level, as outlined in the [NHS Long Term Plan](#) and in the ambitions of the PhIF itself to “*drive the greater use of pharmacists and pharmacy technicians in new, integrated local care models*” (NHS England, 2016).

The Long Term Plan is consistent with the direction of travel set out in policy documents since the 2008 White Paper, the reports of the Royal Pharmaceutical Society's 2013 Commission on Future Models of Care Delivered through Pharmacy ('Now or Never') and the independent review of Community Pharmacy Clinical Services commissioned in 2016 from the King's Fund by the Chief Pharmaceutical Officer in the wake of the Five Year Forward View.

Under the Long Term Plan, pharmacy professionals are expected to play a key role in the move towards prevention in the community and, in particular, taking on an increased role in managing the care of people with complex conditions, using their specialist knowledge and skills to ensure that they get the care they need without inappropriate use of medications, as well as acute and urgent care services. It is estimated that up to 10% of hospital admissions among older people are related to medication issues (NHS England, 2019), so there are expected to be benefits to the whole health system resulting from pharmacy professionals expanding their scope of work.

Further evidence about the importance of deploying clinical pharmacists across primary care was gathered during the 2015 trial of the Clinical Pharmacists in General Practice scheme (NHS England and Health Education England, 2015). The evidence from this scheme, and previous studies, suggest that integrating clinical pharmacists into primary care offers a multitude of benefits:

- Increased availability of GP appointments,
- Improved medication adherence,
- Reduced medication-related problems,
- Improved health in patients with certain chronic conditions (including asthma, COPD and diabetes),
- Improved understanding of medication and health,
- Reduced falls in older people living in care homes, and
- Possible cost savings due to improved medication use and reduced use of health services (Boyd et al., 2018).

Research also suggests a positive impact on GP workloads from the increased deployment of pharmacists in clinical practice, with some recent studies finding time savings for GPs and increased GP capacity (Boyd et al., 2018).

Implementation of policies that can unlock these desirable outcomes for the workforce and patient care have proved challenging within the broader context of

pressures across the NHS and the need to unite multiple stakeholders with a broad range of interests around a common vision for the pharmacy sector. Achieving the policy ambition requires significant changes to the pharmacy workforce, including an increase in the number of pharmacy professionals with new clinical roles in primary care, as well as pharmacy professionals that are increasing their scope of practice within existing roles (for example, in community pharmacy).

With considerable investment from the NHS to date, PhIF acts in several ways to meet the policy goals set out above, aiming to “*support community pharmacy as it develops new clinical pharmacy services, working practices and digital platforms to meet the public’s expectations for a modern NHS community pharmacy service*” (NHS England, 2016).

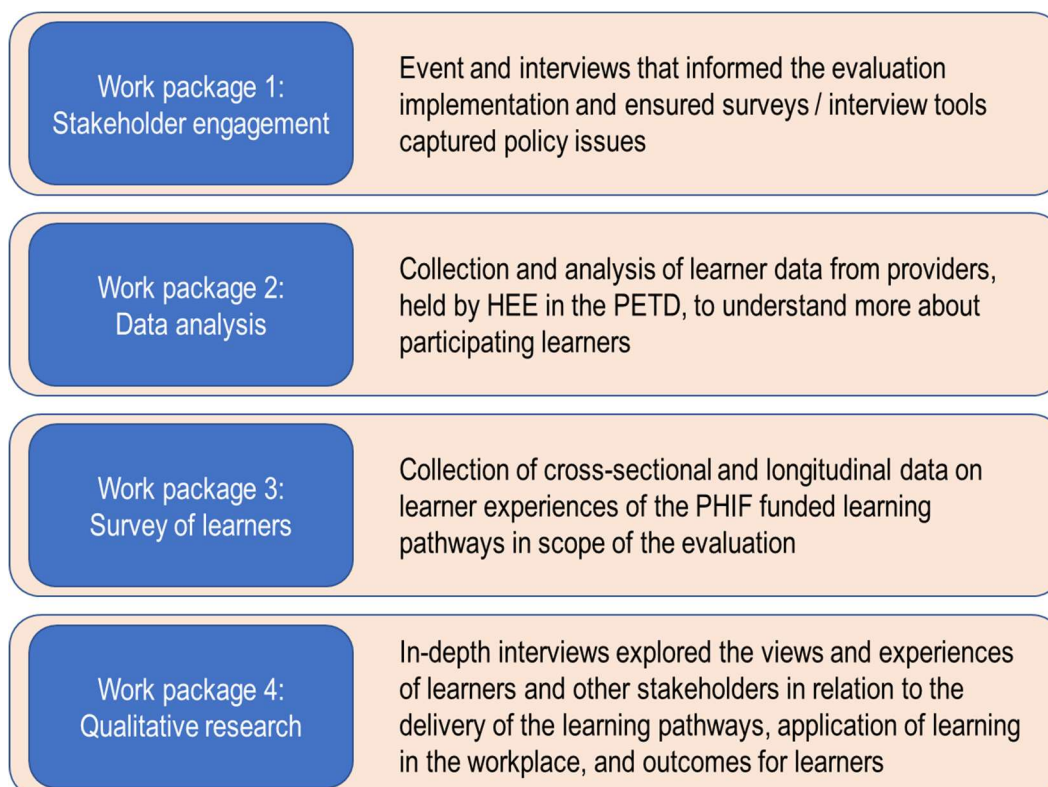
The learning pathways within scope of this evaluation are a key element of these efforts. They aimed to support pharmacy professionals to develop their clinical practice, learn additional skills and provide increased opportunities for pharmacy professionals to expand the scope of their practice, both within community pharmacy and through the development of pharmacy roles across primary care more broadly (which includes not only general practices but also care homes and urgent care settings). The PhIF funded new primary care roles and the accompanying learning pathways for pharmacists and pharmacy technicians, such as MOCH or IUC; whereas for post-registration (mainly community) pharmacists it was only course fees that were funded.

Alongside the PhIF, the new community pharmacy contract (2019) also aims to promote integration by incentivising community pharmacies to develop and take on more clinical, patient-facing work where pharmacy professionals increasingly work as part of a multidisciplinary team. More broadly, as the NHS prepares for greater integration, it is expected that pharmacy professionals will also play a significant role in the development of Primary Care Networks (PCNs) and Integrated Care Systems (ICSs).

## 2 Design and methodology

This mixed-methods evaluation was structured using four principal work packages (WPs), each with a distinct methodology (Figure 2.1). The findings were triangulated and synthesised with the aid of the overarching theoretical framework, which is described below. The methods used for each of the individual WPs are described subsequently.

Figure 2.1 Work packages of the evaluation



For the purposes of this report, the analysis of qualitative and survey data looks at three groups of PhIF participants:

- those on the primary care pathways for pharmacists and pharmacy technicians;
- the post-registration pathway for community pharmacists (and health and justice); and
- the Accuracy Checking Pharmacy Technician (ACPT) pathway.

Note that throughout, we refer to the pharmacists and pharmacy technicians participating in the pathways collectively as 'learners'; while a 'learning pathway' relates to each of the [PhIF-funded opportunities open to pharmacy professionals](#).

Besides learners, the analysis also distinguishes between the views of learners and other stakeholders, including:

- Education supervisors, who guide a learner in an educational capacity on behalf of the training provider (MOCH, IUC, ACPT, and some post-registration pathways);
- Clinical supervisors, who guide a learner in their clinical practice in their place of work (MOCH and IUC pathways); and

- Employers, who manage learners and their colleagues, and who may also take on the role of clinical supervisor.

## 2.2 Theoretical framework

At the scoping phase, a detailed theoretical framework was designed and used to guide our methodological approach in this evaluation. The Theoretical Domains Framework (TDF) (Atkins 2017) and the associated Capabilities, Opportunities, Motivations, and Behaviour Change (COM-B) models underpinned all of our evaluation activities and provided a means of conceptualising and identifying the factors underlying change in practice, as well as barriers and facilitators of change grounded in psychological theory (Michie 2011, Cane 2012). This further allowed us to understand the linkages and influences between behavioural and non-behavioural outcomes (with the latter conceptualised broadly as ‘policy’ outcomes).

Both models have been used to establish how the mechanisms of change embedded within training interventions are associated with health professional behaviour and practice change (e.g. De Leo 2021). When applied with an implementation science lens, they provide a methodology for evaluating how training interventions change practice and integrating different types of evidence (Richardson et al. 2019), allowing for hypotheses about intervention strategies to be tested empirically while accounting for multi-level factors that are important for practice change to take place (Gupta et al. 2021).

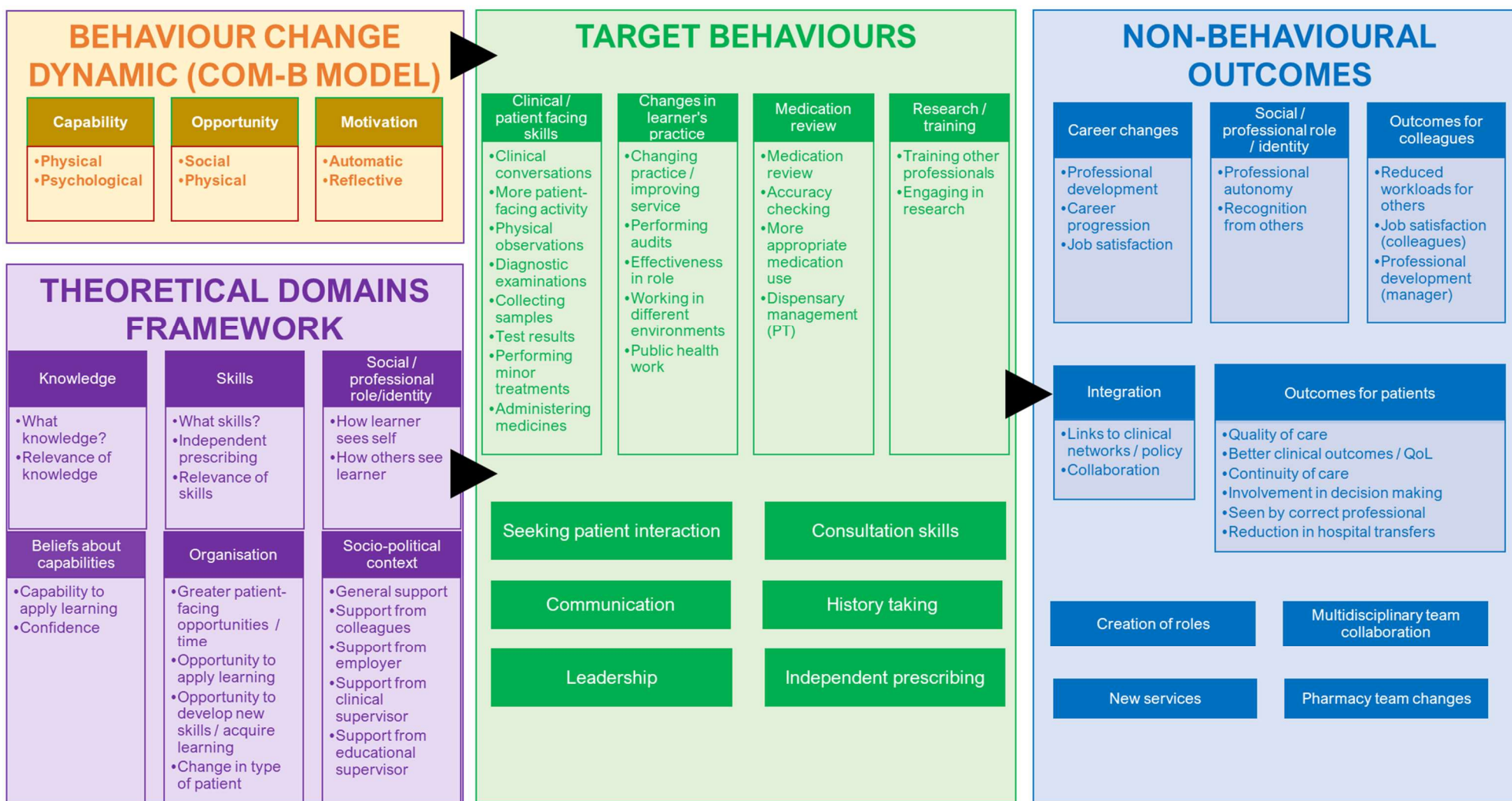
As the TDF provides a description of the different domains covering behavioural determinants, and the COM-B provides a model of the three components that influence behaviour, we were able to map the elements of the COM-B model against the domains of the TDF and select the key domains of greatest relevance to the evaluation in terms of desired behaviour and outcomes. A framework for analysis or ‘intervention logic’ was then developed by the evaluation team in order to build on both models, incorporating:

- Target behaviours associated with the learning pathways; and
- Non-behavioural (policy) outcomes of relevance, as well as the linkages between them (for example, the relationships between independent prescribing and changes in social / professional identity).

Our framework for analysis (the ‘intervention logic’) is set out in Figure 2.2. It has allowed us to focus on factors that are likely to be of importance in understanding the outcomes of the PhIF learning pathways within a wider context, including shared objectives across the pathways (such as learning about leadership and communication with patients).



Figure 2.2 Intervention logic with COM-B and TDF



This intervention logic was also used at the level of the individual learning pathways, for example, the alignment of job roles with the learning undertaken. It was then applied throughout the evaluation to bring coherence to the methods applied, as follows:

- Prior to the fieldwork, informing the design of interview topic guides and the priority questions covered in the survey;
- Following the fieldwork to guide the thematic analysis of interviews and ensure consistency of coding approaches between researchers (see Section 2.4); and
- During the synthesis to ensure that the most important facilitators and barriers to behaviour change and longer-term outcomes are logically described (see Section 2.5).

## 2.1 WP1 Stakeholder engagement

The purpose of this work package was to give stakeholders the opportunity to inform the evaluation and how it was carried out, as well as to gain their buy-in and cooperation where needed. Stakeholder engagement comprised:

- Discussion on the availability and coverage of management information collected by HEE at the outset of the evaluation, and ongoing discussion throughout the evaluation with HEE to manage data transfers;
- 11 telephone interviews with a wide range of stakeholders representing community pharmacy (including bodies representing large companies, as well as medium-sized multiples and small independent community pharmacy businesses), and leads within NHS England responsible for the primary care pathways;
- A meeting with three senior stakeholders at NHS England involved in the development and oversight of the PhIF and its learning pathways;
- A stakeholder discussion event with 15 participants, including representative organisations for community pharmacy, Deans, HEE and all academic delivery partners for the in-scope learning pathways. This event informed the evaluation implementation by testing our assumptions on the draft intervention logic and ensuring surveys / interview tools captured priority issues that the evaluation needed to consider. It was followed up by a summary document outlining how participants' feedback had informed the evaluation to follow; and
- Ongoing conversations between CPWS and programme leads to prompt survey responses.

A [project website](#) was also set up to provide information about the evaluation, invite readers to participate in the survey, and communicate the emerging findings.

## 2.2 WP2 Data analysis

Administrative data related to the status of individual PhIF pathway learners was collected from providers on a monthly basis by HEE using an evaluation database (Professional Education Training and Development, or PETD). The PETD provides high-level information about participants on each of the pathways, including the overall number and type of pharmacy professionals who participated, recruitment and retention over time, as well as the demographic and geographic reach of the pathways. In order to access the data, ICF and HEE agreed a data



sharing protocol. ICF undertook the analysis and CPWS (as a provider) did not have access to the data provided by HEE.

A descriptive analysis of the PETD was completed in March 2021, ensuring that the latest possible data was available for publication in this report. The analysis focused on providing an overview of engagement with and demand for the in-scope PhIF pathways. We used available analysis of secondary data (GPhC registrant data; *GPhC Survey of registered pharmacy professionals 2019*) to contextualise the analysis, which is presented in chapter 3.

## 2.3 WP 3 Survey of learners

### 2.3.1 Main survey of all learners

A survey was designed to collect cross-sectional data on learner experiences of the evaluated, in-scope, PhIF pathways, the analysis of which is presented in chapter 4. The main survey was distributed to all learners listed on the HEE PETD database on two separate occasions, February 2020 and October 2020. The survey was hosted on the industry-standard, GDPR-compliant online platform [Voxco](#). Learners were invited to participate in the online survey via email (using contact details held on the PETD database, which were securely shared with ICF by HEE), the project website, and learning providers distributing the link via email. Reminders were also sent via email (and through learning providers). The survey used routing to ensure questions were relevant to a respondent's pharmacy profession (pharmacist or pharmacy technician).

This survey, details of which are shown in Table 2.1, collected data on learner characteristics, pathway status, motivations for studying, current and previous sector of practice, impact of learning, attitudes to learning, ability to apply knowledge and skills acquired on the pathway, relevance of learning to current and future roles and impact of their learning on patient-facing activities, clinical services and medication reviews with patients with complex needs, and levels of confidence in certain activities. Learners were also given the opportunity to provide free-text responses providing insight into perceived impact of their learning on patient-facing activities, clinical services and complex medication reviews; and to provide details of changes they had made to their practice as a result of their learning on the pathway. The full list of survey questions is shown in Annex 5.

Survey questions capturing attitudes to learning consisted of 10 statements, with respondents asked to record their agreement on a 5-point scale, ranging from 1=strongly disagree to 5=strongly agree. The 10 statements included questions on having the time, knowledge and capability to apply learning in practice, the difference learning made to their practice and their patients, support from a range of sources, including colleagues, education / clinical supervisors and employers and whether learners had sufficient resources to apply their learning. Respondents were also permitted to tick a 'not applicable' option if a statement was not relevant to their practice. For the purposes of statistical / comparative analysis, data were recoded into dichotomous variables to differentiate between respondents who agreed / strongly agreed with a statement from those who did not. Those who ticked 'not applicable' were excluded from this analysis.

Respondents were also asked to record their level of confidence regarding a number of activities on a 5-point scale, where 1= not at all confident, 2=not very confident, 3=somewhat confident, 4=fairly confident and 5=extremely confident.

These activities were derived from the intended learning outcomes of the pathways, and covered target behaviours for change. Respondents were asked about activities relevant to a specific pathway (e.g. collecting samples for laboratory analysis, accuracy checking) as well as activities common to all pathways (e.g. delegating clinical tasks).

For the purposes of comparative / statistical analysis, the results have been recoded into dichotomous variables to distinguish between respondents who regarded themselves as being (fairly or extremely) confident in a particular activity compared with those who did not.

Table 2.1 Survey content

Main survey (Feb 2020)	Main survey (Oct 2020)	Follow-up survey (Oct 2020)
<ul style="list-style-type: none"> <li>■ Age</li> <li>■ Gender</li> <li>■ Ethnicity</li> <li>■ Years registered</li> <li>■ Profession</li> <li>■ Learning pathway</li> <li>■ Pathway status</li> <li>■ Start / end date</li> <li>■ Independent prescribing status</li> <li>■ Main motivation for undertaking learning</li> <li>■ Current sector of practice</li> <li>■ Change of role or sector of work setting</li> <li>■ Previous setting if role or sector changed</li> <li>■ Impact of learning on confidence</li> <li>■ Attitudes to learning, including support from supervisors, colleagues and employers, resources needed, whether learners had time and knowledge to apply their learning &amp; whether learners believe their learning made a difference to their practice or their patients</li> <li>■ Ability to apply learning, knowledge and skills</li> <li>■ Reasons for inability to fully apply skills (if relevant)</li> <li>■ Relevance of learning to current and future roles</li> <li>■ Impact of learning on patient-facing activities, clinical services and complex medication reviews</li> <li>■ Changes to practice due to learning (free text)</li> </ul>	<p>Same questions as main survey, plus:</p> <ul style="list-style-type: none"> <li>■ Impact of COVID-19 on the extent of patient-facing activities, clinical services or complex medication reviews (free text)</li> <li>■ Impact of COVID-19 on support received, time for learning, changes to provision of patient care and clinical work</li> </ul>	<ul style="list-style-type: none"> <li>■ Pathway status</li> <li>■ Impact of learning on confidence</li> <li>■ Attitudes to learning</li> <li>■ Ability to apply learning, knowledge and skills</li> <li>■ Reason for inability to full apply skills</li> <li>■ Relevance of learning to current and future roles</li> <li>■ Impact of learning on patient-facing activities, clinical services and complex medication reviews</li> <li>■ Impact of COVID-19 on patient-facing activities, clinical services and mediation reviews (free text)</li> <li>■ Impact of COVID-19 on support received, time for learning, changes to provision of patient care and clinical work</li> </ul>

Respondents who completed the survey in October 2020 were asked additional free text questions exploring the impact of COVID-19 on undertaking patient-facing

activities, clinical services and medication reviews. They were also asked a series of questions related to the impact of COVID-19 on the support they had received from various sources, the time they had for learning, and changes to the time they had been able to spend on patient care and clinical work.

### 2.3.2 Follow-up survey

The second survey was a follow-up survey, which was distributed to learners who had completed the main survey in February 2020 (n=191). The attitude and confidence statements were repeated, as were the questions on ability to apply learning, relevance of learning to current and future roles and impact of leaning on patient-facing activities, clinical services and complex medication reviews. The purpose was to establish the impact, longitudinally, on a sub-set of learners. In addition, the closed questions and free text questions regarding the impact of COVID-19 were also asked of respondents to the follow-up survey.

### 2.3.3 Data handling and analysis

Data were downloaded from the Voxco platform and then uploaded into SPSS v.27 (IBM). Data were cleaned and re-coded where necessary and basic descriptive analysis completed, with number (N) and percentages reported for categorical variables. Where there were instances of non-response from participants, missing data have been noted when presenting findings in tables.

Inferential statistics (Chi-square) were used to compare variables across different subgroups, where relevant, with a significance level set at 5%, meaning that we can be confident that any significant result has not occurred by chance alone.

For the longitudinal analysis, comparing responses to measures reported by participants at T1 ([Time 1] Main survey completed February 2020) and T2 ([Time 2] Follow-up survey, completed October 2020) McNemar's test was performed to test for statistically significant differences between the two time points.

All comments from open-ended questions were examined, categorised and themed. In the analysis of these comments, presented alongside the quantitative data analysis to which they pertain, themes are illustrated with typical comments to provide a better understanding and richer interpretation of the findings from the survey (see sections 4.5, 4.7.2, 4.7.3, and 4.7.4).

The comments were also analysed using data science techniques: text modelling, sentiment analysis and topic modelling; relevant findings from these analyses are shown in sections 4.6 and 4.7.5. Text modelling is descriptive in nature and aims to give researchers a better understanding of the language most frequently used in a sample. In the analysis, this was supported by sentiment analysis and topic modelling (machine learning techniques) – these tools were used to cluster topics of interest in the analysis so they could be better described and understood.

## 2.4 WP 4: Qualitative research

The purpose of the qualitative interviews was to elicit in-depth understanding of the views and experiences of learners and other stakeholders in relation to the learning pathways and the subsequent application of learning in the workplace.

Sampling was purposive and included four main groups of participants: learners on all in-scope pathways; community pharmacy employers (whether they had engaged

with PhIF learning or not); IUC and MOCH service leads; and clinical and education supervisors. The four groups were chosen to enable the inclusion of a broad range of stakeholder perspectives, with the focus on learners.

Recruitment of learners was supported by the invitation to take part in the survey, which also included an invitation to provide their contact details to take part in a telephone interview. Employer recruitment was undertaken by email invitation and with the support of two national professional pharmacy organisations, who distributed and cascaded invitations throughout their members and networks. Recruitment of supervisors was supported by learning providers who distributed the email invitation amongst their networks of education and clinical supervisors supporting learners undertaking PhIF pathways.

The interview topic guides were informed by the domains of the TDF, which in turn informed the thematic framework and coding used for the analysis of the qualitative interviews. Different topic guides were developed for each participant group to ensure relevance (see Annex 4), however, all topic guides covered stakeholders' perspectives on the following key areas:

- Background information about the respondent and their organisation;
- Awareness / expectations of the learning pathway and reasons for applying (learners) / supporting applications (employers);
- The structure and delivery of the pathways;
- Access to support and supervision;
- Outcomes of the learning on practice;
- Job changes and future career aspirations; and
- Any other reflections on the PhIF pathways and the wider context for policy and the pharmacy workforce.

Stakeholders with experience of supporting more than one learner, principally employers, were prompted to consider and reflect upon their views and experiences in relation to the whole pharmacy team, including pharmacists, pharmacy technicians, and accuracy checking technicians throughout the interview.

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 from June to November 2020. Learner interviews were undertaken by ICF researchers, and the employer, service lead and supervisor interviews were undertaken by the Centre for Pharmacy Workforce Studies. Interviews from June 2020 onwards included some additional questions regarding the impact of COVID-19 on the key areas contained within the topic guide. Interviews were conducted remotely by telephone and ranged in duration from 25 to 60 minutes.

### 2.4.1 Analytical strategy

All interviews were audio-recorded, transcribed verbatim by a GDPR-compliant transcribing company, and anonymised by the research organisation that undertook the interview (CPWS or ICF) prior to sharing between researchers in both organisations for analysis. Interview data were thematically analysed using a modified framework approach supported by NVivo 12 qualitative analysis software. An initial *a priori* thematic framework was developed and informed by the topic guide and the relevant domains of the TDF and COM-B, and then further developed by the members of the research team following familiarisation with learner interview

transcripts and further discussion of the identified themes. The coding frame was subject to ongoing and iterative development as the analysis progressed. Analysis of the employer, service lead, and supervisor interviews involved a hybrid approach of simultaneous inductive open coding, and deductive coding utilising the coding framework developed for learner interviews (Gioia et al. 2012).

This interpretive approach allowed the analytical framework to be consistently applied across data from all participant groups whilst also allowing additional themes, specific to these wider stakeholder groups, to emerge from the data. Regular meetings were held to critique interpretation and reduce bias throughout the process of analysis. Differences in interpretation were resolved by discussion and consensus.

## 2.5 Integration of findings

Integration of the findings from the different work packages and methods employed by the study was an important final step to building a rounded picture of learner and other stakeholders' views and experiences of the in-scope PhIF-funded learning pathways. To synthesise the findings, the evaluation team drew on the TDF and the three key domains of the COM-B that interact to understand what works in influencing learners' capabilities, opportunities and motivation for change, and whether interventions have led to changes in practice (Atkins et al. 2017).

Methods of synthesis incorporated elements of triangulation of the data, and also illustration and explanation of one set of findings with another (Bryman 2006, Richardson et al. 2019). For example, where findings from the survey indicated a significant difference in learner experiences between particular pathways, the qualitative data from learner interviews were interrogated to obtain information on the reasons for those differences. We also looked for alternative explanations where findings from different stages of data collection diverged.

This process of integration formed the basis of the integrated summary of findings and discussion (chapter 6), which is structured according to the most relevant domains emerging from the findings that demonstrate the outcomes for learners and wider stakeholders, and provide the basis for the recommendations to policymakers (chapter 7). This structure allows the integrated summary to clearly show the linkages between the behaviour change brought about by the pathways, the outcomes and the implications for policy.

## 2.6 Information governance and ethical issues

### 2.6.1 Information governance

ICF and University of Manchester policies and procedures ensured that the privacy and security of all personal data were safeguarded:

- We complied with a standard operating procedure on data protection that defines appropriate processes for the collection, receipt, processing (analysis and reporting), transfer, storage and destruction of data.
- Where appropriate, we anonymised data by removing identifying information that in isolation or in combination with other identifiers might have allowed an individual to be recognised. Personal data were only handled with the consent of learners, and in compliance with GDPR data protection requirements.

- Where required, terms and conditions for carrying out data processing were set out in written contracts.

## 2.6.2 Ethics

Policies and procedures in both ICF and CPWS take account of ethical issues to ensure that the evaluation was carried out to the highest standards of ethical practice. This included using highly skilled interviewers and survey designers, ensuring informed consent (and right to withdraw), and anonymity / confidentiality. Assurances were given over the voluntary nature of study participation (other than analysis of existing learner data) and the protection of confidentiality.

Our research was conducted in accordance with the Social Research Association's Ethical Guidelines. We also comply with the Joint Code of Practice for Research and the guidelines provided by the UK Evaluation Society. Research ethics committee approval for the qualitative interviews was obtained from the University of Manchester (Ref. 2019-7358-12719; 17 December 2019).



## 3 Findings: Summary of PETD learner data

### 3.1 Introduction

Administrative data related to learners enrolled on PhIF pathways was collected from providers by HEE using the Professional Education Training and Development (PETD) database. This was a live database, which was updated with the most recent learner data on a monthly basis. The PETD provides high-level information about participants on each of the pathways.

This chapter provides an overview of engagement with and demand for PhIF pathways as a whole based on the PETD, using the March 2021 anonymised extract. It sets out the geographic reach of the pathways, the overall number and type of pharmacy professionals who participated, as well as their recruitment and retention over time, and their demographic characteristics.

### 3.2 Geographic reach of the PhIF pathways

Figure 3.1 shows the geographic distribution of learners based on employer location postcode as an aggregate picture for all of the in-scope pathways. It shows that the pathways were successful in achieving a good geographic reach nationally. Figure 3.2 presents this information at the level of each pathway. It shows slightly differing 'hotspots' of involvement by pathway but in each case there still remains good geographic coverage.

Furthermore, there is overall alignment between the local areas providing the largest number of participating pharmacy professionals and the local areas with the largest population sizes. Across the pathways as a whole, 54 different postcode areas provided 20+ learners (out of 99 postcode areas in England as a whole). Table 3.1 shows the correspondence between the PhIF learner base and population size. Mostly, there is a strong match between the number of PhIF learners in a given postcode area, and the population of that area.

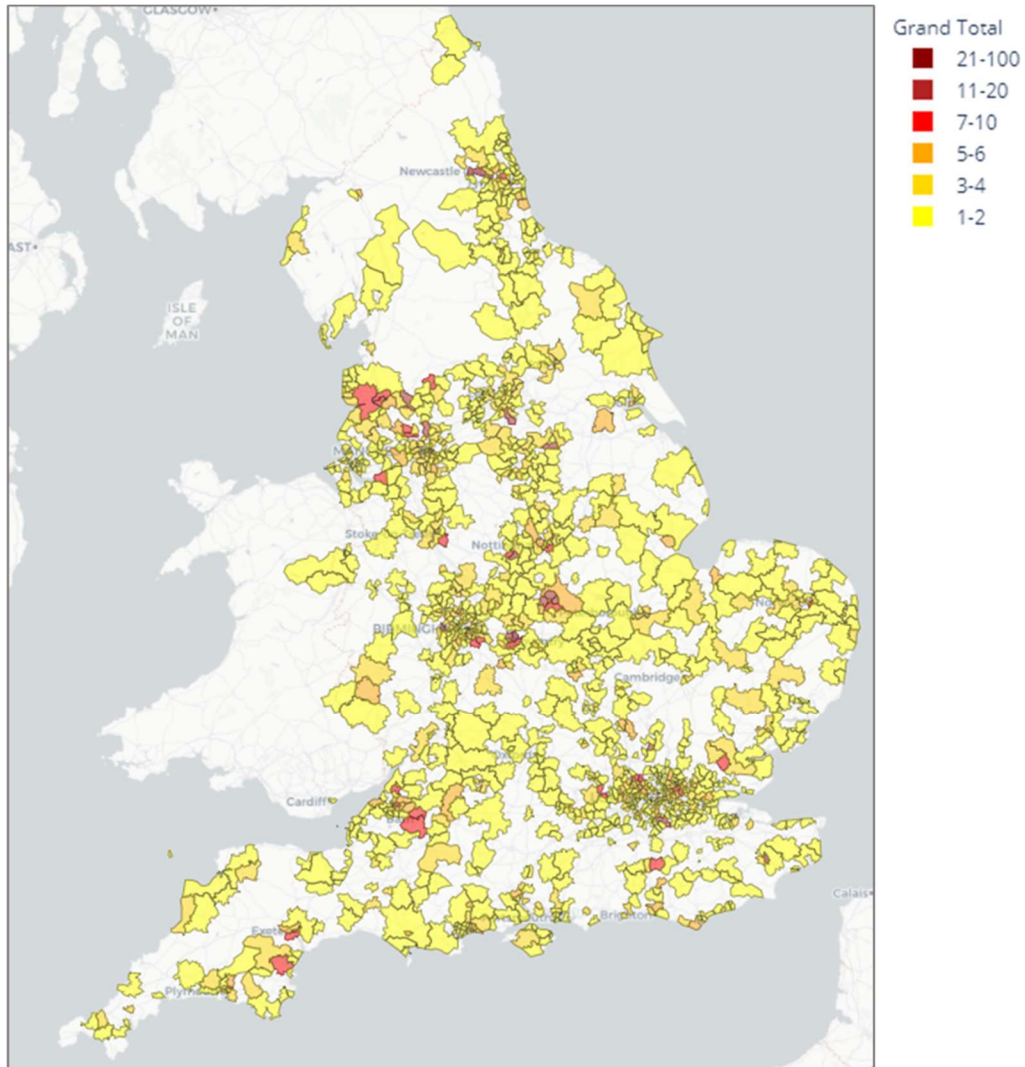
Table 3.1 Number of PhIF learners by area (top 10 areas)

Rank	Employer postcode area	Number of PhIF learners (in-scope pathways)	Postcode area rank by population size
1	M - Manchester	180	3
2	B - Birmingham	148	1
3	CV - Coventry	143	15
4	NE - Newcastle upon Tyne	89	5
5	NG - Nottingham	88	4
6	LE - Leicester	87	8
7	BS - Bristol	76	9
8	E - East London	65	6
9	S - Sheffield	59	2
10	BH - Bournemouth	53	38

Source: PETD data March 2021 (HEE).

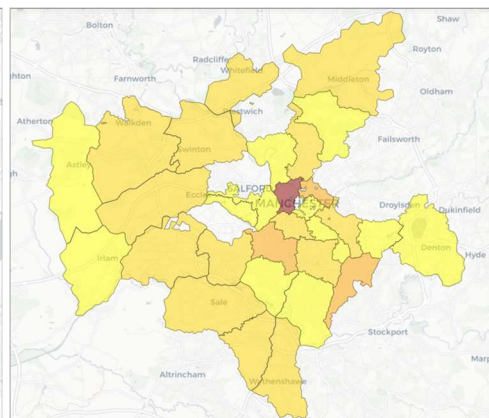
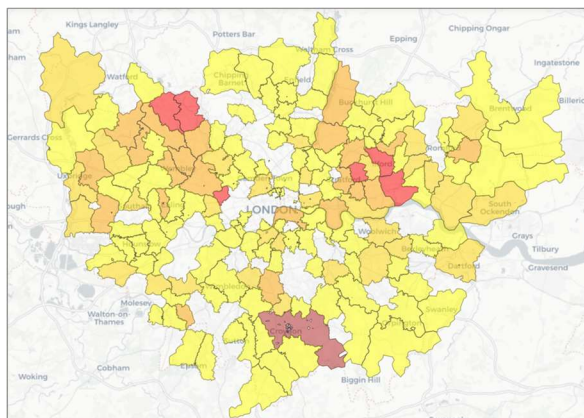
The pattern of geographical distribution of PhIF learners overall mostly reflects the distribution of the post-registration pathway learners, who form the bulk of the overall learner numbers.

Figure 3.1 Participation by employer location for all in-scope pathways (post-registration, MOCH, ACPT, and IUC)



Detail: London

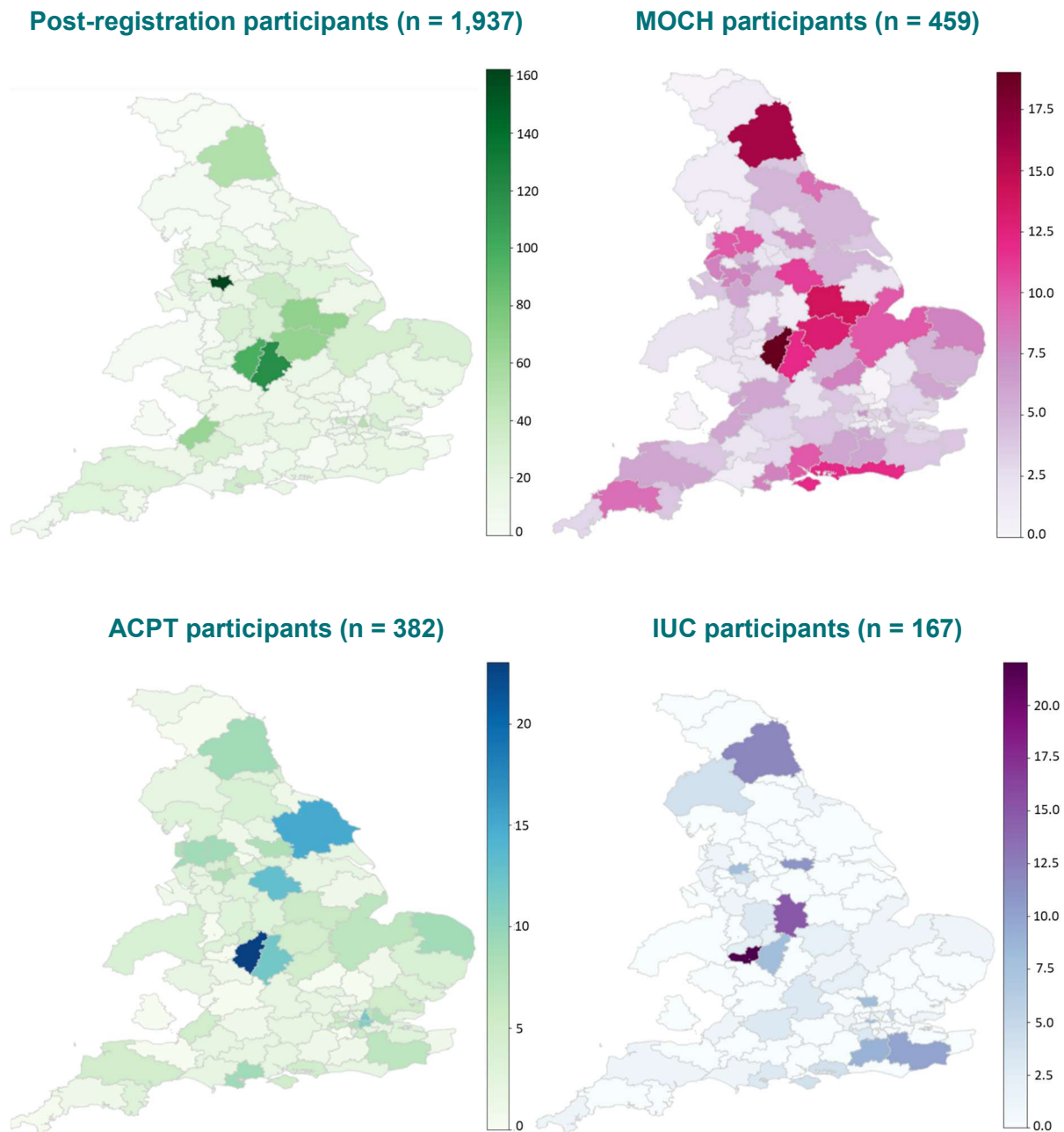
Detail: Manchester



Source: PETD data March 2021 (HEE). Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.



Figure 3.2 Participation by employer location by pathway



Source: PETD data March 2021 (HEE). Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.

### 3.3 Number of PhIF learners

#### 3.3.1 Learner volumes by pathway

As of March 2021, there were 2,923 pharmacy professionals who had joined as learners on the PhIF pathways in scope of this evaluation (ACPT, post-registration, MOCH, IUC, or the primary care pharmacy education pathway which combined MOCH and the GP pathways).

Table 3.2 shows that post-registration was by far the largest pathway, with nearly 2,000 learners. A small number of learners (38) undertook two of the in-scope pathways; typically, the post-registration and MOCH pathway or the post-registration and IUC pathway (as shown in Table 3.3)<sup>1</sup>.

Separately, a total of 375 learners undertook the independent prescribing (IP) course over the same period according to the PETD. Most of these learners also undertook one (and occasionally two) of the in-scope pathways.

**Table 3.2** Number of learners by pathway

Pathway	Learners
Post-registration	1,953
MOCH	459
ACPT	382
IUC	167
Sub-Total: in-scope pathways	2,961*
Independent Prescribing	375
<b>Total</b>	<b>3,336**</b>

Source: PETD data March 2021 (HEE).

\*Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore included twice in the 2,961 figure.

\*\*Total number of in-scope and independent prescribing PhIF learners (including IP = 3,194. In addition to 38 learners on two in-scope pathways, there were 104 learners on IP and one or two in-scope pathways, who are therefore double- or triple-counted in the 3,336 figure.

**Table 3.3** Breakdown of learners undertaking two pathways

Pathway	Pathway: (n = total number of pathway learners)		
	Post-registration (n = 1,953)	MOCH (n = 459)	IUC (n = 167)
Post-registration		20	15
MOCH	20		3
IUC	15	3	

Source: PETD data March 2021 (HEE).

## 3.4 Pathway recruitment and retention

### 3.4.1 Learner recruitment over time

Table 3.4 shows the number of learners joining each of the pathways by year. Over half (55%) of pathway starts were in 2019 and each of the pathways enjoyed a similar rhythm in this regard. Where learners pursued multiple pathways, only their earliest start is shown, so, Table 3.4 in effect presents the point at which pharmacy professionals first engaged with the in-scope pathways.

Figure 3.3 shows a relatively consistent flow of new joiners to the in-scope pathways on a quarterly basis, rising over the course of 2018 to peak during the first three

<sup>1</sup> Note that throughout this analysis of the PETD data, these learners are included in counts for each pathway they were on; meaning that cross-pathway totals do not match the total number of individuals.

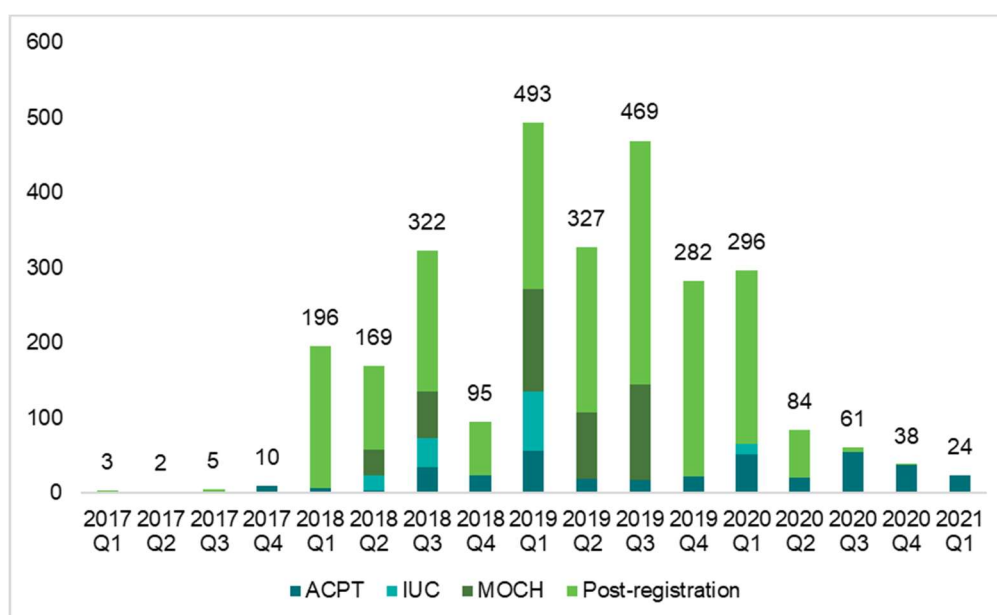
quarters of 2019 before reducing into 2020. From the latter half of 2020, only the ACPT pathway was still recruiting new learners in substantive numbers.

Table 3.4 PhIF learners by pathway and earliest start date

Pathway	Start date: n (% of pathway total)					Total
	2017	2018	2019	2020	2021	Grand Total
Post-registration	10 (1%)	557 (29%)	1,026 (54%)	302 (16%)	-	<b>1,895</b> <b>(100%)</b>
MOCH	-	97 (22%)	350 (78%)		-	<b>447</b> <b>(100%)</b>
ACPT	10 (3%)	69 (18%)	116 (30%)	163 (43%)	24 (6%)	<b>382</b> <b>(100%)</b>
IUC	-	59 (39%)	79 (52%)	14 (9%)	-	<b>152</b> <b>(100%)</b>
<b>Total: in-scope pathways</b>	<b>20</b> <b>(1%)</b>	<b>782</b> <b>(27%)</b>	<b>1,571</b> <b>(55%)</b>	<b>479</b> <b>(17%)</b>	<b>24</b> <b>(1%)</b>	<b>2,876*</b> <b>(100%)</b>
Independent Prescribing	1 (<1%)	58 (18%)	181 (57%)	63 (20%)	13 (4%)	<b>316</b> <b>(100%)</b>

Source: PETD data March 2021 (HEE). \*Total number of in-scope PhIF learners = 2,923. Two learners were recorded as starting the pathway in 2016; these were removed due to presumed error. The PETD does not provide a start date for all learners.

Figure 3.3 PhIF learners by pathway and earliest start date: Post-registration, MOCH, ACPT, and IUC pathways



Source: PETD data March 2021 (HEE). Total number of in-scope PhIF learners = 2,923.

It should be noted that the headcount of learners on the pathways does not reflect the number of credits that they achieved. While learners undertook a set programme of learning for the MOCH and IUC pathways, learners on the post-registration programmes could undertake between 10 to 120 credits in total (up to 60 credits per year). Those who undertook 60 credits could be awarded a postgraduate certificate, and 120 credits could gain a postgraduate diploma. At the time of writing, many

learners had yet to complete their learning, so would obtain further credits in future, beyond what was recorded in the PETD dated March 2021.

