UNIVERSITY OF ABERDEEN

An exploration of the Vocational Training Foundation Programme for Pharmacy Technicians (VTFPPT): is it fit for purpose?

Final Report

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Executive summary

1. Background

The Vocational Training Foundation Programme for Pharmacy Technicians (VTFPPT) hereafter referred to as the Programme) is undertaken by qualified Pharmacy Technicians after they have registered with the General Pharmaceutical Council. The purpose of the Programme is to develop appropriate behaviours and skills to equip Pharmacy Technicians with a generic range of 'core' pharmacy skills and sector specific (primary care, community, hospital) skills, enabling the development of a flexible workforce that can meet the needs of patients regardless of their setting.

The evaluation of the Programme is based on Social Cognitive Theory (which explains behaviour through three environmental, personal and motivational domains) and was informed by Miller's triangle. A mixed-method study design was selected to address the following overall aim and answer the listed research questions.

Aim

The overall aim of this evaluation was to examine the perceptions and views of Pharmacy Technicians undertaking the Vocational Training Programme, and other key stakeholders regarding the Training Programme (VTFPPT).

Research questions

1. What are Foundation Pharmacy Technicians' perceptions of:

   a. The benefits of undertaking the Programme?

   b. The facilitators to learning during the Programme?

   c. How the Programme contributes to further professional identity?

   d. The social gains from the Programme, such as sharing experiences and developing relationships?

   d. Their ability to respond to complex professional demands and manage problems as a result of the Programme?

   e. Their ability to establish peer review sessions and act as mentors for further Foundation Pharmacy Technicians?

   f. Their understanding of patient centred care?

2. How do these perceptions change with progression through the programme?

3. What are the perspectives of the tutors/supervisors, regional/health board professional support staff and educational leads) in regard to the Programme?

4. What, if any, modifications are needed to the Programme to address identified needs of participants?

2. Summary of method

Eligible participants were Pharmacy Technicians registered with the Programme and their Educational support staff (tutors/supervisors, regional/health board professional support staff, and educational leads) and a sample of Pharmacy Technician stakeholders. Both quantitative and qualitative data were collected.

The quantitative data included a baseline questionnaire (only available from October 2018), which Pharmacy Technicians were asked to complete at the start of training to self-assess their confidence in meeting the competences of the underpinning Framework for Pharmacy Technicians. Similar forms were developed for those either withdrawing before programme completion or on completion of the Programme by those assessed as meeting the required standard. Invitations to complete these surveys were sent by NES staff.

The qualitative element included focus groups, and interviews with Pharmacy Technicians and their Educators, and a Stakeholder workshop. These were initially conducted face-to-face but since the start of the Covid-19 pandemic interactions have been undertaken virtually using telephone or video conferencing (e.g., via MS Teams). All proceedings were digitally recorded and transcribed with consent of the participants.

Output from the surveys was analysed in SPSS and simple descriptive statistics are reported.

Transcripts of qualitative focus group and interviews were initially subjected to thematic analysis and themes and sub-themes identified were mapped to the three domains of Social Cognitive Theory (SCT): Personal/cognitive; Behavioural, and Environmental. The transcript of the Stakeholder discussion was reviewed and suggestions to address the identified barriers were extracted.

Appropriate ethical and NHS R and D approvals were gained prior to study start.

3. Findings

Surveys

One hundred and fifteen Pharmacy Technicians are now registered with the Programme, with iterative recruitment from 2018. The majority are female (91.3%) and practising in primary care (78.2%). There is representation from all mainland Health Boards. Most of the Pharmacy Technicians are either still progressing through the Programme or have exited early (41). Two Pharmacy Technicians submitted portfolios for final assessment in 2022. Of these one has met the standard for Programme completion.