### 3.4.2 Learner retention and pathway completion

There is no single pathway completion measure on the PETD, although the database includes proxy measures such as the achievement of a qualification. Given the range of start dates on the different pathways and that not all pathways lead to a qualification, this does not in itself indicate anything concrete in terms of positive outcomes.

More useful as a measure of programme retention is PETD data on the number of learners who suspended participation on (and, in some cases, returned to) the pathway. Suspension and return information were only available for IP, IUC, and post-registration learners. It is unclear if no learners on the other pathways suspended their pathways, or if this information was not recorded.

A total of 314 learners (10% of total learners) had a recorded suspension date<sup>2</sup>, for a total of 319 suspensions (as a small number of post-registration learners suspended more than once from the same pathway). Of these 319 suspensions, 92 (29%) had a recorded return date. By pathway:

- **IUC:** 59 learners (35% of all IUC learners) suspended their pathway, of which 22 (37%) had a recorded return date. This relatively high level of suspension on the IUC pathway is in line with what the qualitative research found in terms of participants dropping out (see chapter 6).
- **Post-registration:** 245 learners (13% of all post-registration learners) suspended, for a total of 250 suspensions, of which 64 (26%) had a recorded return date.

## 3.5 Learner demographic information

### 3.5.1 Age profile of PhIF learners

In the absence of other career data on stage, learner age can be used as a rough proxy for understanding PhIF pathway engagement in the context of the career pathway of a pharmacy professional. MOCH learners had a slightly older age profile than the other pathways, reflecting that it has attracted a slightly different group of professionals (Table 3.5). Note that age data (and all other demographic variables) is missing for ACPT learners.

The PhIF pathways attracted a slightly younger profile of learner than is present in the pharmacy professionals population overall – see Table 3.5 below. While the largest share of PhIF learners (49%) was in the 25-34 age group, there was a reasonable take-up among mid-career pharmacy professionals – when compared with the population of registered pharmacy professionals as published in the GPhC registrant surveys (2019).

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<sup>2</sup> Note some learners suspended from more than one pathway and are therefore represented in the 314 figure more than once.

Table 3.5 PhIF learners by pathway and age<sup>3</sup>

Pathway	Age: n (% of pathway total)					Total
	Under 25	25 - 34	35 – 44	45 - 54	55 or older	
Post-registration	82 (4%)	1,020 (53%)	531 (28%)	220 (12%)	58 (3%)	<b>1,911</b> <b>(100%)</b>
MOCH	7 (2%)	132 (32%)	149 (36%)	89 (21%)	37 (9%)	<b>414</b> <b>(100%)</b>
IUC	1 (1%)	76 (47%)	47 (29%)	33 (20%)	6 (4%)	<b>163</b> <b>(100%)</b>
<b>Total: in-scope pathways</b>	<b>90</b> <b>(4%)</b>	<b>1,228</b> <b>(49%)</b>	<b>727</b> <b>(29%)</b>	<b>342</b> <b>(14%)</b>	<b>101</b> <b>(4%)</b>	<b>2,488*</b> <b>(100%)</b>
Independent Prescribing	3 (1%)	204 (55%)	111 (30%)	46 (12%)	9 (2%)	<b>373</b> <b>(100%)</b>
<i>Pharmacists: GPhC Register (2019)</i>	<i>1,968</i> <i>(4%)</i>	<i>21,663</i> <i>(39%)</i>	<i>15,019</i> <i>(27%)</i>	<i>9,938</i> <i>(18%)</i>	<i>7,676</i> <i>(14%)</i>	<b>56,264</b> <b>(100%)</b>
<i>Pharmacy technicians: GPhC Register (2019)</i>	<i>544</i> (2%)	<i>5,791</i> <i>(25%)</i>	<i>6,520</i> <i>(28%)</i>	<i>6,500</i> <i>(28%)</i>	<i>4,151</i> <i>(18%)</i>	<b>23,506</b> <b>(100%)</b>

Source: PETD data March 2021 (HEE). \*Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.

GPhC Register data: General Pharmaceutical Council (2019), Survey of registered pharmacy professionals 2019 - Equality, Diversity and Inclusion Report

### 3.5.2 Gender profile of PhIF learners

Table 3.6 shows that there were more female learners (63%) than male (37%) on the in-scope pathways<sup>4</sup>. This is reflective of the pharmacy profession as whole. The GPhC Survey of registered pharmacy professionals 2019 – EDI Report estimated that 62% of pharmacists and 88% of pharmacy technicians on the GPhC register identified as female (GPhC, 2019).

Figure 3.4 shows that the IUC (57% female / 43% male) and the post-registration (59% female / 41% male) pathways were broadly in line with the characteristics of the wider pharmacist workforce (see GPhC, 2019), whereas the gender profile of the MOCH pathway (85% female / 15% male), was much more in line with the wider population profile of the pharmacy technician workforce.

<sup>3</sup> For 473 learners, age data was missing (“Unknown”): 42 Post-registration learners, 45 MOCH learners, 382 (all) ACPT learners, 4 IUC learners, and 2 independent prescribing learners. Only valid percentages are presented here.

<sup>4</sup> For 455 learners, gender data was missing (“Unknown”): 29 Post-registration learners, 43 MOCH learners, 382 (all) ACPT learners, and 1 IUC learner. Only valid percentages are presented here.

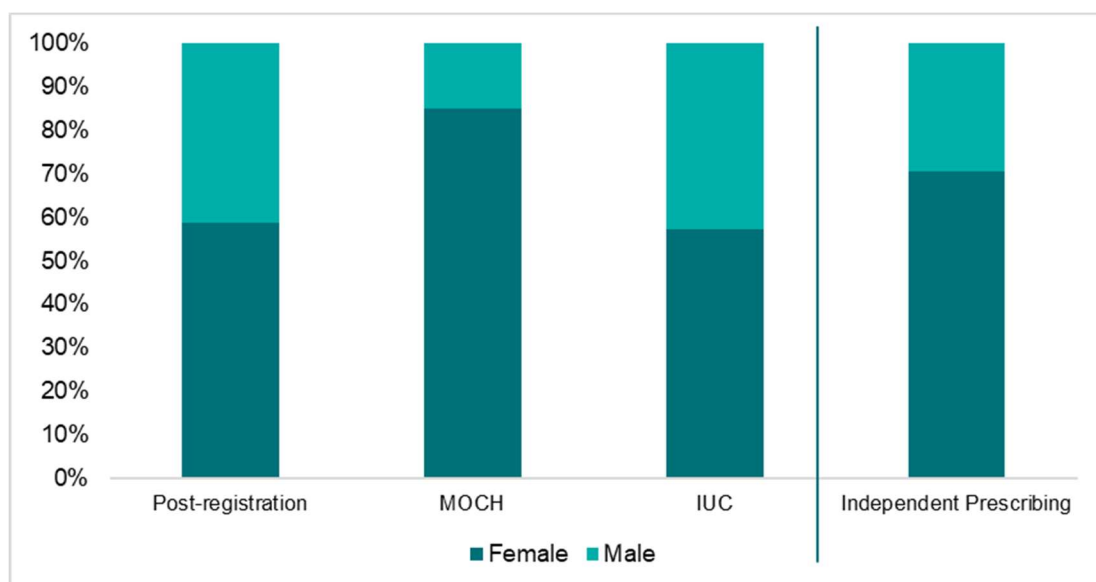
Table 3.6 PhIF learners by pathway and gender

Pathway	Gender: n (% of pathway total)		Total
	Female	Male	
Post-registration	1,129 (59%)	795 (41%)	<b>1,924 (100%)</b>
MOCH	353 (85%)	63 (15%)	<b>416 (100%)</b>
IUC	95 (57%)	71 (43%)	<b>166 (100%)</b>
<b>Total: in-scope pathways</b>	<b>1,577 (63%)</b>	<b>929 (37%)</b>	<b>2,506* (100%)</b>
Independent Prescribing	264 (70%)	111 (30%)	<b>375 (100%)</b>
<i>Pharmacists: GPhC Register (2019)</i>	34,732 (62%)	21,531 (38%)	<b>56,264 (100%)</b>
<i>Pharmacy technicians: GPhC Register (2019)</i>	20,601 (88%)	2,874 (12%)	<b>23,506 (100%)</b>

Source: PETD data March 2021 (HEE). \*Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.

GPhC Register data: General Pharmaceutical Council (2019), Survey of registered pharmacy professionals 2019 - Equality, Diversity and Inclusion Report

Figure 3.4 PhIF learners by pathway and gender



Source: PETD data March 2021 (HEE). Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.

### 3.5.3 Ethnicity of PhIF learners

Table 3.7 shows that the most common ethnicity<sup>5</sup> among PhIF learners on the in-scope pathways was White (40%), followed closely by Asian (39%). Between 1%-11% of learners fell into the remaining ethnicity options (Black, Chinese, Mixed, Arab, and Other). This is a similar profile to that of registered pharmacists presented in the GPhC Survey of registered pharmacy professionals 2019 – EDI Report (White British / Other 43%; Asian / Asian British 37%).

<sup>5</sup> For 1,253 learners, ethnicity data was missing (“Unknown”): 615 Post-registration learners, 52 MOCH learners, 382 (all) ACPT learners, 31 IUC learners, and 173 IP learners. Only valid percentages are presented here.



This was largely consistent at the pathway level (including for IP), although the difference between White and Asian ethnicities was largest on the MOCH (70% White / 22% Asian) and IUC (26% White / 53% Asian) pathways. The MOCH profile is more similar to the pharmacy technician profile presented in the GPhC data (White British / Other 84%; Asian / Asian British 10%), while the IUC profile is distinctive from both the pharmacist and pharmacy technician ethnicity profile across the sector as a whole.

Table 3.7 PhIF learners by pathway and ethnicity

Programme	Ethnicity: n (% of pathway total)						Total
	White	Asian	Black	Chinese	Mixed	Other	
Post-registration	430 (32%)	578 (43%)	165 (12%)	95 (7%)	26 (2%)	44 (3%)	<b>1,338</b> <b>(100%)</b>
MOCH	286 (70%)	88 (22%)	16 (4%)	6 (1%)	6 (1%)	5 (1%)	<b>407</b> <b>(100%)</b>
IUC	36 (26%)	72 (53%)	21 (15%)	-	3 (2%)	4 (3%)	<b>136</b> <b>(100%)</b>
<b>Total: in-scope pathways</b>	<b>752</b> <b>(40%)</b>	<b>738</b> <b>(39%)</b>	<b>202</b> <b>(11%)</b>	<b>101</b> <b>(5%)</b>	<b>35</b> <b>(2%)</b>	<b>53</b> <b>(3%)</b>	<b>1,881*</b> <b>(100%)</b>
Independent Prescribing	84 (42%)	78 (39%)	21 (10%)	7 (3%)	6 (3%)	6 (3%)	<b>202</b> <b>(100%)</b>

Source: PETD data March 2021 (HEE).

\*Total number of in-scope PhIF learners = 2,923. 38 learners were on two in-scope pathways and are therefore double-counted if their data was not missing.

### 3.5.4 Disability

Most learners had no known disability (98% of those on in-scope pathways, and 96% on IP). Across the pathways, between 1%-4% of learners had a disability declared. This is line with the GPhC registrant data, which indicates that 2% of pharmacists / pharmacy technicians declared a disability in 2019.

## 3.6 Summary

By March 2021, there were 2,923 pharmacy professionals who had joined as learners on the PhIF pathways in scope of this evaluation (post-registration, MOCH, IUC, or the new Primary Care Pharmacy Education pathway which combined MOCH and the General practice pharmacist pathway, and ACPT). Post-registration learners were the most numerous, with 1,953 learners; followed by MOCH / PCPEP with 459 learners, ACPT with 382 learners, and lastly IUC with 167 learners. Geographically speaking, the PETD data signals overall that all of the pathways were effective in reaching a good spread by regions and local areas

Most learners joined the in-scope pathways in 2018 or 2019, before reducing in 2020. From the second half of 2020, only the ACPT pathway was still recruiting new learners in substantive numbers.

Data on suspensions and returns was only available for post-registration and IUC pathways (and IP funded via PhIF). A total of 59 learners (35%) from the IUC pathway suspended their learning, of which 22 had a recorded return date; whereas

suspensions on the post-registration pathways were lower in percentage terms, with 245 learners (12%) suspended of which 64 had a return date.

As expected, the PhIF pathways were largely taken up by mid-career professionals – with 79% of learners aged between 25 and 44, which shows that PhIF achieved its objective of changing the existing workforce and offering experienced pharmacists a route to upskill.

The gender and ethnicity profile of learners on the post-registration and IUC pathways was broadly reflective of the wider pharmacist workforce (as illustrated through comparison to the GPhC *Survey of registered pharmacy professionals 2019*), with some variations between those pathways (see section 3.5).



## 4 Findings: Survey

### 4.1 Introduction

This chapter presents findings from the participant surveys. It describes who the survey respondents were and their motivations for participation in the PhIF pathway. The chapter goes on to explore learner reflections on the relevance and skills acquired as a consequence of their learning. It considers the extent to which learners have been able to apply their learning in practice, including examples of where and how this has happened. The chapter also addresses the specific question of how COVID-19 impacted on learning. It concludes by providing a longitudinal analysis exploring the extent of impact over time.

#### 4.1.1 Distribution and response rate

One hundred and ninety-one responses were received to the main survey in February 2020. The same survey, with additional open and closed questions on the impact of COVID-19 on learning, was distributed in October 2020 and 194 responses were received. A follow-up survey was also distributed in October 2020 to the 191 respondents who completed the initial main survey in February 2020. There were 65 responses to this follow-up survey. See Table 4.1 for further details.

Table 4.1 Survey distribution, responses & pathway status

	Main survey (Feb 2020)	Main survey (Oct 2020)	Follow-up survey T2 (Oct 2020)
Date distributed	Sent to 2,150 pharmacy professionals. 192 emails bounced back. <i>Eligible sample: 1,958.</i>	Sent to 2,102 pharmacy professionals. 529 emails bounced back. <i>Eligible sample: 1,573</i>	Sent to 191 February 2020 main survey respondents. 23 emails bounced back. <i>Eligible sample: 168</i>
Respondent type	All learners	All learners	Learners completing main survey
<b>Total respondents</b>	<b>191* (10%)</b>	<b>194 (12%)</b>	<b>65* (39%)</b>
Had completed the learning pathway	36 (19%)	53 (27%)	22 (34%)
Still studying on the learning pathway	143 (75%)	118 (61%)	38 (58%)
Interrupted pathway prior to end date, but planned to return	5 (3%)	15 (8%)	2 (3%)
Left pathway prior to planned end date with no plans to return	6 (3%)	8 (4%)	3 (5%)

NB: Some missing values

\*Two learners who completed the survey in February 2020 did not provide details of their learning pathway. One of these learners also completed the follow-up survey at T2.

## 4.1.2 Pathway groupings for subgroup analysis

In order to compare between learners on different pathways, learners have been grouped into three distinct categories for the purpose of the analysis:

- Learners on the primary care pathway, including MOCH, PCPEP, IUC and CPGPE
- Learners on the Accuracy Checking for Pharmacy Technicians (ACPT) pathway and
- Post-registration pharmacist learners undertaking postgraduate education modules/courses offered by higher education providers.

Table 4.2 shows the number of respondents for each of these subgroups. Although a total of 385 learners responded to the survey, two learners did not provide details of their pathway when completing the survey and a result, these learners have been excluded from findings presented in this chapter. Thus all analysis presented in this chapter relates to responses received from 383 learners.

Table 4.2 Pathway grouping for subgroup analysis

Learning pathway	Number (% of all respondents)
Primary care pathways (PCPs)*	148 (39%)
Accuracy Checking for Pharmacy Technicians (ACPT)	48 (12%)
Post-registration pharmacist learners (PRP)**	187 (49%)

\*MOCH, PCPEP, IUC AND CPGPE

\*\*86 of the 187 PRP learners worked solely in community pharmacy, 81 worked in community and at least one other setting and 20 worked solely in other settings, often working in more than one setting. These settings included general practice, primary care networks, Health in Justice pharmacy (secure environments), NHS 111 and hospital pharmacy.

## 4.2 About the respondents and their motivations

### 4.2.1 Profile of respondents

Of the total of 383 usable responses, 295 were from pharmacists (77%) and 88 were from pharmacy technicians (23%). Of the pharmacy technicians, 48 were on the Accuracy Checking for Pharmacy Technicians (ACPT) pathway and 40 were on the Medicines Optimisation in Care Homes (MOCH) pathway. Those pharmacy technicians on the MOCH pathway are, for the purpose of being able to report comparative analysis, grouped with all other learners on primary care pathways (PCPs) where the pathway is the unit of analysis.

Table 4.3 presents a breakdown of pathway respondents by professional role, year of registration, age group, gender and ethnicity. A more detailed breakdown of respondent characteristics by individual pathway can be found in Annex 1 (Table A1.1 to Table A1.3).

Table 4.3 Respondent characteristics

		ACPT (48)	PCPs (148)	PRP (187)	Total (383)
<b>Role</b>	Pharmacy Technician	48 (100%)	40 (27%)	-	88 (23%)
	Pharmacist	-	108 (73%)	187 (100%)	295 (77%)
<b>Year registered</b>	1980-1989	1 (2%)	16 (11%)	12 (6%)	29 (8%)
	1990-1999	-	26 (18%)	32 (17%)	58 (15%)
	2000-2009	7 (15%)	39 (26%)	54 (29%)	100 (26%)
	2010-present	40 (83%)	67 (45%)	89 (48%)	196 (51%)
<b>Age group*</b>	21-30 years	11 (23%)	33 (23%)	38 (20%)	82 (21%)
	31-40 years	14 (29%)	37 (26%)	77 (41%)	128 (33%)
	41-50 years	13 (27%)	41 (28%)	51 (27%)	105 (28%)
	51 years & above	10 (21%)	34 (23%)	20 (12%)	64 (17%)
	Prefer not to say	-	3	1	4 (1%)
<b>Gender</b>	Female	43 (91%)	107 (74%)	127 (69%)	277 (72%)
	Male	4 (9%)	37 (26%)	57 (21%)	98 (26%)
	Prefer not to say	1	4	3	8 (2%)
<b>Ethnicity*</b>	Asian/Asian British	6 (13%)	30 (21%)	53 (31%)	89 (25%)
	Black British/ African/ Caribbean	2 (4%)	11 (8%)	21 (12%)	34 (9%)
	Mixed/multiple ethnic groups	-	2 (1%)	3 (2%)	5 (1%)
	Other group	-	-	9 (5%)	9 (3%)
	White	39 (83%)	102 (70%)	86 (50%)	227 (62%)

\* Some missing values

#### 4.2.2 Pathway status

The majority of respondents (n=261, 68%) were still studying on a learning pathway at the time of completing the main survey. A further 23% (n=88) had completed the learning pathway, while a small number of respondents had either interrupted the pathway prior to the planned end date with plans to return (n=20, 5%) or left the learning pathway and had no plans to return (n=14, 4%). See Table 4.4 for details. A more granular breakdown of pathway status by individual pathway is presented in Annex 1 (Table A1.4)

Table 4.4 Pathway status by learning pathway

	ACPT (48)	PCPs (148)	PRP (186*)	Total (382*)
I am still studying on the learning pathway	28 (58%)	104 (70%)	128 (69%)	260 (68%)
I have completed the learning pathway	16 (34%)	33 (22%)	39 (21%)	88 (23%)
I interrupted the learning pathway prior to the planned end date but plan to return to it**	2 (4%)	4 (3%)	14 (8%)	20 (5%)
I left the learning pathway prior to the planned end date and have no plans to return to it	2 (4%)	7 (5%)	5 (3%)	14 (4%)

\*One post-registration pathway learner did not respond to this question

\*\*e.g. due to maternity leave, illness or change of job

### 4.2.3 Sector of practice

Respondents were asked to record their current sector of practice. The number of respondents working in each setting is shown in Table 4.5.

Table 4.5 Current sector of practice

Pharmacy setting	ACPT (48)	PCPs (148)	PRP (187)	Total (383)
<b>Community setting</b>				
Independent pharmacy	17 (35%)	7 (5%)	34 (18%)	58 (15%)
Small chain pharmacy (2-5 stores)	1 (2%)	2 (1%)	25 (13%)	28 (7%)
Small multiple pharmacy (6-25 stores)	11 (23%)	4 (3%)	16 (9%)	31 (8%)
Medium-sized multiple pharmacy (26-100 stores)	3 (6%)	5 (3%)	17 (9%)	25 (6%)
Large multiple pharmacy (101-200 stores)	-	2 (1%)	19 (10%)	21 (5%)
Large multiple pharmacy (>200 stores)	6 (12%)	10 (7%)	94 (50%)	110 (29%)
Supermarket pharmacy	-	2 (1%)	19 (10%)	21 (5%)
<b>Hospital settings</b>				
NHS teaching hospital	4 (8%)	15 (10%)	1 (<1%)	20 (5%)
NHS District general hospital	2 (4%)	9 (6%)	2 (1%)	13 (3%)
Specialist NHS hospital	4 (8%)	4 (2%)	2 (1%)	10 (2%)
Private hospital	-	3 (2%)	1 (<1%)	4 (1%)
Outpatient pharmacy	-	-	5 (3%)	5 (1%)
<b>Other settings</b>				
General practice	-	35 (24%)	20 (11%)	55 (14%)
Integrated urgent care	-	19 (13%)	4 (2%)	23 (6%)
Care home or nursing home provider	-	26 (18%)	-	26 (7%)
Primary care provider organisation	1 (2%)	14 (9%)	2 (1%)	17 (4%)
Secure environment / Health in justice	4 (8%)	3 (2%)	5 (3%)	12 (3%)
Commissioning and planning local services	-	54 (37%)	2 (1%)	56 (15%)
Primary care network	-	20 (14%)	17 (9%)	37 (10%)
Other setting**	-	13 (9%)	10 (5%)	23 (6%)

NB: Numbers may add up to more than the number of respondents on each pathway, as many respondents were working in multiple settings as part of a portfolio working pattern.

\*Other setting included: GPhC, research & development, academia, GP federated network

Table 4.6 provides a breakdown of sector of practice by learning pathway, both in relation to the number (%) of learners on each pathway who work in a particular sector and then the number and proportion of those working in this sector (%) who work solely in this sector.

As would be expected as a result of the nature of the PhIF pathways, the majority of learners on the ACPT and post-registration pathways (73% and 89% respectively;

compared with just 16% of those on the primary care pathways) reported that they worked in the community pharmacy sector. Half of the learners who reported working in community pharmacy on these pathways worked solely in the community pharmacy sector – for example, 24 out of 48 (50%) of ACPT learners worked solely in community pharmacy.

A similar proportion of ACPT and primary care pathway learners worked in the hospital sector (19% and 18% respectively), with only 6% of post-registration pathway learners working in this sector for at least some of their practice at the time of completing a survey. A greater proportion of primary care pathway learners reported working in the ‘other’ sector than those on ACPT and post-registration pathways (95% for PCPs, compared to 31% for ACPT and 52% for post-registration). The ‘other’ sector includes NHS 111 / urgent care, care homes and primary care networks. A higher proportion of learners on the post-registration pathway reported working in two or more sectors compared with those on the primary care pathways and ACPT (46% for post-registration, compared to 28% for PCPs and 23% for ACPT), suggesting that a greater proportion of the post-registration learners had a ‘portfolio career’ combining different roles.

Table 4.6 Detailed sector of practice by learning pathway

Pharmacy sector	ACPT (48)	PCPs (148)	PRP (187)	Total (383)
<b>Community pharmacy</b>				
Works in community pharmacy sector	35 (73%)	23 (16%)	167 (89%)	225 (59%)
Works solely in community pharmacy	24 (50%)	3 (2%)	84 (45%)	111 (49%) <sup>a</sup>
<b>Hospital pharmacy</b>				
Works in hospital sector	9 (19%)	27 (18%)	11 (6%)	47 (12%)
Works solely in hospital	8 (17%)	4 (3%)	-	12 (26%) <sup>a</sup>
<b>Other pharmacy sector<sup>c</sup></b>				
Works in “other” sector	15 (31%)	141 (95%)	97 (52%)	253 (66%)
Works only in “other” sector	5 (10%) <sup>c</sup>	100 (68%)	19 (10%) <sup>d</sup>	124 (49%) <sup>a</sup>
<b>Number of sectors worked in</b>				
Works in one sector only	37 (77%)	107 (72%)	102 (54%)	246 (64%)
Works ≥ 2 sectors	11 (23%)	41 (28%)	85 (46%)	137 (36%) <sup>b</sup>

NB: Percentages add up to more than 100% as it is possible to work in more than one sector. ‘Other’ sector includes NHS 111 / Urgent care, Care home, Primary Care Network (PCN).

<sup>a</sup> Percentage of all those working in this sector who work solely in the sector

<sup>b</sup> Percentage of all learners

<sup>c</sup> Primary care provider (1), Health in Justice (4)

<sup>d</sup> GP practice (5), Health in Justice (4), CCG (1), PCN (9), other (4)

#### 4.2.4 Changed role or sector of practice

The survey asked respondents whether they had changed their job role, setting or sector of practice in order to join their learning pathway. Whilst the majority of respondents had not made any changes, 25% (n=97) of learners reported that they had changed their role or sector of practice to join a learning pathway. Of these learners who had changed role or sector (n=97), Table 4.7 shows that over half (n=52, 54%) had changed their sector of practice. Most of these learners recorded

that they were on the MOCH pathway. An additional 30% (n=29) had changed their job role within the same setting. Of these, ten were pharmacy technicians on the ACPT pathway. The remaining learners reported a change in the type of employer within the same sector (n=4, 4%) or selected 'other' (n=12, 12%). See Table 4.7 for details.

**Table 4.7 Change of job role or sector of practice in order to undertake learning**

	ACPT (10)	PCPs (66)	PRP (21)	Total (97)
I have changed job role within the same setting	10 (100%)	14 (21%)	5 (24%)	29 (30%)
I have changed my sector of practice	-	39 (59%)	13 (62%)	52 (54%)
I have changed the type of employer within the same sector	-	2 (3%)	2 (9%)	4 (4%)
Other change of role*	-	11 (17%)	1 (5%)	12 (12%)

\*Other responses included: secondment, partial role change, community trust

#### 4.2.5 Independent prescribing (IP) qualification

Pharmacist respondents (n=295) were asked whether they held an IP qualification, were studying for one, or had plans to study for a qualification in the future. Of the 295 pharmacists who completed the survey, 46 (16%) had already completed a prescribing qualification prior to starting the pathway. A further 17 (6%) had gained an IP qualification as part of their learning pathway and 21 (7%) were studying for the qualification at the time of completing the survey. See Table 4.8 for details.

Just over half of respondents (n=151, 51%) reported that they planned to study for the qualification at some point in the future and another 29 (10%) planned to complete the qualification before the end of their learning pathway. Ten percent (n=31) of the pharmacist respondents reported that they had no plans to obtain an IP qualification.

Overall, when responses of pharmacists who either held an IP qualification prior to, or gained their qualification during the pathway are combined, it can be seen that 41% of pharmacists on the primary care pathway held an IP qualification at the time of completing the survey. In comparison just 10% of those on the post-registration pathway held an IP qualification at the time of completing the survey. This difference was statistically significant ( $\chi^2=38.119$ ,  $p<0.001$ ). Of those who did not hold an IP qualification, 65% of pharmacists (n=122) on the post-registration pathway had plans to study for an IP qualification at some point in the future once they had completed their pathway.

Of those on the post-registration pathway, four pharmacists (2%) indicated that they had completed their IP qualification and six (3%) were currently studying for the qualification as part of the learning pathway. Although learners on this pathway are not eligible to undertake a PhIF-funded prescribing qualification, a number of this group of respondents were portfolio workers and had roles in health and justice pharmacies, general practice, primary care networks (PCNs) and, as such, may have been eligible to complete an IP qualification while working in another role.



Table 4.8 Independent prescribing qualification status

	PCPs (108)	PRP (187)	Total (295)
I currently have no plans to obtain an independent prescribing qualification	7 (6%)	24 (13%)	31 (10%)
I gained an independent prescribing qualification as part of my learning pathway	13 (12%)	4 (2%)	17 (6%)
I held an independent prescribing qualification before starting my learning pathway	31 (29%)	15 (8%)	46 (16%)
I plan to study for an independent prescribing qualification at some point in the future (after I've completed my training pathway)	29 (27%)	122 (65%)	151 (51%)
I plan to study for an independent prescribing qualification before completing my learning pathway	13 (12%)	16 (9%)	29 (10%)
I'm currently studying for an independent prescribing qualification as part of my learning pathway	15 (14%)	6 (3%)	21 (7%)

#### 4.2.6 Motivation for undertaking the learning pathway

Learners were asked what their main motivation was for undertaking a learning pathway. Nearly a third (n=117, 31%) of respondents reported their main motivation as being to enhance their practice in their current job role, and around a quarter (n=87, 23%) were motivated to take part in the learning to improve their career prospects. Notably, 22% of post-registration learners and 21% of primary care pathway learners were motivated in order to work in a new sector of practice. See Table 4.9 for details.

Table 4.9 Main motivation for undertaking the learning pathway

	ACPT (48)	PCPs (148)	PRP(187)	Total (383)
In order to enhance my practice in my current job	18 (38%)	41 (28%)	58 (31%)	117 (31%)
In order to improve my career prospects	13 (27%)	17 (11%)	57 (30%)	87 (23%)
In order to undertake continuing professional development (CPD)	1 (2%)	-	5 (3%)	6 (2%)
In order to work in a new job role in my current sector of practice	13 (27%)	25 (17%)	10 (5%)	48 (13%)
In order to work in a new sector of practice	-	31 (21%)	41 (22%)	72(19%)
It was a requirement of my current job	2 (4%)	28 (19%)	-	30 (8%)
Personal interest	1 (2%)	4 (3%)	12 (6%)	17 (4%)
Other	-	2 (1%)	4 (2%)	6 (2%)

Each of the statements investigating learners' motivations was then analysed separately using a chi-square test to determine whether there were differences in main motivation according to learning pathway. A greater proportion of learners on



the post-registration and ACPT pathways reported that they were motivated to undertake the learning in order to improve their career prospects than learners on primary care pathways (30% and 27% respectively vs. 11%,  $\chi^2=13.172$ ,  $p<0.001$ ).

Those on the ACPT and primary care pathways were more likely to be motivated to work in a new job role in their current sector of practice than those on the post-registration community pharmacist pathway (27% and 17% respectively vs. 5%,  $\chi^2=20.643$ ,  $p<0.01$ ). Those on the primary care pathways were significantly more likely to be doing the learning pathway because it was a requirement of the job than ACPT learners (19% vs. 4%,  $\chi^2=6.0851$ ,  $p<0.05$ ). This is to be expected as the job role and learning pathway are intrinsically linked for primary care pathway learners. There were no other significant differences identified.

## 4.3 Learners' views of their pathway and the skills acquired

### 4.3.1 Relevance to current and future roles

Respondents were asked about the relevance of the learning to both current and future roles. The majority of learners reported that the learning was either very (n=197, 51%) or fairly relevant (n=103, 27%) to their current role. A small proportion of primary care learners (n=6, 4%) and one ACPT learner reported the learning to be not at all relevant to their current role. A dichotomous variable was created by recoding the relevance data, to create two categories: learners who thought the learning was fairly/very relevant to their current role and those who reported it be somewhat/not very/not at all relevant.

Learners on the ACPT pathway (96%) were most likely to agree that their learning was very or fairly relevant to their current role compared with those on primary care and post-registration community pharmacist pathways (96% vs. 75% and 77%). This difference was statistically significant ( $\chi^2=13.276$ ,  $p=0.001$ ). See Table 4.10 for details.

Table 4.10 Relevance to current role

	ACPT (48)	PCPs (148)	PRP (187)	Total (383)
Very relevant	31 (65%)	78 (53%)	88 (47%)	197 (51%)
Fairly relevant	15 (31%)	33 (22%)	55 (30%)	103 (27%)
Somewhat relevant	1 (2%)	27 (18%)	40 (21%)	68 (18%)
Not very relevant	-	4 (3%)	4 (2%)	8 (2%)
Not at all relevant	1(2%)	6 (4%)	-	7 (2%)

As well as capturing relevance to current role, the survey also investigated relevance of learning to future roles. Here, a greater proportion of respondents reported their learning to be fairly or very relevant to a future role (89%), which aligns with the motivation findings reported previously. In addition to identifying relevance to future role overall, comparative analysis was undertaken using a dichotomous variable consisting of two categories: learners who thought the learning was fairly/very relevant to their future role and those who reported it be somewhat/not very/not at all relevant.

Both post-registration and ACPT learners were significantly more likely to report their learning was very or fairly relevant to future roles than those on primary care

pathways (94% and 98% respectively vs. 78%);  $\chi^2=25.231$ ,  $p<0.01$ ). See Table 4.11 for details.

Table 4.11 Relevance to future roles

	ACPT (48)	PCPs (148)	PRP (187)	Total (383)
Very relevant	35 (73%)	73 (49%)	125 (67%)	233 (61%)
Fairly relevant	12 (25%)	43 (29%)	51 (27%)	106 (28%)
Somewhat relevant	1 (2%)	19 (13%)	8 (4%)	28 (7%)
Not very relevant	-	7 (5%)	3 (2%)	10 (3%)
Not at all relevant	-	6 (4%)	-	6 (2%)

### 4.3.2 Impact of learning on activities undertaken in role

Respondents were asked if their patient-facing activities, activities involving leading clinical services and conducting complex medications reviews had increased, stayed the same or decreased since they started their learning pathway. Additional qualitative insights into these responses are provided later in this chapter (Section 4.5).

#### *Patient-facing activities*

As learners on the ACPT work in a dispensary role they are not included in the analysis on patient-facing activities. Overall, 41% (n=133) of learners reported an increase in patient-facing activities since starting their learning pathway. Table 4.12 shows that a similar proportion (~40%) of learners on both the primary care and post-registration pathways reported an increase in patient-facing activities since starting their pathway. Primary care pathway learners were significantly more likely to report that they were performing fewer patient-facing activities than before starting the pathway than those on the post-registration pathway (29% vs. 14%,  $\chi^2=13.703$ ,  $p<0.001$ ).

Table 4.12 Impact on patient-facing activities

	PCPs (148)	PRP (187)	Total (335)
More than before	58 (40%)	75 (41%)	133 (41%)
The same as before	44 (31%)	82 (45%)	126 (39%)
Less than before	42 (29%)	25 (14%)	67 (20%)
Not applicable	4	5	9

*NB: Percentages calculated as percentage of applicable responses*

As the main survey was initially distributed in February 2020 prior to the COVID-19 pandemic and was again distributed in October 2020 during the pandemic, data on the extent of impact on patient-facing activities were analysed by survey completion date to determine if there were any significant differences in the impact on level of patient-facing activities learners were reporting.

Findings indicate that respondents who completed the survey in October 2020 were significantly more likely to report undertaking fewer patient-facing activities than those who completed the survey prior to the pandemic in February 2020 (34% vs. 9%,  $\chi^2=32.880$ ,  $p<0.001$ ). See Table 4.13 for details.

Table 4.13 Impact on patient-facing activities pre and during COVID-19 pandemic

	Patient-facing activities*	
	Feb 2020 (178)	Oct 2020 (157)
More than before	84 (48%)	49 (32%)
The same as before	75 (43%)	51 (34%)
Less than before	15 (9%)	52 (34%)
Not applicable		5

NB: Percentages calculated as percentage of applicable responses

\*ACPT learners are not included in this table

The data on patient-facing activities were also analysed by pathway and survey completion date (pre-COVID, February 2020 or during COVID, October 2020). The results are shown in Table 4.14 and indicate that learners on both the primary care pathways and post-registration pathways who completed the survey in October 2020 were more likely to report providing fewer patient-facing activities than those who completed the survey in February 2020.

Table 4.14 Impact on patient-facing activities by pathway and date of completion

Learners reporting fewer patient-facing activities (n(%))	PCPs (144)*		PRP (182)*	
	Feb 2020 (87)	Oct 2020 (57)	Feb 2020 (87)	Oct 2020 (95)
	11 (13%)	31 (54%)	4 (5%)	21 (22%)

\*Learners who ticked 'not applicable' are not included in this analysis

### Leading clinical services

As leading clinical services was not a target for behaviour change for pharmacy technician learners on the ACPT and MOCH pathways, only responses from pharmacists on the primary care and post-registration pathways are presented here. Forty-five percent of respondents overall reported an increase in leading clinical services since starting their learning pathway. There were no statistically significant differences in levels of clinical services provided between those on the primary care pathways and those on the post-registration pathways ( $\chi^2=5.017$ ,  $p=0.081$ ). See Table 4.15 for details.

Table 4.15 Impact on leading clinical services (pharmacists only)

	PCPs (108)	PRP (187)	Total (295)
More than before	54 (53%)	70 (41%)	124 (45%)
The same as before	32 (32%)	77 (45%)	109 (40%)
Less than before	15 (15%)	25 (14%)	40 (15%)
Not applicable	7	15	22

NB: Percentages calculated as percentage of applicable responses

When the data on leading clinical services were compared according to when the survey was completed, respondents who completed the survey in October 2020 were significantly more likely to report that they were leading fewer clinical services than those completing the survey in February 2020 (23% vs. 7%,  $\chi^2=16.755$ ,  $p<0.001$ ). See Table 4.16 for details.

Table 4.16 Impact on leading clinical services pre and during COVID-19 pandemic

	Leading clinical services	
	Feb 2020 (155)	Oct 2020 (140)
More than before	77 (53%)	47 (37%)
The same as before	58 (40%)	51 (40%)
Less than before	10 (7%)	30 (23%)
Not applicable	10	12

NB: Percentages calculated as percentage of applicable responses

An analysis of this data by pathway / date of completion indicated that, while the proportion of learners on the primary care pathways reporting that they were leading fewer clinical services was similar at the two time points, a greater proportion of pharmacists on the post-registration pathway who completed the survey in October 2020 reported that they were leading fewer clinical services than those on the same pathway who completed the survey in February (i.e. before the COVID-19 pandemic). See Table 4.17 for details.

Table 4.17 . Impact on leading clinical services by pathway and date of completion

Learners reporting leading fewer clinical services (n (%))	PCPs (101)*		PRP (172)*	
	Feb 2020 (63)	Oct 2020 (38)	Feb 2020 (91)	Oct 2020 (96)
	9 (14%)	6 (16%)	1 (1%)*	24 (27%)

\*Learners who ticked 'not applicable' are not included in this analysis

### Conducting medication reviews with patients with complex needs

Pharmacy technicians on either the ACPT or MOCH pathways would not be expected to perform medication reviews with patients with complex needs, nor would those pharmacists on the IUC pathway, so the responses in this section are from those on the MOCH, PCPEP, CPGPE and post-registration pathways only (n=270).

Just under half of all learners responding to this question reported that they were conducting more complex medication reviews with patients with complex needs

since starting their learning pathway. Pharmacists on the primary care pathways were significantly more likely to report performing more of this type of medication review since starting their pathway (60% vs. 41%) than those on the post-registration pathway. This difference was statistically significant ( $\chi^2=8.538$ ,  $p=0.014$ ). See Table 4.18 for details.

**Table 4.18 Impact on conducting medication reviews with patients with complex needs (pharmacists only, excluding IUC)**

	PCPs (83)	PRP (187)	Total (270)
More than before	49 (60%)	72 (41%)	121 (47%)
The same as before	17 (21%)	60 (34%)	77 (30%)
Less than before	15 (19%)	43 (25%)	58 (23%)
Not applicable	2	12	14

*NB: Percentages calculated as percentage of applicable responses*

When the data on conducting medication reviews with patients with complex needs were compared according to when the survey was completed (Table 4.19), pharmacist learners who completed the question in the survey in October 2020 were significantly more likely to report undertaking fewer medication reviews than those who completed the survey in February 2020 (39% vs. 9%,  $\chi^2=32.514$ ,  $p<0.001$ ).

**Table 4.19 Impact on conducting medication reviews with patients with complex needs, pre and during COVID-19 (pharmacists only, excluding IUC)**

	Complex medication reviews*	
	Feb 2020 (143)	Oct 2020 (127)
More than before	77 (56%)	44 (37%)
The same as before	48 (35%)	29 (24%)
Less than before	12 (9%)	46 (39%)
Not applicable	6	8

*NB: Percentages calculated as percentage of applicable responses*

When the data were compared by pathway/date of completion, this indicated that a greater proportion of learners on both the primary care and post-registration pathways who completed the survey in October 2020 reported undertaking fewer medication reviews with patients with complex needs, when compared with learners on the same pathway who completed the survey in February 2020. See Table 4.20 for details.

**Table 4.20 Impact on performing complex medication reviews by pathway and date of completion**

Learners reporting performing fewer complex medication reviews (n%)	PCPs (83)*		PRP (187)*	
	Feb 2020 (52)	Oct 2020 (31)	Feb 2020 (91)	Oct 2020 (96)
	5 (14%)	10 (33%)	7 (8%)	36 (40%)

*\*two PCP learners and 12 PRP learners ticked 'not applicable' for this question*

Further qualitative survey findings related to the impact of COVID-19 on learning and practice are provided later in this chapter, where analysis of free text comments exploring respondents' views is presented.

## 4.4 Applying learning in practice

### 4.4.1 Attitudes to learning

Learners were asked to record their level of agreement with a series of questions about their ability to apply their learning to their practice and issues such as support for learning and resources. In order to conduct comparative subgroup analysis, and as described in Chapter 2, the 5-point agreement scale was recoded to create a dichotomous variable consisting of two categories of response (those who agreed / strongly agreed; and those who did not agree or strongly agree with a statement). Each recoded statement was then analysed using a chi-square test of independence. The results for all respondents and for the three subgroups are shown in Table 4.21.

The majority of all respondents to the main survey agreed that their learning had made a difference to their practice and their patients, and where a clinical supervisor was supporting the pathway learner, that supervisor had supported them to apply their learning, and they had sufficient knowledge to apply their learning in practice.

Around two-thirds of respondents agreed or strongly agreed with statements indicating that they had support from their education supervisor to apply their learning, with a similar proportion reporting that they received support from their colleagues to apply their learning and that they had all the resources they needed to apply learning. 60% of respondents agreed that their employer supported them to apply their learning. See Table 4.21 for details.

There were statistically significant differences in attitudes between learners on the different pathways. Learners on the ACPT pathway were significantly more likely to agree that they had received support from their education supervisor, their colleagues and their employer than those on other pathways and were more likely to have had all the resources they needed to apply their learning in practice. See Table 4.21 for details.

Pharmacists on the post-registration pathway were significantly less likely than those on primary care or ACPT pathways to agree that their colleagues and employer had supported them to apply their learning.

Table 4.21 Attitudes to learning

N (%) of respondents agreeing or strongly agreeing with the statement*	ACPT (48)	PCPs (148)	PRP (187)	Total (383)	Chi-square (p-value)
I have enough time to apply my learning in practice	33 (69%)	89 (61%) <sup>a</sup>	116 (62%)	238 (63%)	0.965 (0.617)
I have sufficient knowledge to apply my learning in practice	45 (94%)	118 (81%) <sup>a</sup>	159 (85%)	322 (85%)	4.687 (0.096)
I am capable of applying my learning in practice	46 (96%)	130 (89%) <sup>a</sup>	175 (94%)	351 (92%)	3.372 (0.185)
My learning makes a difference to my practice	45 (94%)	126 (86%) <sup>a</sup>	174 (93%)	345 (90%)	5.801 (0.055)
My learning makes a difference to my patients	44 (92%)	126 (86%) <sup>a</sup>	174 (93%)	344 (90%)	5.1010 (0.078)
My educational supervisor* supports me to apply my learning in practice	43 (90%)	104 (72%)	102 (59%)	249 (68%)	<b>18.185 (&lt;0.001)</b>
My clinical supervisor supports me to apply my learning in practice**	n/a	91 (64%)	n/a	91 (64%)	n/a
My colleagues support me to apply my learning in practice	43 (92%)	116 (79%)	97 (54%)	256 (68%)	<b>37.384 (&lt;0.001)</b>
My employer supports me to apply my learning in practice	45 (94%)	94 (64%)	87 (48%)	226 (60%)	<b>35.502 (&lt;0.001)</b>
I have all the resources I need to apply my learning in practice	43 (90%)	86 (59%)	113 (61%)	242 (64%)	<b>16.282 (&lt;0.001)</b>

<sup>a</sup> Some missing values

\*or academic or work-based staff

\*\*PRP and ACPT learners do not have a clinical supervisor, so these results are presented for PC pathway learners only. Five PCP learners did not complete this question.

#### 4.4.2 Application of learning in current role

Table 4.22 provides details of respondents who agreed that they had been able to apply their knowledge and skills. Overall, one in five learners (n=75) agreed that they had been able to fully apply their knowledge and skills, 45% had been able to apply most of their knowledge and skills and a third had only been able to apply some of their knowledge and skills. Only 3% had been unable to apply any of their knowledge and skills.



Table 4.22 Ability to apply skills acquired on learning pathway

N (%)	ACPT (48)	PCPs (148)	PRP (187)	Total (383)
I have been able to fully apply all of my knowledge and skills	25 (52%)	24 (16%)	26 (14%)	75 (20%)
I have been able to apply most of my knowledge and skills, but not all	16 (33%)	72 (49%)	85 (45%)	173 (45%)
I have been able to apply only some of my knowledge and skills	5 (11%)	46 (31%)	72 (39%)	123 (32%)
I have not been able to apply my knowledge and skills at all	2 (4%)	6 (4%)	4 (2%)	12 (3%)

Learners on the ACPT pathway were significantly more likely than those on primary care or post-registration pathways to report having been able to fully apply their knowledge and skills, a finding which likely reflects that having a relatively narrow scope to a pathway allows for learning to be applied in full (52% vs. 16% and 14% respectively,  $\chi^2=42.333$ ,  $p=0.001$ ).

Those who indicated that they had not been able to ‘fully’ apply their learning were asked why they had been unable to do so. Overall, the majority of respondents were unable to apply their knowledge and skills either because of a job-related reason (42%) or because it was too early in the pathway and they were still acquiring knowledge and skills (32%). See Table 4.23 for details.

As might be expected, learners who had completed their learning were significantly more likely to report having been able to ‘fully’ apply all their knowledge and skills (33% vs. 16%,  $\chi^2=10.541$ ,  $p<0.05$ ) than those who were still on their learning pathway.

Table 4.23 Reasons for inability to fully apply skills

	ACPT (23)	PCPs (122) <sup>a</sup>	PRP (160) <sup>b</sup>	Total (305)
Too early in the pathway*	10 (44%)	35 (29%)	52 (33%)	97 (32%)
Job-related reason	8 (35%)	45 (37%)	76 (47%)	129 (42%)
Employer-related reason	1 (4%)	13 (10%)	20 (12%)	34 (11%)
Other reason*	4 (17%)	29 (24%)	12 (8%)	45 (15%)

\*due to learners still acquiring knowledge and skills

<sup>a</sup> Two PCP learners did not respond to this question

<sup>b</sup> One PRP learner did not respond to this question

### 4.4.3 Impact of learning pathway on confidence, skills and practice

The main survey completed by learners used routing to tailor questions about impact on confidence, skills and practice so that they were relevant to the type of pharmacy professional respondent (pharmacist or pharmacy technician). These questions captured respondents’ perceived impact of a pathway on behaviours targeted by the training.

As noted previously in Chapter 2, responses to the confidence statements, originally captured using a 5-point confidence scale (from not at all confident to extremely confident) were recoded into a new dichotomous variable in order to conduct further



comparative analysis. For this purpose, a response of 4 (fairly confident) or 5 (extremely confident) was regarded as 'confident' in relation to a target behaviour. Each confidence statement was then separately analysed by pathway, independent prescribing qualification status and pathway completion status using a chi-square test of independence.

### *Pharmacist confidence levels*

The results for all pharmacist respondents on the different pathways are shown in Table 4.24. It indicates that, overall, a majority of respondents reported feeling either fairly or extremely confident in many of the behaviours targeted by a training pathway. The behaviours showing the highest levels of confidence were:

- collaborating with other primary care professionals;
- speaking to patients about their health and medicines;
- documenting consultations and interventions; and
- working autonomously.

The lowest levels of confidence were recorded for:

- collecting samples for laboratory analysis; and
- physical examinations.

Some significant differences in reported confidence were identified when comparing pharmacists on different pathways. Pharmacist learners on the primary care pathways were significantly more likely than those on the post-registration pathway to report feeling fairly or extremely confident with regard to the following target behaviours:

- collaborating with other primary care professionals;
- collaborating with secondary care professionals;
- interpretation of diagnostic tests;
- interpretation of investigation findings;
- medicines optimisation; and
- working across care settings.

Conversely, pharmacists on the post-registration pathway were significantly more likely than those on the primary care pathways to report feeling fairly or extremely confident in:

- demonstrating leadership; and
- speaking to patients about their health.

As well as undertaking comparisons according to learning pathway, additional subgroup analysis was undertaken, comparing pharmacist learners who already held an IP qualification (n=63) and those who did not hold a qualification at the time of completing the survey (n=232). The findings suggested that holding an IP qualification was associated with significantly higher levels of confidence in the following target behaviours:

- clinical reasoning;
- collaborating with other primary care professionals;

- collaborating with secondary care professionals;
- comprehensive clinical history-taking;
- medicines optimisation;
- physical examination;
- working across settings; and
- working autonomously.

See Table 4.25 for details.

Comparisons between responses of pharmacists who had completed their learning pathway (n=65) with those who were still studying on a pathway (n=200) found that those who had completed the pathway were significantly more likely to report higher levels of confidence in:

- clinical reasoning;
- collaborating with secondary care professionals;
- delegating clinical tasks;
- documenting consultations and interventions;
- making higher level decisions;
- medicines optimisation;
- speaking to patients about their medicines;
- supporting colleagues and peers; and
- working autonomously.

Table 4.24 Pharmacist confidence levels

(N) % reporting feeling fairly or very confident*	PCPs (108)	PRP (187)	Total (295)	Chi-square test (p-value)
Advanced consultation skills	75 (71%) <sup>a</sup>	130 (71%) <sup>a</sup>	205 (71%) <sup>a</sup>	0.000 (1.000)
Basic observations	63 (60%) <sup>a</sup>	123 (67%) <sup>a</sup>	186 (64%) <sup>a</sup>	1.225 (0.268)
Clinical reasoning	79 (74%) <sup>a</sup>	133 (72%) <sup>a</sup>	212 (72%) <sup>a</sup>	0.184 (0.668)
Collaborating with other primary care professionals	92 (89%) <sup>a</sup>	139 (75%) <sup>a</sup>	231 (80%) <sup>a</sup>	<b>7.370 (0.007)**</b>
Collaborating with other secondary care professionals	83 (78%) <sup>a</sup>	106 (58%) <sup>a</sup>	189 (65%) <sup>a</sup>	<b>11.842 (&lt;0.001)**</b>
Collecting samples for laboratory analysis	18 (22%) <sup>a</sup>	26 (17%) <sup>a</sup>	44 (19%) <sup>a</sup>	0.823 (0.364)
Comprehensive clinical history-taking	69 (65%) <sup>a</sup>	103 (56%) <sup>a</sup>	172 (60%) <sup>a</sup>	1.347 (0.246)
Conducting quality improvement audits	61 (58%) <sup>a</sup>	105 (58%) <sup>a</sup>	166 (58%) <sup>a</sup>	0.002 (0.969)
Delegating clinical tasks	61 (60%) <sup>a</sup>	99 (57%) <sup>a</sup>	160 (58%) <sup>a</sup>	0.223 (0.637)
Delegating non-clinical tasks	77 (76%) <sup>a</sup>	155 (85%) <sup>a</sup>	232 (81%) <sup>a</sup>	3.669 (0.055)
Demonstrating leadership	73 (69%) <sup>a</sup>	151 (81%) <sup>a</sup>	224 (77%) <sup>a</sup>	<b>5.304 (0.021)*</b>
Developing services	70 (66%) <sup>a</sup>	113 (61%) <sup>a</sup>	183 (63%) <sup>a</sup>	0.618 (0.432)
Documenting consultations and interventions	91 (85%) <sup>a</sup>	159 (85%)	250 (85%) <sup>a</sup>	0.000 (1.000)
Engaging in research	35 (35%) <sup>a</sup>	66 (38%) <sup>a</sup>	101 (37%) <sup>a</sup>	0.270 (0.603)
Evaluating evidence	61 (58%) <sup>a</sup>	110 (59%) <sup>a</sup>	171 (59%) <sup>a</sup>	0.071 (0.791)
Handling errors and incidents	79 (75%) <sup>a</sup>	156 (83%)	235 (80%) <sup>a</sup>	3.371 (0.066)
Interpretation of diagnostic tests	68 (64%) <sup>a</sup>	78 (43%) <sup>a</sup>	146 (51%) <sup>a</sup>	<b>12.152 (&lt;0.001)**</b>
Interpretation of investigation findings	63 (59%) <sup>a</sup>	80 (44%) <sup>a</sup>	143 (49%) <sup>a</sup>	<b>6.420 (0.011)*</b>
Making higher level decisions	53 (50%) <sup>a</sup>	79 (44%) <sup>a</sup>	132 (47%) <sup>a</sup>	1.070 (0.301)
Medicines optimisation	93 (87%) <sup>a</sup>	134 (72%)	227 (77%) <sup>a</sup>	<b>9.005 (0.003)**</b>
Physical examinations	25 (24%) <sup>a</sup>	34 (20%) <sup>a</sup>	59 (22%) <sup>a</sup>	0.623 (0.430)
Speaking to patients about their health	87 (81%) <sup>a</sup>	168 (90%) <sup>a</sup>	255 (87%) <sup>a</sup>	<b>7.545 (0.006)**</b>
Speaking to patients about their medicines	93 (87%) <sup>a</sup>	178 (96%) <sup>a</sup>	271 (93%) <sup>a</sup>	0.534 (0.465)
Supporting the development of colleagues and peers	83 (78%) <sup>a</sup>	153 (82%)	236 (81%) <sup>a</sup>	0.534 (0.465)
Working across care settings	84 (79%) <sup>a</sup>	89 (49%) <sup>a</sup>	173 (61%) <sup>a</sup>	<b>24.790 (&lt;0.001)**</b>
Working autonomously	92 (87%) <sup>a</sup>	148 (80%) <sup>a</sup>	240 (83%) <sup>a</sup>	1.905 (0.167)

<sup>a</sup>=Some respondents recorded 'not applicable' to this question

\* significant at 5% level

\*\* significant at 1% level

Table 4.25 Pharmacist confidence levels by independent prescribing status & pathway completion status

N (% reporting feeling fairly or very confident)	Independent prescribing (295)		Chi-square test (p-value)	Completion status (265)*		Chi-square test (p-value)
	IP qual. (63)	No IP (232)		Completed pathway (65)	Still studying (200)	
Advanced consultation skills	48 (80%)	157 (69%)	2.371 (0.098)	50 (79%)	138 (70%)	1.922 (0.166)
Basic observations	45 (73%)	141 (62%)	2.444 (0.118)	44 (70%)	123 (62%)	1.336 (0.248)
Clinical reasoning	55 (87%)	157 (68%)	<b>8.964 (0.003)</b>	57 (88%)	133 (67%)	<b>10.567 (0.001)</b>
Collaborating with other primary care professionals	57(92%) <sup>a</sup>	174 (77%) <sup>a</sup>	<b>7.091 (0.008)</b>	57 (88%)	154 (79%)	3.472 (0.062)
Collaborating with other secondary care professionals	52 (83%)	137 (60%) <sup>a</sup>	<b>10.930 (0.001)</b>	51 (80%) <sup>a</sup>	121 (61%)	<b>7.401 (0.007)</b>
Collecting samples for laboratory analysis	12 (23%) <sup>a</sup>	32 (17%) <sup>a</sup>	0.897 (0.344)	8 (15%) <sup>a</sup>	31 (19%) <sup>a</sup>	0.463 (0.496)
Comprehensive clinical history-taking	45 (71%)	127 (57%) <sup>a</sup>	<b>4.925 (0.038)</b>	44 (70%) <sup>a</sup>	114 (59%) <sup>a</sup>	2.465 (0.116)
Conducting quality improvement audits	41 (66%) <sup>a</sup>	125 (56%) <sup>a</sup>	2.025 (0.155)	43 (69%) <sup>a</sup>	110 (57%) <sup>a</sup>	3.129 (0.077)
Delegating clinical tasks	42 (69%) <sup>a</sup>	118 (55%) <sup>a</sup>	3.806 (0.051)	44 (73%) <sup>a</sup>	99 (52%) <sup>a</sup>	<b>8.178 (0.004)</b>
Delegating non-clinical tasks	50 (82%) <sup>a</sup>	182 (81%) <sup>a</sup>	0.016 (0.898)	53 (86%) <sup>a</sup>	156 (80%) <sup>a</sup>	1.063 (0.303)
Demonstrating leadership	47 (75%)	177 (77%) <sup>a</sup>	0.152 (0.697)	56 (86%)	148 (74%) <sup>a</sup>	3.873 (0.049)
Developing services	40 (64%)	143 (63%) <sup>a</sup>	0.005 (0.942)	46 (72%) <sup>a</sup>	119 (60%) <sup>a</sup>	2.733 (0.098)
Documenting consultations and interventions	56 (89%)	194 (84%) <sup>a</sup>	0.936 (0.333)	63 (97%)	164 (82%)	<b>8.894 (0.003)</b>
Engaging in research	17 (29%) <sup>a</sup>	84 (39%) <sup>a</sup>	2.162 (0.141)	26 (44%) <sup>a</sup>	66 (35%) <sup>a</sup>	1.543 (0.214)
Evaluating evidence	38 (60%)	133 (58%) <sup>a</sup>	0.102 (0.749)	45 (69%)	111 (56%)	3.668 (0.055)
Handling errors and incidents	49 (78%)	186 (81%) <sup>a</sup>	0.298 (0.585)	53 (82%)	158 (79%)	0.195 (0.659)
Interpretation of diagnostic tests	38 (60%)	108 (48%)	3.549 (0.060)	37 (58%) <sup>a</sup>	98 (50%) <sup>a</sup>	1.102 (0.294)
Interpretation of investigation findings	38 (60%)	105 (46%)	4.019 (0.045)	38 (59%)	94 (48%) <sup>a</sup>	2.258 (0.133)
Making higher level decisions	33 (54%) <sup>a</sup>	99 (44%)	1.813 (0.178)	40 (66%) <sup>a</sup>	84 (43%) <sup>a</sup>	<b>9.615 (0.002)</b>
Medicines optimisation	57 (91%)	170 (74%)	<b>8.019 (0.005)</b>	57 (88%)	149 (74%)	<b>4.219 (0.040)</b>
Physical examinations	22 (36%)	37 (18%) <sup>a</sup>	<b>9.231 (0.002)</b>	16 (28%) <sup>a</sup>	38 (20%) <sup>a</sup>	1.621 (0.203)
Speaking to patients about their health	59 (94%)	196 (85%)	3.116 (0.078)	61 (94%)	169 (85%)	3.476 (0.062)
Speaking to patients about their medicines	59 (94%)	212 (92%) <sup>a</sup>	0.155 (0.693)	64 (99%)	179 (90%)	<b>4.848 (0.028)</b>
Supporting the development of colleagues and peers	48 (76%)	188 (82%)	0.972 (0.324)	59 (91%)	156 (78%)	<b>5.225 (0.022)</b>
Working across care settings	46 (75%) <sup>a</sup>	127 (56%) <sup>a</sup>	<b>7.222 (0.007)</b>	43 (68%) <sup>a</sup>	114 (59%) <sup>a</sup>	1.917 (0.166)
Working autonomously	58 (92%)	182 (80%) <sup>a</sup>	<b>4.884 (0.027)</b>	60 (92%)	156 (80%) <sup>a</sup>	<b>5.531 (0.019)</b>

\*29 pharmacists had interrupted their study on the learning pathway and are therefore not included in this table. There were also some missing values

### *Pharmacy technician confidence levels*

The proportion of pharmacy technician learners who were (fairly or extremely) confident in relation to 26 target behaviours are shown in Table 4.26. The highest levels of confidence overall were recorded for:

- collaborating with primary and secondary care professionals;
- accuracy checking;
- analysing dispensing; and
- working autonomously.

The lowest levels of confidence were recorded for:

- engaging in research; and
- making higher level decisions.

See Table 4.26 for details.

When considered in relation to learning pathway, some significant differences were identified. Those on the ACPT pathway were significantly more likely than those on the primary care pathway to report feeling fairly or extremely confident in:

- advanced consultation skills;
- basic observations;
- delegating clinical tasks;
- demonstrating leadership;
- handling errors;
- speaking to patients about their health; and
- supporting the development of colleagues and peers.

Those on the primary care pathway were significantly more likely to report feeling fairly or extremely confident in *working across settings*. Some of these findings are not as anticipated, such as that pharmacy technicians on the ACPT pathway were more confident than those on the PCP in *basic observations*. In responding to this question, perhaps respondents on the ACPT pathway have interpreted 'observations' as related to checking or recognising errors rather than referring to clinical observations such as blood pressure. This does, though, suggest that some findings shown in Table 4.26 should be treated with caution.

However, for some statements, the small number of pharmacy technicians in the sample meant that it was not possible to conduct the chi-square test to determine whether differences between respondents on the two pathways were statistically significant.

Table 4.26 Pharmacy technician confidence levels by pathway

% reporting feeling fairly or very confident	PCP (40)	ACPT (48)	TOTAL (88)	Chi-square test (p-value)
Accuracy checking	18 (82%) <sup>a</sup>	43 (91%) <sup>a</sup>	61 (88%) <sup>a</sup>	-. <sup>b</sup>
Administration of medicines to patients	14 (67%) <sup>a</sup>	34 (85%) <sup>a</sup>	48 (79%) <sup>a</sup>	-. <sup>b</sup>
Advanced consultation skills	19 (50%) <sup>a</sup>	35 (78%) <sup>a</sup>	54 (65%) <sup>a</sup>	<b>6.993 (0.008)**</b>
Analysing dispensing errors	27 (79%) <sup>a</sup>	45 (94%) <sup>a</sup>	54 (88%) <sup>a</sup>	-. <sup>b</sup>
Basic observations	19 (49%) <sup>a</sup>	42 (96%) <sup>a</sup>	61 (74%) <sup>a</sup>	<b>23.182 (&lt;0.001)**</b>
Collaborating with other primary care professionals	37 (93%)	46 (96)	83 (94%)	-. <sup>b</sup>
Collaborating with other secondary care professionals	35 (88%)	46 (96%)	81 (92%)	-. <sup>b</sup>
Conducting quality improvement audits	30 (75%) <sup>a</sup>	31 (76%) <sup>a</sup>	61 (75%) <sup>a</sup>	0.004 (0.949)
Delegating clinical tasks	19 (58%) <sup>a</sup>	35 (85%) <sup>a</sup>	54 (73%) <sup>a</sup>	<b>7.160 (0.007)**</b>
Delegating non-clinical tasks	29 (81%) <sup>a</sup>	44 (96%) <sup>a</sup>	73 (89%) <sup>a</sup>	-. <sup>b</sup>
Demonstrating leadership	29 (73%)	45 (94%)	74 (84%)	<b>7.364 (0.007)**</b>
Developing services	30 (75%) <sup>a</sup>	40 (87%) <sup>a</sup>	70 (81%) <sup>a</sup>	2.020 (0.155)
Dispensary management	16 (67%) <sup>a</sup>	43 (94%) <sup>a</sup>	59 (84%) <sup>a</sup>	-. <sup>b</sup>
Documenting consultations and interventions	29 (74%) <sup>a</sup>	36 (80%) <sup>a</sup>	65 (77%) <sup>a</sup>	0.380 (0.538)
Engaging in research	12 (36%) <sup>a</sup>	21 (53%) <sup>a</sup>	33 (45%) <sup>a</sup>	1.901 (0.168)
Evaluating evidence	24 (61%) <sup>a</sup>	33 (77%) <sup>a</sup>	57 (70%) <sup>a</sup>	2.231 (0.135)
Handling errors and incidents	28 (74%) <sup>a</sup>	44 (92%)	72 (84%) <sup>a</sup>	<b>5.032 (0.025)*</b>
Making higher level decisions	19 (54%) <sup>a</sup>	31 (76%) <sup>a</sup>	53 (50%) <sup>a</sup>	3.815 (0.051)
Medication history-taking	31 (79%) <sup>a</sup>	36 (86%) <sup>a</sup>	67 (83%) <sup>a</sup>	0.548 (0.459)
Medicines optimisation	37 (92%) <sup>a</sup>	33 (79%) <sup>a</sup>	70 (85%) <sup>a</sup>	3.182 (0.074)
Providing feedback to other members of your team	34 (85%)	43 (90%)	77 (87%)	0.419 (0.517)
Speaking to patients about their health	26 (67%)	42 (89%) <sup>a</sup>	68 (79%) <sup>a</sup>	<b>6.633 (0.010)*</b>
Speaking to patients about their medicines	30 (77%)	46 (96%)	76 (87%)	-. <sup>b</sup>
Supporting the development of colleagues and peers	28 (72%) <sup>a</sup>	44 (92%)	72 (83%) <sup>a</sup>	<b>5.955 (0.015)**</b>
Working across care settings	35 (87%) <sup>a</sup>	33 (79%) <sup>a</sup>	68 (83%) <sup>a</sup>	1.154 (0.283)
Working autonomously	36 (90%) <sup>a</sup>	44 (96%) <sup>a</sup>	80 (93%) <sup>a</sup>	-. <sup>b</sup>

<sup>a</sup>=Some respondents recorded 'not applicable' to this question

\* significant at 5% level

\*\* significant at 1% level

<sup>b</sup>=cell numbers too small to allow for chi-square analysis



## 4.5 Qualitative survey insights on the application of learning

### 4.5.1 Introduction

To gain further insight into perceived pathway impact, respondents were asked to provide examples of changes they had made to their practice as a result of their learning. In total, 118 respondents provided examples in February 2020 and 105 respondents in October 2020. These additional insights were most commonly provided by post-registration pharmacist learners (n=110) and learners on the primary care pathways (n=95). Few responses were provided by learners on the ACPT pathway (n=18). See Table 4.27 for details. Comments were analysed thematically to identify commonly recurring themes.

Table 4.27 Respondent profile by pathway

Respondents*	N
Accuracy Checking Pharmacy Technician (ACPT) pathway	18
NHS 111 / Integrated Urgent Care Clinical Assessment Services	18
Medicines Optimisation in Care Homes (MOCH) - starting between April 2018 and September 2019 merged with Primary Care Pharmacy Education Pathway (PCPEP - from September 2019 onwards)	61
Post-registration pharmacist learners (PRP)	110
Clinical Pharmacists in General Practice Education Pathway (pre-September 2019)	12
Primary Care Pharmacy Education Pathway (PCPEP) - from September 2019 onwards	4

\* Respondents who provided the response “no example” have not been included in the count.

### 4.5.2 Accuracy Checking for Pharmacy Technicians (ACPT) pathway

Respondents on the ACPT pathway provided examples related to four themes: *improved accuracy checking process; effective communication with the team; leadership; and enabling pharmacist to perform patient-centred tasks.*

#### *Improved accuracy checking process*

Most respondents described improvements to their accuracy checking process. The reasons provided were varied and included having a better understanding of the accuracy checking process, more vigilance when checking prescriptions, and a greater ability to provide well-informed advice to patients, as well as learning how to coordinate the dispensary and prioritise urgent tasks.

*“My decision-making skills have been put into more use - I have to make a judgement in regards to checking (If I think there is important information missing or querying the dose on a prescription etc.)”. (ACPT511373, pharmacy technician)*



*"I learned how to coordinate the dispensary; how to prioritise urgent tasks; by the end, my patients will benefit because they will be discharge[d] in a time[ly] manner". (ACPT134338, pharmacy technician)*

### **Leadership**

Leadership changes, in particular, drew on delegation and taking a team approach to errors.

*"My leadership skills particularly in delegation - as a checker I can't correct dispensing errors made so I have to delegate to my colleagues so I can recheck the prescription once the error has been rectified". (ACPT511373, pharmacy technician)*

*"I have encouraged my colleagues to be more careful when putting stock away and to take care and pride in their work. I have encouraged staff to check their work before handing it for checking". (ACPT135, pharmacy technician)*

### **Effective communication with team**

Some respondents reflected on how their communication with the dispensary team to ensure all tasks get done had changed. One respondent described how this included speaking with the team to rectify a mistake.

*"I am able to confidently and professionally speak with the team, I don't feel as awkward when I need them to rectify a mistake". (ACPT845, pharmacy technician)*

### **Enabling pharmacists to perform patient-centred tasks**

Respondents commonly reported how, as a result of the learning pathway, they were able to take on some of the pharmacist's workload, freeing the pharmacist to focus on patient centred services within the pharmacy.

*"I handle majority of the new patients that come into the pharmacy, I also have started to reduce the workload on the pharmacist as I check blisters off to help ensure that the pharmacist is able to focus on other key areas". (ACPT3038, pharmacy technician)*

*"My training has enabled the pharmacist to have more time to provide patient services such as flu clinics". (ACPT2968, pharmacy technician)*

## **4.5.3 Primary Care Pathways**

Seven themes emerged from PCP participants' responses on how learning had been applied. These encompass a wide cross-section of pathway content and are presented below.

### **Applying clinical knowledge and skills in practice**

Most respondents provided examples of using their clinical expertise more effectively, especially in order to optimise patients' medicines and monitor high-risk medicines:

*"Identification of patients with heart failure not on HF register, also those not optimised on blocker and or ACE. Arranged for cardiac nurses to come into surgery for MDT" (PCP310, PCPEP, pharmacist)*

Improved consultation skills were cited, in particular, by those on the IUC pathway. These respondents described applying the approach they had learned to history-taking to identify red flags and make appropriate referrals.

*“Learned how to manage telephone consultations, keeping alert to identify red flags, reasons for referral”. (PCP322, IUC, pharmacist)*

Those on the MOCH pathway provided examples of applying their clinical examination skills and knowledge in this setting. Respondents were more confident in undertaking physical examinations / basic clinical observations as part of medication reviews.

*“I have learnt about respiratory conditions and using a peak flow reader and inspiration reader to assess how well a person uses their inhalers and if they are on the most appropriate device. As a result, I referred one person to the pharmacist and their inhaler has been changed from a dry powder to an MDI”. (PCP722, MOCH, pharmacy technician)*

### **Confidence and competence in delivering in-depth structured medication reviews**

The majority of respondents described increased confidence in undertaking more (complex) structured medication reviews and making recommendations to GPs.

*“I am more confident in clinically reviewing medicines for patients with complex needs especially when capacity may be diminished. I am more aware of the needs of the patients and the requirements to establish capacity; also, who to involve in the management of their medicines”. (PCP768, MOCH, pharmacist)*

*“My clinical knowledge has developed so I am able to apply this to my medication reviews. My medication reviews are far deeper than they used to be and much more thorough”. (PCP749, MOCH, pharmacy technician)*

Respondents provided examples of clinically reviewing and optimising medicines using a more holistic patient-centred approach in their medication reviews rather than concentrating on the medicines. Respondents allowed patients more time to explain their ideas, concerns, expectations and involved patients / carers in decisions.

*“I have learned that a medication review is not just about medication - that is but one slice of the pie. A holistic person-centred approach has to be taken and all aspects of a person’s lifestyle, environment and health and wellbeing must be taken into account”. (PCP1339, MOCH, pharmacy technician)*

*“I am now able to structure my clinical medication reviews [to be] patient-centred, having a holistic review not just concentrating on the medication side of things. I am able to give advice around covert administration, being able to speak up and raise any safeguarding issues if applicable and generally leadership qualities drastically improved”. (PCP1197, MOCH, pharmacist)*

### **Leadership**

Respondents provided examples of facilitating the development of others:

*“Due to the knowledge I have gained on the MOCH pathway, I am now able to support other technicians in my team on medication reviews as it has given me more*

*expert knowledge to help lead on this area". (PCP749, MOCH, pharmacy technician, follow-up survey)*

### ***Implementing changes in care home settings***

Respondents reported implementing change in care homes, such as new services and processes, as well as undertaking audits and quality improvement projects:

*"My MOCH Q[uality] I[mprovement] P[roject] is trail blazing and innovative and am confident will be published and rolled [out] across the NHS, reducing ACB [anticholinergic burden] scores by calculating scores of inpatients, which empowers techs..." (PCP605, MOCH, pharmacy technician)*

*"Have started reviewing safety procedures in terms of prescribing Direct Oral Anticoagulants and have set up a monitoring system". (PCP1203, MOCH, pharmacist)*

### ***Engagement with the multidisciplinary team and influencing change in the organisation***

Respondents provided examples of practice change that drew on how they were now working more closely with other healthcare professionals such as GPs, geriatricians, palliative care nurses, and dietitians. This was viewed as being underpinned by being more confident in these interactions, and resulted in improved decision-making and medicines optimisation.

*"Whilst completing medicines management audits I ensure that I am well prepared, build rapport, work together with care home staff so that they trust me and value my advice and recommendations. This has been very positive and for the care homes I visited before Covid are very receptive now and we have a good relationship. The importance of [a] 'working with them' approach rather than 'telling them' has had a positive result and they welcome me now". (PCP1398, MOCH, pharmacy technician)*

### ***Independent prescribing***

Three respondents reported that they had applied their IP qualification but did not include further details. One respondent reduced medicines waste:

*"Put a stop on over prescribing of salbutamol inhalers to asthma patient" (PCP1522, CPGPEP, Pharmacist)*

### ***Use of evidence***

Many respondents described how their practice had changed in terms of using evidence to support their decision-making and to answer patient inquiries.

*"I am more confident in my knowledge and the use of resources to back up any suggestions or recommended changes to medication". (PCP670, MOCH, pharmacy technician)*

## **4.5.4 Post-Registration Pathway**

The main themes that emerged from learners on the PRP covered similar ground to those on the other pathways and are set out below.

### ***Patient-centred approach to consultations***

Most respondents described applying their learning in relation to taking a more patient-centred approach in their consultations by asking open questions, actively listening, and involving patients in decision-making.

*“As a result of the learning I have made changes to the way I consult with patients – I now use a more structured approach with a balance of open and closed questions. I have learned to use open questions with direction which helps me to keep the consultation to reasonable time limits. The training has taught me how to apply better listening skills and to allow the patient time to tell their story uninterrupted. I have also learned that pauses can be used to encourage the patient to disclose relevant additional information and I am careful not to be too quick to fill pauses. I also learned to observe the patient and how to read / pick up on unspoken cues. My consultation skills have been improved and my patients are benefiting from the more focused approach”. (PRP1765, pharmacist)*

### ***Clinical practice***

Respondents described being more comfortable in undertaking basic observations and making clinical decisions.

*“I am comfortable with basic observations (Temp, Pulse, pO<sub>2</sub>, RR, Urine dip and Peak flow) for patients referred by CPCS and our local GP surgeries who cannot offer an appointment. This improves the quality of my clinical decisions for treatment / referral”. (PRP1014, pharmacist)*

Many reported increased levels of confidence or expertise in providing care for patients with long-term conditions, with examples covering handling queries, deprescribing, and taking on referrals from GPs.

*“I have improved my expertise in supporting patients with long-term comorbidities and deprescribing of certain medications”. (PRP1940, pharmacist)*

Examples were also provided of learners being more clinical when checking prescriptions with a focus on a patient’s history and laboratory results:

*“I undertake full detailed clinical checks and proactively look at patient histories. As a result of changing my approach I have made many significant interventions over recent months which in all honesty would have slipped through the net had I not looked at the bigger picture”. (PRP812805, pharmacist)*

Respondents described being more confident in providing prescribing advice and in challenging prescribing decisions:

*“I feel more confident to challenge prescribers where I feel it is necessary e.g. around drug interactions or inappropriate doses”. (PRP1628, pharmacist)*

*“I have now begun to make very solid recommendations for changes to GPs when discussing clinical issues with prescriptions”. (PRP483676, pharmacist)*

A change in how services were approached because of increased clinical knowledge and an ability to link biochemistry, clinical condition, and drug history was reported:

*“When I am conducting a MUR, I will go into NICE CKS on the internet and discuss the patient’s condition in more depth. I feel more confident about talking about*

*depression, heart failure, biochemistry, and many more clinical conditions. The patient say it feels as though we are talking to the GP". (PRP951, pharmacist)*

Respondents also provided examples of improvements to how they consulted with patients in community pharmacy.

*"Mainly through patient walk ins, the nature of my assessments and new background knowledge has provided me with the capability to complete a more thorough patient counselling session than previously". (PRP928254, pharmacist)*

Many reported practice changes in terms of making more use of patient medication records (PMR), particularly to document patient consultations or gain patient information.

*"I am much better at documenting my consultations to ensure an accurate record". (PRP1194, pharmacist)*

There were also examples of learners using evidence to support patient care and answer queries. Respondents were more aware of where to find evidence, apply this in practice and share this knowledge with other members of the team.

*"I have learned how to make use of more varied resources in my day-to-day practice rather than relying on BNF as my go to information resource. I now regularly refer to NICE and to local CCG guidelines in my day to day work. This has definitely improved my confidence when answering patient queries and making recommendation to GPs and fellow clinicians". (PRP1765, pharmacist)*

### ***Engagement with other healthcare professionals***

Respondents engaged more frequently with other healthcare professionals and were confident in building relationships and working closely with them.

*"I have been able to speak to doctors at A&E department about the importance of leaving their extension so that they can be reached for issues with prescriptions from them. Now they have taken that on board and [in] most cases queries with prescriptions are resolved very quickly". (PRP2135, pharmacist)*

*"I am more confident in talking to other healthcare practitioners and have started to network more. This so far has begun to foster conversations that are resulting in more inward reflection of performance". (PRP895, pharmacist)*

Increased confidence meant that those on the post-registration pathway were more likely to raise concerns with prescribers:

*"I am more confident and most especially more bold at connecting with the GPs and raising concerns on issues I consider to be beneficial to the patient's well being and experience as it relates to their care". (PRP2422, pharmacist)*

### ***Implementing changes in community pharmacy***

Some respondents provided examples of setting up clinics, new services or of expanding existing services as a result of knowledge and skills gained from the learning pathway:

*"I will be undertaking further learning for respiratory and cardiovascular examinations so I can provide simple respiratory services in the community pharmacy setting. This will save many appointments for GPs and ...identify those at risk of CVD whom would have not gone to their GP". (PRP762471, pharmacist)*

Others reported being less product / medicine focused in practice. There was a greater focus on using the consultation room to enable a more detailed assessment, proactively offering healthy lifestyle advice and interventions, educating patients and staff about antimicrobial stewardship, and reorganising dispensing to free up time for patient-facing care.

*“Proactive in offering healthy lifestyle advice and interventions, encouraging my colleagues to participate too”. (PRP1260, pharmacist)*

Many also undertook quality improvement audits.

*“I have learnt how to conduct an audit and have conducted a UTI audit to improve prescribing practice”. (PRP2175, pharmacist)*

### **Leadership**

Applying learning about leadership to the way a pharmacy is managed was also reported.

*“I have become more aware of my leadership role - the course has allowed me to reflect on my skills and strengths and I think I have improved the way I manage my colleagues and the running of the pharmacy”. (PRP265414, pharmacist)*

*“More confident in managing and leading a pharmacy by applying people skill”. (PRP3371, pharmacist)*

## **4.6 Text modelling insights on the free text survey responses**

To complement the qualitative analysis of comments in survey responses, data science techniques were applied to the data. These included text modelling, sentiment analysis and topic modelling to explore for additional insights and to verify other analyses. It should be noted that, as with the survey overall, that the analysed comments mostly relate to feedback from learners on the post-registration and MOCH / IUC pathways.

The findings largely support those arising from the analysis elsewhere in this chapter. In relation to the question on examples of changes in practice, there were varied examples of commentary related to improvements. The text analysis applied took the two most common adjectives ‘more’ and ‘better’ and words that were paired with them in the comments were examined. Analysis of those word pairings by the textual analysis highlights the gains experienced by respondents:

For post-registration learners, clinical skills gains that were mentioned included:

- Clinical examination
- Documentation of consultations
- Evaluation of clinical data
- Quality of MURs
- Counselling / advice when patients are on new medication.

In terms of wider, non-technical skills, gains that were described included greater confidence in:

- Decision-making
- Critical reasoning (e.g. interpreting side effects of medication)



- Understanding of how to support patients / being more patient-centric
- Listening and consultation skills
- Interacting with patients: discussing conditions, providing advice, dealing with queries and questions
- Interacting with GPs and advising colleagues
- Leadership and delegation.

For the MOCH pathway, the only other pathway with a sufficient number of responses to carry out the textual analysis, the following gains in clinical skills were prominent:

- Clinically reviewing medicines including for patients with complex needs and discussing medication with care homes residents
- Undertaking basic clinical observations as part of medication reviews
- Inhaler reviews
- Physical examination skills.

In relation to wider, non-technical skills, gains that were described included greater confidence in:

- Patient-centred or holistic approach to care
- Interaction with GPs and other health care professionals
- Making contributions and providing suggestions
- Clinical decision making
- Use of resources
- Teamwork
- Leadership.

## 4.7 Impact of COVID-19 on learning

Respondents who completed either the main survey or follow-up survey in October 2020 were asked a series of questions relating to how their learning had been impacted by the COVID-19 pandemic. Responses are shown in Table 4.28 below.

Approximately three-quarters of respondents agreed they had received sufficient support from their learning provider, with around two thirds agreeing they had received sufficient support from their clinical supervisor, that they had had sufficient time to undertake their learning and that they had been supported by their colleagues in their learning. Sixty percent of respondents (strongly) agreed that they had spent more time providing patient care during the pandemic.

Subgroup analysis of the statements investigating the impact of COVID-19 on learning is also presented in Table 4.28 and indicates that pharmacists on the post-registration pathway were less likely to report that they had been supported in their learning by their colleagues. This difference was statistically significant. There were no other statistically significant differences by pathway.

Respondents who completed the main survey and the follow-up survey in October 2020 were asked to provide details of how their experience had been impacted by the COVID-19 pandemic. In total, 39 learners on the ACPT pathway, 91 on the



primary care pathways and 96 on the post-registration pathway provided a free text response. These have been analysed thematically and are presented below.

Table 4.28 Impact of COVID-19 pandemic on learning

N (% respondents agreeing / strongly agreeing with statement)	ACPT (38)	PCPs (91)	PRP (129)	All (258) <sup>a</sup>	Chi-square (p-value)
I have received sufficient support from my learning provider	28 (78%) <sup>a</sup>	58 (74%) <sup>a</sup>	85 (69%) <sup>a</sup>	171 (73%) <sup>a</sup>	1.126 (0.569)
I have received sufficient support from my clinical supervisor *	-	48 (64%) <sup>a</sup>	n/a	48 (64%) <sup>a</sup>	-
I have had time to undertake the learning	26 (70%) <sup>a</sup>	54 (71%) <sup>a</sup>	70 (57%) <sup>a</sup>	150 (63%) <sup>a</sup>	5.243 (0.073)
I have been supported in my learning by my colleagues	30 (83%) <sup>a</sup>	61 (79%) <sup>a</sup>	66 (54%) <sup>a</sup>	157 (67%) <sup>a</sup>	<b>19.284 (&lt;0.001)</b>
I have spent more time providing patient care	24 (69%) <sup>a</sup>	37 (48%) <sup>a</sup>	77 (62%) <sup>a</sup>	138 (59%) <sup>a</sup>	5.584 (0.061)
I have had more time for clinical work	9 (33%) <sup>a</sup>	31 (41%) <sup>a</sup>	33 (27%) <sup>a</sup>	73 (33%) <sup>a</sup>	3.890 (0.143)

<sup>a</sup> Some missing values as some respondents ticked 'not applicable' to some of the statements.

\* This question was only relevant to those on the primary care pathways and was answered by 74 respondents

## 4.7.2 COVID-19: Accuracy Checking for Pharmacy Technicians

### *Challenges of learning during the pandemic*

Challenges related to increased workload, low staffing levels, and having less time for learning were illustrated by respondents.

*“During the COVID-19 pandemic, I came across with situations when we've been very, very short of staff, couple of colleagues was calling [in] sick. We've been very busy in pharmacy and I was not able to get my time allocated for my learning pathway; we've been working very hard, it was a lot of pressure to complete all our tasks by the end of the day”. (ACPT134338, pharmacy technician)*

*“We were inundated with the workload and it was hard to combine work and study”. (ACPT3074, pharmacy technician)*

### *Support for learning*

Respondents reported receiving additional support from the learning provider, workplace and from colleagues:

*“My learning provider and workplace were supportive during this difficult time. I have been able to get on with my training and reach deadlines / milestones in a timely manner”. (ACPT511373, pharmacy technician)*

### 4.7.3 COVID-19: Primary Care Pathways

#### *Challenges of learning during the pandemic*

Comments on challenges of learning during the pandemic were mainly from respondents the MOCH pathway. The main reported challenges were adjusting to working from home and providing remote consultations. Respondents found it difficult to meet pathway competency requirements related to physical examination skills and routinely using advanced consultations skills.

*“We have not had the chance to do clinical observations or practice these skills which are a requirement of the pathway. Covid has made everything so hard for us...we cannot visit care homes. Online learning has been helpful but face-to-face is so much better”. (PCP1398, MOCH, pharmacy technician)*

*“I am near the end of the MOCH pathway but cannot complete it as I still have the clinical examination and MRCAT to complete. This is not possible at the moment due to Covid and not being able to visit homes or colleagues to get this last part of the course signed off”. (PCP670, MOCH, pharmacy technician)*

Virtual consultations / medication reviews were also perceived to be difficult:

*“No longer patient facing and as my patients are elderly and frail, getting to speak to the patients themselves has been difficult so often my reviews are conducted using their carers and / or family. Not been so easy to liaise with colleagues as primarily working from home”. (PCP653, MOCH, pharmacist)*

*“The only challenge I have experienced is the delivery of any patient-facing activities. For example, consultation skills and clinical examination skills. As many care home residents are living with dementia or hearing loss, virtual consultations / medication reviews are far from ideal”. (PCP809, MOCH, pharmacist)*

While respondents on the Integrated Urgent Care pathway reported receiving less supervision and lack of face-to-face opportunities to develop clinical skills, one noted that working remotely provided an opportunity to simulate their future role.

*“Supervised practice and the lack of face-to-face opportunities have been difficult in terms of clinical skills, but beneficial in simulating the 111 remote role when taking histories remotely in primary care”. (PCP1015, IUC, pharmacist)*

Many of those on PCP pathways perceived online learning to be less effective than face-to-face sessions because there were fewer opportunities for interaction and networking. Some also experienced difficulties accessing online learning:

*“Learning remotely is less interactive and I feel you don't gain as much compared to when face-to-face with your peers. Learning remotely means there has been a less hands on approach and some assessments / requirements have been difficult to achieve. It had delayed completing the course and also put barriers in the way of being able to fully put your learning into practice. Felt very isolated in terms of peer support”. (PCP1446, MOCH, pharmacist)*

Taking part in learning sets and workshops was also challenging due to workload:

*“Challenges as during the Covid pandemic, my general workload has increased so learning pathway has been given less time”. (PCP3116, MOCH, pharmacy technician)*

*“Learning and practicing examination skills has been very difficult during the pandemic. A lot of our work has felt reactive and often putting fires out”. (PCP2116, CPGPEP, pharmacist)*

On the other hand, one respondent felt online learning was more convenient and helped them balance workload and learning responsibilities:

*“I adapt fairly easy to change and the virtual platform has been easier for me, reducing the travel aspect from the learning. Although still giving the network opportunity....[and] maintain the balance with my day to day workload and learning programme”. (PCP577, MOCH, pharmacy technician)*

### **Support for learning**

PCP pathway respondents also provided examples of additional support received from their learning provider, especially regarding assessments and extra time to complete tasks.

*“More flexibility from [education provider name] regarding assessments and what could be relaxed to accommodate for changes in practice”. (PCP1332, MOCH, pharmacist)*

Other support less frequently mentioned was having regular meetings with their education supervisor, dedicated time for learning, timely feedback, webinars and meetings, as well as CCG training, simplified assessment of learning outcomes; and additional equipment provided by their employer to work from home.

*“Adequate and timely feedback to assignments. Simplified evaluation of learning outcome and appraisals”. (PCP1568, CPGPEP, pharmacist)*

## **4.7.4 COVID-19: Post-registration pathway**

### **Challenges of learning during the pandemic**

Almost every respondent reported experiencing overwhelming workload pressures and extended working hours as the biggest challenge during COVID-19.

*“Work is so busy and I have been doing longer hours and each day is a sprint. I am exhausted from the 1000s of extra patients I am seeing. I come home exhausted and then have to study. I enjoy helping people I am just very disappointed that the care pharmacists give is not recognised. I feel we are the poo on the shoe of the NHS. Funding going so they just want rid of us”. (PRP1507, pharmacist)*

*“Managing the coursework whilst trying to run the pharmacy has been very challenging. Finding sufficient time to allocate to the PG course has been difficult and I feel the quality of my work has suffered greatly. The course provider has been very lenient in extension times, however, this has meant greater delays in feedback. I find feedback very useful. It helps to identify positive and negative aspects of my work and to get a better understanding of what is expected of me as a student. Without this feedback, I feel we are stuck in limbo without any idea of how appropriate our work has been”. (PRP1762, pharmacist)*

Lack of time to complete assessments because of fatigue, stress, increased patient demand and reduced support, together with difficulties working with other health care professionals who were busier and harder to contact, also made learning challenging:

*“Very stressful and tiring (much, much more so than usual) during pandemic and often found I’d fall asleep as soon as I got home from exhaustion which left no time for study. It also meant I didn’t feel I could apply my learning in the same way to certain tasks e.g. not allowed to go into go surgery currently so can’t get blood results etc. from records for [course name] tasks”. (PRP1283, pharmacist)*

Some faced additional pressures associated with home schooling.

*“Having young children at home who had to be taught at home, childcare no longer allowed, more stress at work as staff made redundant or furloughed. This led to more pressure on the remaining team”. (PRP666962, pharmacist)*

*“Prior to the pandemic, I had spent my day off during the week completing the course. When my son was home schooling, I no longer had any free time for studying. Work was very pressurised and stressful and it was very difficult to find time for the course and to study everything in detail as I would have like to”. (PRP2663, pharmacist)*

Another challenge commonly reported was a lack of opportunities to apply learning.