The baseline questionnaires were completed by 59 of the 115 registered Foundation Pharmacy technicians (51.3% response rate). Most respondents felt broadly confident, but there was room for improvement. On a scale of 1-10, (where 1 is not at all confident and 10 is very confident) there was most confidence (fairly confident/confident) with: 'understanding the purposes of standards and audit within the GP setting' (43/59), 'demonstrating a non-discriminatory attitude' (39/59), 'raising concerns about wrong doing in the workplace' (38/59), 'demonstrating a proactive approach to resolving issues' (36/59), 'understanding when to refer an enquiry to ensure professional clinical accuracy' (34/59), 'applying person-centred consultation skills' (32/59), and 'having a good awareness of public health priorities' (30/59).

There was less confidence (not confident or not very confident) in: 'using systematic and person centred decision making processes' (5/59), 'delivering (5/59) and evaluating training' (6/59), 'analysing local and national prescribing data' (6/59), understanding the impact of geographical settings on the delivery of health care' (6/59), 'undertaking a treatment review of medicines with patients' (7/59), 'providing information tailored to the individual enquirer' (7/59), 'understanding the pharmacy organisational structure and how it relates to health & social care' (8/59), demonstrating knowledge and understanding of 'financial governance issues in the GP setting' (9/59), 'medicine reconciliation in the GP setting' (10/59), and 'applying quality improvement methodology' (13/59). Unsurprisingly the average scores mask individual variations; in all individual competences there were considerable numbers scoring below the mid-point of 5 and there were few scoring the highest level of 10. In other words, there is considerable scope for development. Details of response categorised by domain are described below.

There were three open text questions included in the baseline questionnaire asking for perceptions the Programme make personally and professionally to the Pharmacy Technicians as well as their reasons for undertaking the Programme. Responses focused on increased confidence, increased clinical knowledge, challenging themselves, a sense of achievement, personal development and career progression.

Only five of those exiting early completed the early exit questionnaire. The reasons for exiting early were varied but a common theme across the various responses was lack of support and a poor understanding of the programme requirements.

Pharmacy Technicians taking part in either a focus group or interview represented all three sectors of practice: hospital, primary care and community pharmacy. Overall, 13 face-to-face focus groups have been held, with 75 participants (41 Pharmacy Technicians and 34 Pharmacy Technician Educators). There were 31 interviews involving 17 interactions with Pharmacy Technicians and 14 Educators. The majority of the interviews and focus groups were with participants from primary care, reflecting that overall, most Pharmacy Technicians registering with the Programme are from primary care, and that initially the Programme was targeted at those based in primary care.

At baseline the main themes were Motivations for taking part, Baseline competence, Professional identity, Facilitators and Barriers. Pharmacy Technicians portrayed themselves as a very motivated and enthusiastic group of health professionals. They had a strong sense of professional identity and were very keen to develop and enhance their roles further. This came over strongly with respect to the primary care sector; they perceived the new roles in GP practices to be a challenge and a role that they are capable of undertaking with adequate training and development. Facilitators and barriers were also anticipated. The views of the Educators largely reflected those of the Pharmacy Technicians, although they were less positive about Pharmacy Technicians' baseline competence. The Environmental domain of Social Cognitive Theory influenced all themes other than baseline competence which was all about the Behavioural domain. Motivation, whilst also including some influence of Environmental factors also depended on factors from the Personal domain relating to attitudes to career progression and self-development, and the Behavioural domain for identifying training gaps in skills

At midway, the main themes were about the Overall experience, the Benefits of the Programme, Professional Identity, and Facilitators and Barriers. There were generally positive views about the Programme overall which had given the Pharmacy Technicians an opportunity to develop their role with respect to both their clinical and transferable skills. However, there was a clear feeling that the Programme was more suited to those who were newly qualified and there was a lack of challenge for more experienced Pharmacy Technicians.

The Framework had increased general awareness of the professional identity of the Pharmacy Technicians and their scope of practice but there were also examples of confusion about their role including their title. In terms of facilitators, NES and NES resources were highlighted as being very helpful, but this was not the case for all those interviewed and poor support from NES was also noted under barriers, alongside inexperienced and poorly informed tutors. Other barriers linked to the workplace included lack of time and workload, and concern that without a formal qualification when completing the Programme there was no incentive. When reflecting on the Programme overall, the Educators felt it was giving valuable development opportunities to the Pharmacy Technicians and cited similar specific benefits. Linked to the Pharmacy Technicians comments about inexperienced tutors, they also commented that they would have liked more training and guidance from NES. As at baseline, the themes generated by the inductive analysis were then mapped onto the domains of Social Cognitive Theory. From the perspectives of both Pharmacy Technicians and Educators, the Environmental domain influenced the Professional Identity, Facilitators and Barriers themes, whilst the Behavioural and Personal domains were most relevant to the overall views of the Programme and the benefits.

Only two Pharmacy Technicians who exited early agreed to be interviewed. Two Pharmacy Technicians who had submitted portfolios for assessment took part in an end of programme interview. No Educators agreed to be interviewed at this time point. There was consensus from all four on the inherent value of the programme. However, those exiting early listed many barriers related to the quality of the support they had received and workplace issues. Reasons for early exiting included the fact that expectations of the Programme were not met, both relating to understanding what engagement in the pilot Programme meant and the lack of formal accreditation for the Programme. They made suggestions for improvement including shortening the timeframe to a one-year programme and streamlining the Turas platform, with colour coding to facilitate navigation.

The main themes identified for the two Pharmacy Technicians who had completed the Programme also included its benefits and facilitators for completing it. However, the barriers to delivery were again multiple and there were suggestions for improvement. All the benefits mentioned could be considered as improved transferable skills, including the promotion of reflective practice, improved working relationships with colleagues resulting from their reflection, and improved writing style. All of these meant that the Pharmacy Technicians interviewed now felt they could support other trainees and be a future tutor. Taking part in the Programme had improved their professional identity, and their role had become more visible, and they had had good support from individuals (both tutors and NES) and general resources, and the workplace. However, they also noted the same barriers as had been reported at midway and from those exiting early. Their suggestions improvement were colour coding the Turas platform to match the NES booklet, having a designated NES contact for each Pharmacy Technician and prompter feedback after submitting their portfolio for assessment.

Stakeholder meeting

There were sixteen attendees at the virtual Stakeholder workshop with good representation of different backgrounds and roles. The discussion was interactive, and the suggestions addressed five key barriers (Protected time, Support, Course issues, Incentives and Variation in role across Health Boards). In addition, issues relevant to the Programme, and recommendations as appropriate, but not identified explicitly during the focus group and interviews are included (RPS frameworks, Workforce issues, Employer understanding and Benchmarking of standards).

4. Discussion

The overall aim was to examine the perceptions and views of the Foundation Pharmacy Technicians and other key Stakeholders regarding the training Programme. Overall, the findings from the interviews and focus groups with the Pharmacy Technicians and their tors/supervisors have confirmed that the Programme is recognised as being an important part of the development of the Pharmacy Technician role. There has only been positive feedback about the relevance of the competencies in the framework and the benefit experienced by the Pharmacy Technicians who are progressing through the programme. High self-assessment scores of perceived competencies at baseline were noted in the baseline survey yet those Pharmacy Technicians taking part in the qualitative research reported improvement in many of the competences, and this was also observed by their Educators. However, the research has identified facilitators for delivery of the Programme which if absent become challenges for Pharmacy Technicians. This provides some explanation as to why at a point 4.5 years after the first cohort enrolled, only three portfolios have been submitted, and only one has met the standard. The meeting with Stakeholders confirmed support for the principle of the Programme and added to the suggestions of how to facilitate delivery of the Programme. Applying Social Cognitive Theory to these findings, it is clear that whilst the Personal and Behavioural domains influence the motivation for taking part in the Programme and the benefits acquired, the facilitators and barriers are predominantly in the Environmental domain, and are in theory implementable or modifiable.

As a result of triangulating and synthesising the findings from the different components of the evaluation the following recommendations are made to address the key logistical issues identified.