*One of my modules required close face-to-face patient interaction to get the most out of the course i.e. suitable experience in physical examinations. As a consequence, I made the decision to defer my clinical assessment in pharmacy practice module”. (PRP762471, pharmacist)*

Not all respondents felt their learning had been negatively affected by the pandemic; rather, some positives to online learning were provided:

*“As much as Covid has affected education, it hasn't really affected this aspect of the course which is more of distant learning”. (PRP1096, pharmacist)*

*“I found not having to travel to the university beneficial. Even though I still had to take days off for the virtual learning, the time I would have spent on travelling was spent studying which was of benefit to me”. (PRP2055, pharmacist)*

### ***Support for learning***

In the main, a reduced assessment burden was identified:

*“The reduction in the amount of assignments that we had to do was helpful. Also the flexibility in when I could do the units was helpful”. (PRP937, pharmacist)*

Other support reported was a course provider offering more online events, resources, and extenuating circumstance / deferral options. However, many respondents expressed dismay at the lack of support provided by the learning provider and / or workplace during the pandemic.

*“Work refused to give me a couple of days off to catch up with my training. They were not happy that I even asked about that. Learning provider didn't adjust training requirements, including assessments in September's semester”. (PRP630815, pharmacist)*

*“Absolutely disappointed by [learning provider name] approach of pushing everything through Blackboard [virtual learning environment] and offering no support. They have claimed all the funding money and offered me nothing in place”. (PRP2210, pharmacist)*

### 4.7.5 COVID-19: Insights from the text modelling analysis

In responses from post-registration learners, the most frequently occurring words across the responses to the question on the impact of COVID-19 are 'time' and 'work'. The commentary around time principally relates to the scarcity of time, namely around time for study, supporting findings elsewhere in this section 4.7. Analysis of the comments shows this is related to:

- Perceived unrealistic expectations from employers
- Exhaustion from work
- Working overtime due to colleagues on sick leave / furlough.

An indication of the challenging circumstances is exemplified by the usage of 'very' as the most prevalent adjective and adverb. It is combined with words such as 'stressful', 'busy', and 'challenging' to express some of the negative effects arising from the circumstances. However, analysis of sentiment highlights the presence of some positive commentary and this focuses on course flexibility, particularly offers of deadline extensions.

MOCH respondents also detailed the challenges to their learning due to COVID-19 and the overall sentiments expressed in their responses was similar to the post-registration learners. Words such as 'Zoom', 'face' and 'home' all commonly appeared in the responses; analysis of the comments shows this is related to:

- Inability to conduct patient-facing aspects
- Working from home resulting in a lack of face to face contact and therefore creating a barrier to developing clinical examination skills
- Inability to put theory into practice
- Difficulties in adjusting to remote learning, especially learning and study over Zoom.

## 4.8 Follow-up survey: Longitudinal analysis

A total of 65 responses were received to the follow-up survey. Of these respondents, one learner did not provide details on which learning pathway they were on, so they have been excluded from the analysis, resulting in 64 usable responses. Of the respondents, 51 were pharmacists and 13 were pharmacy technicians. Of the pharmacy technicians, one was on the ACPT learning pathway and the remaining 12 were on the primary care pathway. See Table 4.29 for details. Where sample size permits, key variables have been analysed to determine if there were any statistically significant differences between the main survey 1 (T1) and follow up survey (T2). This provides evidence on the impact of learning over time.

Table 4.29 Follow-up survey (T2) respondent characteristics

		ACPT (1)	Primary care pathways (30)	Post- registration (33)	All (64)
<b>Role</b>	Pharmacy technician	1	12	–	13
	Pharmacist	-	18	33	51
<b>Status</b>	Completed pathway	1	11	9	21
	Still studying	–	15	23	38
	Interrupted – plan to return	–	1	-	1
	Interrupted – no plan to return	–	3	1	4

Source: PhIF evaluation participant T3 Follow-up Survey

#### 4.8.2 Patient-facing activities, clinical services and medication reviews with patients with complex needs

There was a statistically significant increase in the proportion of respondents at T2 who reported that they were doing fewer patient-facing activities and fewer medication reviews with patients with complex needs. There was no significant change in the proportion of respondents reporting providing fewer clinical services at T2, although this result was approaching statistical significance. See Table 4.30 for details.

Table 4.30 Patient-facing, leading clinical services & medication reviews with patients with complex needs by survey round

	Patient-facing activities		Leading clinical services*		Medication reviews**	
	T1 (63)	T2 (63)	T1 (51)	T2 (51)	T1 (48)	T2 (48)
More than before	28 (45%)	10 (16%)	25 (52%)	17 (35%)	26 (58%)	13 (29%)
The same as before	27 (44%)	22 (36%)	20 (42%)	21 (43%)	14 (31%)	14 (31%)
Less than before	7 (11%)	29 (48%)	3 (6%)	11 (22%)	5 (11%)	18 (40%)
Not applicable	1	2	3	2	3	4
McNemar test (p-value)	<b>6.857 (0.007)</b>		3.050 (0.057)		<b>7.579 (0.004)</b>	

\*Pharmacist respondents only

\*\*Pharmacist respondents, excluding those on the IUC pathway (n=3)

#### 4.8.3 Attitudes to learning

The proportion of respondents agreeing or strongly agreeing with the statements in Table 4.31 was compared at T1 (February 2020) and T2 (October 2020) for the 65 respondents who completed both surveys. As noted previously, the 5-point agreement scale was recoded to a dichotomous variable indicating if a learner



agreed or strongly agreed (or otherwise) with the statement. A McNemar test was applied to each of the 10 statements, with findings reported in Table 4.28. For the majority of the 10 statements, the proportion of respondents agreeing with the statements increased. However, none of these differences were statistically significant.

Table 4.31 Attitudes to learning by survey round (T1 & T2)

N (%) of respondents agreeing or strongly agreeing with the statement*	T1	T2	McNemar Test (p-value)
I have enough time to apply my learning in practice	35 (55%)	41 (65%) <sup>a</sup>	1.136 (0.286)
I have sufficient knowledge to apply my learning in practice	50 (78%)	55 (87%) <sup>a</sup>	1.455 (0.227)
I am capable of applying my learning in practice	58 (92%)	58 (92%) <sup>a</sup>	0.000 (1.000)
My learning makes a difference to my practice	58 (89%)	56 (88%) <sup>a</sup>	0.000 (1.000)
My learning makes a difference to my patients	56 (88%)	58 (89%) <sup>a</sup>	0.167 (0.6883)
My educational supervisor* supports me to apply my learning in practice	40 (67%) <sup>a</sup>	41 (68%) <sup>a</sup>	0.000 (1.000)
My clinical supervisor supports me to apply my learning in practice**	15 (52%) <sup>a</sup>	18 (64%) <sup>a</sup>	0.444 (0.505)
My colleagues support me to apply my learning in practice	41 (70%) <sup>a</sup>	49 (79%) <sup>a</sup>	1.563 (0.211)
My employer supports me to apply my learning in practice	37 (59%) <sup>a</sup>	44 (71%) <sup>a</sup>	1.714 (0.189)
I have all the resources I need to apply my learning in practice	37 (58%)	43 (69%) <sup>a</sup>	1.241 (0.265)

<sup>a</sup> Some missing values

\* Or academic or work-based staff

\*\* Pharmacists on the post-registration and ACPT pathways do not have a clinical supervisor. Of the 30 respondents on the PC pathway who completed this responded to T1 and T2, 29 respondents completed this question at T1 and 27 at T2.

#### 4.8.4 Ability to apply skills

The proportion of respondents who were able to fully apply their skills was compared at T1 (Feb 2020) and T2 (October 2020) for the 64 respondents who completed both surveys. See Table 4.32 for details. While the proportion of respondents able to fully apply their skills was higher at T2 (21% vs. 17% at T1), the results of the McNemar test indicated that this difference was not statistically significant (test statistic=0.308, p=0.581).



Table 4.32 Ability to apply skills acquired on learning pathway at T1 & T2

N (%)	T1	T2
I have been able to fully apply all of my knowledge and skills	11 (17%)	14 (21%)
I have been able to apply most of my knowledge and skills, but not all	29 (45%)	29 (45%)
I have been able to apply only some of my knowledge and skills	24 (37%)	22 (34%)
I have not been able to apply my knowledge and skills at all	1 (1%)	0 (0%)

#### 4.8.5 Relevance to current and future roles

The proportion of learners who agreed that their learning was relevant to their current and future roles was compared at T1 and T2. The results are shown in Table 4.33 and indicate that there were no statistically significant differences in terms of relevance to current or future roles between T1 and T2.

Table 4.33 Relevance of learning to current & future rules at T1 & T2

N (%)	T1	T2	McNemar test (p-value)
Relevant to current role	49 (75%)	51 (79%)	0.071 (0.791)
Relevant to future role	51 (88%)	54 (83%)	0.800 (0.375)

#### 4.8.6 Impact of learning pathway on confidence, skills and practice – longitudinal change

##### *Pharmacist confidence levels*

The responses of the fifty-two learners who had completed the initial survey (T1) in February 2020 and the follow-up in October 2020 (T2) were compared to see if there were any changes in confidence levels. While there was an upward trend for most statements, there were no statistically significant changes in the proportion of pharmacists reporting that they felt fairly or extremely confident regarding any of the activities. See Table 4.34 for details.

Table 4.34 Comparison of pharmacist confidence levels at T1 and T2 (n=51)

% reporting feeling fairly or very confident	T1	T2	McNemar test (p-value)
Advanced consultation skills	40 (78%) <sup>a</sup>	39 (77%) <sup>a</sup>	0.000 (1.000)
Basic observations	33 (65%) <sup>a</sup>	34 (66%) <sup>a</sup>	0.000 (1.000)
Clinical reasoning	32 (64%) <sup>a</sup>	37 (73%) <sup>a</sup>	0.563 (0.454)
Collaborating with other primary care professionals	37 (74%) <sup>a</sup>	42 (82%) <sup>a</sup>	0.750 (0.388)
Collaborating with other secondary care professionals	26 (53%) <sup>a</sup>	30 (60%) <sup>a</sup>	0.267 (0.607)
Collecting samples for laboratory analysis	6 (19%) <sup>b</sup>	6 (19%) <sup>b</sup>	0.000 (1.000)
Comprehensive clinical history-taking	32 (65%) <sup>a</sup>	29 (59%) <sup>a</sup>	0.364 (0.594)
Conducting quality improvement audits	28 (57%) <sup>a</sup>	30 (59%) <sup>a</sup>	0.056 (0.815)
Delegating clinical tasks	24 (50%) <sup>a</sup>	32 (67%) <sup>a</sup>	2.400 (0.118)
Delegating non-clinical tasks	39 (78%) <sup>a</sup>	38 (75%) <sup>a</sup>	0.083 (0.774)
Demonstrating leadership	40 (80%) <sup>a</sup>	40 (80%) <sup>a</sup>	0.000 (1.000)
Developing services	33 (66%) <sup>a</sup>	30 (60%) <sup>a</sup>	0.308 (0.581)
Documenting consultations and interventions	45 (86%) <sup>a</sup>	42 (82%)	0.125 (1.727)
Engaging in research	17 (35%) <sup>a</sup>	22 (49%) <sup>a</sup>	2.769 (0.092)
Evaluating evidence	27 (53%) <sup>a</sup>	34 (68%) <sup>a</sup>	2.118 (0.143)
Handling errors and incidents	40 (78%) <sup>a</sup>	37 (73%)	0.308 (0.581)
Interpretation of diagnostic tests	27 (55%) <sup>a</sup>	23 (46%) <sup>a</sup>	0.454 (0.563)
Interpretation of investigation findings	29 (58%) <sup>a</sup>	24 (48%) <sup>a</sup>	1.455 (0.277)
Making higher level decisions	27 (54%) <sup>a</sup>	25 (51%) <sup>a</sup>	0.000 (1.000)
Medicines optimisation	39 (77%) <sup>a</sup>	38 (76%)	0.000 (1.000)
Physical examinations	9 (19%) <sup>a</sup>	8 (18%) <sup>a</sup>	0.000 (1.000)
Speaking to patients about their health	48 (94%) <sup>a</sup>	44 (88%) <sup>a</sup>	0.571 (0.450)
Speaking to patients about their medicines	8 (94%) <sup>a</sup>	49 (96%) <sup>a</sup>	0.000 (1.000)
Supporting the development of colleagues and peers	43 (84%) <sup>a</sup>	44 (86%)	0.000 (1.000)
Working across care settings	32 (64%) <sup>a</sup>	36 (73%) <sup>a</sup>	0.563 (0.454)
Working autonomously	43 (84%) <sup>a</sup>	44 (86%) <sup>a</sup>	0.000 (1.000)

*a=Some respondents recorded 'not applicable' to this statement*

*b=31 learners completed this statement at T1 and T2*

*\* significant at 5% level*

*\*\*significant at 1% level*

### *Pharmacy technician confidence levels*

Due to the small number of pharmacy technicians (n=13) who completed both the initial and follow-up survey, it was not possible to perform longitudinal analysis to determine if confidence levels had changed between the two survey time points.

## 4.9 Summary

This survey was undertaken with the aim of investigating learners' motivations for participation in the PhIF pathway, understanding the relevance of skills acquired, exploring learners' confidence in certain target behaviours and determining learners' ability to apply learning in practice.

Respondents' primary motivations for participating in the learning pathways were to enhance their practice in their current job role and to improve career prospects. One in five post-registration and primary care pathway learners were motivated in order to work in a new sector of practice.

Overall, respondents' attitudes to learning were positive, with a majority of respondents agreeing that their learning had made a difference to their practice and their patients, and that they had sufficient capability to apply their learning in practice. There were some statistically significant differences in support for learning between the different pathways; ACPT learners were more likely to be supported by education supervisors, colleagues and employers, while post-registration pathway learners were less likely to report feeling supported by colleagues and employers.

The majority of respondents perceived learning on the pathway to be of relevance to their current role with a larger proportion of respondents reporting their learning to be relevant to a future role. Learners on post-registration and ACPT pathways were more likely report that their learning was relevant to future roles than primary care pathway learners.

A majority of respondents reported feeling confident in many of the behaviours targeted by the training pathways. Confidence tended to be highest in collaborating with other primary care professionals, speaking to patients about their health and medicines, and documenting consultations. Lower levels were recorded for performing physical examinations and collecting samples for analysis, although only MOCH roles were likely to do this. In free text comments, participants on all pathways described several examples of how they had been able to use their clinical skills in practice, and develop wider skills such as communication with patients or leadership.

A majority of learners on each pathway reported that they were able to apply their skills in full or for the most part. The main reasons stated for inability to apply learning were job-related reasons or that it was too early in the pathway.

Respondents who completed either survey in October 2020 were asked a series of questions relating to how their learning had been impacted by the COVID-19 pandemic. Most learners agreed they had received sufficient support from learning providers, clinical supervisors and colleagues during the COVID-19 pandemic. Despite the pandemic, most learners reported that they had sufficient time to undertake their learning. Pharmacists on the post-registration pathway were less likely to report that they had been supported in their learning by their colleagues; a statistically significant finding. Common challenges identified by respondents in relation to COVID-19 were: increased workload, low staffing levels, adjusting to

working from home, providing remote consultations and having less time for learning.

The results of the longitudinal analysis indicated that there were no statistically significant differences between respondents at T1 and T2 in terms of attitudes to the learning and relevance to current and future roles. Learners did report undertaking significantly fewer patient-facing activities and performing fewer complex medication reviews. It is not clear to what extent this was impacted by the COVID-19 pandemic. Although more respondents reported being able to fully apply their learning at the T2 time point (October 2020), this result did not reach statistical significance. In addition, although there was an upward trend in confidence levels for the majority of the target behaviours, these differences were not statistically significant. The small number of pharmacy technician respondents at T2 meant that it was not possible to explore changes in confidence levels between T1 and T2 for this group of learners.

## 5 Findings: Qualitative interviews

### 5.1 Introduction

This chapter presents findings from the qualitative interviews and, as such, provides complementary, explanatory insights into the survey findings reported in the previous chapter. It explores learner motivations for participating in the pathways, as well as employer motivations for and challenges of engaging with the PhIF.

The chapter captures reflections on the pathway modes of delivery, including the pandemic-influenced balance between online and face-to-face learning, as well as key aspects such as the opportunity to apply learning through the pathway and the role of supervision. It goes on to discuss outcomes and impacts as reported by learners before looking at the wider context at personal and professional development. The findings from the ACPT learning pathway are presented separately due to the distinct nature and focus of the learning.

#### 5.1.1 Sample characteristics

A total of 81 semi-structured interviews were conducted. The sample included:

- 51 learners (see below for further details);
- 12 community pharmacy employers;
- Eight service leads; and
- Ten clinical or education supervisors.

**Learners** included participants on the post-registration (n=20), MOCH (pharmacists: n=13, pharmacy technicians: n=7), IUC (n=7), and ACPT (n=4) pathways. Most learners were part way through their learning (63%), whilst the remainder had completed their pathway. The interview participants had a wide range of experience, with some having registered over 30 years ago, whilst others were more recent entrants to the pharmacy professions.

Community pharmacy **employers** included pharmacy managers / owners (n = 7) (independent pharmacy owners, pharmacy superintendents, pharmacy managers) and community pharmacy head office representatives (n = 5) (learning and development leads, managing directors, and external affairs leads). Of the 12 community pharmacy employers, eight were employed by a supermarket / large multiple pharmacy, one was employed by medium-sized chain pharmacy, and three owned or were employed by independent pharmacies<sup>6</sup>.

**IUC and MOCH service leads** included IUC service leads (n = 5) (NHS 111 service leads, urgent care leads) and MOCH service leads (n = 3). **Clinical and education supervisors** included clinical supervisors (n = 5) (MOCH clinical supervisors, IUC clinical supervisors) and education supervisors (n = 5).

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<sup>6</sup> Community pharmacy ownership type and size were defined as: supermarket/large multiple (> 200 branches), medium-sized chain (26–200 branches), small chain (6–25 branches), independent (< 6 branches).

## 5.1.2 How the qualitative findings are presented

The findings from all groups are presented together under the main themes of the derived framework: engagement; delivery; supervision; outcomes and impact; and looking forward (with ACPT learning pathway respondents presented separately in Section 5.6 following the same thematic structure). Notable differences in views and experiences between pathways and stakeholder groups are presented and highlighted throughout the findings.

The illustrative quotes presented throughout the findings include a reference number that gives coded information pertaining to the interview participant, in the format: [interviewee type].[pathway or employer].[participant ID], e.g. ES.ACPT.203 = Education supervisor. Accuracy Checking Technician Pathway. Participant ID 203. Table 5.1 provides more information about these interview codes.

Table 5.1 Table illustrating interview codes

Interview code	Participant information
L	Learner
E	Employer / Service lead
ES	Education Supervisor
CS	Clinical Supervisor
PR	Post registration pathway
MOCH	MOCH pathway
IUC	IUC (NHS 111) pathway
ACPT	Accuracy checking pharmacy technician pathway
CP	Community pharmacy * (employers only)
NHS	NHS (employers only)

\* CP: community pharmacy employers (particularly large multiples) often employed learners' undertaking a range of pathways, including post-registration, accuracy checking, and MOCH.

## 5.2 Learners' motivations for participation

### 5.2.1 Learner perspectives on their motivations

There were clear differences between the motivations of learners engaging with the post-registration pathway (mainly community pharmacists) and the motivations of learners undertaking the other pathways. The majority of community pharmacists on the post-registration pathway were interested in improving their knowledge and skills, with the intention of either developing and updating their practice or moving to a new role (often within primary or sometimes secondary care). Some community pharmacists were particularly interested in developing their clinical competencies in areas relating to the specific health needs of their local population:

*"I was hoping to study disease areas that were particularly prevalent where I work, because I'm in an ex-mining community, so there's a lot of respiratory diseases and a lot of cardiac disease, cardiovascular disease. So, I was hoping to study those in more detail so that I could have more of an impact on the patients I was looking after".*  
(L.PR.129; Pharmacist)

Some post-registration and MOCH learners described having felt dissatisfied or disillusioned with their role at the time of applying to the pathway and indicated that

they had accessed the training specifically to pursue a change in role. The opportunity to acquire a qualification with a clinical component was particularly important for community pharmacists engaging with the post-registration pathway due to the anticipated benefits this conferred in respect of advancing and evidencing their clinical skills and, subsequently, broadening their career prospects. Several community pharmacists also reported having undertaken the post-registration learning pathway as a means of developing their clinical skills and confidence prior to undertaking the IP qualification.

*“It was developing my clinical skills, making sure that it was all up to date...But I was thinking, this will be a good formal way for me to make sure, and I get a qualification out of it at the end of the day, to show potential employers that I have got the skills, and I have invested some time in my career to make sure it was all up to date.”*  
(L.PR.131; Pharmacist)

A large proportion of the community pharmacists described having decided to pursue the post-registration learning in the absence of support from their employer and therefore entirely within their own time and in addition to their professional responsibilities.

Conversely, for MOCH and IUC learners, the primary motivation was often to undertake the role that was supported by the learning pathway. The MOCH and IUC roles were described as holding particular appeal because they were seen to offer an opportunity to adopt a more patient-facing role while also enabling the development of skills that were of particular interest to learners (such as medication reviews in care homes and telephone triage in IUC).

For some MOCH participants who were unfamiliar with care home environments, the MOCH pathway also offered a supported introduction to the workings of care homes and their own role within the MOCH service. The roles associated with the MOCH and IUC pathways were also seen to offer a tangible opportunity for participants to explore and develop new professional roles while regularly practising, implementing, and developing new skills in practice.

*“There’s a lot of pharmacists who are prescribers who don’t use their skills and I thought this job is basically saying that you will use your skills, and you’ll be supported to use this because you’ll be on a course that helped promote your competence, and probably gives you autonomy in some respect to use these skills.”*  
(L.IUC.140; Pharmacist)

Other motivations highlighted by learners across the pathways included the availability of funding and the opportunity that this presented in terms of enabling them to upskill at less financial cost to themselves, an interest in the academic content of the pathways, and having been encouraged to take part by colleagues or academic staff.

## 5.2.2 Learners’ initial concerns regarding participation

Most learners did not express any doubts or concerns about participating in the PhIF learning. Concerns that were raised tended to relate to the expected time commitment and overall workload required. This applied across the learning pathways but was most prominent for post-registration learners due to the absence of any protected learning time. Learners reported concerns about the anticipated workload and its potential impact on their personal lives and family commitments, as well as uncertainty as to whether they would be able to fit in learning activities around their current roles.



*“I think, initially, it was the amount of time that I would have to spend learning in my own time. So, how much it would eat into my personal life outside of work because our employers made it clear that they weren’t going to provide time during work time to do this, other than the study days...it was all in our own time. So, I think I was concerned about that and whether I’d be able to fit it in or not.” (L.MOCH.106; Pharmacy Technician)*

In addition to balancing the workload, several post-registration learners also described feeling apprehensive about the academic requirements of the learning due to having not participated in formal education for some time. Some post-registration learners expressed frustration regarding their ineligibility to access PhIF funding for the IP qualification. Other concerns expressed by a small number of learners included the mandatory nature of the IUC and MOCH learning pathways, the temporary or fixed term employment contracts associated with some MOCH services, and the lack of opportunity to receive a recognised and transferable qualification on completion of the IUC and MOCH learning pathways.

## 5.3 Employer motivations and challenges

### 5.3.1 Community pharmacy employer motivations for engaging

In contrast to MOCH and IUC service leads, who managed services in which the learning pathway was an integral component of the job role, community pharmacy employers decided the extent to which they supported their employees to undertake the learning pathways. The degree to which community pharmacy employers described having engaged with and supported the PhIF existed on a continuum:

- A small number of employers described having proactively encouraged and supported their employees to participate.
- The majority of employers described having facilitated a small number of learner-led requests for support to engage in the training.
- Several organisations indicated that they had felt unable to support the participation of their employees.

The employers that described having been fully engaged with the PhIF programme typically represented large multiple pharmacies with established learning and development teams.

All of the community pharmacy employers interviewed, regardless of their level of engagement with the PhIF pathways, acknowledged the overarching value of supporting their workforce to engage in training and development, and the transferable benefits that learning opportunities could offer to individuals and services. Supporting employees to access training, such as the post-registration pathway, was also seen to evidence a willingness to invest in employees as a means of aiding recruitment and retention.

For larger pharmacy chains with established internal training departments, the benefits of accessing PhIF learning centred upon accessing training of a higher level and complexity than they would typically be able to offer their employees through their established internal training programmes. For these businesses, supporting their employees to access more advanced specialised learning also conferred advantages in terms of enabling them to position and tender for new contracts and services.

*“But what we’ve probably been able to do is ... have a few more targeted conversations with a couple of colleagues to say, ‘look you’ve shown an interest in getting into slightly more clinical role, we believe that we’re going to win a tender at hospital x and this hospital has these clinics, would you be up for doing a bit of extra learning’, and they ran to that. And that’s a beautiful sweet spot, because it meant that we were able to access learning that higher education just do amazingly well, and my team internally would have never attempted to write that level of detail. And it meant that we were able to access really current up to date learning that was very specific for a role”. (E.CP.523; Employer)*

Advancing the skills of their pharmacy workforce was also anticipated to aid more successful collaboration and integration with professionals and services outside of community pharmacy, thereby preparing organisations to adapt to predicted changes in the way in which community pharmacy services are delivered.

*“I think if you train up your staff to have those skills, where they not only know their own system within their pharmacy but know what’s going on in GP practices as far as prescribers go ... so they’ve got skills on both sides – primary care skills, should I say – all of that will help with integrating into what the NHS is expecting of us in the future.” (E.CP.521; Employer)*

### 5.3.2 Challenges and barriers for community pharmacy employers

Community pharmacy employers described various challenges and barriers to actively supporting their employees to access the PhIF learning pathways, including financial investment, concerns regarding workforce retention, lack of consultation, and low awareness of PhIF learning opportunities amongst community pharmacy employers and the workforce.

#### *Financial investment*

The majority of community pharmacy employers described operating within a difficult financial climate in which it was challenging to invest in learning and development. All of the community pharmacy employers that were interviewed highlighted that engagement with the PhIF pathways required significant financial investment, particularly in respect of providing backfill. They noted that although the PhIF covered the cost of the learning itself, the cost of providing backfill to enable learners to spend time away from the pharmacy fell to employers and could be considerable. Employers described feeling reticent about encouraging employees to undertake training if they felt unable to provide the necessary level of financial and practical support.

*“Within community pharmacy, you don’t get any protected learning time. So, inevitably, even if we were to support our colleagues to go through the courses, they’d end up doing it in their own time. So, it’s difficult for the organisation to say, we think it would be really good idea for you to do this and then say, oh by the way you’ve got to do it in your own time. And obviously we don’t get paid any backfill, so if we were to allow them to take a day to go and do the course, one day a week or one day a month or whatever, obviously then it becomes quite a substantial cost to the business.” (E.CP.514; Employer)*

The challenge of enabling study leave was felt to be particularly acute within community pharmacy settings due to the relatively isolated working environments, often characterised by a sole pharmacist and small staff team. Most of the

community pharmacy employers who were interviewed were also sceptical as to the possibility of securing a financial return on any investment required to support learners through the training. Many felt that that, while the training offered the opportunity for learners to pursue training that was of interest to them as individuals, a large degree of the content was not directly relevant to the community pharmacy as a business and would not tangibly enable the pharmacy to generate additional revenue.

Several employers highlighted a concern that employees who completed the training would expect to be paid at a higher level and that without a corresponding opportunity to generate additional income this was not feasible for them as a business.

*“If the training course that the person is undertaking, it's great for their personal interest and their personal development but doesn't bring anything to the employer or benefit the small employer. So, it's difficult for the employer to justify then paying the person more because they've completed the training when it's not actually bringing them benefits.” (E.CP.509; Employer)*

### **Concerns regarding workforce retention**

Many of the participants spoke of the difficulties that their organisations faced in terms of managing the quandary of which should come first: the service or training.

*“It's a bit like a chicken and egg situation, isn't it? Are we saying we've now funded X number of people who've done these training programmes, and therefore we now are ready to deliver something? Or do you develop services through the pharmacy contract and then you have to wait and train people up?” (E.CP.516; Employer)*

The perceived disconnect between the timing of available training and the opportunity for reimbursement was felt to create a significant barrier to community pharmacies as businesses, in terms of their capacity to upskill and utilise the skills of their workforce as a whole. All of the community pharmacy employers who were interviewed voiced substantial concern about workforce retention and the prospect of supporting their employees to access training that, if not directly relevant to their role, would increase the likelihood of them leaving for posts in other settings.

*“I think we always have a challenge sometimes that some of the pharmacists we've put through it, it's almost providing them a bit of a passport to then leave, even though we've used it as a bit of retention. Some of the modules were more aimed, potentially, at working in general practice, and obviously, there's been an increase in the number of roles available within primary care.” (E.CP.516; Employer)*

*“If people are doing training that is great for interest and it's great for their skills but then they can't really use those new skills that they've found in our business then they might well leave and that's not what we want to do because you want to invest in your great staff to keep them, not to lose them.” (E.CP.509.JA; Employer)*

### **Perceived lack of engagement between NHS England and community pharmacy employers**

Several employers voiced concerns regarding a perceived lack of consultation or engagement between NHS England and the community pharmacy sector, in terms of both the purpose and content of the learning pathways, the intended goals and outcomes, and the timescales with which information about the pathways was

released. Some employers felt that they were not informed about the PhIF programme with enough notice to plan, prepare, or budget for their involvement.

*“I do not in any way have any issues with the content and the quality of anything that’s been put before us, so far, that’s all fine. There’s no question, but I would very much, like to understand what [NHSE] want at the end of all of this. So, it would be for me, the conversation, where is it you want to get to, and then they have very clear ideas in their mind that we need these courses for x, y and z, that is fine. But, I would like them to speak to us at a national level, so there was a better understanding ahead of the financial year as to what needs to be achieved by the end of the year and what the funding is to achieve that. And, we can then plug into it, rather than the conversation going on internally within the department or NHSE and all these courses coming out randomly.” (E.CP.517; Employer)*

### **Low awareness of PhIF within community pharmacy**

Several employers highlighted a lack of awareness regarding the PhIF learning opportunities among the community pharmacy workforce and questioned the efficacy of the advertising associated with the pathways. One community pharmacy employer noted that despite having proactively attempted to share information about PhIF learning opportunities across their organisation, there remained a lack of awareness amongst their employees, possibly heightened by the relatively isolated nature of community pharmacy teams.

*“From a practical point of view and I say this not having a solution, but the number of times I still find that pharmacy teams just don’t get it, don’t understand it, don’t get the comms, somehow it missed them. And I’m thinking how do we breakthrough communicating to especially community pharmacists ... because in community you’re a solo practitioner a lot of the time. You’re the only pharmacist in a building these days, so actually you’ve got very little contact with somebody else saying, did you know that [HEI] is offering this, or have you seen that website, or did you read that email. So, it’s frustrating that even though we got reasonably good pickup ... we got a lot of people engaged with it, I’m disappointed that I know now that there are still people that would have gone for it if they’d known about it.” (E.CP.514; Employer)*

This concern was also reflected in the comments made by some learners and supervisors who felt that awareness of the pathways remained low and that advertisements had provided insufficient information about the pathways.

## **5.3.3 Challenges and barriers for MOCH and IUC service leads**

MOCH and IUC service leads described various challenges in either supporting their teams to access the training or establishing the roles associated with the learning pathways.

### **Organisational context**

The various mechanisms through which MOCH and IUC services are commissioned, provided, and configured was believed to have contributed to the ease (or difficulty) with which organisations, teams and individuals had been able to engage with the MOCH and IUC pathways. With regards to the MOCH pathway, one service lead employed by a Community Service Provider (CSP) described the difficulties they had encountered in trying to facilitate access to the MOCH pathway for their employees. They noted that despite providing relevant services to care

home residents, including clinical medication reviews and medicines auditing, their employees had been unable to access the learning because the service was not commissioned as a designated MOCH service. They felt that this had unfairly excluded their pharmacists and pharmacy technicians from accessing learning that would have benefited them in carrying out their role, while also highlighting a larger issue concerning divisions within the pharmacy workforce in respect of access to training, access to professional networks and resources, and career progression based on the characteristics of the employing organisation.

*“I know the NHS is fragmented, I’ve got the scars from all the splits and stuff, but you just think why is it so difficult and split up, why do we have to fight to get involved in things because we’re set up slightly differently and because of our...suppose it’s your label, isn’t it, we’re community service provider...if we were a Trust it might be different, if it was the CSU or a CCG it would be different, if it was the PCN it would be different. So, my concerns are really that there might be more differences with what PCN teams can access now to what other teams can do when we’re all trying to achieve the same thing.” (E.MOCH.507; Service Lead)*

In respect of the IUC pathway, several interviewees referred to regional differences in the commissioning and provision of IUC services, spanning ambulance trusts and private providers, and the subsequent impact on IUC service configuration and staffing. The majority of IUC service leads reported that their teams were primarily composed of staff employed on either a bank or part-time basis (i.e. flexible hours contracts where employees’ times of work and hours worked change according to service need). This created a high prevalence of portfolio working among their employees.

The high prevalence of bank and portfolio working was believed to have implications in terms of eligibility for the IUC pathway, in respect of meeting the minimum contracted hours. For those that did access the training, there were additional difficulties associated with portfolio working in terms of balancing the numerous job roles, personal responsibilities, and study requirements. The challenge of balancing several roles was thought to contribute to high levels of attrition from the training pathway within some IUC services.

*“A lot of the pharmacists that joined the service are part-time, so they juggle commitments between community. When they started working, they started to discover a lot more doors opening for them, so they started getting a lot more opportunities to work in general practice...for them to then commit to the 111 pathway, one of the criteria was the fact that they had to be working 0.4 full-time equivalent hours which they weren’t...so by default they weren’t entitled to go on the course.....so that was a bit of a barrier to some of the pharmacists actually entering the course. So some have chosen not to undertake the course because of the general practice that they were working with...they decided, actually, I’m not going to do this course because I feel the other courses provided to me are more appropriate...And at the same point, the pharmacists that did go on the course unfortunately because of this juggling so many different roles, some of them actually didn’t complete the course and they dropped out fairly quickly with it”. (E.NHS.505; Service Lead)*

Several IUC service leads also highlighted the lack of a clear career pathway and role progression for pharmacists working within IUC services. The lack of clarity with regards to opportunities for career advancement was felt to contribute a degree of reticence amongst employees in terms of committing to undertake the pathway. This was especially the case if they had opportunities to engage in other learning pathways as part of their other portfolio roles that they perceived as more likely to



lead to more tangible career prospects and opportunities (e.g. primary care pharmacy education pathway - PCPEP).

*“I think one of the key things that we struggle with is the, you know, career path, that actually a lot of people take it on as an additional role because it looks good on their CV because it’s really good experience. And when they do it, they love it, they don’t want to leave. But people don’t see it as a career pathway at the moment.”  
(E.NHS.522; Service Lead)*

## 5.4 Mode of Delivery

### 5.4.1 Online

Prior to the COVID-19 pandemic, the extent to which learning was delivered online varied significantly between providers. The IUC and Accuracy Checking pathways typically took a blended approach of online and workplace-based learning; while the delivery of post-registration learning varied, with some HEI’s offering a blended approach and others providing the learning almost entirely online. Learners tended to speak positively regarding the asynchronous aspects of online delivery and the flexibility that this provided.

*“All the units were online. And I like the way that all the learning was put on there at the start of the semester so you could work through it at your own pace. So, if you were going to be on holiday you could try and get ahead a little bit or you could catch up afterwards...what appealed to me is that it was all online, the majority of it anyway, and that was something which if I’d have had to go to a university then I probably wouldn’t have done it. So, the fact that it was all online was really good for me”. (L.PR.133; Pharmacist)*

Learners spoke positively about the range of online learning formats, including webinars, and online forums and platforms. Forums, discussion boards, and online synchronous learning events were felt to provide a space for learning and interaction between pharmacists and education supervisors on both the post-registration and IUC learning pathways. Some learners struggled with the technical aspects of navigating online learning platforms, including Blackboard, Moodle, Bumps, and Canvas, and felt that greater technical support would have been beneficial.

### 5.4.2 Face-to-face content

In addition to independent study and online taught content, most learning pathways included a variety of opportunities for in-person or face-to-face learning. The MOCH pathway included learning sets, in which learners attended several facilitated small group sessions throughout the pathway. Both the MOCH and most post-registration pathways included various study days and one or two residential learning weekends.

Commonly, learners on the MOCH pathway met with their learning set, either in person or online, once a month or every couple of months. The intention of the learning sets was to provide learners with the opportunity for focused discussion with peers from their cohort, led by an education supervisor. Some learners spoke positively about the learning sets and described them as a valuable opportunity to learn and connect with peers.



*“The thing I enjoyed most was the small group learning where you, we met in our learning set with our education supervisor and she was just highly organised and she tailored them to the needs of our group and yeah, they were really good and I’ll really miss that group because there was about eight of us I think. So, when you’re meeting every couple of months together and sharing all your case studies you do get to know each other so that was a really positive part of the course”. (L.MOCH.113; Pharmacist)*

Learners who were less positive about the learning sets noted that they were unequally distributed throughout their pathway, aimed at too low a level, or were unengaging. Study days were typically divided into a morning session focused on pre-set work concerning specific clinical skills or content, and an afternoon lecture or seminar. Learners had mixed opinions on the study days. Some learners felt that the content was useful and relevant. However, learners frequently voiced frustration regarding the high volume of preparatory work that was set ahead of the learning days, often describing it as excessive. The time taken to travel to the venue meant that, even prior to the Covid-19 pandemic, some learners would have preferred a remote format. Residentials tended to be described less favourably, particularly with regards to the challenges they created for learners with caring responsibilities.

### 5.4.3 Peer support networks

Most learners wanted, looked for, and valued the existence of peer-group networks. These existed remotely in the most part, using group messaging platforms such as WhatsApp, although there were examples of peer networks that existed in person. Learners typically spoke of the motivational benefits of forming peer networks.

*“It was really nice to be with so many like-minded people, it almost gave you a spur to carry on. So if you had a bad day and you couldn’t finish an assignment, you’d put a group message on, and somebody would go, we can do it, we’ve got this far, come on, we’ve not got much more to do, we’ve all got to remember why we’re doing this...”. (L.PR.131; Pharmacist)*

Some peer networks were initiated by providers, through events such as induction days, others were organised by employers, whilst some were generated by learners and arose more informally. Learners also valued support from pharmacy colleagues and members of wider multi-disciplinary teams. Some IUC service leads described having developed and introduced diarised and facilitated peer support sessions as an additional source of support outside of and separate to clinical supervision. This was felt to offer protected time and opportunity for learners working within the same service to collectively discuss and communicate issues or challenges that they were experiencing with each other and a senior member of the team, who could then take any operational issues forward.

Regular peer support was felt to have been particularly impactful in supporting learners who were experiencing difficulties and encouraging completion of the pathway.

*“They set up regular meetings for the pharmacists for peer support...and a bit of external guidance. Those meetings were great because it was [the learners’] agenda. They were saying ‘what are you doing about this?’ ‘What are you doing about that?’ ‘How’s this working?’ ‘I’m struggling with this’. That kind of thing. And they all found that really, really beneficial. They did have a WhatsApp group that they set up for kind of peer support as well. Which again, in the early days when they were just starting to answer calls and just taking that step, because it was new for all of them,*

*that provided them with a lot of support. The ones who'd kind of done it and it was okay, it was supporting the other ones who were, kind of, taking their first steps in to answering 111 calls.” (E.NHS.511; Service Lead)*

Where support networks were lacking, individuals often described feeling isolated within their workplace or unsupported in their learning.

*“So, I don't know if there's any time to interact. It would be nice to, but it's hard to have time to have that social contact with others. It would be nice, the idea, to actually make friends or to talk to them, and see how they feel about the course or things like that.” (L.PR.134; Pharmacist)*

#### 5.4.4 Changes in delivery related to COVID-19

The COVID-19 pandemic necessitated a shift towards online delivery across all pathways and providers, including components such as study days and learning sets. Overall, learners described the transition to remote learning as unproblematic, although some learners retained a preference for a degree of face-to-face learning. Learners indicated that some providers removed or cancelled components of the pathways that they were unable to move online. Some providers delayed the end date of the pathway and increased the overall length of the programme, while others extended assignment deadlines rather than the course itself. Many learners reported an overall reduction in assessed work.

#### 5.4.5 Balancing learning and work: The issue of protected study time

Post-registration learners described undertaking the pathway alongside full-time, part-time employed or locum work. Balancing the workload associated with the learning pathway with employment and other responsibilities was often described as challenging. Flexibility with regards to timescales and module choices was reported to vary significantly between providers. Increased flexibility and online delivery were felt to aid accessibility, particularly for learners balancing the pathways with work and personal commitments.

Balancing the workload was particularly challenging for learners on the post-registration pathway who were often undertaking the learning in their own time, without any access to protected learning time from their employer. Several learners, particularly on the post-registration pathway, described having reduced their hours of employment to enable them to balance the course and their work more effectively or having requested unpaid leave.

*“Yeah, it is hard, it does take up more time so you have to, you're trying to get certain projects done, you just have to book off some time from work but sometimes it eats into your holiday time as well, so this is what I find a bit, but sometimes they may grant you extra time. It depends on who you work for really, if they're willing to give you some extra time, which would be unpaid anyway obviously but some time which you can have on top of your normal holiday allowance”. (L.PR.128; Pharmacist)*

Some post-registration learners particularly those undertaking the learning without support from their employer, suggested that increased flexibility in the time available to complete the pathway would have been advantageous in terms of being able to more effectively balance work, study, and personal commitments. Alternatively, other learners expressed a desire for protected study time, which would have helped them to work through the pathway along the expected timeframe. MOCH employers and clinical supervisors consistently indicated that the integrated nature of the

MOCH learning pathway enabled MOCH teams and services to provide learners with protected study time.

*“I think in the grand scheme of things, this kind of course fits really well with this form of service delivery because we’re not an essential service, we’re not running a dispensary and we’re not having to give a seven day a week service. So as a manager, it’s relatively easy to allow people that study time and that time out during the working week to go to whatever study days they need to go to.” (CS.MOCH.502; Supervisor)*

Most learners felt that protected study time was beneficial in respect of supporting their learning and managing realistic expectations of learners in the workplace. However, there were mixed views among learners as to whether the amount of allocated study time was sufficient. Several MOCH and IUC employers noted that while they were able to offer learners some protected study time, there remained an expectation that learners would complete elements of the learning in their own time.

*“There is an expectation, this is postgraduate study with a lot of self-directed learning, and whilst we support them in terms of one to one’s and support in terms of [attending] tutorials, lectures, et cetera, the expectation is that you’re doing the coursework in your own time, and writing up your reflective pieces in your own time.” (E.NHS.519; Service Lead)*

Some MOCH and IUC learners also reported difficulties in terms of balancing the requirements of the role and learning pathway with their additional commitments. IUC learners in particular reported challenges with regards to balancing learning with the competing pressures of their other portfolio roles:

*“It was very difficult because I work during the week and then at the weekends, I work in urgent care so it was just a lot of evenings, trying to catch up on all the university work and meet all the deadlines”. (L.IUC.142; Pharmacist)*

#### 5.4.6 Intra-professional learning

Both pharmacists and pharmacy technicians were able to enrol on the MOCH pathway. Once on the programme, learning took place with both professions together in an intra-professional learning environment. Overall, many of the pharmacists and pharmacy technicians felt that it was beneficial for the two professions to learn alongside each other as this enabled both sets of learners to contribute and learn from each other’s perspectives and skills.

However, some pharmacists and pharmacy technicians expressed mixed feelings, and indicated that whilst intra-professional learning was advantageous at times, the groups would have benefited from learning separately in some instances, to enable the content to be more closely aligned to the role and learning needs of each group.

*“I’m not convinced that the mixed pharmacist and pharmacy technician learning works for everything. I do think it is good in some situations, because there’s a lot of learning from each professional, and also it gives a good idea into the pharmacist’s view on what technicians are doing, and vice versa. But the learning...wasn’t directed at both in some circumstances, and in some situations as a technician, it made you feel a lot more out of your depth, with worrying about should you know, is this something you should know? Is this something you should be practising? So, in some situations it was a bit daunting, I found.” (L.MOCH.100; Pharmacy Technician)*

A number of MOCH pharmacy technician learners felt that this perceived disconnect between the content of the learning and their role as pharmacy technicians meant that they would be unlikely to fully implement the clinical skills component of the pathway in their practice.

*“The clinical assessment skills, that module probably, it wasn’t a total waste of time but a lot of it was. So some of the clinical examination and procedural skills that we were learning, there’s no way I’m ever going to do that ever and there’s no need for me to even know how to even do it so I think for example, one of them was doing an abdominal examination and, I can’t even remember because it was just so above my head...and doing a respiratory examination as well”. (L.MOCH.106; Pharmacy Technician)*

#### 5.4.7 Opportunity to apply the learning: Alignment of learning and role

The perceived degree of fit between the learning pathway and professional role centred upon the extent to which learners felt able to utilise and apply the learning in their day-to-day practice. Learners and employers noted that the opportunity to apply the learning in practice, and continuing to learn by applying their knowledge in a range of situations, was an integral component in the process of learning and skill acquisition, development, and maintenance.

*“The added value has been the fact that everything I’ve learned in those four walls, with my colleagues, with the trainers, I’ve been able to apply, and it’s when you do that application of the learning, that’s the bit where it all really sinks in.” (L.MOCH.110; Pharmacy technician)*

In marked contrast to the views of community pharmacy employers highlighted within the previous section concerning barriers to engagement (section 5.3.2), many of post-registration learners indicated that there was a reasonably good fit between the content of the pathway and their role, highlighting the broad applicability of the learning within their day-to-day work.

Other post-registration learners indicated that, while the content did not always appear to be directly applicable to their day-to-day practice, the learning had subsequently supported them to undertake other aspects of the pathway or benefited them more indirectly by offering insight into other roles and sectors. Similarly, some learners felt that content that was not necessarily directly applicable within the context of community pharmacy practice but could nevertheless be used to inform and improve upon services they provided on a regular basis, such as medicines reviews.

Aside from content, learners on this pathway often felt that the high dispensing workload and low staffing levels in community pharmacy diminished the opportunities to apply the learning due to a lack of available time; although sometimes the context of community pharmacy practice itself was felt to be the limiting factor.

*“It’s not having the adequate patients; it’s having the adequate time for it. We don’t have the time in community. The workload of, in the background to check things, to provide the vital medication to patients, does not allow us free time to do this kind of stuff in community. It’s not doable”. (L.PR.125; Pharmacist)*

*“It goes into a lot of depth, again it’s the same, it’s a problem that we have unfortunately in community pharmacy, is that the depth of knowledge that we need isn’t that great. So, say if the knowledge you learn in the learning pathway that I’m*

*doing at the moment is 100%, probably only about 10% of that you will use in on a day-to-day basis in community pharmacy. So, the problem there is that the 90% that you've learnt, and you've passed, you won't apply that every day.” (L.PR.124; Pharmacist)*

The opportunity to implement the learning was seen to be key to preserving the knowledge and skills that had been acquired through the pathways. Some learners voiced concerns that a lack of opportunity to apply the learning would lead to a regression in their practice.

*If I carried on in the community pharmacy role, I think it's going to be a case of you do tend to drift, and then you tend to just go back into autopilot. Which is something that I don't want to do particularly, I don't find it very satisfying as a healthcare professional to do that. So, I think, if you didn't apply it you could drift back into just what you were doing before”. (L.PR.124; Pharmacist)*

With regards to the MOCH pathway, the majority of MOCH learners reported good alignment between their practice role and learning pathway:

*“Being able to learn something and put it into practice full-time... And when you're actually out there in the care home and you go, oh I've seen this and it all starts fitting into place which is where your learning comes in, your observation skills, your communication skills, that all starts building”. (L.MOCH.104; Pharmacist)*

However, several MOCH learners highlighted that it could be challenging to implement the full extent of their learning due to the broad range and low prevalence of some of the conditions covered. Other learners similarly highlighted the variance that exists in terms of the MOCH pharmacy roles and services and felt that the attempted scope of the learning pathway was too broad.

Comparably, IUC learners also typically reported a good degree of fit between the content of the learning pathway and their role. A number of learners however noted that the content of the pathway was heavily orientated towards telephone triage, and this was appropriate for those working in remote urgent care, mainly NHS111. For the minority of learners based within urgent care centres, there was a perceived lack of content relating to the face-to-face aspects of their role.

#### 5.4.8 Pre-existing knowledge and experience

Learners accessed the pathways with varying degrees of professional experience. In particular, some MOCH and IUC pharmacists with considerable post-registration experience indicated that they were already familiar with much of the content. Some of these learners felt that a degree of repetition was valuable and offered the opportunity to reflect on and update their existing knowledge and practice. However, other learners felt that the content was aimed towards learners with little experience in the practice settings and were frustrated by the repetition this created.

*“With the courses I think it's important not to duplicate work. So a lot of this course has duplicated things we've learnt in the past and I think if it's going to be set up, there needs to be some kind of assessment or a grandfather clause in, just to assess someone's skills and what they need to do before having to undertake something that can be quite an arduous course, I think”. (L.MOCH.107; Pharmacist)*

Similarly, several service leads and clinical supervisors highlighted the varying levels of experience amongst learners and questioned the value of the learning pathways for more experienced pharmacists. A small number of learners did not believe that they had gained any new skills or knowledge as a result of engaging



with the learning pathways. These instances tended to concern learners with substantial prior experience who had previously undertaken post-graduate training courses. Several employers, clinical supervisors, and service leads suggested that there should be a fast-track or shortened version of the training pathways for pharmacists that could evidence advanced practice training or experience.

*“I’d say the pharmacists aren’t learning so much. I think they’re, kind of, being re-confirmed, as it were...I think there has been a funny mismatch. You know, because the NHS England money came attached to the course, there’s been an element of slightly inappropriate people on it, quite honestly. Like my pharmacist with the clinical diploma of 20 years ago could have done a three-month shortened version and then just gone straight on to do her prescribing course.” (CS.MOCH.502; Supervisor)*

#### 5.4.9 Formal recognition of learning and transferable qualifications

Following completion of each of the learning pathways, only those enrolled on post-registration pathways gained formal higher education institution (HEI) qualifications, such as post-graduate certificates and diplomas. For some learners, the gaining of this certification formed part of their motivation for their learning, as this was linked to evidencing competency and achieving career progression, through the acquisition of a nationally recognised and thus transferrable qualification.

Conversely, none of the learning units undertaken by MOCH or IUC learners led to a recognised qualification or award (with the exception of the IP unit). A number of learners felt disappointed to then be leaving the pathway without a formal certification of their post-graduate work, particularly with regards to evidencing their participation and competency in the future.

*“The course isn’t accredited, so you do the best part of a year on the course and doing the work on it but you didn’t come out with anything, so I won’t have a qualification. I’ll be able to say I’ve done the course but I don’t have a certificate that you would normally get from doing a year of postgraduate work.” (L.IUC.138; Pharmacist)*

The role of professional training, and the formal recognition of such a qualification, in establishing and evidencing competence and clinical expertise was also highlighted by employers. This was considered important in terms of recruitment but also in increasing interprofessional confidence, which was seen as essential in enabling the redistribution of workload amongst professional groups, particularly in respect of pharmacists and GPs.

*“The thing is, if you say, ‘I’m a GP with a special interest in substance misuse’, I go, well, what have you got? Come on, back up that claim. And I think that’s a completely reasonable question. Otherwise, anybody can make any kind of claim, and I don’t think that that’s a professionally inauthentic position to take. So I think that’s a really important role for these, as courses. And for employers it’s something we can ask for. It’s evidence of professional skill, it’s something that we can...so when we’re recruiting to these jobs, we could say, you know, it’s desirable” (CS.NHS.524; Supervisor).*

Employers across all settings voiced the view that the provision of accredited modular learning that did not require enrolment on a full pathway would enable greater access and potential support more integrated learning.



*“It would be good to have modules you could just pick and choose and access dependent on your individual needs. So I think looking those competences, you could work through that and say, actually...to be able to come out and saying, actually, I’ve got a specialism in frailty... So to pick and choose and maybe have some individual blocks that build together as a module to give you something at the end that says, yeah, I’ve got a postgrad certificate in frailty or something like that, and that’s what I’m looking for now, to see what postgrad courses there are that you can access without being a nurse or being a GP.” (E.MOCH.507; Service Lead)*

The role of recognised and transferable credits was also raised by an education supervisor as a means of enabling learners to transition more effectively between pathways, thereby reducing duplication of learning.

*“I think because people are moving perhaps across sectors, there’s so many different pathways and if people are moving to a different role they then have to start on another pathway and I think maybe hopefully what would be ideal is we come up with some sort of way of not necessarily combining the pathways but ways for people to transition through, to move across different pathways in an easier manner and accreditation of what they’ve learnt so far.” (ES.PR.204; Supervisor)*

Greater integration between the learning pathways was also suggested by one employer as a means of increasing the learning opportunities available to pharmacists and supporting patient care across settings.

*“I’d like to see using opportunities for integration, so between say our integrated urgent care services and remote consultant services, with for example, PCNs or GP practice pharmacists, and actually that there’s an opportunity for these courses to run as structured roles, where they spend, say, two days in one service, three days in another, for a full time role. And actually, that they gain their learning across that interface rather than learning, and their scope being targeted to one, I’d like to see the two come together. Partly because, obviously, patient journey, partly because of professional journey, and not having them sit in a remote call centre for five days a week.” (E.NHS.505; Service Lead)*

#### 5.4.10 Clinical and education supervision

There was variation across pathways regarding the type of supervision learners received. Learners on the primary care pathways (MOCH and IUC) were typically offered an education and clinical supervisor. ACPT learners reported having access to an education supervisor. Few post-registration learners recognised the term education supervisor but recognised different terminology for similar roles covering the general academic support that was available throughout the pathway, often referring to support from individual module leaders.

The education and clinical supervisory roles were consistently described as complementary; offering distinct but connected contributions to learning, with education supervisors focusing on supporting learners to navigate the academic requirements of the pathways, and clinical supervisors aiming to support learners to apply their learning in practice. There did not appear to be any perceived tension or overlap between these two roles.

*“Both work really well, so in terms of the clinical reflection, how that fits within your specific service, thinking about other pathways, for example, social pathways, as well as medical pathways, with the practice and clinical supervisor, that works really well. But then having the education supervisor to actually really apply the reflective*

*techniques and get a portfolio that demonstrates a set of competencies, then that's worked really well for learners that do engage.” (E.NHS.519; Service Lead)*

### **Education supervision**

Education supervisors act as a key advisor and source of support for learners as they progress through their respective pathways. Most learners described the academic support available to them as effective, regardless of whether this was provided by education supervisors or module leaders. Learners from the post-registration pathways frequently described accessing support from education supervisors to navigate module options and choices. This broadly corresponded with the way in which education supervisors characterised their role, which centred around supporting learners to understand and reflect upon their learning needs, via an initial learning needs analysis, and the requirements of the learning pathway. Setting realistic and manageable aims and objectives with learners was described as a key component of the role.

*“I would say it's having that initial meeting over the telephone, or even in person with the student, to really develop a development plan and their learning needs analysis, because we want to find out initially, because we need to plan ahead, what their backgrounds are, what their aims are, what they want to achieve and between us we come with objectives and realistic objectives, because a lot of people think coming here expecting one thing, when in reality it's completely different” (ES.PR.200; Supervisor)*

Education supervisors also indicated that they were available as an ongoing source of support in relation to any personal or academic challenges that learners encountered as they progressed through the pathway. They described offering advice on issues such as time management, applying for extensions, while also signposting learners to other available sources of support within the university.

*“[Learners] might have personal issues. I've had to refer people to our support services here at the University because although they're distance learners, obviously they still have access to like our online counselling services. So we have supported, referred people to those as well to university support services. And then often it's just talking through issues like time management maybe, having realistic expectations about what they can achieve within the programme if they're particularly struggling, and trying to help them to perhaps find a way of getting a compromise about what they can achieve as well.” (ES.PR.204)*

Again, this was reflected in learners' accounts of the support they received in relation to their academic assignments, including feedback on drafts and assignments, applying for extensions, and support with their organisation and time-management.

*“I've had an academic tutor, who's been there to answer emails when I've said I'm not sure I'm doing this right. And he's looked over proofs of my assessments the first time I've done them and given me pointers on things to do.” (L.PR.129; Pharmacist)*

Learners on the post-registration and IUC learning pathways described the education supervision and support that was available as being largely learner-led and initiated, typically provided via email or phone conversations. Some MOCH learners reported having had initial face-to-face or online meetings and the opportunity for ongoing contact via the learning sets. Post-registration learners reported having contact with education supervisors at face-to-face or online workshops. Learners and supervisors commented on each other's workloads and

the limitations this created in terms of availability. In comparison, the education supervision and support offered to ACPT and MOCH pharmacy technician learners appeared to be more structured and readily available. Learners on these pathways discussed receiving frequent structured reviews that were planned in advance. For MOCH learners, learning sets provided a regular means of contact with their education supervisor.

### *Clinical supervision – learners’ experiences*

Clinical supervision was provided to both MOCH and IUC learners. This form of supervision focused upon supporting learners to translate their learning into practice within the workplace. Learners voiced mixed opinions regarding their experiences of the clinical supervision connected with the learning pathways. Those who portrayed supervision as a beneficial source of support typically described clinical supervision as an opportunity to shadow, be observed by, and receive feedback from an experienced clinician.

*“So, what she would do is just take me through, before a case came in, she would take me through her thought process of what she thought and expected. And then you’d see during the consultation how things change and how things develop. And then we’d debrief afterwards.....So, it helped that learning experience and then we’d discuss it afterwards and identify anything that I wanted to work on further or anything in my portfolio that I had to get experience, to tick off that competency.” (L.IUC.136; Pharmacist)*

This corresponded with clinical supervisors’ understanding of their role, which focused on supporting learners to develop proficiency and confidence in translating and applying the knowledge and skills they were learning into their clinical practice, often through a process of facilitating critical reflection.

*“So, for me, it’s about practical application of what they learn through reading or on study days or through their discussion groups. So, for me, the course needs to put in a foundation of clinical knowledge that we can then apply, on the one hand almost patient by patient because it’s a very patient focused service in real terms, but equally, it’s about the clinical confidence and spreading.” (CS.MOCH.502; Supervisor)*

Both learners and supervisors noted clinical supervisors’ roles in supporting learners to orientate themselves within their new practice environments, while enabling learners to make connections with other professionals who could facilitate further practice opportunities for them to practice skills and apply their learning.

*“I think it’s an enabling role, I think it’s somebody who, I think more of this is about relationships and actually facilitating and navigating these individuals to embed them locally. And when we are talking about primary care and integrated care, actually making that as seamless as possible for them to do that.” (CS.MOCH.500; Supervisor)*

Several clinical supervisors supporting learners on the MOCH pathway highlighted their role in supporting learners, particularly those working within newly established care homes services, to overcome initial challenges, including a lack of established professional networks and information governance agreements between organisations. Learners also noted the key role that clinical supervisors had in assessing learners’ clinical competencies. Clinical supervisors most frequently described offering a combination of regular pre-arranged face-to-face meetings alongside the opportunity for more ad hoc contact as and when learners felt this was needed.

### *Clinical supervision – challenges encountered by learners and supervisors*

Both learners and supervisors highlighted challenges in respect of the clinical supervision provision associated with the MOCH and IUC learning pathways. The most frequently cited barriers concerned supervisor expertise and availability. This was linked to supervisor proximity, role, and workload. To some degree, availability appeared to relate to the broader job role of the supervisor. Clinical supervisors who also acted as learners' line managers were able to incorporate clinical supervision into their overall supervisory responsibility for the learner. In contrast, clinical supervisors based partially or entirely outside of the learners' place of work described undertaking the supervisory role in addition to their existing professional responsibilities and workload, and subsequently experiencing difficulties in respect of offering ad hoc support to learners. Lack of proximity to the learner also created challenges in respect of observing learners' practice and assessing competencies.

*"I think the idea of the clinical supervisor would be that you are spending time directly with that individual during their clinical practice and some of the physical examination assessments and observing those, you know, the way in which the assessments were structured and the criteria were put in place that I just couldn't fulfil the role that was described, I think that's the way to put it, because of the lack of capacity that I had really." (CS.MOCH.502; Supervisor)*

This issue was exacerbated by MOCH services typically covering a large geographical area. The delegation of responsibilities regarding observation and assessment to other professionals working in the learner's locality and working environment was frequently cited as a means of overcoming challenges regarding capacity and geographical spread. A number of learners stressed the importance of familiarity with the MOCH role and highlighted difficulties that arose when supervisors did not have expertise or experience of care home settings.

*"I had a new boss who knew nothing about it, she was very supportive, but she had never set foot in a care home herself. So, she was my clinical supervisor, so my clinical supervisor knew nothing about care homes" (L.MOCH.113; Pharmacist)*

With regards to the IUC pathway, service leads highlighted difficulties in identifying appropriate clinical supervisors for learners. This was exacerbated by the high levels of bank and part-time portfolio working amongst the IUC workforce. Shift work posed additional difficulties in enabling face-to-face meeting between supervisors and learners.

*"My tutor was very helpful and approachable but extremely busy, and because 111 is a 24-hour service, and there was only one of them, it was tricky to get hold of them at the right time and get that support". (L.IUC.141; Pharmacist)*

One service had sought to utilise advanced practitioners from other professions as clinical supervisors for their learners but felt that this was not ideal or sufficient for aspects of the learning concerning medicines expertise. However, learners who described receiving clinical supervision from other health care professionals, particularly those receiving supervision from GPs, tended to describe the experience positively.

*"My clinical supervisor was a GP and dementia lead, who was most enthusiastic to do it, so keen, and we certainly had monthly meetings and they went really well. So she was very enthusiastic and felt it was very much a two way thing and she got as much out of it as I did, so she says" (L.MOCH.169; Pharmacist)*

## 5.5 Outcomes and Impact

The outcomes and impact of the learning spanned several key areas: medicines optimisation; managing long-term conditions; managing acute common ailments; holistic consultations and pharmaceutical care; applied leadership; patient safety; and professional and personal development.

### 5.5.1 Medicines optimisation

Learners across the MOCH and post-registration pathways frequently cited improvements in skills relating to medicines optimisation. Overall, learners described feeling more confident and better equipped to make and enact decisions concerning patients' prescribed medicines. Post-registration learners described various practice scenarios, in the context of their community pharmacy practice, in which they had been able to apply and implement their learning through medicines optimisation.

Learners indicated that they felt enabled to approach medicines reviews from a more informed standpoint and often took a more comprehensive approach than they had previously, including proactively identifying issues of concern, researching alternatives and solutions, and working with other healthcare professionals, such as practice nurses and general practitioners, to initiate changes and improvements to patients' prescribed medication regimes.

*"I can use that information in my daily job. So for instance, medicine optimisation.... It's what I do every day during the medicine use reviews with the patient. So if I identify an issue, basically I can better assess that patient and I can provide better options that would benefit the patient, so basically it develops my background information and gives me some ideas of what I need to do for that patient".*  
(L.PR.123; Pharmacist)

Some post-registration learners also noted improvements in their ability to understand and interpret test results, which was believed to have positively impacted upon their ability to proactively advise and communicate with patients and other healthcare professionals regarding prescribed medicines:

*"One of the things that I learned very early in the course that was very practically important to me, was my understanding of laboratory results. That was a very significant development for me...before I just looked at it partially, it's their results, that's done, OK, the GP will. But no, they help you to be able to advise the GP in terms of how they continue with the prescribing of medication for those patients, when they are back .... Two years ago, I would not be paying that much attention to that, because of I would be like well, that's the GP's responsibility, he should be able to sort it out." (L.PR.135; Pharmacist)*

Several pharmacists and pharmacy technicians on the MOCH pathway indicated that their confidence in undertaking structured medicines reviews for patients residing in care homes had increased significantly. These learners felt that the pathway had allowed them to develop a greater breadth of knowledge, particularly in areas related to the specific needs of older adults, including prevalent health conditions, medications associated with a high risk of falls, concerns regarding blood pressure, and issues surrounding tablet and anticholinergic burdens. These learners also described feeling more confident in their clinical reasoning and decision-making skills, and more able to actively raise issues with prescribers and implement changes, including deprescribing and other forms of medicines optimisation.



*“I see patient prescriptions in a completely different way now where before I would just look at it and go, yeah, yeah, yeah that’s all OK. I’m now questioning everything a lot more, challenging it a lot more and going, well actually they’ve been on this for this long why is something not changed? So, I think that the benefit will be for the patients that we are, I’m certainly not just assuming that because the doctor said they need to be on it that they should be on it. I’m actually now more competent to say, actually I think we need to have a conversation about this because I don’t think it’s right for the patient to be on it.” (L.MOCH.114, Pharmacist)*

MOCH pharmacy technicians, service leads, and supervisors also drew attention to the expanded role being undertaken by pharmacy technicians in relation to medicines optimisation in care homes as a result of the MOCH pathway.

*“So, in this role, [pharmacy technicians] never did medicines reconciliation, but they would have all been signed off in a hospital in some stage in their careers to do meds rec. Whereas, now they do medicines optimisation and that’s a fundamental difference because they are far more discerning and far more holistic. And it formally takes advantage of the skills that a technician has, which is usually being very personable and very patient focused and very able to communicate.” (CS.MOCH.502; Supervisor)*

## 5.5.2 Managing long-term conditions

Several MOCH learners reported that their knowledge and understanding of long-term conditions had improved and, as a consequence, they felt more confident in their ability to support care home residents experiencing comorbidities and complex needs. The practice experience associated with the MOCH role also provided pharmacists and pharmacy technicians with opportunity to apply and implement this knowledge in the context of conducting increasingly comprehensive medications reviews.

*“I had the tissue viability nurse come in to one of the module two sessions and she was teaching us all about skin care and pressure damage and things. And she was a local one as well, which made it even easier for us. So since then, I’ve got hold of the guidelines and I’ve been querying a lot of the prescriptions around skincare and making it a standard part of my medication review to check how their skin is, do they need any creams and stuff like that. So, I suppose that’s one that always leaps to mind because it’s probably such a big thing that I used to overlook and didn’t really realise I was overlooking it quite so much until she came in on that session.” (L.MOCH.170; Pharmacist)*

Some MOCH pharmacy technicians were also of the view that their role and learning had enabled a reduction in medication errors within the care homes in which they worked. The reduction in errors was believed to be based upon their efforts to improve communication between pharmacists and care home staff, and the referral of concerns laying outside of their scope of practice to their pharmacist colleagues.

*“At the moment, I’m working quite heavily with two care homes on medication errors that they’re having, so I’m working to help improve that. So yeah, everything that is done helps to improve the care of the patient, absolutely...it’s the systems, processes, timings of meds, I still refer things onto the pharmacist when I see them, so in turn I may have highlighted something, and although the pharmacist makes the change, I’ve seen it initially. And so yeah, absolutely, they still all contribute to the resident in care, and...good quality prescribing.” (L.MOCH.100; Pharmacy Technician)*



Several learners on the post-registration pathway felt that their understanding and ability to proactively manage many of the long-term conditions commonly encountered in community pharmacy had improved, including asthma, chronic obstructive pulmonary disease, cardiovascular issues, hypertension, depression, diabetes, epilepsy, and rheumatoid arthritis. Learners also reported improved awareness of the associated test results, practice guidance, and treatment options, and increased confidence in engaging with and advising patients around these issues.

*“So, for example, one of the modules that I looked at is rheumatoid arthritis. And I have a consultation with the patient, before we would go through the medications, have you had any side effects? Right, OK, is there anything I can liaise with the doctor etc.? Now I have a lot more information about the diagnosis or the follow ups that are required in secondary care as well, as well as primary care. So, for example, it would be a bit more in depth, what is your DAS [Disease Activity Score] score...And if I get anybody, it’s increased, and I’d be like, all right, OK, well this means this, and this means this, and have you had your bloods every three months, and have you had your liver test done? Before I wouldn’t have known that. It would have been, have you had your checks at the doctor’s surgery? Yes, I have. But now I can be a bit more in depth, and when they show me their methotrexate book for example, I will be more likely to understand what’s in that book.” (L.PR.127; Pharmacist)*

A MOCH pharmacist was of the view that undertaking the learning pathway had enabled them to build greater connections and networks with other healthcare professionals involved in the care of patients with long-term conditions, including Parkinson’s nurses and stoma nurses.

*“You were encouraged to make quite a lot of links or find out who the various contacts were for some of your chronic diseases so like your Parkinson’s nurse or your stoma nurse...who else, dietetics, and that’s been really useful to embed myself into primary care a little bit and know who to ask as well, if I have a query about something so that’s, that’s been really helpful in terms of joining up the caring of a patient and making sure they’re being seen by the right person. So that was a really helpful exercise.” (L.MOCH.102; Pharmacist)*

### 5.5.3 Managing acute common ailments

Learners from across the learning pathways reported that their skills relating to acute, minor, or common ailments had improved. These skills included the ability to recognise and highlight potential risks or ‘red flags’. The example provided with respect to the MOCH pathway concerned the process of decision-making regarding necessary escalations in care.

*“Awareness of what is a concerning result and what isn’t ....so there’s been situations where it’s been useful that I can just go and check their observations and make a baseline judgement and discuss that with the nursing team as well. So yeah, I think it has been useful and can be applied.” (L.MOCH.166; Pharmacist)*

Many of the IUC learners described feeling more confident in their ability to make triaging decisions on the basis of remote assessments and telephone consultations with patients accessing the 111 service.

*“I think the main benefit for me as a pharmacy professional is developing my confidence in clinical assessment of minor ailments over the phone, and clinical assessment of a wide range of symptoms over the phone, not necessarily minor*

*ailments, and then leading to developing my confidence and competence in how I make decisions, more accurate decisions in terms of patients and where they need to go as the end goal, whether it's home management, pharmacy, going to an urgent treatment centre to see a doctor or is it an A&E sort of thing.” (L.IUC.139; Pharmacist)*

Other IUC learners felt their knowledge concerning toxicology and ability to manage overdoses had improved alongside their skills in assessing and engaging patients experiencing mental health difficulties. IUC service leads particularly emphasised the impact of the learning pathway in terms of supporting learners to develop their ability to effectively recognise red flags and evaluate risk. This was seen to be particularly advantageous for learners that had moved into the role without any prior experience of working within IUC settings.

*“The ones that have come from community pharmacy, you know, they don't have the same concept of red flags. It's all to do with, you know, the stuff that you learn in community pharmacy, all those red flags that are very different from the red flags that we're talking about. I mean triage is really difficult for pharmacists, because they like to know everything, they like to have a complete picture, they want all of the patient's notes, they want everything before they make a decision and so it takes quite a lot of time training them up to just be looking at the here and now, what's going on right now, what needs to happen. So, I know that there's a whole lot of stuff around triage and around things like consent and I know there's a whole load of stuff in that course that's really helpful just to widen people's vision.” (E.NHS.522; Service Lead)*

Several learners highlighted the broad scope of the available pharmacy IUC roles, which spanned NHS 111 services and urgent treatment centres. Undertaking these roles had provided tangible opportunities for learners to apply, implement, and embed their learning with respect to advanced clinical practice in acute and low acuity ailments.

*“In 111 I was able to obviously identify the risk with the medicine, use different reference sources, so for example Talk Safe, I never used that before. I was able to use that and learnt how to apply the information. Doing a risk assessment on someone's mental health is something quite new as well. And I was doing that when I was dealing with the 111 triage calls involved in overdose in a medicine. And even at the weekend, I had a case where a patient was discharged from hospital after an overdose, and I had to make a decision on whether to prescribe some more medicine after that event. And so yeah, there are examples of, obviously the communication skills but in particular the assessment of risk, that I simply wouldn't have been exposed to in a community pharmacy environment”. (L.IUC.136; Pharmacist)*

Learners on the MOCH and post-registration pathways reported learning a range of physical assessment techniques including undertaking ear, abdominal, and respiratory examinations; blood pressure, pulse, and temperature readings; and stoma and catheter care. The degree to which learners reported applying these skills in practice varied. However, a number of learners who did not have the opportunity to apply these skills in practice believed the learning experience to be valuable in respect of understanding and interpreting the implications of patients' results. For learners working in roles that offered the opportunity to implement the assessment techniques in practice, this additional competency was believed to aid timely autonomous decision-making.

*“I never knew how to do manual blood pressure and I can now, if I was to check a patient’s blood pressure manually, I’m very confident in doing that. I never knew how to do an ear check; I can now check people’s ears. I know what to look for, how to handle the device, respiratory rate, pulse. Pulse I knew how to, I knew the respiratory and I was confident. Pulse, again, it was taking me a time to look for the pulse. Now it’s like I’m very confident in doing it so, so these are the skills and again with palliative care patients, stoma, catheter, see these were the things that I was not exposed to because these are very specialised things but now I’ve got a vague idea of what a stoma patient requirements are and what to look for and what not to, what are the dos and the don’ts? So those things, I feel that I’m not completely lost when I see a stoma patient or a catheter patient or a resident with these or palliative care. I know what to look for, what to make sure is in place for that patient who is in his end of life care. So I think those things, that has really enhanced my skills for a patient centred approach...My clinical knowledge definitely has expanded.” (L.MOCH.108; Pharmacy Technician)*

#### 5.5.4 Holistic consultations and pharmaceutical care

Many of the learners from across the pathways felt that the breadth and depth of their clinical knowledge had improved and described feeling more confident in their ability to understand, interpret, and evaluate relevant information from a range of sources. This expanded knowledge base was felt to enable a more holistic and comprehensive approach to patient consultations and care. Many of the pharmacists felt that their clinical reasoning and decision-making skills had improved and subsequently described adopting a more proactive and autonomous approach to their practice.

Learners on all pathways frequently indicated that the learning pathways had enabled them to expand their knowledge and gain a much greater appreciation of where to locate relevant resources, whilst also improving their critical thinking and reasoning skills.

*“I think I’m much more confident on the clinical side as a pharmacist and especially on evidence based which is like I know where to find the information, I know how to criticise something, it’s more on my critical side that I’ve developed more because I didn’t have it that much before starting that course. But it’s kind of like looking in a different, I think that looking at something in a different angle”. (L.PR.119; Pharmacist)*

Examples included reference to clinical guidelines, such as the NICE guidance and clinical knowledge summaries, local and regional guidelines, and academic reports and research papers. Many learners described feeling more skilled at evaluating the available evidence, and many described using the available resources to improve their daily practice and decision-making. Some learners also reported that they were able to engage in conversations with patients and other healthcare professionals from a more informed standpoint and gave examples of having shared their learning and the available resources with members of their wider team.

*“I think for me the main learning point is, as I keep saying, searching the evidence base from the NHS and other sources like clinical trials to be able to give information to patients, develop evidence and also evaluating this, the clinical trials to make sure that I’m giving the best, I’m giving my decisions, I’m using, giving it using the best evidence available. So, I think...that’s a very important gain from this course definitely.” (L.PR.118; Pharmacist)*

*“Because my clinical knowledge is starting to increase and deepen, I would say possibly when I now make suggestions to the prescribers, they’re a lot more guidance based, that’s the word I was trying to think of.” (L.PR.122; Pharmacist)*

Many of the learners from across the learning pathways felt that improvements in clinical knowledge and reasoning skills had enabled them to move towards adopting a more holistic and comprehensive approach to patient care than they had previously. Learners described feeling more confident in their ability to undertake patient consultations, including feeling more able to proactively explore treatment options and respond to patients’ queries. Learners described exploring a broader range of issues within their consultations, including issues such as diet, exercise, smoking, housing, mobility, and general wellbeing, alongside issues directly pertaining to medicines.

*“...the main thing for me that I took from that was having more of a holistic approach, and not just focusing on the medicines, but other things that can support and help an individual rather than just, I think pharmacy in itself tend to just look at medicines as medicines, but when it’s sometimes other things as well and it’s small things that can make a big difference to someone’s life.” (L.MOCH.103; Pharmacy Technician)*

Taking a more holistic view was felt to be valuable with regards to offering a more comprehensive assessment of the issues potentially influencing the individual’s health and their subsequent medicines use. Learners described having identified patients with unmet needs, including social isolation, that they could then aim to address through signposting or referrals to other professionals or services. A MOCH pharmacist offered the following example in which they had taken the initiative and sought to address concerns regarding care arrangements that conflicted with the requirements of the Mental Capacity Act (2005).

*Before I actually went on the programme, I used to do medication reviews, polypharmacy medication reviews in my GP practice work. And I am now, what I’m trying to do is I’m trying to reflect back to how I used to do clinical reviews, medication reviews. And actually, there is so much I have now changed. So I’ve been able to reflect back, so absolutely, it has changed the way I practise, and the way I speak to patients, the way I examine the patients, and also try to have a better impact on the patients’ care...I’ve gone into a care home, and I’ve identified patients who lack capacity, and they haven’t been taken care of properly, so for instance they’re covertly providing medication, and actually the care home haven’t ticked all the boxes around the best interests meeting, sometimes not even informed the GP practice, they’ve not even taken any pharmacy advice, so I go back and I say, right, we’re going to go back and start this again. I’ll review the meds, do the whole process, and make sure also that the paperwork behind that patient is in place, that if the patient has a power of attorney that they’re well informed, and if they’re not, in one case I had an advocate put in place through the care home.” (L.MOCH.110; Pharmacist)*

In addition to exploring a broader range of issues, some learners also described gathering a more in-depth and detailed level of information. Some learners linked this practice to feeling more confident regarding their overall knowledge and skills and ability to act on the information that might arise during consultations.

*“It’s really made me think about what I’m doing, my consultations may take a little bit longer but I’m giving them a lot more thought. And then it does make me think, well I wouldn’t have thought that way before, or I wouldn’t have documented*

*that...just asking loads of additional questions during the consultation. Definitely asking different and more questions, and probably referring less to other clinicians because I just feel a bit more comfortable with the whole thing...And again, clinical stuff, the way I ask my questions are very different now.” (L.IUC.137; Pharmacist)*

Several pharmacists felt that their communication skills had improved and that they had modified the way in which they now shared information during consultations, with a shift towards using more patient-friendly and accessible language.

*Definitely consultation skills: understanding the patient better, looking at their body language and also the way you ask questions, because that has a huge bearing on what sort of care your patient receives from you. So that was really important for me...I think consultation skills has been huge, so that’s been a really good learning point...So I’ve been able to reflect back, so absolutely, it has changed the way I practise, and the way I speak to patients, the way I examine the patients, and also try to also have a better impact on the patients’ care.” (L.MOCH.110; Pharmacist)*

Some learners reported having been introduced to helpful consultation models or frameworks that could be used to structure their consultations and aid comprehensiveness. An awareness of different approaches to framing conversations, such as coaching and motivational interviewing, was also reported to be beneficial in terms of engaging with patients effectively.

Many learners, particularly those from the post-registration pathway, reported allowing more time for consultations so as to give patients more opportunity to share information and ask questions. Learners noted having shifted towards a more patient-centred approach in which consultations were led by and centred on the individual patient.

*My consultations are different now, like checking already what the patient knows, and what they’d like to know from me, and how I can help them. So very much more the focus on the patient, rather than I used to be the very...paternalistic style of pharmacy, which was, here we are, this is this, this is how you do it. And then it developed over the two years to, this is your medication, what do you want to know more about it? Is there anything you’re not sure of? How can I help? And it really opened up more meaningful conversations with patients...A patient sometimes is more of an expert on their condition than you are, because they’ve lived with it for 20 years. Yeah, and it just opened up a new way of thinking about patients and the pharmacy, which, yeah, which I’m really grateful for. Because had I not done the course, I don’t think this is something I could have learnt on my own.” (L.PR.131; Pharmacist)*

A learner from the MOCH pathway gave the example of offering patients the opportunity for additional time to consider treatment options following the consultation, so as to maximise their potential involvement in decisions concerning their care.

*“And giving people the time to make a decision, I think because I’m at a care home for a few weeks doing all the residents, I can say well I’ll come back next week and you can have a think about that, which also helps to assess capacity as to whether they’ve actually retained what we’ve said. It also means they’ve had a real good think about what they want to do.” (L.MOCH.166; Pharmacist)*

Several MOCH learners also described having developed a more collaborative approach to consultations, which included patients’ family members, where appropriate, and the views of other healthcare professionals.



For pharmacists who had completed the IP qualification, the ability to prescribe offered the opportunity to fully enact their clinical judgement without the need to refer on to an additional healthcare professional. Examples of prescribing in practice were most often made by IUC learners.

*“I think prescribing and that ability to approach a case in a completely different way and to be able to close the case. Previously in community pharmacy, you’d be very good at identifying a problem, but then you’d have to refer them off, you have to refer the patient off to the GP or to somewhere else. Whereas now we can, as professionals, I can pick up a case and do my risk assessment, do my triaging and then close it essentially.” (L.IUC.136)*

### 5.5.5 Applied Leadership

Many learners across the learning pathways highlighted instances in which they had applied or utilised leadership skills within their practice. These examples often related to influencing positive change in the practice of others and developing new or existing services. Several MOCH learners referred to having influenced and generated positive change in the workings of the care homes they visited:

*“When I’ve made some changes in some of the care homes, I had one that wasn’t doing so well shall we say and the changes I’ve helped them make, and afterwards I thought, oh that’s where [leadership] has come in, I’ve done it without really realising it, but that’s what I’ve done is used those leadership skills.” (L.MOCH.115; Pharmacist)*

Some learners suggested that the PhIF learning had enabled them to understand leadership in a much broader and personally applicable sense than they had prior to undertaking the pathway.

*“Since I’ve been in my new post, I’ve had to phone round the new care homes that I’m working with and introduce myself, get hold of the relevant member of staff and I think I’ve probably had more confidence doing that...I think for years I’ve always looked at leadership as like management, you know. And I was just like, well, I don’t lead a team. And then I suppose we’ve done that leadership section of the course and you realise that you don’t need to be that to lead...It’s slowly turning my brain round so that actually you don’t have to manage anybody and yet you can still lead.” (L.MOCH.170; Pharmacist)*

*“But that comes through the leadership module. And having the confidence to chair a meeting as well, which is something I wouldn’t have done before. Because I’m sure I would have been capable of it, but I think it was confidence. Whereas the course, the pathway, my confidence has improved. So now things like chairing meetings and facilitating between practice managers and care home managers is, that’s definitely improved.” (L.MOCH.103; Pharmacy Technician)*

Improved leadership skills were often felt to be grounded upon an increased sense of confidence and a greater willingness to approach situations in a more proactive manner. Several participants from across the pathways offered examples of having acquired knowledge and skills that had enabled them to introduce and develop new and existing systems or services within their workplaces, including new processes for bulk prescribing, guidance for online prescription ordering, a medicines reconciliation service, screening services in community pharmacy, and an emergency training package to prepare for staff shortages.



*“Also putting ideas forward to improve or to develop services and service improvement, I’ve been able to use some of those development strategies that we were given on the course in my mental health job, which has been really helpful because it’s an area that I’ve never really focused on, I’ve always been quite clinical, I never really thought about management and structure and service development.” (L.IUC.142; Pharmacist)*

*“The staff that I work with, some things we’ve changed as I’ve learnt stuff, and I’ve said maybe we ought to be doing this a different way. Like with the screening for atrial fibrillation when they’re measuring blood pressure, a lot of my staff will measure blood pressure, but they didn’t know how to screen for AF, and didn’t know that it could be done. So now that’s something that we’re all doing”. (L.PR.129; Pharmacist)*

Learners across the pathways also described having shared their learning with colleagues and members of their wider teams, thereby contributing to the further development of individuals and services. Sharing had been achieved through a variety of planned activities, such as training sessions, or through the adoption of roles with an educator element, including supervisory roles.

*“Also learning styles and running a learning event from the education module, those skills were quite relevant actually...in terms of the benefits for my employer, like I said, I understand how pharmacies should work better with general practice and because I was tutoring people, a number of people at the time, the education parts of the education module helped me to understand how people learn better, so then I applied that to the people I was training...And knowing more about how people learn and the barriers and facilitators to helping people learn in the workplace, that’s always a bonus because I can support people better when I’m working with other people, especially like new people who have started. There’s definitely benefits to my organisation.” (L.PR.130; Pharmacist)*

Many other learners and employers described the impact of having shared their learning informally through discussions with colleagues in their wider teams and workplace settings. Examples including the sharing of resources, tools, guidance, and information.

*“Where my colleagues have got similar patient questions and they’re not 100% sure and they ask me, I can show them where to find the information. So, I know one of the doctors has definitely benefited from that, because he watched where I was looking and he was like, ‘oh I didn’t know I could look there’ and was able to figure out why I got the answer I did. And the fact that it was evidence based. It might sound like little things, but I think it just filters through the team slowly, and I learn from them as well.” (L.IUC.137; Pharmacist)*

*“Also improving the knowledge of some of the care home staff in the limited places where we’ve been doing that work. I think hopefully we will have shared our knowledge and experience with some of those individuals in those care homes.” (E.MOCH.500; Service Lead)*

Other pharmacists and pharmacy technicians cited increased confidence with regards to other aspects of leadership, such as chairing meetings, facilitating conversations, promoting collaborative working, and sharing good practice.

*“I share good practice between homes as well now and get them to work together more. So, if there’s a home with something, a really good practice, I share that with other homes. And they’re now communicating with each other more, same with the*

*practices as well. If we come across communication, where the communication barrier is broken down, what I've done since being on the pathway, I think it's given me more confidence when it came to the leadership module. Facilitating meetings between the practice and the care home....So that's something that just, that personally I've started doing and I've noticed a big change really. (L.MOCH.103; Pharmacy Technician)*

### 5.5.6 Improved patient outcomes and safety

Many of the interviewees from across the pathways felt that the gains they had made in respect of the clinical competencies detailed in the previous section had enabled them to provide better quality care and had contributed towards enhanced outcomes for patients. Learners and clinical supervisors, particularly those from the MOCH pathway, spoke frequently about improvements in patient safety, with many feeling that the learning from the PhIF pathways had enabled the learners to generate safer practices in care homes, including supporting care homes to improve their medication management systems.

*"Often like when an error has happened with medicines, it's getting the care home to change practices, it's very easy just to blame people rather than look at their systems and try and create a safer working environment so, often it's more systemic thing and trying to improve that, which obviously has a bigger impact on everyone in the care home. (L.MOCH.113; Pharmacist)*

*"Reduction in polypharmacy, inappropriate prescribing. I'm not able to go as far as to say we've been able to avoid any admissions, but I think we've been able to prevent harm to some patients, as well as improving the quality of their life." (CS.MOCH.500: Supervisor)*

Some of the participants from the MOCH pathway highlighted instances in which they had implemented changes that had resulted in cost savings for their employer or the NHS, often in the context of medication reviews:

*"I think benefits for my employer or my workplace, or for NHS, is you're helping them by reducing waste because that is one of the top priorities of NHS ten year plan, wastage and I think the work that I do in the MOCH programme helps reduce waste, helps highlight why there is waste, conducting medication audits, ordering process audits, medication reviews which ideally should be done annually for each resident in the care home. So, with our team, as the MOCH team we go in, we are doing those reviews. We're reducing prescribing of antipsychotics and SSRIs so there is a huge benefit waste wise and medication wise, we are reducing their drugs and things like that for prescribing. So, the benefit is huge for the organisation I think, on that aspect. A polypharmacy reduction, again, so huge benefits for the organisation." (L.MOCH.108; Pharmacy Technician)*

Some MOCH learners provided additional examples of having reduced the frequency with which care home residents underwent unnecessary or avoidable hospital admissions, thereby enabling residents to continue to receive support and care from familiar staff within their home environment. Supporting optimal use of healthcare resources and the effective redistribution of workload across the wider health service was also cited by IUC and post-registration learners as a result of having broadened their knowledge, skills, and scope of practice:

*"In the past I would be reluctant to deal with the warfarin ones. I'd be more inclined to refer them to an out-of-hours service such as a GP. But now I'm more prepared to*

*take that on board myself and maybe the outcome would be for my advice to be the end point, rather than sending them on to another provider. So again, helping reduce pressure on out of hours, especially in the COVID time". (L.IUC.141; Pharmacist)*

*"I definitely feel more confident in my role and the impact I can, that I can make...So in terms of patient safety and reducing costs to NHS, like preventative public health". (L.PR.117.CF, Pharmacist)*

## 5.5.7 Personal and Professional Development

Improved self-confidence was a frequently cited outcome by learners across all pathways and was referenced in connection to many of the outcomes highlighted in the previous section. Most learners reported having overcome feelings of self-doubt and having gained a greater level of overall confidence in their abilities. Some learners also noted that the reflective element of the pathways had enabled them to develop greater self-awareness with regards to their personal strengths and weaknesses.

*"It has made me a little bit more ambitious and made me realise I probably know more than I thought I knew maybe, so it's probably given me an extra measure of confidence" (L.MOCH.113; Pharmacist)*

Some learners felt that they had developed greater personal resilience through undertaking the learning pathway, due to having to improve their organisation and time management skills, as well as problem-solving capabilities. A few learners specifically noted that they had subsequently felt better positioned to cope with the challenges of COVID-19.

*"I think the course has probably put me in a better place, made me more resilient to face things and to make me maybe a bit more assertive during Covid when I've had to get my point across or whatever." (L.MOCH.168; Pharmacy Technician)*

Learners from across the learning pathways believed that the learning had contributed to a change in the way their role was perceived by others. Many learners described feeling more confident with regards to utilising their skills in practice and felt that their contribution was being increasingly recognised, valued, and sought by other healthcare professionals.

*"We know from speaking to colleagues that we're very valued within the service [IUC/111]. We have members of staff from, so there's multiple teams that sit, it's almost like a call centre environment and there are multiple teams that sit within that, so we'll quite often get colleagues from other teams asking for a pharmacist and asking for advice or transferring certain calls over to us so we can specifically handle them because we're best placed to do that basically. So, we know that our colleagues do get a lot of benefit we can answer these calls so much quicker than they can when they're medicine related, so 100% we do have benefit. (L.IUC.138; Pharmacist)*

Improved relationships with other professional groups were often cited as a key outcome of the MOCH learning pathway.

*"I think it's that, sort of, confidence in themselves to be carrying out the roles and I think that if you've been on training, and you know what is involved in a care home, and if you've got that understanding of the care home environment which, yes, you can gain by the practical experience, but having that theoretical knowledge as well really helps and I think that that helps to build up the relationships with the GPs and*

*the care home staff, because you're just sharing that appreciation for why they're there as well as why you're there." (E.MOCH.506; Service Lead)*

The enhanced clinical skills gained through the pathway offered learners the opportunity to demonstrate their worth within multi-professional teams and environments. Learners described entering relationships and exchanges on a more equal footing than they might have done previously. Improved relationships with other professionals were also believed to be mutually beneficial in terms of enabling the sharing of expertise.

*"I think the pathway's given me more confidence when I'm doing medication reviews in terms of the recommendations I'm making and also the consultations I'm having with patients. So, that's building a rapport and a relationship with the GPs and the care home staff. And I've also been able to, like you can almost prove your worth by the interventions that you make, and I think that's been recognised that the interventions I'm making are really significant. But obviously then building relationships with the wider health care professionals, so like the SALT [Speech and Language Therapist] and the dieticians and the PD [Parkinson's Disease] nurse, I've been able to build really strong relationships with them so we can, I can liaise with them quite readily now and get advice about patients and obviously they can do the same for me and they're actually asking for advice from me as well on meds management issues, so it's helped to embed me really into primary care in my role". (L.MOCH.102; Pharmacist)*

The PHIF funding and training pathways were also suggested to dovetail with the advancing of roles and opportunities available to the pharmacy workforce.