Recommendations for delivery of Programme for Pharmacy Technicians linked to the evaluation findings

ISSUE	RECOMMENDATION
EXPECTATIONS	• Provide full details of programme to employers and Pharmacy Technicians, including experiential delivery mode, time commitment, holistic content with emphasis on transferable as well as clinical skills • Employer to confirm, in writing, support for the Pharmacy Technician and the tutor specifically ticking protected time, flexibility, opportunity to provide appropriate experience
BENEFITS	• Ensure information on the programme includes the benefits • Have case studies and blogs readily available on NES website • Seek to accredit Programme as a formal qualification/endorsement by APTUK • Provide support and mentoring from Pharmacy Technician Programme completers • Anchor framework to goals of service and patient needs • Encouraging consistency in roles across Health Bords • Linking to career progression
SUPPORT	• Provide tutor training to ensure all tutors (i) fully understand the standards required and (ii) can give constructive feedback • Accredit tutors have annual meetings to share ideas and keep them engaged • Ensure consistency of information across all resources
PROTECTED TIME	• Employers, Pharmacy Technicians and tutors to understand and commit to the need for protected time out of the working day • Training time to be added into job plans • Financial implications of protected time to be recognised and incorporated into budgets • Training time to be factored into workforce planning • Skill mix and digital solutions could free up time • Seek funding for training bursaries
TAILORING THE FRAMEWORK	• Framework and other resources to be reviewed by Pharmacy Technicians in all sectors to ensure equal relevance to all trainees • Streamline Framework to map to Turas • Map Framework to other relevant APTUK and nationally approved CPD plans • Benchmarking the Framework • Having clear deadlines to meet

5. Conclusion

All three Social Cognitive Theory factors influenced the learning and development of the Pharmacy Technicians, but Environmental influences dominated the barriers. These results highlight areas to explore in more detail for future Programme delivery. The main conclusion however is that the core principles of the Programme were universally supported by the Pharmacy Technicians, and their Educators with both groups reporting or observing the positive effect of the Programme on developing skills and competences. Specifically, there is evidence that the Programme helped Pharmacy Technicians experience a wider range of clinical skills, develop in the ability to handle complex issues and appreciate the benefit of reflection as a means of improving their practice. They became more confident as well as competent, felt more able to communicate with other health care professionals and, whilst not universal, undertaking the Programme facilitated both their own and others' appreciation of their professional identity.

MAIN report

1. Background

The Vocational Training Foundation Programme for Pharmacy Technicians (VTFPPT); hereafter referred to as the Programme) is undertaken by qualified Pharmacy Technicians after they have registered with the General Pharmaceutical Council. The purpose of the Programme, which takes approximately 1000 days to complete, is to develop appropriate behaviours and skills to equip Pharmacy Technicians with a generic range of 'core' pharmacy skills and sector specific (primary care, community, hospital) skills, enabling the development of a flexible workforce that can meet the needs of patients regardless of their setting. The Programme is believed to be the first of its kind in the UK, developed specifically for Pharmacy Technicians. The inaugural cohort of trainees (starting April 2018) was limited to those based in primary care; later developments led to the Programme including candidates from other sectors.

The Programme is underpinned by a framework of competences[1] organised into sections. These comprise personal and professional practice, the pharmaceutical care of patients, education, training and development, medicines information, data analysis and reporting and sector specific competences. The framework maps to the NHS Knowledge and Skills framework.

During training the Pharmacy Technicians are supported by a variety of personnel including the following who are referred to generically in this report as Educators, as well as being identified by individual specific role when relevant:

1. Local placement-based Educators (tutors)/supervisors and regional/health board professional support staff as appropriate.

2. Health Board pharmacy educational leads (where this structure is in place)

3. Programme Officers/NES

The theoretical basis for the evaluation is based on Social Cognitive Theory and Miller's triangle. The mixed-method study design comprised both qualitative focus groups and interviews and a baseline on-line survey. The focus groups and semi-structured interviews assessed the extent to which the Programme supported the development of transferable behavioural skills and professional attitudes. The baseline on-line survey described the Pharmacy Technicians self-assessed ability and confidence to meet the required level of competence prior to the Programme start. The original study protocol included completion of a similar survey at programme exit but due to slower than anticipated progression through the Programme at the time of writing this report, only three portfolios have been submitted and only one of these has been confirmed at assessment as meeting the required standard.