*"I strongly believe the pathway is going to create a whole bunch of pharmacists with a diverse range of skills that have more, more opportunities, more job opportunities for pharmacists as well, yeah, in hospital, engaging with others, GP surgeries and yeah so it's opened up the access to other areas that initially were no pharmacists" (L.PR.118; Pharmacist)*

The change and expansion in roles was particularly felt by MOCH pharmacy technicians.

*"I think it's been brilliant quite honestly. I think the MOCH monies and the [provider name] course have revolutionised what pharmacy technicians are doing, and I don't think they will ever be...I don't think their role will ever be the same quite honestly. And I think they're leading the way as well, so they're way more clinically advanced than what hospital technicians are ... I think that they've pushed the boundaries of what a pharmacy technician can do. So yes, so I'd say for them it's revolutionary and I think in another ten years' time, what we call a pharmacy technician will be much closer to what MOCH technicians are now and working at." (CS.MOCH.502; Supervisor)*

Many of the learners felt that the learning pathways had increased and broadened their career prospects. Some learners, predominantly from the post-registration pathway, had imminent plans to move into new roles. These learners often felt that they could not fully utilise the skills that they had gained from their pathway within their current role and hoped that by moving into new primary care / PCN roles they would have a greater opportunity to continue to apply and develop their clinical skills.

Some post-registration learners did not have immediate plans to change roles but intended to move into more clinical roles in the future, often after completing further

training, such as the IP qualification. Learners from the other pathways often felt unsure about their long-term career plans but felt that the new skills they had learned on their pathways had opened new potential avenues.

*“For me, the biggest thing is that it’s provided a new career pathway. Because currently where I was before this pathway, I was pretty static, and really didn’t have anywhere to go. So, in that sense it has provided me a refresh, a new opportunity to look at, rethink my career pathway, and I’m hoping it’s going to open up some new doors for me”. (L.MOCH.110; Pharmacist)*

Other long-term career plans included remaining within their current role, moving into tutoring or academic roles, moving to a more clinical pharmacy technician role, moving to work within urgent care, and moving to more strategic roles within the NHS.

## 5.6 Accuracy Checking Pharmacy Technician Pathway

The findings concerning the ACPT pathway are presented separately due to the distinct focus and delivery of the pathway. It should be noted that the number of ACPT learners interviewed was small and the presented findings should be considered within the context of this limitation. Of the four ACPT learners interviewed, three worked for community pharmacies and one worked within a prison pharmacy. Registered pharmacy technician status was a prerequisite for all entrants to the ACPT learning pathway. One of the education supervisors interviewed acted as a work-based supervisor for ACPT learners.

### 5.6.1 Learners’ motivations for participation in the learning pathway

All of the interviewed ACPT learners had been employed within pharmacy environments for several years at least and had previously progressed through a range of roles including those of counter assistant, dispenser, and pharmacy technician. The most frequently cited motivation for undertaking the training pathway was continued career progression.

*“I’ve always been going up the ladder, like trying to go up. So, after the technician course, the next step is the ACT. So, when [employer] said that there’s a course coming up and obviously it’s funded as well, I decided to go ahead with it.” (L.ACPT.501; Pharmacy Technician)*

The learners typically described having been made aware of the learning pathway and encouraged to participate by their employers and colleagues.

### 5.6.2 Employers’ motivations to support PhIF learning

Few of the community pharmacy employers that were interviewed had supported their pharmacy technician workforce to access the ACPT training. However, employers that had supported access, particularly those representing independent pharmacies, highlighted the role of the PhIF funding in enabling their pharmacy technicians to access training that may otherwise have been financially inaccessible. Employers representing large multiples indicated that they had tended to continue to utilise pre-established accuracy checking training courses and providers to train their pharmacy technician and wider support workforce (see 5.6.3).

For employers, supporting members of the pharmacy team to become accuracy checking pharmacy technicians was hoped to enable more effective workload



distribution and allow more opportunity for pharmacists to undertake a more clinical and patient facing role within the pharmacy.

*“I’ve got two technicians that are qualified and I’m wanting to take those up to accuracy checking technicians so that I can free up my time...I’m trying to get to the stage where they are competent and confident to carry out their role, to make sure that it frees up my time for me to do much more of the stuff that I was trained many years’ ago to do, rather than just being here to check.” (ES.ACPT.203; Education Supervisor)*

### 5.6.3 Challenges and barriers experienced by community pharmacy employers

The most frequently cited reason for not accessing the PhIF ACPT pathway, particularly amongst employers representing large multiples, was a preference for maintaining pre-existing and established relationships with other accuracy checking technician (ACT) training providers. Disrupting existing relationships was seen to be particularly disadvantageous given the uncertainty regarding the longevity of the PhIF funded ACPT training pathways.

For large multiple pharmacies, supporting different employees to access ACT courses from a range of providers was also felt to create unnecessary disparity and complexity with regards to enabling support structures, resource provision, and assessment procedures.

*“We use a [training provider] [ACT] course, so we haven’t designed it ourselves, we actually pay to the [training provider] course. I think it comes to a question of complexity, so if we’ve got, let’s say 50 people going through the [training provider] course, and we’ve got another 10 going through a different course, the need for support might well be different on each course. Whereas, if we can be more uniform, then that makes it simpler for everybody. And I think that’s the real reason that we are progressing with the [training provider] course is that we know what we are doing with that one, we don’t have to change the resources, or we don’t have to deliver it in a different way.” (E.CP.514; Employer)*

The concerns regarding employee retention that were highlighted previously concerning community pharmacists were also referenced in respect of the pharmacy technician workforce.

*“It’s a problem if an ACT moves on and goes to hospital. Because we do shed a lot to hospital, because we train them up well and they work hard in community, so hospitals love them. It’s just then a problem because we have to start from scratch again, and community pharmacy seems to be training up a big percentage of the ACT workforce.” (E.CP.521; Employer)*

A community pharmacy employer highlighted the impact of the perceived disconnect between the training and the opportunity for reimbursement of clinical services and their capacity to upskill and utilise the skills of their workforce as a whole, with particular reference to the barrier this presented to ACPT training.

*“Once you’ve trained somebody to be an ACT, they demand more money. They expect more money and rightly so. There’s more responsibility, they’re trained up. Where’s that money going to come from?...And if those services aren’t there yet, and the funding’s not going to be there yet, obviously, then we get stuck in this kind of grey area, or purgatory...And if we don’t give them that money now, that extra money, they’re going to go somewhere else, like hospital where the pay very much higher, or*



*even primary care like general practice. So, then you've got the risk of training people up to leave almost. At the same time, we don't want to not train people up, because you want to see people developing and growing and flourishing, et cetera, with your company." (E.CP.513; Employer)*

Several other participants also highlighted a lack of perceived opportunity for ACPTs in their organisation due to the nature of the workload within their specific pharmacies and the reluctance of some pharmacists to concede the responsibility of checking to other members of the pharmacy team.

#### 5.6.4 Delivery

The ACPT learners consistently described the experience of undertaking the pathway in positive terms. Learning took place entirely online and within the workplace, with guidance from the course handbook and a work-based education supervisor. Assessment was done via the process of accurately checking 1,000 items, completion of an e-portfolio, and a final online practical exam. Learners spoke positively about the online and work-based learning format, with the exception of one learner who highlighted having experienced difficulty with the online nature of the final practical assessment.

The content of the pathway was perceived to be highly relevant to the accuracy checking role and there were no concerns raised with regards a lack of opportunity to implement the skills that had been learned. In contrast to the experience of community pharmacists undertaking the post-registration pathway, learners on the accuracy checking pathway described securing protected time to undertake learning within the workplace as unproblematic, often supported or facilitated by colleagues, and undertaken in conjunction with their education supervisor.

*"I was set up an hour a day, at the same time when my education supervisor is accuracy checking. So, I am sitting and checking first, and then [they] check what I checked after me. Yeah, so it's an hour a day and, this time, this hour is protected, so I'm not pulled away to do dispensary slot or doing something else" (L.ACPT.152; Pharmacy Technician)*

#### 5.6.5 Support and supervision

Learners consistently described feeling supported by their employer and colleagues. All learners on the ACPT were allocated a work-based supervisor within their workplace. Learners tended to describe this model of supervision favourably due to the frequency of contact, high accessibility, and level of support and feedback this provided.

*"Having the education supervisor was quite handy because I always spoke to them. Whenever I worked there, they're there, so I can speak to them and then they could guide me. They would see the way that I work as well and he will give me the improvements and guidance. They were very supportive." (L.ACPT.151; Pharmacy Technician)*

The work-based supervisor who was interviewed similarly conceptualised their role in terms of providing feedback, enabling reflection, and supporting the development of the learner's competencies.

*"I think it's really important because it's all about encouraging people isn't it? And making sure that they're aware of their own working practices, making sure that*

*they're aware that they, what their strengths and their own weaknesses are, so that they can regulate themselves a little bit more.” (ES.ACPT.203; Education Supervisor)*

### 5.6.6 ACPT outcomes and impact

ACPT pathway learners frequently described having developed greater confidence in their accuracy checking skills. Several pharmacy technicians also noted that the pathway had engendered a positive impact on their wider dispensing skills and improved their general attention to detail, often resulting in a reduction in dispensing errors within the pharmacy.

*“I definitely feel a lot more confident in what I do. I must admit, it has changed my dispensing practices. Because obviously as a checker you are checking everything, the labels, the product against the labels, the name, the address, you're checking everything and that actually transpires into your dispensing. Because I'm now more aware of making sure what I'm dispensing is accurate.” (L.ACPT.154; Pharmacy Technician)*

Several ACPT learners also reported improved confidence in their leadership and independent decision-making skills, particularly with regards to overall management of the dispensary.

*“What I realise now, how much more I am open to learning, that I can lead my colleagues, I can make decisions, like in dispensary. If I am a technician and the rest of the people are dispensers, I have responsibility to look after my dispensary colleagues and therefore make a proper, right and legal decision in interest of our patients and their family.” (L.ACPT.152.CF; Accuracy Checking Technician)*

Leadership was often reconceptualised leadership in a more personalised and actionable sense, mirroring the findings reported previously in respect of the other in-scope pathways.

*“It's funny because, well everybody's a leader in some way or the other. That's what they say in this module, which is true, everybody brings something to the table. I don't see myself as in charge or anything. But when it talks about leadership it's not about being in charge, it's about giving a vision, it was really good.” (L.ACPT.154; Pharmacy Technician)*

Learners similarly described sharing the learning from the pathway as a means of supporting other members of dispensary or wider pharmacy team to work more effectively, with the intention of reduced errors and improving patient care.

*“If I recognise any errors, then I would share the information to make sure it will not happen again. Especially if it was signed by a different dispenser and a different pharmacist. Then we would, we have a near miss log anyway so we'll put it down there and then we'll share the information. Yeah, so going through the course that would have, it gives me the knowledge anyway. So, it's easier for me, let's say a counter assistant comes and asks a question because she can't decide what to give to the patient that she's serving, then I could help her with the knowledge that I have, that you don't have to go and speak to the pharmacist. Helping and sharing the information very confidently.” (L.ACPT.151; Pharmacy Technician)*

Many learners from across the pathways believed that the learning had enabled more efficient workload distribution in the workplace and across the wider healthcare system. ACPT participants felt that they had been able to alleviate the workload of

colleagues within the pharmacy, thereby enabling pharmacist colleagues to undertake more clinical activities.

*“Community pharmacy, it’s becoming a more sort of, a service. Not just getting regular medication, it’s other services like medication reviews, like MUR, NMSs and so many other, like non-smoking stuff, around sexual health, like the healthy eating and other services. So, if there are some accuracy technicians that can carry on with the dispensing, like the sign off the prescription, then the pharmacist can handle other services. So, that means in the pharmacy, that you are carrying on with the services and you are carrying on with the dispensing as well.” (L.ACPT.151; Pharmacy Technician)*

## 5.7 Looking forward

### 5.7.1 Sustainability

There was an overall sense of optimism amongst learners, service leads, and supervisors regarding the potential for the outcomes generated by the training pathways to be sustained. This positivity was typically based upon a belief that the knowledge and skills that had been gained would remain relevant and valuable regardless of changing services and future circumstances.

Several learners and supervisors also felt that the learning had the potential to act as a foundation on which learners could continue to build and expand their skills and knowledge through further practice experience and training.

*“I think the learners themselves will underpin that [sustainability], because as long as you’ve learned something you can’t take it away really. But it’s more fundamental than that, they’ve learned something, and their job role is changing because they’ve learned something.” (CS.MOCH.500; Supervisor)*

However, some MOCH learners and supervisors were unsure as to whether the benefits could be fully maintained in the context of anticipated changes to care homes services and uncertainty regarding their role:

*“What happens after 18 months when I finish the course or after two years when my contract finishes? What happens to all this knowledge that I’ve gained, all the time that they’ve invested in me? That substantial commitment is yet to be seen”. (L.MOCH.108; Pharmacy Technician)*

The need for an overarching, national, proactive, and strategic approach to maximising the benefits associated with the PhIF funding and training pathways was also highlighted, in this case relating to IUC services.

*“It’s fine trying to sustain it within individual trusts and so on, and that should be done, so it’s not just done as a pilot and then it fizzles or whatever but...it’s got to be more, okay, so how does this inform future service delivery? How does it inform workforce planning? How does this clinical configuration impact on the care given to patients and so on? I can sort of understand this in that people might just be so focused on what’s in front of them and what they need to do this year, but I’m always trying to think – and I suppose that comes down to my role again...what’s the plan for the next three to five or more years?” (E.NHS.504; Service Lead)*

## 5.7.2 Challenges facing the community pharmacy sector

Several employers and community pharmacists highlighted the evolving shift in community pharmacy practice away from dispensing and towards more patient-facing and clinical activities, alongside the rise of automation and online pharmacy services. They raised concerns that the community pharmacy sector risked becoming obsolete if it did not proactively adapt and evolve in response to these changes. The comment from a learner below illustrates a typical concern.

*“I think that the basic, the original roles, whether it be in hospital or actually in community, are going. In hospital, computerisation, automation, on technicians and on pharmacists, you don’t need them as much, in the same traditional sense and the same in community. That, actually, unless they redevelop and redefine the role, pharmacy is finished in [the] community. I think that the government have decided that and I think actually as a profession, it needs to move on. I’m quite glad to see that actually it is and I do think that’s the development of the clinical side of things.” (L.MOCH.105; Pharmacist)*

Some learners were concerned that the community pharmacy workforce could be “left behind” if they failed to respond to the changes by adopting new roles or pursuing further training and development opportunities, including independent prescribing.

The most frequent concern raised by community pharmacy employers was the current funding model, with many employers voicing fears regarding the ongoing financial viability of the sector.

*“From community pharmacy, I think unless the funding situation changes, we are going, in England in particular, we are going to see a large number of pharmacy closures, consolidations, there’s obviously lots of pharmacies on the market at the minute. So, I think, so that funding element and that then flows through onto the staffing levels and therefore ability for people to have time to develop themselves within the working day, which was always fairly tight anyway, but I think that becomes worse. And therefore, I think we are sort of a bit of a downward spiral in terms of the ability to train our way out of the situation.” (E.CP.514; Employer)*

Many employers felt that the focus on dispensing volume within the current pharmacy contract contributed to the challenges that they faced in respect of supporting their workforce to adapt towards a more service or outcomes-based model of working. Several employers were concerned that the increasing popularity of portfolio working and the increase in primary and secondary care roles risked creating a shortage of pharmacists and pharmacy technicians within community and hospital settings.

*“I think there’s a risk in terms of recruiting pharmacists and pharmacy technicians, that some of these newer roles become very attractive. But we have to be mindful of some of the bread-and-butter roles, you know, within Mental Health trusts and acute trusts, because actually if we have too much of a swing the other way in some of these new roles, then actually that is a big risk for patients.” (CS.MOCH.500; Supervisor)*

## 5.7.3 Delineating the contribution and skills of the pharmacy workforce

Interviewees from all groups described a lack of understanding amongst the public and other healthcare professions regarding the role, skills, and expertise of the pharmacy workforce. This lack of understanding was felt to undermine the potential

contribution of pharmacists and pharmacy technicians to patient care. The need to further demarcate and maintain pharmacy's specific contribution was also noted with respect to remuneration and the parallel development and progression of other professional groups:

*"I think there's always going to be a challenge of, as fellow healthcare professionals train, either in parallel or slightly differently, is to make sure we are offering value for money, but not losing our recognition of expertise in medicines. So, as we get paramedic prescribers for example, as you get more nurses, and then the flip side of that being, well pharmacists do tend to be more expensive than a nurse, cheaper than a doctor, but more expensive than a nurse, that how we continue to show that actually there's a reason for that, and the knowledge and expertise in terms of medicines, is at the level, particularly in somewhere like urgent or primary care, where you haven't got the ongoing management or the complexity, perhaps, of some of the cases you might do in secondary or tertiary specialist care". (E.NHS.519; Service Lead)*

Several employers from across the different settings also highlighted concerns regarding the broadening skill level variation within and between pharmacy sectors, and the creation of a 'two-tier workforce'. This was referenced with regards to training such as the PhIF pathways, but particularly in respect of the anticipated changes to the undergraduate pharmacy degree:

*"All these changes that are going to be happening to initial education and training pharmacists, my biggest nervousness is that we're going to end up with a two-tiered profession. Because we're going to integrate IP into the first five years, what then happens with our legacy workforce? You know, so how do we then access whatever funding to bring everyone up to the same level? How do we ensure that everyone, whether it's through credentialing, or whatever it is we need them to do, that everyone's then of the same standard? You know, we've raised the bar for the whole profession and not just those new ones coming through." (E.CP.516; Employer)*

#### **5.7.4 The development of primary care networks (PCNs)**

Several employers questioned whether the pharmacy sector was equipped to manage the changes inherent in the move towards PCNs, particularly with regards to understanding and navigating integrated care systems, and effectively influencing and negotiating with commissioners.

*"I think we need much stronger leadership in terms of not just the clinical aspects, but we need many more pharmacists and pharmacy technicians to understand health and social care systems and how we can influence them and work within them. Because in the direction of travel with integrated care systems, we don't have enough knowledge of that currently, in terms of how we best navigate all of that." (CS.MOCH.500; Supervisor)*

Some employers pointed out that pharmacists with stronger skills in systems development might gravitate towards large multiples where there was scope to progress into more strategic roles, whereas independents might be less well placed to negotiate and understand changes in commissioning systems and take advantage of them.

A lack of community pharmacy presence within the leadership of PCNs was also raised by some employers. The current structuring of PCNs was believed to hinder the development and provision of locally sensitive pharmacy services.



*“So, I think the primary care networks and the ability for them to function and be inclusive of community pharmacy is really challenging, because I think the network structure that’s been put out from NHS England talks the talk but doesn’t enable the walking of collaborative working. And then I think we need a better system structure. Community pharmacy is 95 per cent if not 99 per cent a national contract...there is a little involvement with NHS England and a regional structure, there’s virtually no involvement through CCG and local authorities, and therefore the tie in and the importance or the relevance especially when you come to prevention is lost.”*  
(E.CP.520; Employer)

Some MOCH learners expressed concerns regarding the impact of PCNs on their roles. There was a general sense of uncertainty regarding the future configuration of care homes services and concern regarding awareness of the upcoming changes, the way they had been communicated, and the integration of pharmacy roles into PCN structures. Some participants believed that the pharmacy technician role in particular had been particularly poorly defined and migrated:

*“I think the challenges are far greater for pharmacy technicians, because they’ve not been discussed in PCN world, so they’ve done all this training, but they, from what we can see, and what I’ve seen, is that there’s no potential talks about how they migrate. So, I think that’s really tough for the pharmacy technicians. But then they are very valued in a team very near to me, so I know that there is a lot of scope for them. So, I think those are the challenges for the pharmacy techs.”* (L.MOCH.110; Pharmacist)

## 5.8 Summary

A total of 81 semi-structured interviews were conducted, involving 51 learners, 12 community pharmacy employers, eight service leads, and 10 clinical or education supervisors.

Learners had varied reasons for participating in their learning pathways. For primary care pharmacists, the primary motivation was to undertake the role that was supported by the learning pathway; the MOCH and IUC roles were appealing because they were seen to offer an opportunity to adopt a more patient-facing role and develop skills in a supported environment. The majority of community pharmacists on the post-registration pathway were interested in improving their knowledge and skills, with the intention of either developing and updating their practice or moving to a new role because they were disillusioned with their current roles. Some community pharmacists wanted to build up confidence and develop clinical skills prior to undertaking an IP qualification in the longer term. Many of the primary care pathway pharmacists already held an IP qualification before they started; if not, they were gaining it as part of their learning pathway.

Overall, most learners did not express any doubts or concerns about participating in the PhIF learning pathways. Concerns that were raised tended to relate to the expected time commitment and workload which was most prominent for post-registration learners due to the absence of any protected learning time.

Community pharmacy employers described various challenges and barriers to actively supporting their employees to access the PhIF learning pathways, including financial investment, concerns regarding workforce retention, lack of consultation, and low awareness of PhIF learning opportunities amongst community pharmacy employers and the workforce. The most frequently cited reason for not accessing the ACPT pathway, particularly amongst employers representing large multiples,



was a preference for maintaining pre-existing and established relationships with other accuracy checking technician (ACT) training providers.

Prior to the COVID-19 pandemic, the extent to which learning was delivered online varied between providers, although online and asynchronous learning was a feature of all pathways. The COVID-19 pandemic then necessitated a shift towards online delivery across all pathways and providers, including study days and learning sets. Overall, the transition to remote learning was unproblematic, although face-to-face learning was preferred by some learners.

Balancing the workload associated with the learning pathway with employment and other responsibilities was the most common challenge faced by post-registration learners, who did not have PhIF funded protected learning time unlike the primary care pathway learners. Flexibility with regards to timescales and module choices was reported to vary significantly between providers.

Most learners valued the existence of peer-group networks which were perceived to be motivational and particularly helpful in supporting learners who were experiencing difficulties and encouraging completion of the pathway. Where support networks were lacking, individuals often described feeling isolated within their workplace or unsupported in their learning.

Learners and employers noted that the opportunity to apply the learning was an integral component in the process of learning and skill acquisition. The majority of learners on all pathways reported good alignment between their practice role and learning pathway. However, some learners voiced concerns that a lack of opportunity to apply the learning would lead to a regression in their practice.

There was variation across pathways regarding the type of supervision learners received. Nonetheless, the education and clinical supervisory roles were consistently described as complementary; with education supervisors focusing on supporting learners to navigate the academic requirements of the pathways, and clinical supervisors aiming to support learners to apply their learning in practice. Both learners and supervisors on MOCH and IUC learning pathways cited barriers concerned with supervisor expertise and availability which was linked to supervisor proximity, role, and workload. Post-registration learners did not generally have a clinical supervisor as such, but did have academic / education supervisors and some support by colleagues.

The outcomes and impact of learning spanned several key areas. Many of the learners from across the pathways felt that the breadth and depth of their clinical knowledge had improved and described feeling more confident in their ability to understand, interpret, and evaluate relevant evidence to apply in clinical decision-making. Many learners highlighted instances in which they had applied leadership skills to influence positive change in the practice of others and develop new or existing services, used communication frameworks to become more patient-focused in their consultations, or became more reflective learners and practitioners. Learners and clinical supervisors, particularly those from the MOCH pathway, spoke frequently about improvements in patient safety, with many feeling that the learning from the PhIF pathways had enabled the learners to generate safer practices in care homes.

ACPT participants felt that they had learnt decision-making and delegation skills, and had been able to alleviate the workload of colleagues within the pharmacy, thereby enabling pharmacist colleagues to undertake more clinical activities. Improved self-confidence was a frequently cited outcome by learners across all

pathways who also believed that the learning had contributed to a change in the way their roles were perceived by others.

Looking ahead, learners, service leads, and supervisors believed that the knowledge and skills that had been gained would remain relevant and valuable.

## 6 Integrated summary and discussion of findings

### 6.1 Introduction

The purpose of this wide-ranging, mixed methods evaluation was to understand the views of learners, employers and supervisors of four of the Pharmacy Integration Fund (PhIF) funded learning pathways (Table 6.1). The PhIF learning pathways can be described as a set of interventions that aimed to incentivise pharmacy professionals (and their employers) to extend or enhance their scope of practice – including the development of clinical skills across primary care (including community pharmacy) in both new and existing roles.

Table 6.1 The four in-scope PhIF learning pathways

Name of pathway	Main audience	Number of learners*	Training Provider
Post-registration programmes	Community pharmacists (and pharmacists in health in justice settings)	1,953	Multiple providers
Medicines Optimisation in Care Homes (MOCH)**	Pharmacists and pharmacy technicians	459	Single provider
Integrated Urgent Care (IUC)**	Pharmacists	167	Single provider
Accuracy Checking Pharmacy Training (ACPT)	Pharmacy technicians	382	Single provider

\* Source: PETD (March 2020)

\*\* The MOCH and IUC pathways merged with the separately evaluated Primary Care Pharmacy Education Pathway (PCPEP) during 2018/19. In this report, MOCH / PCPEP and IUC pathways are referred to as primary care pathways (PCPs); both include access to PhIF funded IP.

This integrated summary chapter brings together findings from across the evaluation, with detailed findings reported in chapters 3 to 6. The Professional Education Training and Development (PETD) database allowed an overview of key learner characteristics across in-scope PhIF learning pathways, offering important contextual information. The principal elements of fieldwork were cross-sectional and longitudinal surveys of learners, and qualitative, in-depth interviews with learners, employers, education and clinical supervisors, and wider stakeholders.

The Theoretical Domains Framework (TDF) was used to frame evaluation design and research tools (questionnaires and interview topic guides) that provided a systematic and theoretical basis to our methodological approach. Within the TDF a wide range of factors are considered as influencing behaviour and behaviour change – factors that can be considered more broadly as interacting to predict behaviour in terms of capabilities, opportunities, and motivation (the COM-B model of behaviour change in practice) (Atkins et al. 2017). The factors relevant to the evaluation are presented in the intervention logic (see chapter 2). We are presenting this integrated summary of findings using the most relevant TDF domains for structure, as they demonstrate the relevance of particular determinants of behaviour change to outcomes for learners and wider stakeholders.

A section where we consider the methodological strengths and limitations follows. The chapter then moves to a discussion of the key findings in the context of existing

evidence and current pharmacy and primary care policy. The chapter is followed a set of evidence-informed recommendations (chapter 8).

## 6.2 Integrated summary of findings

The original TDF (Atkins et al. 2017) contains 12 domains to explain behaviour change: (1) knowledge, (2) skills, (3) social / professional role and identity, (4) beliefs about capabilities, (5) beliefs about consequences, (6) motivation [intentions] and goals, (7) memory, attention and decision processes, (8) environmental context and resources, (9) social influences, (10) emotion regulation, (11) behavioural regulation, and (12) nature of the behaviours. The following summary focuses on TDF domains 6), 8), 1), 2), 3), 4) and 5). Note that 1), 2) and 3) map across to 'capabilities' in COM-B, while 8) relates to 'opportunity' and 6) 4) and 5) map across to 'motivation'. They are presented in this order as this maps closest to a journey from learner engagement, through to (perceived) impact on patients.

### 6.2.1 Learners' motivations and goals

This domain of the TDF relates to how learners' different goals and priorities affect their behaviour.

There were **clear differences between the motivations of learners** on the post-registration pathway (mainly community pharmacists) and the motivations of learners undertaking the other pathways.

Learner survey responses showed that **their main motivations for taking part were to enhance their practice in their current job, working in a new sector of practice, and improving career prospects** [Table 4.9]. Post-registration and ACPT pathway learners were significantly more likely to be motivated to improve their career prospects than those on the MOCH and IUC pathways whose motivations were more varied, with one of their main motivations being that the pathway was a requirement of their current job.

Qualitative interview findings help explain the different motivations [section 5.2.1]. The majority of **community pharmacists** on the post-registration pathway were interested in **improving their knowledge and skills**, with the intention of either developing and updating their practice or **moving to a new role** because they were **disillusioned with their current roles**. Nevertheless, there were also some examples of community pharmacists who **wanted to use new skills in their current role**.

Some community pharmacists were particularly interested in **developing their clinical competencies in areas relating to the specific health needs of their local population**, others as a way of building up confidence and developing clinical skills **prior to undertaking an independent prescribing (IP) qualification in the longer term**. Many PCP pharmacists already held an IP qualification before they started; if not, they were gaining it as part of their learning pathway.

Many **PCP learners** were motivated by the **opportunity to adopt a more patient-facing role** whilst also extending their knowledge and skills. Their respective pathways supported learners to familiarise themselves with the practice settings where needed (e.g. care home environments), whilst developing new professional roles and skills.

Survey and interview findings provided evidence that **ACPTs**, who were largely working in smaller multiples and independents [Table 4.5], were mainly motivated by **continued career progression**, wanting to grow and learn in their current job.

More broadly, interviews showed that learners from across pathways valued the opportunity for **gaining a transferable and recognised qualification** [section 5.2.2].

## 6.2.2 Environmental context and resources

This domain of the TDF looks at the various circumstances of the learner's environment, and how they discourage or facilitate the development of skills and adaptive behaviours. There are three principal themes relating to this domain: the learning delivery model, alignment of practice role with learning, and education and clinical supervision.

### *Learner views on delivery models*

**Online learning and remote or asynchronous delivery were part of the learning pathways**, even prior to the COVID-19 pandemic. The qualitative interviews showed that **providers offered a range of online and workplace-based learning opportunities**, allowing learners to work through assignments at their own pace – with most learners speaking positively of the flexibility given by asynchronous delivery and distance learning.

Online learning included **webinars and online learning events, and various online forums and discussion boards**, all of which were felt to provide a space for learning and interaction between pharmacists and education supervisors [section 5.4]. **Residentials** tended to be described less favourably, particularly with regards to the challenges they created for learners with caring responsibilities, and the time commitment needed.

However, learners did consider **face-to-face contact** as important, in particular the opportunities provided by learning sets to connect with peers: most learners said that they wanted, looked for, and valued the existence of **peer-group networks**. In the workplace, learners also valued support from pharmacy colleagues and members of wider multi-disciplinary teams. **Where peer support was lacking, some learners described feeling isolated**. This was especially the case in **community pharmacy** where pharmacists tend to work as sole pharmacists. It was also more relevant across all programmes during the **COVID-19** pandemic [section 4.7.3].

The survey and interviews conducted after March 2020 gave insights into **COVID-19 related changes in learning and practice**. Learners reported being supported through extended deadlines and reduced assessment load; face-to-face learning was reduced, cancelled, or moved online. The challenges learners faced included having less time for learning due to exhaustion, increased workload, low staffing levels, and fewer opportunities to apply skills and meet competency requirements for those whose face-to-face contact with patients decreased. Nevertheless, the survey found that overall, **a majority of respondents agreed they had received sufficient support from their learning provider and clinical supervisor** (where relevant), that they had had sufficient time to undertake their learning, and that they had been supported by their colleagues in their learning [Table 4.23 Table 4.21].

### *Alignment of learning with role*

In the survey, most learners reported that their **learning was very or fairly relevant to their current role** [Table 4.10], with ACPTs most likely to hold this view. Learners also thought their **learning would be even more relevant to a future role**, with post-registration and ACPT learners more likely to hold this view.

Many learners on all pathways indicated that **there was a reasonably good fit between the content of the pathway and their role**. This highlights the broad transferability of learning to different settings and its use in gaining skills and confidence, and making incremental improvements in the workplace [section 5.4.7]. In the interviews, both learners and employers noted that **the opportunity to apply the learning was an integral component in the process of learning and skill acquisition**.

Many of the learners across all pathways described **balancing the workload associated with the learning pathway with employment or portfolio working and other responsibilities as challenging**. The survey and interviews showed that several learners, particularly on the post-registration pathway which did not include protected study time, described having reduced their working hours or taken annual or unpaid leave for learning. Even on the PCP pathways, which did have some protected study time, learners had mixed views as to whether the time given was sufficient. This became more challenging during the pandemic.

In the survey, **pharmacy professionals on the post-registration pathway were less likely** than those on the PCP or ACPT pathways **to agree that their colleagues and employer had supported them** to apply their learning in practice [Table 4.21]. A large proportion of **community pharmacists described pursuing the post-registration learning without support from their employer** and therefore within their own time and in addition to their professional responsibilities [section 5.2.2].

During interviews, a small number of **community pharmacy employers** described having **proactively encouraged and supported their employees to participate in PhIF learning**, whilst the majority described having **facilitated a small number of learner-led requests for support to engage in the pathway**. However, several responding organisations indicated that they had **felt unable to support the participation of their employees** [section 5.3.2].

Among the employers that had supported access to **ACPT**, this was mainly by **independents and small multiples**, who were **generally positive about PhIF funding enabling their pharmacy technicians to access training** that may otherwise have been financially inaccessible. **Large multiples** on the other hand **tended not to engage with the ACPT learning pathway** and instead continued with their existing arrangements for training provision for accuracy checking, with existing providers that provide training for pharmacy technicians, dispenses and others.

Some community pharmacy employers **expressed concerns that new clinical services might not be commissioned**, or not to a sufficient extent, yet were concerned that their **employees may request salary increases**. Community pharmacy employers were also concerned about **post-registration pharmacists and ACPTs leaving for other roles** in other settings / sectors. On the whole, larger employers were more likely to recognise benefits from supporting post-registration learners, such as aiding recruitment and retention.



## Supervision

**Supervision** was identified as a key environmental resource for **facilitating learning and its application in the workplace**. There was variation across pathways in terms of the type of supervision learners received on their pathways, with education supervisors (usually linked to the training providers) and clinical supervisors (who were practice based but not always in the same setting as the learner). Overall, learners were **positive about the supervision support offered by their pathway**, in both the survey responses and in the interviews.

In the qualitative interviews, **the education and clinical supervisory roles were consistently described as complementary**, with education supervisors or module leaders focusing on supporting learners to navigate the academic requirements of the pathways, and clinical supervisors aiming to support learners to apply their learning in practice. There did not appear to be any perceived tension or overlap between these two roles, and both were seen as beneficial [section 5.4.10; Table 4.21].

Learner interviews described the **education supervision** and support that was available as largely learner-led and initiated, typically provided via email or phone conversations, or sometimes via face-to-face workshops or learning sets. Education supervisors themselves characterised their role as acting as an ongoing source of support and using learning needs analysis to set realistic goals with learners. In general, the education supervisor support provided to ACPT and MOCH pharmacy technician learners appeared to be more regular, structured and readily available.

**Clinical supervision** was available to PCP learners and focused on supporting learners to translate their learning into practice within the workplace. Surveyed learners voiced **mixed opinions** regarding their experiences of clinical supervision [Table 4.21]. Those who portrayed supervision as a **beneficial** source of support typically described clinical supervision as an opportunity to be observed and receive feedback from an experienced clinician – with a focus on facilitating critical reflection, supporting learners to make connections with others, and opening up practice opportunities. This corresponded with interviewed clinical supervisors' understanding of their role.

On the other hand, where clinical supervisors were not based at the learner's workplace or lacked familiarity with the learner's workplace, **relationships were sometimes less fruitful**, an issue particularly with geographically dispersed services and learning pathways. It was also sometimes difficult to identify appropriate clinical supervisors for learners, with shift working patterns of IUC learners coupled with high levels of bank and part-time portfolio working contributing to these difficulties, even before COVID-19. Some learners were given, or sought out, clinical supervisors from other professions such as GPs which offered additional opportunity for mutual learning about each other's roles [section 5.4.10].

### 6.2.3 Acquisition of knowledge

This domain of the TDF looks at clinical and procedural knowledge acquired during learning.

**The main areas of clinical knowledge that learners acquired** during their formal learning most often discussed during interviews were ones expected in pharmacists taking on enhanced roles: for example, knowledge of long-term conditions, knowledge underpinning how to undertake physical examinations, history taking, interpretation of test results, managing polypharmacy and reducing medicines

waste, managing common or acute ailments, and accuracy checking (in case of ACPT) [section 5.5].

The surveys confirmed that overall, **a majority of pharmacists and pharmacy technician respondents reported feeling either fairly or extremely confident in many of the target behaviours** [Table 4.24]. Although pharmacists, in the main, were confident in their various forms of clinical knowledge detailed in the survey, it was in the broader skills where PCP and post-registration pharmacists reported the highest levels of confidence – such as ‘collaborating with other primary care professionals’, ‘speaking to patients about their health and medicines’, and ‘working autonomously’. Pharmacy technicians on the PCP pathways similarly reported feeling fairly or extremely confident in behaviours such as collaboration. As expected, ACPT learners reported feeling more confident in ‘accuracy checking’ and ‘managing dispensing’ [Table 4.26].

Survey responses suggested **pharmacists with an IP qualification prior to starting a learning pathway, and pharmacists who had completed their learning pathway, had developed greater levels of confidence in target behaviours** [Table 4.25]. Additional subgroup analysis suggests having an IP qualification was associated with significantly higher levels of confidence in important target behaviours that underpin IP.

The qualitative interviews confirmed that **learners’ clinical knowledge and skills had improved as a result of their participation in the learning pathways**. For example, **several learners on the post-registration pathway felt that their understanding and ability to proactively manage many of the long-term conditions commonly encountered in community pharmacy had improved**, thus benefiting their day-to-day practice and patient care. However, the degree to which learners reported applying these skills in practice varied (see below).

Interestingly, **learners on all pathways also discussed their understanding of evidence-based practice**; they frequently indicated that the learning pathways had enabled them to gain a much greater appreciation of not only where to locate relevant clinical evidence and resources, but also how to critically appraise this for use in their practice. They therefore considered themselves more able to apply their expanded clinical knowledge to improve day-to-day decision-making, and also to disseminate their knowledge within their immediate team.

#### 6.2.4 Acquisition of skills through practice

This domain of the TDF looks at skills – proficiencies acquired through practice – including the application and development of clinical and interpersonal skills, and how this process shapes the target behaviours.

**Both the interviews and the survey provided evidence that learners were acquiring transferable skills** through the application of their knowledge in practice.

**Most learners on all pathways agreed that they had sufficient knowledge to apply their learning in practice**, and that they were capable of applying their learning in practice as a result of their learning [Table 4.22]. The proportion of learners who thought they had enough time to apply their learning in practice was similar on the post-registration and PCP pathways [Table 4.21]. The vast majority of learners surveyed also agreed that **their learning had made a difference to their practice and to patients** [Table 4.21].

**ACPT learners were somewhat more likely to say that they could apply their skills fully**, suggesting this programme is meeting its distinct focus [Table 4.22].

The qualitative interviews largely concur with the survey, in that while some learners faced challenges in being supported to apply their learning, there were **many positive examples of learners from all pathways undertaking new activities or developing enhanced skills through improving their day to day practice**. Even where skills were not fully used as they were taught, the **greater understanding of patients' needs and conditions allowed learners to make better decisions, improve communication skills and empathy with patients, and look at patient care more holistically**.

The **expanded range of clinical activities** that learners undertook since starting their learning pathway was also reflected in the survey, such as medication reviews with patients with complex needs [Table 4.18] or other patient-facing activities [Table 4.12]. MOCH / PCPEP pharmacists were more likely to conduct such medication reviews during their pathway than post-registration learners (note that this was not an expectation of IUC learners, who were excluded from the analysis in Table 4.18).

### 6.2.5 Social / professional roles and identity

The TDF domain of social / professional role and identities covers the underlying capabilities or drivers of behaviour in a work setting, including constructs such as professional identity, group identity, leadership and confidence.

**Evidence from both the survey and the interviews points to learners' growth as clinicians** who are able to apply clinical knowledge through more holistic consultations with patients and improved interactions with primary care colleagues.

The interviews provided **numerous examples of learners from all pathways having grown in confidence** through not only applying their skills but using these proactively in patient care and interactions with other healthcare professionals. Learners had grown their professional networks and developed a greater feeling of belonging to a wider primary care team. Taking a more holistic and patient-centred approach to consultations opened opportunities for patients to be more involved in their own care.

Pharmacists and pharmacy professionals described applying **leadership skills** by becoming more proactive in communication with colleagues, introducing or improving systems or services [section 5.5.5], or sharing knowledge and contributing to team training [section 5.5.5]. ACPT learners also reported improved confidence in their leadership and independent decision-making skills, particularly with regards to overall management of the dispensary and delegation.

The survey confirmed that around half of all respondents were leading more clinical services since starting their learning pathway [Table 4.15].

Lastly, interviews and qualitative survey comments showed that learners from all pathways believed that the learning had contributed to a **change in the way their role was perceived by others**. Many learners described feeling that their contribution was being increasingly recognised, valued, and sought by other healthcare professionals. This might be particularly important as both learners and wider stakeholders described a lack of understanding amongst the public and other healthcare professions regarding the role, skills, and expertise of the pharmacy workforce, which was thought to undermine the potential contribution of pharmacists and pharmacy technicians to patient care.

## 6.2.6 Beliefs about own capabilities

This TDF domain looks at how behaviour is shaped by the development of beliefs about how learning and capabilities can be put to use.

In the survey, **pharmacists and pharmacy technicians on all in-scope pathways reported feeling very / fairly confident in demonstrating the broader skills** which underpin clinical practice: critical analysis, clinical reasoning, and confidence to work autonomously. These findings are also clearly demonstrated in the outcomes identified in the qualitative research.

Where significant differences emerged in survey responses from different pathways, **learners' confidence tended to be lower where opportunities to practise the target skills would be expected to be lower in a given setting.** This was confirmed by the qualitative interviews. Community pharmacists reported feeling less confident overall than PCP learners in collaborating with primary or secondary care professionals, investigating diagnostic tests, interpreting diagnostic findings and working across care settings. Conversely, pharmacists on the post-registration pathway were significantly more likely than PCP learners to report feeling fairly or extremely confident in demonstrating leadership and speaking to patients about their health [Table 4.24].

Many **ACPT learners also reported feeling confident across a wide range of skills.** This is reinforced in the small number of interviews conducted with ACPT learners who frequently described having developed greater confidence not only in their accuracy checking skills but also their wider dispensing skills and general attention to detail, seen as resulting in a reduction in dispensing errors within their pharmacy. They further gained leadership skills which they used to make changes to systems and processes within their pharmacy.

The qualitative interviews provided more evidence about the **links between confidence in using enhanced skills in practice, and wider beneficial effects on learners' workplaces, teams and patient outcomes.** For example:

- **Improved communication was seen as key result of increased confidence in clinical practice** by both pharmacists and pharmacy technicians. Learners described entering relationships and exchanges on a more equal footing than they might have done previously. Improved relationships with other professionals were believed to be mutually beneficial in enabling the sharing of expertise.
- Many learners from across different learning pathways felt that **the improvements in their clinical knowledge and reasoning skills had enabled them to move towards adopting a more holistic and comprehensive approach to patient care.** Learners described feeling more confident in their ability to undertake patient-centred consultations and they felt more able to proactively explore treatment options and respond to patients' queries. Consultation frameworks and models were key in enabling a shift towards a more patient-centred approach. Learners also described feeling more confident and able to actively raise issues with prescribers and action medicines optimisation – taking responsibility for better outcomes [section 5.5.3].
- **Improved self-confidence and self-awareness was a frequently cited outcome for learners** across all pathways.

While some of the pathways are about developing a particular workforce (with ACPT being a particular example of this), it is important to note that the pathways (on the whole) appear to have **impacted on the pharmacy workforce in a way which goes beyond** the learning and application of **knowledge and skills.** The pathways

have changed how the pharmacy workforce thinks about learning and development. Learners have become **more reflective practitioners**, who not only have the knowledge and skills to work in a particular job or role, but have established an attitude to learning and development as being something ongoing and developed in response to reflection on action.

## 6.2.7 Perceived outcomes and beliefs about the consequences of developing enhanced skills

This TDF domain looks at how behaviour is shaped by beliefs about outcomes and expectations.

Evidence from the interviews [section 5.5.6], supported by open comments in the survey [section 4.5], shows that **many learners from across the pathways believed that the enhanced skills they had gained had enabled them to impact positively on patient care**, and bring about greater efficiency in their workplace. This was particularly evident for MOCH learners.

Learners and clinical supervisors spoke frequently about **improvements in patient safety and care**. MOCH learners described generating safer practices in care homes, through improved medication management systems (reduction in polypharmacy, reducing inappropriate prescribing, reducing medicines waste, carrying out quality improvement audits). Post-registration learners described setting up new clinics or services in community pharmacy, and taking a generally more holistic approach to patient care, taking increasing responsibility for outcomes. ACPT learners reported that they had made improvements to managing the dispensary staff, reduced errors, and freed up staff time for more patient care. Some learners across all pathways mentioned that more appropriate and safe prescribing / medicines use, reduced admissions, reduced patient harm and better quality of life for people with conditions requiring medicines could result in cost savings to the NHS.

## 6.3 Evaluation strengths and limitations

### 6.3.1 Strengths

The evaluation rests on a recognised theoretical framework – the Theoretical Domains Framework (TDF) – which is a recognised standard for evaluating the mechanisms of change from training interventions that are associated with health professional behaviour and practice change. The adoption of the TDF as an evidence-based framework underpinned and enabled the design and implementation of research activities that captured and reflected the heterogeneity of the professionals, roles, and contexts within scope of the evaluation.

The use of a mixed methods approach supported the gathering of multifaceted data collection and analysis, including both broad cross-sectional population level data concerning learners' characteristics and their motivations, experiences, and outcomes, alongside rich contextual interview data that shed light upon the complex relationships between these concepts and the mechanisms of behaviour change. The application of qualitative and quantitative methods enabled data triangulation which enhanced the credibility and validity of the findings.

Adopting a programme level evaluation approach, as opposed to the separate evaluation of individual pathways, has allowed the evaluation to synthesise and



integrate findings that reach beyond the evaluation of individual learning pathways, and can instead offer insights to inform the development of guidance and policy to inform the ongoing development of the pharmacy workforce. Moreover, exploring multiple stakeholder groups' views and experiences highlighted the level of shared agreement or disagreement apparent between the stakeholder groups in relation to the learning pathways.

### 6.3.2 Limitations

There are several limitations that should be considered when interpreting and evaluating the findings. Firstly, the evaluation focused on a number of 'in-scope' learning pathways that were selected on the basis that they had not been evaluated previously or did not have substantial evaluative elements embedded within their design and delivery. It should be acknowledged that this restricted focus of the evaluation limits the generalisability of the findings in respect of the out-of-scope learning pathways and the impact of the PhIF programme as a whole.

Secondly, there were delays to accessing the PETD database. Furthermore, when the data were shared (for survey distribution), the research team found that many of the contact details for learners contained within the database were no longer active. This had notable implications with regards to the effectiveness of the survey dissemination strategy. In addition, some of the data were incomplete (e.g. suspensions for two of the four pathways); and coupled with the scope of the data being relatively limited, this meant that analysis of the PETD played a smaller, more contextual role in our overall synthesis of findings than envisaged at the start of the evaluation. It particularly served to profile all participants on in-scope pathways.

Unfortunately, the survey response rate remained low despite concerted and repeated efforts to raise awareness of the evaluation amongst the target groups. The low response to the survey and the impact of this on the subsequent follow-up survey increased the risk of non-response bias. The response rate to the surveys distributed in October 2020 (including the follow-up survey) may have additionally been compounded by the ongoing impact of the COVID-19 pandemic. Response rates also differed notably between respondents from the various pathways. The limited sample size and low representation of some respondent groups prevented subgroup analysis; in particular, this prevented detailed comparisons of the experiences of individual pathways who were subsequently grouped together under the primary care pathway umbrella. It would also have been useful to have been able to compare the views of pharmacist and pharmacy technician learners on the MOCH pathway, but there were too few pharmacy technician MOCH learners to permit this. The low response also limited the opportunity to undertake aspects of the planned longitudinal analysis, for example, the small number of respondents who replied to an invitation to take part in a follow-up survey meant that it was statistically impossible, in many cases, to confirm if there were any significant changes between the two time points. The opportunity to undertake longitudinal analysis was also limited by the various stages with which learners were progressing through the different pathways which prohibited the design of a longitudinal survey based upon standardised time points. This issue was addressed to some degree by the application of filtering within survey design which directed learners to complete different questions based upon their stage of learning.

Recruitment of learners for qualitative interviews was primarily undertaken via email invitation using the contact details provided via the PETD data and an opportunity to express an interest in being contacted within the survey. Limitations concerning the



recruitment of learner interviewees therefore reflected those encountered with the survey, including some degree of disparity between interviewee groups and underrepresentation of ACPT learners. The recruitment of interview participants from stakeholder groups was also challenging and relied upon advertising via external networks and organisations, and through social media, due to the lack of direct contact details available for potential participants. Snowballing strategies were employed but had limited effect. This resulted in the underrepresentation of some stakeholder groups within the final sample, namely IUC/NHS 111 clinical supervisors and MOCH service leads, which has implications for the transferability of the findings. An element of self-selection bias may also have been present for learner and stakeholder groups.

It is also possible that there was a further dimension to self-selection as participants volunteered to take part in interviews and surveys and therefore, findings may be generally more positive towards their learning pathways.

## 6.4 Discussion

### 6.4.1 Learning outcomes: knowledge, skills, confidence

This evaluation has found that learners on all in-scope pathways acquired a range of clinical and non-clinical knowledge and skills, which led to increased confidence to apply learning in practice – suggesting that the pathways met their key objectives. **The PhIF funding and learning pathways thus appeared to have acted as a catalyst for the advancement of roles and opportunities available to the pharmacy workforce** (including pharmacy technicians), pushing the boundaries of what pharmacists and pharmacy technicians can and are expected to do, by both other health professionals and patients and their families – as anticipated in the ‘Now or Never’ report (RPS 2013).

As well as advancing their understanding of medicines, clinical topics and therapeutics, and developing clinical and physical examination skills and a more holistic and patient-centred approach to patient care and consultations, the findings suggest that, by encouraging a reflective approach to developing and applying clinical skills, the development of wider skills that underpin reflective practice appeared to be equally valued. These included self-reflection, the ability to critically appraise evidence to inform clinical reasoning and decision-making, using communication frameworks to improve patient and family involvement in care, and applied leadership skills. Importantly, the pathways appeared to impact on pharmacy professionals becoming more reflective practitioners, who did not only have the knowledge and skills to work in a particular job or role, but established an attitude to learning and development as being something ongoing and developed in response to reflection on action. **The skills which are integral to being a reflective, lifelong learner were closely linked to better patient care, and should therefore continue to be central to future learning pathways** aimed at developing a specialised primary care pharmacy workforce. The importance of these skills, sometimes called ‘non-technical skills’ (Ashour et al. 2021) to advanced practice is recognised in the recent review on advancing pharmacy education (HEE 2019).

Learners’ ability to apply higher level skills reflectively in the workplace with patients, contributed to pharmacy professionals becoming much more confident and willing to act as autonomous professionals, taking responsibility for their contribution to patient pathways, care and outcomes. More broadly still, the enhanced skills gained

through the pathways afforded learners the opportunity to develop inter-professional relationships and offer their clinical expertise on a more equal footing when interacting with multidisciplinary teams. The evaluation findings suggest that the **development of leadership skills through practice made a significant contribution to changes in learners' own behaviour, and the practice of other health professionals around them.** The development of leadership skills in pharmacy professionals has long been recognised in policy (e.g. RPS 2011) and in the relevant literature (Boyd et al. 2018) – therefore, it will be important that this is retained and built upon in future learning pathways.

The findings suggest that **an independent prescribing qualification is likely to further build on these skills**, as pharmacists will be able to see their diagnostic and clinical decisions through to a treatment decision (Hindi et al. 2019). However, the PhIF only funded IP as part of the primary care learning pathways. It is expected that more pharmacists will undertake an IP qualification at an early stage in their careers, and indeed that pharmacists will qualify as independent prescribers at the point of initial registration, under the 2021 GPhC Standards for initial education and training (GPhC 2021a). The findings from this evaluation thus offer much insight into the learning needs of pharmacy professionals at different stages, and how enhanced skills can be learnt and supported in practice. These will likely be relevant to changes to the pharmacist foundation year (Magola et al. 2021), which will replace the current pre-registration training year (GPhC 2021b).

There are some specifics worthy of note in relation to accuracy checking pharmacy technicians (ACPTs) whose learning went beyond the simple task of accuracy checking. The findings suggest that **pharmacy technicians embracing leadership skills and confidence to manage systems and processes in the dispensary and beyond had both the potential to reduce errors and contribute to effective use of skill mix to enable pharmacists to pursue more clinical roles and services.** Therefore, it may be important to ensure that these higher level skills form part of accuracy or broader leadership training for pharmacy technicians in the future. A differentiated training offer for pharmacy technicians will likely support an enhanced role for pharmacy technicians which goes beyond that of other pharmacy support staff and enables them to manage systems and services so as to free pharmacists for clinical services (Bradley et al. 2013 & 2016).

#### 6.4.2 Transferable skills and accessibility

This study has highlighted the demand from many pharmacy professionals to develop enhanced skills and prepare themselves for more clinical roles in primary care; they were aware of the emerging roles in primary care, and the need for community pharmacy to continue adapting to offer more clinical services. The findings also show that if there are opportunities for learners to apply new skills in their roles, supported by high quality education and clinical supervision in the workplace, then there are potential benefits for learners, patients, their employers and the primary care system as a whole. Therefore, there is a need for an **overarching, national, proactive, and strategic approach to maximising the benefits associated with the PhIF funded roles and learning pathways**, to help ensure that the upcoming changes to pharmacists' initial education and training will achieve their intended goals (GPhC 2021a).

The evaluation reflected existing knowledge that portfolio working is increasingly commonplace, with pharmacists often working in a range of primary care roles (including community pharmacy), building their experience of working with patients

in different settings. The IUC role in particular appeared commonly staffed by portfolio workers, which made it harder for many learners in those settings to get support and balance learning with the demands of their work. It is therefore important that future learning pathways take account of this and **prioritise the acquisition of the transferable skills that are relevant across multiple settings** and which were valued the most by PhIF-funded learners. Such skills include applied leadership, communication, and clinical decision-making – in addition to more specific clinical skills that are aligned with particular roles. As the findings suggest, there is a risk that funding streams for learning that are tied to specific primary care settings may reinforce silo learning and working, and reinforce existing barriers to greater integration across primary care. By developing a ‘menu’ of transferable skills and by prioritising greater accessibility, learning pathways are more likely to **support the formation of a career-long learning culture**, and career progression within and across primary care roles, such as general practice, care homes and urgent care, and indeed including community pharmacy. There were many examples of how the pathways had changed attitudes towards learning in the evaluation, which fits well with the aim of creating clinicians that learn from reflection on their actions throughout their career. This is very much in keeping with the aim of current policy (HEE 2019) and indeed the new GPhC standards for pharmacist and pharmacy technician initial education and training (GPhC 2021a, GPhC 2017).

Learners on the post-registration pathway appreciated gaining a recognised award, such as a postgraduate certificate or diploma, whereas some learners on the primary care pathways regretted that their learning did not lead to a formal qualification. It was viewed as important to gain a qualification which would formally recognise the enhanced / advanced knowledge and skills they had gained, and that this was particularly important for other healthcare professionals where role understanding of what pharmacy professionals could do was still limited (Nelson et al. 2019). To further support transferability of learning and indeed formal recognition of learning, **some form of credentialing may be advisable** in the future. This will provide formal recognition of learning and ensure that competence and clinical expertise can be evidenced, which may be particularly relevant for inter-professional confidence.

PhIF learners entered learning pathways from a broad range of experience and expertise. Some had relatively recently qualified, others had not undertaken any academic or further study for a long time, and still others had many years’ experience and were already working in advanced and specialist roles. It will be important that **learning reflects all levels of expertise from foundation through to enhanced, advanced and consultant level practice**, and allows some flexibility within a pathway. Such an approach will ensure that the framework on offer in support of learning through career progression and into advanced roles remains relevant in years to come, when newly qualified pharmacists will emerge with much more advanced clinical and patient consultation skills, and indeed as independent prescribers at the point of registration (GPhC 2021a).

To overcome some of the barriers to access to, and relevance of, learning, it will be important for **NHS England and HEE to work closely with community pharmacy and primary care employers**, to design learning pathways that meet both the current and future needs of the workforce. Ensuring pharmacy professionals’ involvement in primary care networks and integrated care systems may help to overcome the difficulties of disseminating information and reaching consensus

across a fragmented sector where different stakeholders perceive their interests to be divergent, as well as ensuring that learning is aligned with local health needs.

### 6.4.3 Learning and application in practice

The study found that opportunities to **apply learning in practice and more broadly, build / adopt new skills within a supported environment were critical**. Good alignment of role and learning was needed to enable opportunities to apply that learning and, consequently, to influence services and outcomes. This alignment appeared closer on the primary care pathways than the post-registration pathway.

**Workload and time commitment needed for learning was a concern for many learners**, although differences between learning pathways were apparent. Primary care pathway learners had to give up some non-work time for their learning, but as they had new roles in care homes and urgent care funded by PhIF, they also had protected in-work time, with their learning pathways and funding aligned closely to their role in the workplace. In contrast, post-registration learners did not have in-work learning time funded, and did not generally get protected study time. Many community pharmacists reduced their working hours or took annual or unpaid leave, to attend residential and to create time for learning more broadly.

Therefore, it will be important to consider how these barriers can be addressed for community pharmacists in particular in the design of future programmes and funding arrangements. This will also be an important consideration for a move to the foundation training year, where evidence from pharmacists' pre-registration training and work based learning of pharmacy technician trainees has shown that community pharmacy offers less opportunity and time for learning in the workplace (Jee et al. 2016a, 2016b & 2019; Schafheutle et al. 2017 & 2018; Magola et al. 2018).

Besides access to protected learning time, there were other factors that affected learners' experiences and ability to learn from applying their skills. Because learning took place alongside work, to enable learners to consolidate their learning in practice and gradually enhance their clinical and non-clinical skills, all the learning pathways relied on online distance learning to varying degrees, more so following COVID-19. The **flexible, distance learning model was largely considered positively, and to fit well with the demands on pharmacy professionals, suggesting that it should be retained in future**.

**Learners also highlighted the importance of interactive learning (even if online) and peer networks** – whether more formal, facilitated activity such as action learning sets in person or online, or informal such as WhatsApp groups, which were particularly important for community pharmacists whose contact with peers is constrained by the settings in which they work (Cooper et al. 2009). Considering how best to intentionally build in these support opportunities, while balancing time for learning vs. employment / service, will be important for taking account of learner and employer needs in future.

### 6.4.4 Employer engagement

Key to many of the above issues is likely to be the degree of employer engagement in the PhIF programme in relation to the different learning pathways. Whilst learners on the primary care pathways were able to benefit from some funded learning time, comparable funding was not available on the post-registration pathway. Furthermore, community pharmacy employers expressed concern about supporting

employees' learning, only to see them leave for new jobs or demanding higher pay. They highlighted the lack of funding for in-work learning time or backfill, and uncertainty about availability and longevity of funding for (clinical) services to justify investing in learning. The findings suggest that **better stakeholder involvement with NHS England and HEE** may be beneficial when planning the best way to release funding and support learning.

Part of an employer engagement strategy and making the case for employers to invest in learning might include highlighting the relevant evaluation findings about learners' motivations and the benefits for employers. While some post-registration learners were motivated by career changes, the evaluation showed that many of them (and also ACPT learners) wanted to expand the scope of their current roles. Moreover, the evaluation suggests that community pharmacists with enhanced skills can, and do, improve their day-to-day practice and bring benefits to patient care from the beginning and that the skills and confidence gained would be sustained. These findings can help **build a case for learning (and protected learning time) to be viewed as an investment in employee development and retention** which leads to service benefits and employee satisfaction.

However, the evaluation findings also suggest that a more supportive learning culture cannot develop without more **integrated, long-term planning and funding both locally and nationally**, that would better incentivise community pharmacists and other primary care employers to develop more (funded) clinical services for which additional skills would be required. The short-term nature of commissioning has previously been identified as creating challenges for service planning and investment in community pharmacy (Jacobs et al. 2018), and this affects planning and investment in learning also. **Longer term commissioning of pharmaceutical care services**, through the vehicle of primary care networks, for example – might give greater certainty over the medium / long-term to community pharmacy, and also help make the case that investing in employees' learning will result in reliable income streams (Smith et al. 2021, Checkland et al. 2020).

In relation to the ACPT pathway, independent and small chains appeared most likely to support their pharmacy technicians to undertake the ACPT training pathway. Larger pharmacy organisations had established links with providers of accuracy checking training, which they tended to continue. A key difference between many existing training providers and the ACPT pathway is that the latter is only available to registered pharmacy technicians, whereas others are also open to other level 2 qualified pharmacy support staff, such as dispensers. Pharmacy technicians generally, and ACPTs specifically, may be best placed – because of their particular skills – to take on additional roles and responsibilities, which in turn would free pharmacists' time away from their traditional supply function towards a more service orientated role (Bradley et al. 2016).

#### 6.4.5 Supervision

The evaluation findings suggest that **high quality supervision was important to facilitate learning, and particularly application**. Stronger education and clinical supervision generally resulted in a better learner experience and progression through the pathway (Kilminster et al. 2009); conversely learners reported that they were more likely to struggle when supervision was lacking, due to workloads, or misalignment of expertise or working patterns, for example.

**Education supervisors made positive contributions** by coaching the learner through module choices and their approach to learning. Learners benefited from a



mixture of supervisor and learner-initiated contact throughout the learning, where learning plans could be adapted and tailored to the individual, and any potential challenges and possible solutions discussed. Education supervisor support appeared particularly valuable for learners who had not undertaken any academic / higher level study for some time.

Clinical supervisors tended to be supervisors who had the relevant clinical expertise and were mostly (but not always) based in the learner's place of work. **Physical proximity appeared to be important, alongside a good understanding of the learner's workplace and an appreciation of how the skills apply to that workplace.** This enabled clinical supervisors to create opportunities for learners to apply what they had learnt as part of their learning pathway whilst encouraging critical reflection and being non-judgmental. When clinical supervisors were remote, contact and support was much more difficult.

Learners on the post-registration pathway did not have clinical supervisors and relied on the support of colleagues in the workplace. However, as community pharmacists commonly work in relative isolation, as the only pharmacist, **a formalised approach to clinical and education supervision will likely be beneficial when supporting the existing workforce** to help support transitions into more patient-centred clinical roles. Particularly those who have not studied formally for some time may benefit from such support, in the form of education supervisors and / or peer mentoring (Desselle et al. 2021; Mantzourani et al. 2021). The importance of clinical supervision and supported learning as community pharmacists transition into practice is also emphasised in the literature (Magola et al. 2018 & 2021).

The evaluation findings therefore suggest that in order to build on our knowledge of when supervision works well, and give learners a more consistent experience, **supervisors (particularly clinical) may also benefit from support** in the form of shared expectations, resources, training, and dedicated time to carry out their important roles.

Finally, the evaluation established the importance of good supervision for applied, in-practice learning for enhanced practice, with clinical and education supervisors playing complementary roles. However, it also identified a wide range of supervisory set-ups and learner experiences. When planning future learning to support enhanced clinical skills amongst the pharmacy workforce, it may be helpful to consider a more **consistent use of terminology**, defining different types of supervisors. **Clinical (work-based) supervisors** will hold relevant clinical expertise and experience, and a good understanding of the relevant work setting. It may be valuable to further differentiate between those who work alongside the learner in the same workplace setting and those who offer their expertise from a distance (the latter could, for example, be called clinical mentors). In learning pathways which involve rotations or different settings, a learner would have more than one clinical supervisor, one linked to each setting. **Education supervisors**, whilst commonly holding some level of pharmacy and / or clinical expertise, would then have a broader role and accompany the student through their learning journey / pathway. They would undertake a learning needs assessment, develop a learning plan and then revisit this with the learner at set points.

#### 6.4.6 Impact and outcomes

As time on the pathways progressed, there were **numerous examples of pharmacy professionals positively impacting on service delivery, patient care**



**and outcomes.** Feedback from learners and employers revealed some areas where learners perceived they were making a difference – such as freeing up GP time, reducing medicines waste and errors through deprescribing, identifying improvements through quality audits, providing expert advice to others. The value gained from the investment in learning is an important part of making the case for continued investment in developing enhanced skills across primary care pharmacy.

The enhanced clinical skills gained through the pathways offered learners the opportunity to demonstrate their worth within multi-professional teams and environments. Furthermore, **stronger and proactive leadership in the pharmacy workforce can also help to achieve more clarity as to what pharmacy can contribute.** It all supports better integration across primary care, and the role pharmacy can play within this to improve patient care.

There was an overall sense of optimism amongst learners, service leads, and supervisors regarding the potential for the outcomes generated by the training pathways to be sustained. This positivity was typically based upon a belief that the holistic nature of the learnt knowledge and skills would remain relevant and valuable regardless of changing services and future circumstances. Several learners and supervisors also felt that the learning had the potential to act as a foundation on which learners could continue to build and expand their skills. This feedback suggests that **continuing to invest in enhanced skills and the pharmacy workforce in primary care is likely to lead to positive change,** not least by furthering the development of a culture of learning throughout pharmacy professionals' careers, allowing them to adapt more easily to challenges and fulfil their potential to bring about greater integration in primary care.

## 7 Recommendations

Grounded in our evaluation findings and summarised in the preceding section reporting and discussing our integrated findings, we list below a number of overarching recommendations. These are aimed particularly at NHS England and HEE, but also at other stakeholders, including employers and education providers.

Recommendation	Relevant audience	Relevant section of discussion
National, strategic, approach to learning		
1. Ensure that learning from the evaluation is <b>carried forward when implementing the new GPhC initial education and training standards and foundation year, as well as post-registration learning</b> and progression to advanced practice. This includes fostering a <b>culture of continuing and supported learning in all workplaces</b> , learning that builds both knowledge and higher-level skills, supported by education and clinical supervision.	NHSE / HEE	6.4.1 6.4.2 6.4.5
2. Develop pharmacy post-registration learning pathways, which <b>target transferable skills across primary care settings</b> , including community pharmacy, to facilitate further integration and working (and learning) across settings (portfolio working). Learning programmes need to be sufficiently <b>flexible to accommodate tailoring for early career learners alongside already advanced / specialist pharmacy professionals</b> .	NHSE / HEE	6.4.2
3. Recognise that <b>pharmacists and pharmacy technicians want to expand their scope of practice to bring benefits</b> to their current role and patient care, irrespective of sector. The pharmacy workforce has recognised the direction of travel, with real enthusiasm for more clinical roles and services.	NHSE / HEE	6.4.1
4. Meaningful <b>engagement with community pharmacy employers</b> is important, recognising the needs for longer term business planning to include commitment to clinical services and the underpinning learning, which support a more integrated delivery model.	NHSE / HEE	6.4.4

Design of future learning pathways		
5. Future learning pathways need to support learning <b>consistently at different levels from foundation → enhanced → advanced → consultant</b> . This can build on the new initial education and training standards and support a progressive post-registration pathway for recent registrants as well as the existing pharmacy workforce.	NHSE / HEE	6.4.2
6. Future pathway(s) should focus on <b>professional skills relevant across primary care including community pharmacy, in a joined-up approach</b> which facilitates learner ability to move between primary care settings (GP, care homes, urgent care, community pharmacy, etc.). Some specific knowledge and skills can be available as options with specific relevance to certain settings only.	NHSE / HEE / education providers	6.4.2
7. Future pathways should <b>combine clinical knowledge with broader, higher level skills</b> (e.g. critical appraisal, clinical decision-making) which underpin reflective, patient-centred practice. This will facilitate the move to <b>pharmacy professionals as confident, autonomous practitioners who approach their practice holistically and take responsibility for patient outcomes</b> .	HEE / education providers	6.4.1
8. Consider <b>credentialing for (pathway) learning</b> , so that it is formally acknowledged for career progression, and as a recognition of advanced competence and skills, both within and particularly outside of pharmacy.	NHSE / HEE	6.4.2
9. Build on <b>pharmacy technicians'</b> learning of broader skills beyond accuracy checking, to develop <b>confident leadership, proactive management and delegation</b> . This will bring benefit to the wider workforce and policy agenda of community pharmacies as venues delivering clinical services to NHS patients.	HEE, education providers and pharmacy employers	6.4.1 6.4.6

Supervision		
<p>10. Establish <b>consistency in understanding of roles and terminology for supervisors.</b></p> <ul style="list-style-type: none"> <li>- <u>Clinical (work-based) supervisors</u> work alongside learners in the same setting, so a learner might have a different clinical supervisor in each rotation / setting.</li> <li>- Where a work-based clinical supervisor is not available, a <u>clinical mentor</u> would offer their clinical expertise from a distance.</li> <li>- <u>Education supervisors</u>, whilst holding some pharmacy and / or clinical expertise, will hold a broader role and oversee a learner's learning journey / pathway. They would undertake a learning needs assessment, develop a learning plan and then revisit this with the learner at set points.</li> </ul>	HEE / education providers	6.4.5
For future evaluation		
<p>11. To <b>ensure engagement in any evaluation</b> of learning pathways or broader policy implementation: a <b>firm expectation should be placed on all those who access and benefit from funding</b> (learning providers, learners, employers) <b>to participate in evaluation activities</b> (on the understanding that such involvement will not be overly onerous or impact learning / service delivery). <b>Arrangements for the flow of relevant data with a future evaluation must be in place at the outset.</b></p>	HEE / education providers	See 6.3.2

# ANNEXES

## Annex 1 Detailed survey response tables

### Age

Table A1.1 Respondent age group by individual pathway

	ACPT (48)	MOCH (65)	MOCH merged with PCPEP (39)	NHS 111 (25)	Post-reg (187)	CPGPE (15)	PCPEP (4)	Total (383)
21-30 years	11 (23%)	15 (23%)	9 (23%)	6 (24%)	38 (20%)	3 (20%)	-	82 (21%)
31-40 years	14 (29%)	10 (15%)	13 (33%)	8 (32%)	77 (41%)	5 (33%)	1 (25%)	128 (33%)
41-50 years	13 (27%)	20 (31%)	9 (23%)	4 (16%)	51 (27%)	6 (40%)	2 (50%)	105 (28%)
51 years and above	10 (21%)	18 (28%)	7 (18%)	7 (28%)	20 (11%)	1 (7%)	1 (25%)	64 (17%)
Prefer not to say	-	2 (3%)	1 (3%)	-	1 (1%)	-	-	4 (1%)

### Gender

Table A1.2 Respondent gender by individual pathway

	ACPT (48)	MOCH (65)	MOCH merged with PCPEP (39)	NHS 111 (25)	Post-reg (187)	CPGPE (15)	PCPEP (4)	Total (383)
Female	43 (90%)	49 (75%)	33 (85%)	16 (64%)	127 (68%)	6 (40%)	3 (75%)	277 (72%)
Male	4 (8%)	13 (20%)	5 (13%)	9 (36%)	57 (30%)	9 (60%)	1 (25%)	98 (26%)
Prefer not to say	1 (2%)	3 (5%)	1 (2%)	-	3 (2%)	-	-	8 (2%)

## Ethnicity

Table A1.3 Ethnicity of respondents by individual pathway

	ACPT (48)	MOCH (65)	MOCH merged with PCPEP (39)	NHS 111 (25)	Post-reg (187)	CPGPE (15)	PCPEP (4)	Total (383)
White	39 (81%)	53 (86%)	31 (79%)	14 (56%)	86 (46%)	1 (7%)	3 (75%)	227 (59%)
Asian/Asian British	6 (13%)	8 (12%)	5 (13%)	7 (28%)	53 (28%)	9 (60%)	1 (25%)	89 (23%)
Black British /African/Caribbean	2 (4%)	1 (2%)	2 (5%)	4 (16%)	21 (11%)	4 (26%)	-	34 (9%)
Mixed/Multiple ethnic groups	-	-	1 (3%)	-	3 (2%)	1 (7%)	-	5 (1%)
Other ethnic group	-	-	-	-	9 (5%)	-	-	9 (2%)
Prefer not to say	1 (2%)	3 (5%)	-	-	15 (8%)	-	-	19 (5%)

## Pathway status

Table A1.4 Pathway status by individual pathway

Pathway status	ACPT (48)	MOCH (65)	MOCH merged with PCPEP (39)	NHS 111 (25)	Post-reg 9187)	CPGPE (15)	PCPEP (14)	Total (383)
I am still studying on the learning pathway	28 (58%)	53 (82%)	29 (74%)	6 (24%)	129 (69%)	12 (80%)	4 (100%)	261 (68%)
I have completed the learning pathway	16 (33%)	11 (17%)	7 (18%)	13 (52%)	39 (21%)	2 (13%)	-	88 (23%)
I interrupted the learning pathway prior to the planned end date but plan to return to it (e.g. due to maternity leave, illness or change of job)	2 (4%)	-	1 (3%)	2 (8%)	14 (8%)	1 (7%)	-	20 (5%)
I left the learning pathway prior to the planned end date and have no plans to return to it	2 (4%)	1 (2%)	2 (5%)	4 (16%)	5 (3%)	-	-	14 (4%)



## Pharmacy setting

Table A1.5 Pharmacy setting by individual pathway

Pharmacy setting	ACPT (48)	MOCH (65)	MOCH merged with PCPEP (39)	NHS 111 (25)	Post-reg (187)	CPGPE (15)	PCPEP (14)	Total (383)
<b>Community settings</b>								
Independent pharmacy	17 (36%)	-	-	3 (12%)	34 (18%)	4 (27%)	-	58 (15%)
Small chain pharmacy (2-5 stores)	1 (2%)	-	-	-	25 (13%)	1 (7%)	1 (7%)	28 (7%)
Small multiple pharmacy (6-25 stores)	11 (23%)	-	-	1 (4%)	16 (9%)	3 (20%)	-	31 (8%)
Medium-sized multiple pharmacy (26-100 stores)	3 (6%)	-	-	1 (4%)	17 (9%)	3 (20%)	1 (7%)	25 (6%)
Large multiple pharmacy (101-200 stores)	-	-	-	-	19 (10%)	2 (13%)	-	21 (5%)
Large multiple pharmacy (>200 stores)	6 (12%)	-	-	4 (16%)	94 (50%)	4 (27%)	1 (7%)	109 (28%)
Supermarket pharmacy	-	-	-	-	19 (10%)	2 (13%)	-	21 (5%)
<b>Hospital settings</b>								
NHS teaching hospital	4 (8%)	4 (6%)	4 (10%)	7 (28%)	1 (<1)	-	-	20 (5%)
NHS District general hospital	2 (4%)	1 (2%)	4 (10%)	4 (16%)	2 (1%)	-	-	13 (3%)
Specialist NHS hospital	4 (8%)	2 (3%)	2 (5%)	-	2 (1%)	-	-	10 (3%)
Private hospital	-	1 (2%)	-	3 (12%)	1 (<1)	-	-	5 (1%)
Outpatient pharmacy	-	-	-	-	5 (3%)	-	-	5 (1%)
<b>Other settings</b>								
General practice	-	8 (12%)	13 (33%)	4 (16%)	20 (11%)	8 (53%)	2 (14%)	55 (14%)
NHS 111 / Urgent care	-	-	-	18 (72%)	4 (2%)	1 (7%)	-	23 (6%)
Care home or nursing home provider	-	-	8 (20%)	18 (72%)	-	-	-	26 (7%)
Primary care provider organisation	1 (2%)	10 (15%)	4 (10%)	-	2 (1%)	-	-	17 (4%)
Secure environment / Health in justice	4 (8%)	-	3 (8%)	-	5 (3%)	-	-	12 (3%)
Commissioning and planning local services	-	37 (57%)	17 (44%)	-	2 (1%)	-	-	56 (15%)
Primary care network	-	4 (6%)	10 (26%)	3 (12%)	17 (9%)	3 (21%)	-	37 (10%)
Other setting	-	8 (12%)	2 (5%)	2 (8%)	10 (6%)	-	1 (7%)	23 (6%)

NB: percentages add up to > than 100% as possible to work in multiple settings

## Role change by pathway

Table A1.6 Role change detail by individual pathway

	ACPT (10)	MOCH (40)	MOCH merged with PCPEP (13)	NHS 111 (7)	Post-reg (21)	CPGPE (4)	PCPEP (2)	Total (97)
I have changed job role within the same setting	10 (100%)	9 (23%)	3 (23%)	2 (29%)	5 (24%)	-	-	29 (30%)
I have changed my sector of practice	-	22 (55%)	7 (54%)	5 (71%)	13 (62%)	3 (75%)	2	52 (54%)
I have changed the type of employer within the same sector	-	2 (5%)	-	-	2 (9%)	-	-	4 (4%)
Other change of role	-	7 (17%)	3 (23%)	-	1 (5%)	1 (25%)	-	12 (12%)

## T2 Participant characteristics

Table A1.7 T2 participant characteristics

		Pathway					
		ACPT (1)	MOCH merged with PCPEP (25)	NHS 111 (3)	Post-reg (33)	CPGPE (2)	Total (64)
<b>Role</b>	Pharmacy technician	1	12	-	-	-	13
	Pharmacist		13	3	33	2	51
<b>Status</b>	Completed	1	9	2	9	-	21
	Still studying	-	14	-	23	1	38
	Interrupted – plan to return	-	-	-	-	1	2
	Interrupted – no plan to return	-	2	1	1	-	3

## Annex 2 List of references

- Ashour A, Phipps D, Ashcroft D. The role of non-technical skills in community pharmacy practice: an exploratory review of the literature. *International Journal of Pharmacy Practice*. 2021; riaa014.
- Atkins L, Francis J, Islam R, et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Science*. 2017; 12, 77.
- Boyd M, Waring J, Mann C, et al. Clinical Pharmacists in General Practice: Pilot scheme. Independent Evaluation Report: Full Report. 2018. Available at: <https://www.nottingham.ac.uk/pharmacy/documents/generalpracticeyearfwdrev/clinical-pharmacists-in-general-practice-pilot-scheme-full-report.pdf>
- Bradley F, Willis SC, Noyce PR, et al. Restructuring supervision and reconfiguration of skill mix in community pharmacy: classification of perceived safety and risk. *Research in Social and Administrative Pharmacy*. 2016; 12(5):733-746.
- Bradley F, Schafheutle EI, Willis S, et al. Changes to supervision in community pharmacy: pharmacist and pharmacy support staff views. *Health & Social Care in the Community*. 2013; 21:644-654.
- Bryman A. Integrating quantitative and qualitative research: how is it done? *Qualitative Research*. 2006; 6:97-113.
- Cane J. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*. 2012; 7, 37.
- Checkland K, Hammond J, Warwick-Giles L, et al. Exploring the multiple policy objectives for primary care networks: a qualitative interview study with national policy stakeholders. *BMJ Open*. 2020;10:e038398. doi: 10.1136/bmjopen-2020-038398
- Cooper RJ, Bissell P, Wingfield J. 'Islands' and 'doctors's tool': The ethical significance of isolation and subordination in UK community pharmacy. *Health (London)*. 2009; 13(3):297-316.
- De Leo A, Bayes S, Bloxsome D, et al. Exploring the usability of the COM-B model and Theoretical Domains Framework (TDF) to define the helpers of and hindrances to evidence-based practice in midwifery. *Implementation Science Communication*. 2021; 2, 7.
- Desselle SP, Chang H, Fleming G, et al. Design fundamentals of mentoring programs for pharmacy professionals (Part 1): Considerations for organizations. *Research in Social and Administrative Pharmacy*. 2021; 17(2):441-448.
- Gioia D, Corley K, Hamilton A. Seeking Qualitative Rigor in Indicative Research: Notes on the Gioia Methodology. *Organizational Research Methods*. 2012; 16:15-31
- GPhC. Initial education and training for pharmacy technicians. 2017. Available at: [https://www.pharmacyregulation.org/sites/default/files/standards\\_for\\_the\\_initial\\_education\\_and\\_training\\_of\\_pharmacy\\_technicians\\_october\\_2017.pdf](https://www.pharmacyregulation.org/sites/default/files/standards_for_the_initial_education_and_training_of_pharmacy_technicians_october_2017.pdf)
- GPhC. Survey of registered pharmacy professionals 2019: Equality, Diversity and Inclusion Report. 2019. Available at: <https://www.pharmacyregulation.org/sites/default/files/document/gphc-2019-survey-pharmacy-professionals-equality-diversity-inclusion-report-december-2019.pdf>

GPhC. Standards from the Initial education and training for pharmacists. 2021. Available at: <https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021.pdf>

GPhC. 2021-22 foundation training year. 2021. Available at: <https://www.pharmacyregulation.org/education/pharmacist-pre-registration-training-scheme/foundation-training-year>

Gupta B, Li D, Dong P, et al. From intention to action: A systematic literature review of provider behaviour change-focused interventions in physical health and behavioural health settings. *Journal of Evaluation in Clinical Practice*. 2021; In press.

HEE. Advancing pharmacy education and training: a review. 2019. Available at: <https://www.hee.nhs.uk/sites/default/files/documents/Advancing%20Pharmacy%20Education%20and%20Training%20Review.pdf>

Hindi AMK, Seston EM, Bell D, et al. Independent prescribing in primary care: a survey of patients', prescribers' and colleagues' perceptions and experiences. *Health & Social Care in the Community*. 2019; 27(4):e459-e470

Hindi A, Willis, S, Schafheutle E. (2021) Evaluation of the Pre-registration Pharmacists in General Practice Project: Final report to NHS England (Pharmacy Integration)

HMT (2020). The Green Book: Central Government Guidance On Appraisal And Evaluation.

Hobbs F, Bankhead C, Mukhtar T, Stevens S, Perera-Salazar R, Holt T, Salisbury C. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007–14. *The Lancet*. 2016; 387 (10035): 2323-2330.

Irving G, Neves AL, Dambha-Miller H, Oishi A, Tagashira H, Verho A, Jolden, J. International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open*. 2017; 7 (10)

Jacobs S, Fegan T, Bradley F, et al. How do organisational configuration and context influence the quantity and quality of NHS services provided by English community pharmacies? A qualitative investigation. *PLoS ONE*. 2018; 13(9):e0204304.

Jee SD, Schafheutle EI, Noyce PR. Exploring the process of professional socialisation and development during pharmacy pre-registration training in England. *International Journal of Pharmacy Practice*. 2016; 24:283-293.

Jee SD, Schafheutle EI, Noyce PR. Using longitudinal mixed methods to study the development of professional behaviours during pharmacy work-based training. *Health & Social Care in the Community*. 2016; 25(3):975-986.

Jee SD, Schafheutle EI, Noyce PR. Is pharmacy pre-registration training equitable and robust? *Higher Education, Skills and Work-Based Learning*. 2019; 9(3):347-358.

Kilminster S, Cottrell D, Grant J, et al. AMEE Guide No. 27: Effective educational and clinical supervision. *Medical Teacher*. 2009; 29(1):2-19.

Mann, C, Anderson, C, Waring, J, Avery, T and Boyd, M. Community Pharmacist Independent Prescribers (CPIPs) working in patient facing roles in Primary Care. Independent Evaluation Report. University of Nottingham. 2017

Magola E, Willis S, Schafheutle E. Community pharmacists at transition to independent practice: isolated, unsupported and stressed. *Health & Social Care in the Community*. 2018; 26:849-59.

Magola E, Willis SC, Schafheutle EI. The development, feasibility and acceptability of a coach-led intervention to ease novice community pharmacists' transition to practice. *Research in Social and Administrative Pharmacy*. 2021; In press.

Mantzourani E, Chang H, Fleming G, Desselle SP. Design fundamentals of mentoring programs for pharmacy professionals (Part 2): Considerations for mentors and mentees. *Research in Social and Administrative Pharmacy*. 2021;17(2):449-455.

Maskrey M, Johnson CF, Cormack J, Ryan M, Macdonald H. Releasing GP capacity with pharmacy prescribing support and New Ways of Working: a prospective observational cohort study. 2018.

Michie S, van Stralen M, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation Science*. 2011; 6, 42.

Nelson PA, Bradley F, Martindale AM, et al. Skill-mix change in general practice: A qualitative comparison of three 'new' non-medical roles in English primary care. *British Journal of General Practice*. 2019; 69(684):E489-E498.

NHS England and Health Education England. Clinical Pharmacists in General Practice Pilot. 2015. Available at: <https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/07/clinical-pharmacists-gp-pilot.pdf>

NHS England. Pharmacy Integration Fund of £42 million announced. News: 20 October 2016. 2016. Available at: <https://www.england.nhs.uk/2016/10/pharmacy-integration-fund/>

NHS England. Care home pharmacists to help cut overmedication and unnecessary hospital stays for frail older patients. 2018. Available at: <https://www.england.nhs.uk/2018/03/care-home-pharmacists-to-help-cut-over-medication-and-unnecessary-hospital-stays-for-frail-older-patients/>

NHS England. Army of NHS experts brought in to care homes to tackle over-medication. News: 10 May 2019. 2019. Available at: <https://www.england.nhs.uk/2019/05/army-of-nhs-experts-to-tackle-over-medication/>

NHS England and NHS Improvement. Network Contract Direct Enhanced Service: Draft Outline Service Specifications. 2019. Available at: [https://www.engage.england.nhs.uk/survey/primary-care-networks-service-specifications/supporting\\_documents/Draft%20PCN%20Service%20Specifications%20December%202019.pdf](https://www.engage.england.nhs.uk/survey/primary-care-networks-service-specifications/supporting_documents/Draft%20PCN%20Service%20Specifications%20December%202019.pdf)

NICE. Medicines management in care homes Quality standard [QS85] Quality statement 5: Medication reviews. 2015. Available at: <https://www.nice.org.uk/guidance/qs85/chapter/Quality-statement-5-Medication-reviews>

Richardson M, Khouja CL, Sutcliffe K, et al. Using the theoretical domains framework and the behavioural change wheel in an overarching synthesis of systematic reviews. *BMJ Open*. 2019; 22;9(6)

Royal Pharmaceutical Society. Working in care homes - a guide. 2021. Available at: <https://www.rpharms.com/resources/pharmacy-guides/working-in-care-homes-a-guide>

Schafheutle EI, Jee SD, Willis SC. Fitness for purpose of pharmacy technician education and training: The case of Great Britain. *Research in Social and Administrative Pharmacy*. 2017; 13(1):88-97.

Schafheutle EI, Jee SD, Willis SC. The influence of learning environment on trainee pharmacy technicians' and training experiences. *Research in Social and Administrative Pharmacy*. 2018; 14(11):1020-1026.

Smith JA, Checkland K, Sidhu M, et al. Primary care networks: are they fit for the future? *British Journal of General Practice*. 2021; 71 (704): 106-107.

Stone MC, Williams HC. Clinical pharmacists in general practice: value for patients and the practice of a new role. *British Journal of General Practice*. 2015; 65 (634): 262-263.

Royal Pharmaceutical Society. Now or Never: Shaping Pharmacy for the Future. 2013.  
Available at:

<https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Publications/Now%20or%20Never%20-%20Report.pdf>



## Annex 3 Glossary of abbreviations used

ACPT	Accuracy Checking Pharmacy Technicians programme, provided by CPPE
COM-B	Capabilities, Opportunities, Motivation model of behaviour change
CP	Community pharmacy
CPGPE	Clinical Pharmacists in General Practice pathway
CPPE	Centre for Pharmacy Postgraduate Education at the University of Manchester, one of the providers of the learning pathways
CPWS	Centre for Pharmacy Workforce Studies at the University of Manchester, part of the evaluation team
HEE	Health Education England
ICF	Inner City Fund (now known as 'ICF'), a policy research organisation, part of the evaluation team
IP	Independent Prescribing
IUC CAS	Integrated Urgent Care Clinical Assessment Service – primary care role / learning pathway for pharmacists and pharmacy technicians, provided by the University of Derby
MOCH	Medicines Optimisation in Care Homes Pathway
PCPEP	Primary Care Pharmacy Education Pathway (developed from the former MOCH and CPGPE pathways)
PETD	Professional Education, Training and Development, HEE management information
PhIF	Pharmacy Integration Fund
Post-reg	Post-registration learning pathways for community pharmacists, delivered by various providers
PCP	Primary care pathways – the term used in this report for MOCH and IUC / in-scope learners of the PCPEP successor programme
PRP	Post-registration pathways (see above)
TDF	Theoretical Domains Framework

## Annex 4 Qualitative interview topic guide for learners

An example of the topic guides is included here. Other topic guides for stakeholders covered similar questions.

### Pharmacy Integration Fund – Learner Interviews

This topic guide provides the key themes and sub-themes to be explored in interviews with pharmacists and pharmacy technicians who have enrolled with one or more strands of the Pharmacy Integration Fund learning pathways. It is not a set script.

The phrasing, pacing and ordering of questions should be tailored to reflect the individual respondent and the flow of the discussion in each interview.

In preparation for each interview ensure you are familiar with the pathway / programme of the learner (this should be established upon contact with the learner).

Interviews are expected to take approximately 30 to 60 minutes.

### Introduction

#### **Introduce yourself and the evaluation**

ICF and Centre for Pharmacy Workforce Studies (at the University of Manchester) have been commissioned by NHS England to conduct an evaluation of four of the Pharmacy Integration Fund learning pathways (including **(state relevant pathway/s)** Postgraduate Learning, Medicines Optimisation in Care Homes, NHS 111/secure settings, Primary Care (merged pathway), Accuracy Checking for PTs, and Independent Prescribing), which aim to upskill the pharmacy workforce.

#### **Describe the purpose of the interview and the topics that you'd like to explore**

The aim of this study is to explore the degree to which the various PhIF training pathways have impacted upon the roles, professional practice, and career aspirations of the pharmacy workforce. The PhIF training pathways we are exploring include medicines optimisation in care homes, integrated urgent care/NHS 111, NHS-funded postgraduate training and modules, and accuracy checking for pharmacy technicians.

The purpose of this interview is to understand your experience of your learning, including any benefits, unintended consequences and impacts. There are no right or wrong answers – we are interested in hearing your perspective and opinions.

Within this study we are using the term 'learning pathway' (rather than 'course' or 'programme') as this allows us to capture the range of what is included in our PhIF evaluation. So please bear that in mind throughout interview, when we refer to 'pathway' or 'learning pathway' – we are referring to one of the previously mentioned pathways, and specifically the one you are or were participating in.

More specifically we will explore:

1. Your reasons/motivations for undertaking learning, and how you first became aware of the PhIF roles/learning pathways.
2. Your experience of the training and how this met your needs and expectations (including areas for improvement).
3. The value of educational and clinical supervision (and support more broadly from your learning provider and employer) in facilitating learning and application.

4. Integration of your new skills into your current practice, and the main consequences of this for patients and your workplace(s).
5. The likely impact of all your learning on your future clinical practice and career progression.