2. Aims and Objectives

The overall aim of this evaluation was to examine the perceptions and views of foundation Pharmacy Technicians and other key stakeholders regarding the Training Programme (VTFPPT).

Research questions

1. What are Foundation Pharmacy Technicians' perceptions of:

      a. The benefits of undertaking the Programme?

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[1] Vocational Training Foundation Framework for Pharmacy Technicians [Pharmacy | NHS Education for Scotland](#)

b. The facilitators to learning during the Programme?

c. How the Programme contributes to further professional identity?

d. The social gains from the Programme, such as sharing experiences and developing relationships?

d. Their ability to respond to complex professional demands and manage problems as a result of the Programme?

e. Their ability to establish peer review sessions and act as mentors for further Foundation Pharmacy Technicians?

f. Their understanding of patient centred care?

2. How do these perceptions change with progression through the programme?

3. What are the perspectives of the Educators (tutors/supervisors, regional/health board professional support staff and educational leads) in regard to the Programme?

4. What, if any, modifications are needed to the Programme to address identified needs of participants?

3. Summary of method

Full details of the method are described in the study protocol (see attached Appendix 1) and the key points are summarised below. All relevant NHS Ethics and R and D approvals were sought and gained.

3.1 Participant Inclusion criteria

Eligible participants were Pharmacy Technicians who:

- registered to start the Programme after April 2018, with the agreement of their pharmacy manager
- were employed in either a community, general practice or hospital setting

and Educational support staff (tutors/supervisors, regional/health board professional support staff, and educational leads) who:

- were registered with the GPhC
- were providing formal or informal support to Pharmacy Technician participants registered to start training from April 2018
- had had personal individual interactions with at least one Pharmacy Technician participant

Pharmacy Technicians and educational support staff were excluded if they did not fully meet the inclusion criteria

3.2 Data collection

3.2.1 Quantitative data

The quantitative date included a baseline questionnaire, which Pharmacy Technicians were asked to complete at the start of training (see Appendix 2). They were asked to self-assess their confidence in meeting the competences which comprised the Vocational Training Foundation Framework for Pharmacy Technicians. The form also included collection of some basic demographic information and was adapted from a similar survey used for Foundation Pharmacists. The survey was hosted on a Questback platform. Similar forms for those exiting the Programme early, and those completing the programme were also developed. (see Appendices 3a and 3b). Invitations to complete these surveys were sent by NES staff with reminders at three and six weeks.

3.2.2 Qualitative data

The qualitative element included focus groups, interviews, and a stakeholder workshop (October 2022). Whilst the initial plan was for these to be conducted face-to-face where geography allowed, since the start of the Covid-19 pandemic interactions have been undertaken virtually using telephone or video conferencing (e.g., via MS Teams).

Focus groups and interviews

One orientation face-to-face focus group was held with ten Pharmacy Technicians prior to the Programme commencing (January 2018) This was undertaken to inform the research and the findings but was not analysed formally, and the results have not been included in this report as ethical approval was not in place at the time.

The original plan was to purposively sample Programme participants to ensure a range of characteristics likely to effect experiences (e.g. sector, geography, time since qualification, gender) but given the numbers of Programme participants and response rates, all those eligible were invited at every stage: baseline, mid-point and end of Programme (including those exiting early). Invitations to take part were sent out by NES with those agreeing to take part returning their consent form directly to the research team who made the detailed arrangements, for either a focus group or interview according to the preference of the participant. Two reminders were sent, one and two weeks after the original deadline for return of the consent form. All proceedings were digitally recorded and transcribed. Focus group and interview schedules are attached as Appendices 4-9.