### **Explain confidentiality**

If there are any questions during the interview that you do not want to answer, you do not have to answer them. You can also ask to stop this interview at any time.

Information collected during this interview will be kept confidential and anonymised – your name will not be used in any reports or publications resulting from the study, and any other personal data collected will not be shared outside of the research team.

Audio recordings of interview will be used to create interview transcripts. Personal identifiable information will be removed in the final transcript. All audio recordings will be deleted following transcription. Interview transcripts will be retained for five years in accordance with the University of Manchester retention schedule

Ask them if what you have said is clear, if they have any questions, and then confirm they agree to take part in the interview and be recorded – check consent form signed by both parties. If the participant has been unable to return the consent form but wishes to proceed verbally read through the information on the consent form and seek verbal consent for each statement. Explain that the audio recording of consent will be stored separately from the transcription of the interview.

Turn on audio recorder.

## **Background and learner characteristics**

- Can you tell me more about your current role and professional background?
  - **Prompts:** What are your main responsibilities? How long have you been in current role? What particular skills and abilities do you think you need to be effective in your role?
  - **Prompts: (If post-reg or ACT pathways)** has your role changed since you enrolled onto your learning pathway? Are you undertaking the learning pathway to move into a new role? (*Adjust wording depending on pathway and where learners are in their career pathway*)
    - **Prompts:** What training had you undertaken prior to starting the PhIF training pathway?  
**Pharmacists:** MPharm/Clinical Diploma/Independent Prescribing **Pharmacy Technicians:** NVQ/Diploma

## **Awareness/expectations of the learning pathway and motivations for applying**

- Can you remember how you heard about the learning opportunity/new role? (*Tailor to pathway*)
  - **Prompts:** How easy was it to obtain information about it?
- What made you choose this particular learning opportunity/role?
  - **Prompts:** What motivated/interested you about it? Who/what influenced your choice? (e.g. Employer, peers, professional body)
  - Had you thought at all about undertaking similar professional development and/or working in a new role before hearing about this opportunity?

- How does this opportunity relate to wider goals for your professional development? What are your goals and how did you set them? Alone/with others?
- Before you started the learning pathway, how did you think it might help/benefit you? What were you initially hoping/expecting you might gain?
  - **Prompts:** Benefits for self? Benefits for patients? Benefits for employer? Benefits for pharmacy profession?
- Did you have any initial doubts/concerns about enrolling?
  - **Prompt:** What did your (then) employer think and why?

## The learning pathway

### Structure of learning pathway and mode of delivery

***N.B. Tailor questions to information provided by interviewee in the previous section (e.g. use present tense if they are still undertaking their training).***

- Can you tell me more about your learning pathway?
  - How far along the learning pathway are you? When did it start? How long did it last for/when is it due to finish? (if known)
  - How is the learning structured? (e.g. blended approach, online delivery, work-based learning?) How well does that work for you?
    - Has the structure of the pathway changed due to Covid?
- How easy was it to apply?
  - **Prompts:** Were there any barriers to applying?
  - Did you have to go through a selection process? If so, what were your views on this?

### Views on the programme content and learning pathway

- How well did / does the learning pathway content fit and align with your job role?
  - **Prompts:** How relevant is/was the content? Why, and to whom (e.g. also explore fit with the needs of the team, the employer, local public, the wider NHS, the pharmacy profession?)
    - Has the content of the pathway changed due to Covid?
  - How did/does the overall learning pathway fit with/contribute to your professional development goals?
    - Overall, how do you feel about how the learning pathway has changed/responded to Covid?
- What skills have you been able to develop as a result of your learning?
  - Examples: communication skills, consultation skills, leadership, working as a multi-professional team, shared decision making?
  - The ability to become a better learner in clinical practice?
  - To what extent did this improve on and build on your existing knowledge and skills?
  - Can you give me an example of something learnt which had a valuable impact on your practice? Or an example of how your learning changed your practice, or allowed you to approach your practice in a different way?

- What activities have you been able to carry out as a result of the learning?
  - Tailor prompts to pathway content – e.g. accuracy checking, history taking, public health interventions/activities, reviewing medication, or providing education/training to other healthcare professionals, engaging in research?
  - How confident do you feel in carrying out these types of activities? [include independent prescribing]
- Has your learning met your expectations? How do you think the overall delivery of the learning pathway could be improved?
  - **Prompts:** Content? Delivery? Marketing / who it is targeted at? Fit with individual, employer or health system / NHS goals?

## Support received to learn

### Support from workplace

- To what extent did your workplace support you in applying to undertake the learning pathway?
  - **Prompts:** By your line managers? By your peers? By the team as a whole?
- To what extent do you feel that you are being/were supported in your workplace in relation to learning while at work?
  - **Prompts:** By your line managers? By your peers? By the team as a whole? How effective was this support?
- How well do you feel you are/were able to balance the demands of learning and work?
  - **Prompts:** Were you able to secure protected study time/study leave from your employer?
  - If you have had difficulty in balancing the demands, how have you tried to resolve this? Has this been successful?
- And how easy or difficult has it been to apply what you learnt in practice?
  - Do you think you have had adequate opportunities to develop new skills in practice and undertake new activities? Why/Why not?
  - What have been the barriers e.g. time, space, opportunity, lack of support from employers?

### Supervision

- Did you receive/are you receiving:
  - Educational supervision (from the provider). If so, from whom (job role) and how often?
  - Clinical supervision or mentoring (from the employer or other source) If so, from whom (job role) and how often?
  - Support from somebody else (e.g. mentor – or whatever they may be called)

***If the interviewee has an educational and clinical supervisor and mentor, ask about these separately to understand the differences in their role/support offered.***

- For **educational supervision** – please tell me more about...

- **Prompts:** Were you allocated an educational supervisor by the provider/programme or were you required to identify someone yourself? How easy or otherwise was it to identify an appropriate person to act as a supervisor?
- Since when have you received support from them and typically, what form does this take? (e.g. learning needs assessment, discussing specific tasks or activities, career plans, challenges in the workplace)
- How frequent and how regular is the support? And how frequent and how regular is your communication with them? Are they available / proactive in maintaining contact? Is contact in person or via telephone/skype?
  - Has the support you receive from your educational supervision changed at all due to Covid?
- Do/did you find your educational supervisor to be supportive?
  - **Prompts:** How did they help you prepare to learn? Do they intervene when there are barriers e.g. identifying learning opportunities? Do you they act as a mentor/role model? Do they sufficiently challenge you to do/be better? Are there ways in which they could have been more supportive?
  - Can you give me some examples of how they supported your professional development?
  - How else will/did they contribute to your learning? (e.g. providing learning resources)
- For **clinical supervision or mentoring** – please tell me more about...
  - **Prompts:** Were you allocated an educational supervisor by the provider/programme or were you required to identify someone yourself? How easy or otherwise was it to identify an appropriate person to act as a supervisor/mentor?
  - Since when have you received support from them and typically, what form does this take? (e.g. learning needs assessment, discussing specific tasks or activities, career plans, challenges in the workplace)
  - How frequent and how regular is the support? How frequent and how regular is communication with them? Are they available / proactive in maintaining contact? Is contact in person or via telephone/skype?
    - Has the support you receive from your clinical supervision changed at all due to Covid?
- Do/did you find your clinical supervisor /mentor to be supportive?
  - **Prompts:** How did they help you prepare to learn? Do they intervene when there are barriers e.g. identifying learning opportunities? Do you they act as a mentor/role model? Do they sufficiently challenge you to do/be better? Are there ways in which they could have been more supportive?
  - Can you give me some examples of how they supported your professional development?
  - How else will/did they contribute to your learning? (e.g. providing learning resources)
- Overall, how effective was this model for supporting your learning?
  - **Prompts:** How do you feel about the way in which your knowledge/competencies are/were assessed or evidenced? (e.g. number and nature of assignments, gathering evidence to show competence)
  - Did you have the opportunity to work with other primary or secondary care professionals, that you would not otherwise have had the opportunity to do?



- How well did the different people involved in supporting you communicate with each other? Could this have been improved in any way?

## Outcomes of learning on current practice

- What have been the main benefits / value of your learning – for you as a pharmacy professional? **[NB: It may be useful to explore participants responses using the more detailed prompts for the following question]**

### Prompts:

- Effectiveness in (new) role? Improved confidence and resilience? Increased satisfaction/happiness with your role? More advanced, clinical, patient-facing/centred? Seeking out opportunities for more patient facing interaction?
  - Has the learning pathway helped you to respond/adapt to meet the challenges of Covid? Can you give examples?
  - Did the pathway prepare you for the following (amount/type) during Covid?
    - Clinical activities
    - Consultations
    - Medication reviews/optimisation
  - Could you have responded/adapted your practice in response to Covid without the learning from the pathway?
- Leadership skills? Increased autonomy in practice? Being able to work (more closely) with other healthcare professionals / multidisciplinary team? Career progression and advancement?
- Change in the way you see/think of yourself as a pharmacist/pharmacy technician? Greater recognition from others for your work?
- Any (other) unexpected benefits? Or disadvantages / negative effects (if so, what?)
- Do you think it will be possible to sustain these benefits in the longer term? Why/why not?
- What have been the main benefits / value of your learning – for your employer / in your workplace?
  - **Prompts (will depend on pathway):**
    - Reduced workload for colleagues such as GPs (if doing more prescribing / medication reviews)?
    - Greater involvement of residents and families in decision making (if in a care home)?
    - Enabling pharmacist to be more clinical, patient-facing (accuracy checking)
    - Reducing use of inappropriate medications or antibiotics?
    - Patients are more often seen by the most appropriate professional?
    - Reduction in avoidable transfers to hospital (if in a care home / NHS111)?
    - Ability of employer / pharmacy to offer more services to public / commissioners (if so, what)?
  - Did the pathway learning benefit your workplace as it was adjusting to Covid?
  - Did pathway learning benefit the system as it was adjusting to Covid?

- Any (other) unexpected benefits? Or disadvantages / negative effects (if so, what?)
- Do you think it will be possible to sustain these benefits in the longer term? Why/why not?
- Do you think it will be possible to sustain these benefits in the longer term? Why/why not?
- **(for pharmacists only):**
- Had you completed an Independent Prescribing course prior to starting the PhIF learning pathway?
- Have/are you undertaking the Independent Prescribing course as part of the Pharmacy Integration Fund training/pathway?
  - If yes: Can you tell me how you think this has helped develop your knowledge/skills further?
  - **Prompt:** Do you think it is relevant for your current/new role?
- If yes, have you had the opportunity to undertake any independent prescribing in practice?
  - If yes, when? What has supported this?
  - If no, why not? What have been the barriers?
- And thinking about your learning pathway overall, how has it helped you over and above your existing pharmacy training?
  - **Prompt (if in same role /workplace as before):** Have you changed your current practice because of your learning? (If yes: Why? How?)
  - **Prompt (if in different role):** To what extent has your learning influenced your new role? In what ways?
  - **For both:** Do you think you would have made these changes if you had not undertaken the learning? Why? Why not?

## Specific prompts to explore where the learning has led to changes in practice:

N.B. This section is likely to be most appropriate for learners who have completed/are near to completion of their learning. If the learner is in the early stages of the training go straight to the 'looking forward' section questions:

### Working with other professionals

***Intro to the following sections: We would like to discuss some specific areas of practice with you to understand more about the impact on you and your work (tailor according to previous answers and use as further prompts to guide a discussion about changes in day to day practice)***

- Has anything changed about how you work with other people in the pharmacy team?
  - **Prompts:** How has your learning helped you to work with them? Do you feel more valued or respected as a result?
- **(If relevant to the pathway):** Has anything changed about how you work with other people in the wider primary care practice team?
  - **Prompts:** How has your learning helped you to work with them? Do you feel more valued or respected as a result?

- To what extent are you (now) able to influence how things happen in your organisation/team/pharmacy? E.g. in relation to: Developing new or innovative services? Changing how they manage their workload?
- Has anything changed about how you work with primary/secondary care professionals (other than pharmacists /PTs)?
- Has your learning led to your having greater links to clinical networks or local policy making/planning?

### Working with patients (relevant to all pharmacists – but not ACT)

- Since starting/completing the learning pathway, have you had adequate patient-facing opportunities to undertake sufficient consultations to build your practice/competencies?
  - **Prompts:** If yes, how often? Has there been a variety of opportunities?
  - Has the type of patients you see changed?
  - Has there been a shift in the proportion of time that you spend on patient-facing work as a result of your learning?
    - Have patient-facing opportunities increased or decreased due to Covid?
- Do you feel your typical patient consultation has changed as a result of what you learned? What things are you doing now in consultations that you didn't do before?
- How confident do you feel in carrying out these types of patient-facing activities? Has that changed because of what you learned?
- To what extent do you think that your learning will change patient outcomes (for your population)? In what way? Can you think of an example where what you learned made a difference to patients?
  - Do you think that the learning improved patient outcomes while adjusting to Covid?

### Specific outcomes/impacts

***N.B. Only ask questions in the section(s) relevant to the learning pathway undertaken by the learner***

### Working in a care home or health and justice (HJ) secure environment

- How can your new role help improve care for those in care homes/offenders and detainees (and their families)? e.g. Improved quality of life? Improved access to and continuity of care? Person-centred care? Greater involvement in decision-making?

### Working in an urgent care setting

- How has your learning helped you to work in an urgent care setting?
  - Are you better able to handle urgent medicine-related enquires?
  - Do you feel you can confidently provide clinical assessment and treatment of minor illnesses?
  - Do you feel like you have lessened the workload of others in your team, e.g. by dealing with prescription requests?
- Do you think the quality of patient care will improve because of your training? How?

### Accuracy checking

- Do you feel the training you received was the most appropriate way to help establish the skills/knowledge needed to check the accuracy of dispensed items from prescriptions?

### Post-registration learning pathways for community pharmacists

- Thinking about the modules you undertook/are undertaking, how has or how do you envisage this will improve the service you offer in your pharmacy?
- How has the post-registration learning impact on the service you offer in your pharmacy?

### Looking forward

- **If the interviewee is still in the same post as when they started the learning pathway:** Is your current post permanent and how likely is it to be funded in the longer term? How long do you envisage staying in your current role?
- **If the interviewee changed posts after they started the learning pathway/as a result of the learning pathway:** How does your new post compare to your previous post? Is it to be funded in the longer term? How long do you envisage staying in your current role?
- What are your longer-term career aspirations now?
- How, if at all, has the learning contributed to any changes in your career aspirations?
  - **Prompt:** Was this what you expected to happen when you started the learning? Why/why not?
    - Have your career aspirations changed due to Covid?
- Do you feel you require further support or training to feel confident in your new role/skills and use your learning in practice? If yes:
  - **Prompt:** What kind of support? (e.g. other PhIF funded pathways)

### Final reflections

- Has this training experience changed the way you think of yourself as a pharmacist?
  - **Prompts:** has that changed at all?
- In your view, what are the biggest challenges facing pharmacists and pharmacy technicians (in the NHS / community) both now and in the coming years?
  - Prompts:** Patient demand and healthcare expectations, technological advancements and automation, changing economic and political climate around pharmacy and the pharmacy workforce, Covid-19
- Do you think what you have learned has made you more aware of such challenges?
  - **Prompts:** Do you think you are more well-equipped / skilled to handle these challenges? What else could make a difference?

### Close

- Thank you for sharing your views and experiences. Is there anything else you would like to add?

## Annex 5 Survey questionnaire

### INTRO

#### INTRO Type: Description

The Pharmacy Integration Fund (PhIF) is a government fund that aims to develop and support pharmacists and pharmacy technicians to fulfil roles within new integrated local models of care. The PhIF commissions a range of training and development pathways to support the development of the pharmacy profession through a partnership arrangement with NHS England. The aim of this study is to explore the degree to which the various PhIF training pathways have impacted upon the roles, professional practice, and career aspirations of the pharmacy workforce. These development opportunities include the following training pathways:

- Primary Care Pharmacy Education Pathway (PCPEP, delivered by CPPE)
- Medicines Optimisation in Care Homes (and Secure Environment Settings) (delivered by CPPE)
- Integrated Urgent Care Clinical Assessment Services / NHS 111 (delivered by University of Derby)
- NHS-funded postgraduate courses and modules (delivered by the Universities of Manchester, Keele, Bath, De Montfort and Exeter)
- Accuracy Checking for Pharmacy Technicians (delivered by Coventry University and CPPE)

These pathways, whilst having some commonalities, are also quite different. We have chosen the term 'pathway' (rather than 'course' or 'programme') as this allows us to capture the range of what is included in our PhIF evaluation. So please bear that in mind throughout the survey, when we refer to 'pathway' or 'learning pathway' – we are referring to one of the above pathways, and specifically, the one you are or were participating in.

This survey is for all pharmacy professionals who are undertaking, or have completed, one of these five pathways and is part of the national evaluation of these pathways being undertaken by ICF, an independent research organisation, and the Centre for Pharmacy Workforce Studies (CPWS) at the University of Manchester commissioned by NHS England. The survey is being conducted by ICF. The findings will be fully anonymised and a summary report of the findings will be made public.

We would be very grateful for your help with this survey seeking your views on your learning. We are interested in finding out about what has helped you to acquire and apply the knowledge, clinical skills and behaviours you have learned in practice, and what difference the training pathways have made to your development and career paths. Depending on which point you are at in your learning pathway, we may also send a follow-up survey in autumn 2020 to understand more about your experiences of participating in PhIF-funded learning. The survey will take around 10 to 15 minutes to complete.

If you have any questions about the research or completing the survey please contact Catherine Fenton, Research Manager, at ICF: [Phif@ICF.com](mailto:Phif@ICF.com). At ICF we care about your personal and sensitive data. This survey is designed to be compliant with Regulation 2018/1725 and the General Data Protection Regulation (2016/679). All the data gathered in this survey will be stored by ICF in compliance with the Data Controller's Privacy Statement and the ICF Privacy Statement. The data will be anonymised before being shared with the Centre for Pharmacy Workforce Studies.

### CONSENT\_PARTICIP\_T1



If you are happy to take part, please click to confirm this below

#	Text
1	I agree to take part in the survey
2	I agree that my anonymised data may be shared with our research partners, the Centre for Pharmacy Workforce Studies

### CONSENT\_JOINT\_T1

We need to receive your consent to take part in the survey and to share the anonymised data with the Centre for Pharmacy Workforce Studies before you can participate in this survey. Please select from the options below to continue or exit the survey.

#	Text
1	I consent to take part in the survey and agree that my anonymised data can be shared with the Centre for Pharmacy Workforce Studies
2	I do not consent to take part in the survey

#### Skip Logic

**Show If** (CONSENT\_PARTICIP\_T1 Is Empty or (CONSENT\_PARTICIP\_T1 Does Not Contain 1 or CONSENT\_PARTICIP\_T1 Does Not Contain 2))

**Hide If** (CONSENT\_PARTICIP\_T1 = 1 and CONSENT\_PARTICIP\_T1 = 2)

#### Advanced Logic

#### Post-Answer Branching and Survey Exit

#	Destination	Condition	Auto Clean
1	Exit Survey (Empty)	CONSENT_JOINT_T1=2	N/A

### T1\_SECTION\_A\_PROFESSIONAL BACKGROUND

#### PROFESSION\_T1 Type: Radio Button

The next few questions ask about you and your professional experience. Are you a...?

#	Text
1	Pharmacist
2	Pharmacy Technician

#### YEAR\_OF\_REGISTRATION\_T1<sup>7</sup> Type: Numeric Answer

What year did you first register as a [PROFESSION\_T1]?

#	Text
1	N/A

<sup>7</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).



#	Text
2	Refusal
3	Do not know

## Variables

#	Name	Type	Hide If	Min. Value	Max. Value
1	YEAR_OF_REGISTRATION_T1		N/A	1901	2030

## T1\_SECTION B\_LEARNING PATHWAY

### SECTION\_B\_INTRO Type: Description

The next section is about your experiences of undertaking a Pharmacy Integration Fund learning pathway. When we use the term 'pathway' or 'learning pathway' in the survey, we are referring to one of the training pathways, and specifically the one you are currently/ were participating in.

### LEARNING\_PATHWAY\_T1 Type: Radio Button

Which NHS-funded learning pathway are you currently on/have you completed? If you left the pathway before completing the training, please select the pathway which you were participating in.

#	Text
1	Medicines Optimisation in Care Homes (MOCH) - starting between April 2018 and September 2019
2	Accuracy Checking for Pharmacy Technicians
3	Primary Care Pharmacy Education Pathway (PCPEP) - from September 2019 onwards
4	NHS 111/Integrated Urgent Care Clinical Assessment Services
5	Postgraduate courses/modules for community pharmacists
6	Clinical Pharmacists in General Practice Education Pathway (pre-September 2019)

### START\_DATE\_T1\_MONTH<sup>8</sup> Type: Date Time Answer

What was the start date of your NHS-funded learning pathway? Please select the **month** you started your learning pathway in the box below.

## Variables and References

#	Name	Type	Hide If
1	START_DATE_T1_MONTH	MONTH	N/A

<sup>8</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

#	Name	Type	Hide If
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### START\_DATE\_T1\_YEAR<sup>9</sup> Type: Date Time Answer

Please enter the **year** you started your learning pathway in the box below.

#### Variables and References

#	Name	Type	Hide If
1	START_DATE_T1_YEAR	YEAR	N/A

### PATHWAY\_STATUS\_T1 Type: Radio Button

Which of the following applies to you?

#	Text
1	I have completed the learning pathway
2	I am still studying on the learning pathway
3	I interrupted the learning pathway prior to the planned end date but plan to return to it (e.g. due to maternity leave, illness or change of job)
4	I left the learning pathway prior to the planned end date and have no plans to return to it

### PLAN\_ENDDATE\_T1\_MONTH<sup>10</sup> Type: Date Time Answer

What is the planned end date of your NHS-funded learning pathway? If you have already completed the learning, please insert the date you completed the learning pathway. Please select the **month** the learning pathway ends in the box below.

#### Variables and References

#	Name	Type	Hide If
1	PLAN_ENDDATE_T1_MONTH	MONTH	N/A

### PLAN\_ENDDATE\_T1\_YEAR<sup>11</sup> Type: Date Time Answer

Please enter the **year** the learning pathway ends in the box below.

#### Variables and References

#	Name	Type	Hide If
1	PLAN_ENDDATE_T1_YEAR	YEAR	N/A

### COMPLETION\_DATE\_T2\_MONTH<sup>12</sup> Type: Date Time Answer

What date did you complete your NHS-funded learning pathway? Please select the month the learning pathway ended in the box below.

<sup>9</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>10</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>11</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>12</sup> Only asked in: T2 follow-up.

#	Text
1	N/A
2	Refusal
3	Do not know

#### Variables and References

#	Name	Type	Hide If
1	COMPLETION_DATE_T2_MONTH	Date and Time	N/A

#### Skip Logic

**Show If** PATHWAY\_STATUS\_T2 = 1

**Hide If** (PATHWAY\_STATUS\_T2 = 2 or (PATHWAY\_STATUS\_T2 = 3 or (PATHWAY\_STATUS\_T2 = 3 or PATHWAY\_STATUS\_T2 = 5)))

**COMPLETION\_DATE\_T2\_YEAR<sup>13</sup>** Type: Date Time Answer

Please enter the year the learning pathway ended in the box below.

#	Text
1	N/A
2	Refusal
3	Do not know

#### Variables and References

#	Name	Type	Hide If
1	COMPLETION_DATE_T2_YEAR	Date and Time	N/A

#### Skip Logic

**Show If** PATHWAY\_STATUS\_T2 = 1

**Hide If** (PATHWAY\_STATUS\_T2 = 2 or (PATHWAY\_STATUS\_T2 = 3 or (PATHWAY\_STATUS\_T2 = 3 or PATHWAY\_STATUS\_T2 = 5)))

**INDEPEND\_RXING\_T1** Type: Radio Button

Which of the following statements applies to you?

#	Text
1	I held an independent prescribing qualification before starting my learning pathway
2	I gained an independent prescribing qualification as part of my learning pathway
3	I'm currently studying for an independent prescribing qualification as part of my learning pathway

<sup>13</sup> Only asked in: T2 follow-up.

#	Text
4	I plan to study for an independent prescribing qualification before completing my learning pathway
5	I plan to study for an independent prescribing qualification at some point in the future after I've completed my training pathway
6	I currently have no plans to obtain an independent prescribing qualification
7	I hold a supplementary prescribing qualification

**Skip Logic**

Show If PROFESSIONAL\_T1 = 1

Hide If PROFESSIONAL\_T1 = 2

**MOTIVATION\_PATHWAY\_T1<sup>14</sup>** Type: Radio Button

What was your main motivation for undertaking the learning pathway?

#	Text
1	In order to work in a new job role in my current sector of practice
2	In order to work in a new sector of practice
3	In order to enhance my practice in my current job
4	In order to improve my career prospects
5	In order to undertake continuing professional development (CPD)
6	CPD to meet revalidation requirements
7	Personal interest
8	It was a requirement of my current job
9	Other, please describe below

**QUAL\_STILL\_STUDYING\_T1** Type: Check Box

If you studied on the postgraduate pathway and have completed your learning, please indicate what you left the training with

#	Text
1	Not applicable - still studying
2	Modules for CPD only
3	Postgraduate certificate
4	Postgraduate diploma
5	Masters qualification

<sup>14</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

#	Text
6	I did not receive any qualifications

**Skip Logic**

**Show If** (PATHWAY\_STATUS\_T1 = 1 and LEARNING\_PATHWAY\_T1 = 5)

**Hide If** (PATHWAY\_STATUS\_T1 = 2 or (PATHWAY\_STATUS\_T1 = 3 or PATHWAY\_STATUS\_T1 = 4))

## T1\_SECTION C ABOUT THEIR ROLE

### C1\_SECTOR<sup>15</sup> Type: Check Box

Where are you currently working? Please tick all that apply

#	Text
1	<b><u>Community pharmacy sector</u></b>
2	Independent pharmacy
3	Small chain pharmacy (2-5 stores)
4	Small-sized multiple pharmacy (6-25 stores)
5	Medium-sized multiple pharmacy (26-100 stores)
6	Large multiple pharmacy (101-200 stores)
7	Large multiple pharmacy (over 200 stores)
8	Supermarket pharmacy
9	<b><u>Hospital pharmacy sector</u></b>
10	NHS teaching hospital
11	NHS District general hospital
12	Specialist NHS hospital
13	Private hospital
14	Outpatient pharmacy
15	<b><u>Other pharmacy setting</u></b>
16	General practice
17	NHS 111 or similar urgent care provider
18	Care home or nursing home provider

<sup>15</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

#	Text
19	Primary care provider organisation (e.g. community NHS trust)
20	Secure environment/ Health in Justice
21	Commissioning or planning local services (e.g. CCG)
22	Primacy Care Network (PCN)
23	Other setting, please describe below

### CHANGED\_ROLE\_SETTING\_T1<sup>16</sup> Type: Radio Button

Have you changed your role or where you work in order to undertake the learning pathway you are currently on/ have recently completed?

#	Text
1	Yes
2	No

### ROLE\_CHANGED\_DETAIL\_T1<sup>17</sup> Type: Radio Button

Which of the following applies to you?

#	Text
1	I have changed job role within the same setting
2	I have changed the type of employer within the same sector (e.g. from independent to multiple pharmacy)
3	I have changed my sector of practice (e.g. from community pharmacy to primary care)
4	Other, please describe below

#### Skip Logic

Show If CHANGED\_ROLE\_SETTING\_T1 = 1

Hide If CHANGED\_ROLE\_SETTING\_T1 = 2

### C3\_CHANGE<sup>18</sup> Type: Check Box

If you have changed your pharmacy setting or sector of practice in order to undertake the learning pathway you are on/ recently finished, please indicate which setting(s) you were working in **before starting the pathway**. Please tick all that apply.

<sup>16</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>17</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>18</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).



#	Text
1	<b><u>Community pharmacy sector</u></b>
2	Independent pharmacy
3	Small chain pharmacy (2-5 stores)
4	Small-sized multiple pharmacy (6-25 stores)
5	Medium-sized multiple pharmacy (26-100 stores)
6	Large multiple pharmacy (101-200 stores)
7	Large multiple pharmacy (over 200 stores)
8	Supermarket pharmacy
9	<b><u>Hospital pharmacy sector</u></b>
10	NHS teaching hospital
11	NHS District general hospital
12	Specialist NHS hospital
13	Private hospital
14	Outpatient pharmacy
15	<b><u>Other pharmacy setting</u></b>
16	General practice
17	NHS 111 or similar urgent care provider
18	Care home or nursing home provider
19	Primary care provider organisation (e.g. community NHS trust)
20	Secure environment/ Health in Justice
21	Commissioning or planning local services (e.g. CCG)
22	Primacy Care Network (PCN)
23	Other setting, please describe below

### Skip Logic

**Show If** (ROLE\_CHANGED\_DETAIL\_T1 = 2 or (ROLE\_CHANGED\_DETAIL\_T1 = 3 or ROLE\_CHANGED\_DETAIL\_T1 = 4))

**Hide If** (CHANGED\_ROLE\_SETTING\_T1 = 2 and ROLE\_CHANGED\_DETAIL\_T1 = 1)

**C1\_CHANGE\_SECTOR<sup>19</sup>** Type: Radio Button

<sup>19</sup> Only asked in: Follow-up survey (Oct 2020).

Have you changed your role or where you work in the last six months?

#	Text
1	Yes
2	No

### C2\_CHANGE\_SECTOR2<sup>20</sup> Type: Radio Button

In the last six months, which of the following applies to you?

#	Text
1	I have changed job role within the same setting
2	I have changed the type of employer within the same sector (e.g. from independent to multiple pharmacy)
3	I have changed my sector of practice (e.g. from community pharmacy to primary care)
4	Other, please describe below

#### Variables and References

#	Name	Type	Hide If
1	C2_CHANGE_SECTOR2	Open-End	N/A

#### Skip Logic

Show If C1\_CHANGE\_SECTOR = 1

Hide If C1\_CHANGE\_SECTOR = 2

### C3\_CHANGE<sup>21</sup> Type: Check Box

If you have changed your pharmacy setting or sector of practice in the last six months, please indicate where you are working now. Please tick all that apply. If you are isolating due to Covid-19, please tick the place/s where you normally work.

#	Text
1	<b><u>Community pharmacy sector</u></b>
2	Independent pharmacy
3	Small chain pharmacy (2-5 stores)
4	Small-sized multiple pharmacy (6-25 stores)
5	Medium-sized multiple pharmacy (26-100 stores)
6	Large multiple pharmacy (101-200 stores)

<sup>20</sup> Only asked in: Follow-up survey (Oct 2020).

<sup>21</sup> Only asked in: Follow-up survey (Oct 2020).

#	Text
7	Large multiple pharmacy (over 200 stores)
8	Supermarket pharmacy
9	<b><u>Hospital pharmacy sector</u></b>
10	NHS teaching hospital
11	NHS District general hospital
12	Specialist NHS hospital
13	Private hospital
14	Outpatient pharmacy
15	<b><u>Other pharmacy setting</u></b>
16	General practice
17	NHS 111 or similar urgent care provider
18	Care home or nursing home provider
19	Primary care provider organisation (e.g. community NHS trust)
20	Secure environment/ Health in Justice
21	Commissioning or planning local services (e.g. CCG)
22	Primacy Care Network (PCN)
23	Other setting, please describe below

### Skip Logic

**Show If** (C2\_CHANGE\_SECTOR2 = 2 or (C2\_CHANGE\_SECTOR2 = 3 or C2\_CHANGE\_SECTOR2 = 4))

**Hide If** (C2\_CHANGE\_SECTOR2 = 1 or C1\_CHANGE\_SECTOR = 2)

## T1\_SECTION D\_IMPACT ON CONFIDENCE

### D1\_CONFIDENCE\_PHARMACIST Type: Choice Grid

The following section is about the impact of the training on your confidence, skills and practice. How confident do you currently feel about the following activities? Where 1 is not at all confident and 5 is extremely confident. Please hover over the responses to view the examples.

### COLUMNS

#	Text
1	1 - Not at all confident
2	2 - Not very confident

#	Text
3	3 - Somewhat confident
4	4 - Fairly confident
5	5 - Extremely confident
6	Not applicable

#	Text
1	Advanced consultation skills (e.g. applying tools to establish a person-centred approach and shared decision-making (rapport building, ideas, concerns, expectations (ICE), open questioning techniques, goal setting) and taking a holistic approach to the consultation to explore factors that influence adherence and the adoption of a healthy lifestyle).
2	Basic observations (e.g. measuring blood pressure and peak expiratory flow rate).
3	Clinical reasoning
4	Collaborating with other primary care professionals
5	Collaborating with other secondary care professionals
6	Collecting samples for laboratory analysis (e.g. taking a blood sample or throat swab).
7	Comprehensive clinical history-taking (e.g. gathering a broader range of information than medicines and allergies, such as the history of presenting complaint, previous medical and surgical history, family history, travel, occupation and social history).
8	Conducting quality improvement audits
9	Delegating clinical tasks
10	Delegating non-clinical tasks
11	Demonstrating leadership
12	Developing services
13	Documenting consultations and interventions
14	Engaging in research
15	Evaluating evidence
16	Handling errors and incidents
17	Interpretation of diagnostic tests (e.g. electrocardiograms, chest x-ray).
18	Interpretation of investigation findings (e.g. blood test results).
19	Making higher level decisions
20	Medicines optimisation (e.g. as described in the RPS medicines optimisation good practice guidance).
21	Physical examinations (e.g. cardiovascular or respiratory system examination, including use of a stethoscope for auscultation; ear, nose, throat examination, including palpation of lymph nodes).

#	Text
22	Speaking to patients about their health
23	Speaking to patients about their medicines
24	Supporting the development of colleagues and peers
25	Working across care settings (e.g. primary, secondary and intermediate care).
26	Working autonomously

### Skip Logic

Show If PROFESSION\_T1 = 1

Hide If PROFESSION\_T1 = 2

## T1\_SECTION D\_PT\_IMPACT ON CONFIDENCE

### D2\_CONFIDENCE\_PHARMACY TECHNICIAN Type: Choice Grid

The following section is about the impact of the training on your confidence, skills and practice. How confident do you currently feel about the following activities? Where 1 is not at all confident and 5 is extremely confident. Please hover over the responses to view the examples.

### COLUMNS

#	Text
1	1 - Not at all confident
2	2 - Not very confident
3	3 - Somewhat confident
4	4 - Fairly confident
5	5 - Extremely confident
6	Not applicable

#	Text
1	Accuracy checking
2	Administration of medicines to patients
3	Advanced consultation skills (e.g. applying tools to establish a person-centred approach and shared-decision making (rapport building, ideas, concerns, expectations (ICE), open questioning techniques, goal setting) and taking a holistic approach to the consultation to explore factors that influence adherence and the adoption of a healthy lifestyle).
4	Analysing dispensing errors
5	Basic observations (e.g. measuring blood pressure and peak expiratory flow rate).
6	Collaborating with other primary care professionals
7	Collaborating with other secondary care professionals

#	Text
8	Conducting quality improvement audits
9	Delegating clinical tasks
10	Delegating non-clinical tasks
11	Demonstrating leadership
12	Developing services
13	Dispensary management
14	Documenting consultations and interventions
15	Engaging in research
16	Evaluating information
17	Handling errors and incidents
18	Making higher level decisions
19	Medication history-taking (e.g. medicines reconciliation).
20	Medicines optimisation (e.g. as described in the RPS medicines optimisation good practice guidance).
21	Providing feedback to other members of your team
22	Speaking to patients about their health
23	Speaking to patients about their medicines
24	Supporting the development of colleagues and peers
25	Working across care settings (e.g. primary, secondary, intermediate care).
26	Working autonomously

### Skip Logic

Show If PROFESSION\_T1 = 2

Hide If PROFESSION\_T1 = 1

## T1\_SECTION D \_IMPACT ON CONFIDENCE SKILLS AND PRACTICE 3

### EXPERIENCE Type: Choice Grid

Please record your level of agreement with the following statements about your learning pathway, where 1 is strongly disagree and 5 is strongly agree.

#	Text
1	1 - Strongly disagree
2	2 - Disagree



#	Text
3	3 - Neither agree nor disagree
4	4 - Agree
5	5 - Strongly agree
6	Not applicable

#	Text
1	I have enough time to apply my learning in practice
2	I have sufficient knowledge to apply my learning in practice
3	I am capable of applying my learning in practice
4	My learning makes a difference to my practice
5	My learning makes a difference to my patients
6	My educational supervisor/academic or work-based staff support me to apply my learning in practice
7	My clinical supervisor supports me to apply my learning in practice
8	My colleagues support me to apply my learning in practice
9	My employer supports me to apply my learning in practice
10	I have all the resources I need to apply my learning in practice

### ABILITY\_TO\_APPLY\_T1 Type: Radio Button

Have you been able to apply the knowledge and skills you have learnt on your learning pathway in your current role?

#	Text
1	I have been able to fully apply all of my knowledge and skills
2	I have been able to apply most of my knowledge and skills, but not all
3	I have not been able to apply my knowledge and skills at all
4	I have been able to apply only some of my knowledge and skills

### UNABLE\_APPLY\_REASON\_T1 Type: Radio Button

If you answered the previous question to indicate that you were unable or only partially able to apply your knowledge and skills, please indicate the main reason why you were unable to apply your knowledge and skills in your current role?

#	Text
1	Too early in pathway, still acquiring new knowledge and skills
2	Job-role related reason

#	Text
3	Employer-related reason
4	Other reason, please describe below

**Skip Logic**

**Show If** (ABILITY\_TO\_APPLY\_T1 = 2 or (ABILITY\_TO\_APPLY\_T1 = 3 or ABILITY\_TO\_APPLY\_T1 = 4))

**Hide If** ABILITY\_TO\_APPLY\_T1 = 1

**RELEVANCE\_CURRENTROLE\_T1** Type: Radio Button

How relevant do you think what you have learnt on the learning pathway is to your current role?

#	Text
1	Not at all relevant
2	Not very relevant
3	Somewhat relevant
4	Fairly relevant
5	Very relevant

**RELEVANCE\_FUTUREROLE\_T1** Type: Radio Button

How relevant do you think what you have learnt on the learning pathway is to you and the roles you hope to take on in the future?

#	Text
1	Not at all relevant
2	Not very relevant
3	Somewhat relevant
4	Fairly relevant
5	Very relevant

**PATIENT\_FACING\_T2\_COMT1** Type: Radio Button

Are you doing more or less patient-facing activity than before you started your learning pathway?

#	Text
1	Less than before
2	The same as before
3	More than before
4	Not applicable

**PATIENT\_FACING\_COVID\_T2<sup>22</sup>** Type: Text Answer

To what extent has this been affected by Covid-19?

#	Text
1	Not applicable
2	Refusal
3	Do not know

**CLINICAL\_SERVICES\_T2\_COMT1** Type: Radio Button

Are you leading more or less clinical services than before you started your learning pathway?

#	Text
1	Less than before
2	The same as before
3	More than before
4	Not applicable

**CLINICAL\_SERVICES\_COVID\_T2<sup>23</sup>** Type: Text Answer

To what extent has this been affected by Covid-19?

#	Text
1	Not applicable
2	Refusal
3	Do not know

**MEDICATION\_REVIEWS\_T2\_COMT1** Type: Radio Button

Are you conducting more or less medication reviews with patients with complex needs than before you started your learning pathway?

#	Text
1	Less than before
2	The same as before
3	More than before
4	Not applicable

<sup>22</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

<sup>23</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

**MEDICATION\_REVIEWS\_COVID\_T2<sup>24</sup>** Type: Text Answer

To what extent has this been affected by Covid-19?

#	Text
1	Not applicable
2	Refusal
3	Do not know

**CHANGE\_TO\_PRACTICE\_1\_T2\_COMT1** Type: Text Answer

Please tell us about any changes that you have made to your practice as a result of what you learned on your training pathway. Please describe up to three examples. **Example one**

#	Text
1	I do not have an example
2	Refusal
3	Do not know

**CHANGE\_TO\_PRACTICE\_2\_T2\_COMT1** Type: Text Answer

Please tell us about any changes that you have made to your practice as a result of what you have learned on your training pathway. **Example two**

#	Text
1	I do not have an example
2	Refusal
3	Do not know

**Skip Logic**

**Hide If** CHANGE\_TO\_PRACTICE\_1\_T2\_COMT1 = NA

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**CHANGE\_TO\_PRACTICE\_3\_T2\_COMT1** Type: Text Answer

Please tell us about any changes that you have made to your practice as a result of what you learned on your training pathway. **Example three**

#	Text
1	I do not have an example
2	Refusal
3	Do not know

---

<sup>24</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

### Skip Logic

Hide If (CHANGE\_TO\_PRACTICE\_1\_T2\_COMT1 = NA or  
CHANGE\_TO\_PRACTICE\_2\_T2\_COMT1 = NA)

---

### PATHWAY\_COVID<sup>25</sup> Type: Choice Grid

We would like to hear more about your experiences of the learning pathway during Covid-19. To what extent do you agree or disagree with the following statements about the impact of Covid-19?

#### COLUMNS

#	Text
1	1 – Strongly disagree
2	2 – Disagree
3	3 – Neither agree nor disagree
4	4 – Agree
5	5 – Strongly agree
6	Not applicable

#	Text
1	I have received sufficient support from my learning provider
2	I have received sufficient support from my clinical supervisor
3	I have had time to undertake the learning
4	I have been supported in my learning by my colleagues
5	I have spent more time providing patient care
6	I have had more time for clinical work

### COVID\_1\_T2<sup>26</sup> Type: Text Answer

We are interested in your experiences of the learning pathway during the Covid-19 pandemic. Please tell us in the box below about the challenges you have faced when undertaking your learning during the pandemic. If you have not experienced any challenges, please tick the not applicable box below.

#	Text
1	Not applicable
2	Refusal
3	Do not know

---

<sup>25</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

<sup>26</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

#	Text
---	------

### COVID\_2\_T2<sup>27</sup> Type: Text Answer

Please tell us in the box below about any additional support from either your learning provider or your workplace you may have needed to undertake the learning pathway during Covid-19.

#	Text
---	------

- |   |                |
|---|----------------|
| 1 | Not applicable |
| 2 | Refusal        |
| 3 | Do not know    |

## DEMOGRAPHICS

### AGE\_T1<sup>28</sup> Type: Radio Button

What age are you?

#	Text
---	------

- |   |                   |
|---|-------------------|
| 1 | 21-30 years       |
| 2 | 31-40 years       |
| 3 | 41-50 years       |
| 4 | 51-60 years       |
| 5 | 61-70 years       |
| 7 | Over 70 years     |
| 6 | Prefer not to say |

### GENDER\_T1<sup>29</sup> Type: Radio Button

How would you describe yourself?

#	Text
---	------

- |   |                        |
|---|------------------------|
| 1 | Male                   |
| 2 | Female                 |
| 3 | Other, please describe |
| 4 | Prefer not to say      |

<sup>27</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

<sup>28</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>29</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).



**REGION\_T2<sup>30</sup>** Type: Check Box

Where do you work?

#	Text
1	North East England
2	North West England
3	East Midlands
4	West Midlands
5	South East England
6	South West England
7	London
8	Wales
9	Other
10	Prefer not to say

**ETHNICITY\_T1<sup>31</sup>** Type: Radio Button

What is your ethnic group?

#	Text
1	White
2	Mixed/Multiple ethnic groups
3	Asian/Asian British
4	Black British/African/Caribbean
5	Any other ethnic group, please describe below
6	Prefer not to say

**EMAIL****EMAIL<sup>32</sup>** Type: Email Address Answer

THANK YOU FOR COMPLETING THE SURVEY. We will contact you later in the year with a short follow-up survey. Please provide us with the email address you would like us to contact you with: Email address:

#	Text
1	N/A
2	Refusal

<sup>30</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).

<sup>31</sup> Only asked in: Main survey T1 (Feb 2020); Main survey T2 (Oct 2020).

<sup>32</sup> Only asked in: Main survey T1 (Feb 2020)

#	Text
3	Do not know

**Skip Logic**

**Show If** (PATHWAY\_STATUS\_T1 = 2 or PATHWAY\_STATUS\_T1 = 3)

**Hide If** (PATHWAY\_STATUS\_T1 = 1 or PATHWAY\_STATUS\_T1 = 4)

**EMAIL\_2<sup>33</sup>** Type: Email Address Answer

THANK YOU FOR COMPLETING THE SURVEY. We may want to follow-up with you regarding the study. Please provide an email address if you are happy for us to contact you. Email address:

#	Text
1	N/A
2	Refusal
3	Do not know

**Skip Logic**

**Show If** (PATHWAY\_STATUS\_T1 = 1 or PATHWAY\_STATUS\_T1 = 4)

**Hide If** (PATHWAY\_STATUS\_T1 = 2 or PATHWAY\_STATUS\_T1 = 3)

**INTERVIEW\_FOLLOWUP<sup>34</sup>** Type: Email Address Answer

We would like to hear more about your experience on the learning pathway. If you are happy to take part in a telephone interview, please add your email address to the box below. A researcher will be in touch with you to set up a call.

#	Text
1	I would prefer not to take part in an interview
2	Refusal
3	Do not know

**END** Type: Description

Thank you for taking part in this survey. Your response will help NHSE and HEE to understand the needs of the pharmacy workforce and design future programmes. Please click the 'next' button to submit your responses.

<sup>33</sup> Only asked in: Main survey T1 (Feb 2020)

<sup>34</sup> Only asked in: Main survey T2 (Oct 2020); Follow-up survey (Oct 2020).