3.2.3 Stakeholder workshop

A Stakeholder meeting was held virtually on October 10th 2022. The protocol had planned for this to be held after the Programme had been completed. However given delays due to Covid-19 and the Pharmacy Technicians taking longer to the complete the Programme than anticipated only three portfolios had been submitted at this point, and only one of these had been assessed as satisfactory. Invitations were sent by email by the research team to a purposive sample of 38 Stakeholders, agreed by the researchers and NES staff as representing the range of interests relevant to the Programme, including employers, Health Board representatives, community pharmacy, APTUK and RPS, HEIW Wales, NHS England Pharmacy Technician professional advisor, Company Chemists' Association and NES Assistant Postgraduate Post Graduate Pharmacy Dean. One reminder was sent. At the event a summary of the main research findings (descriptive statistics of the baseline self-assessment of confidence in meeting the Framework competences and the barriers and facilitators perceived at baseline and experienced as Pharmacy Technicians progressed through the Programme) was presented followed by a group discussion. The Stakeholders were asked to consider the findings and based on these to make recommendations for any future Programme amendments. Proceedings were digitally recorded and transcribed. The agenda for the event, and the Power point presentation are attached as Appendices 10 and 11.

3.3 Data management and analysis

3.3.1 Surveys

Output from Quest back was reported as an Excel file. Data was imported into SPSS for analyses. Simple descriptive statistics are reported (frequencies and means with standard deviation (SD)).

3.3.2 Focus groups and Interviews

Anonymised audio files of the digitally recorded focus group/interview proceedings were stored on a secure server at the University of Aberdeen in accordance with Research Governance guidance. All were then fully transcribed for analysis. Thematic analysis was initially conducted supported by nVIVo version 12 software. The thematic framework was independently constructed by two researchers (JI/CB) in Aberdeen. The coding frameworks are attached in Appendix 12, and 13. Following thematic analysis the themes were mapped back onto the three domains of Social Cognitive Theory (SCT): Personal/cognitive; Behavioural, and Environmental. In the reporting of the results quotes are identified by an id number, sector and Programme registration date.

3.3.3. Stakeholder workshop

As for the focus groups and interviews (see above), the audio file of the digitally recorded meeting was stored on a secure server. The transcript of the discussion was reviewed and suggestions to address the identified barriers were extracted by the research team.

4. Results

4.1 Participants

The first Pharmacy Technicians registered in the Programme in May/June 2018 with further Pharmacy Technicians registering on an ongoing basis as shown in Table 1 below.

Table 1 Distribution of Pharmacy Technicians registering with the Programme by calendar year

Year of Registration	Number	%*
2018	25	21.7
2019	20	17.4
2020	22	19.1
2021	25	21.7
2022	23	20.0

Note that due to rounding for decimal points adds up to 99.9%

Table 2 shows the demographics of the Pharmacy Technicians who have registered with the programme.

Table 2 Demographics of all participants registered (n=115)

		n (%)
Gender	Female	105 (91.3)
	Male	10 (8.7)
Sector	Hospital	24 (20.9)
	Community	1 (0.9)
	Primary Care	90 (78.2)
Health Board	Ayrshire & Arran	10 (8.7)
	Borders	1 (0.9)
	Dumfries & Galloway	8 (6.9)
	Fife	8 (6.9)
	Forth Valley	6 (5.2)
	Grampian	3 (2.6)
	Greater Glasgow & Clyde	25 (21.7)
	Highland	5 (4.3)
	Lanarkshire	6 (5.2)
	Lothian	29 (25.2)
	Orkney	2 (1.8)
	Shetland	2 (1.8)
	Tayside	10 (8.7)

The majority of participants are female (91.3%) and practising in primary care (78.2%) (Table 2). There is representation from all mainland Health Boards with Lothian having the biggest representation (29%) (Table 2). There was a range of levels of experience, with those registering early more likely to be well established in their role in primary care.

Most of the Pharmacy Technicians are still progressing through the Programme as shown in Table 3 below.

Table 3: Current status of Pharmacy Technicians registered with the programme (March 2023)

	Number	%
Total Pharmacy Technicians Registered	115	
Submitted Portfolio	3	1.7
Ongoing	71	61.7
Left programme	41	35.6

Forty-one Pharmacy Technicians have left the Programme prematurely i.e. without completing the Programme. Reasons for leaving are presented below in Table 4.

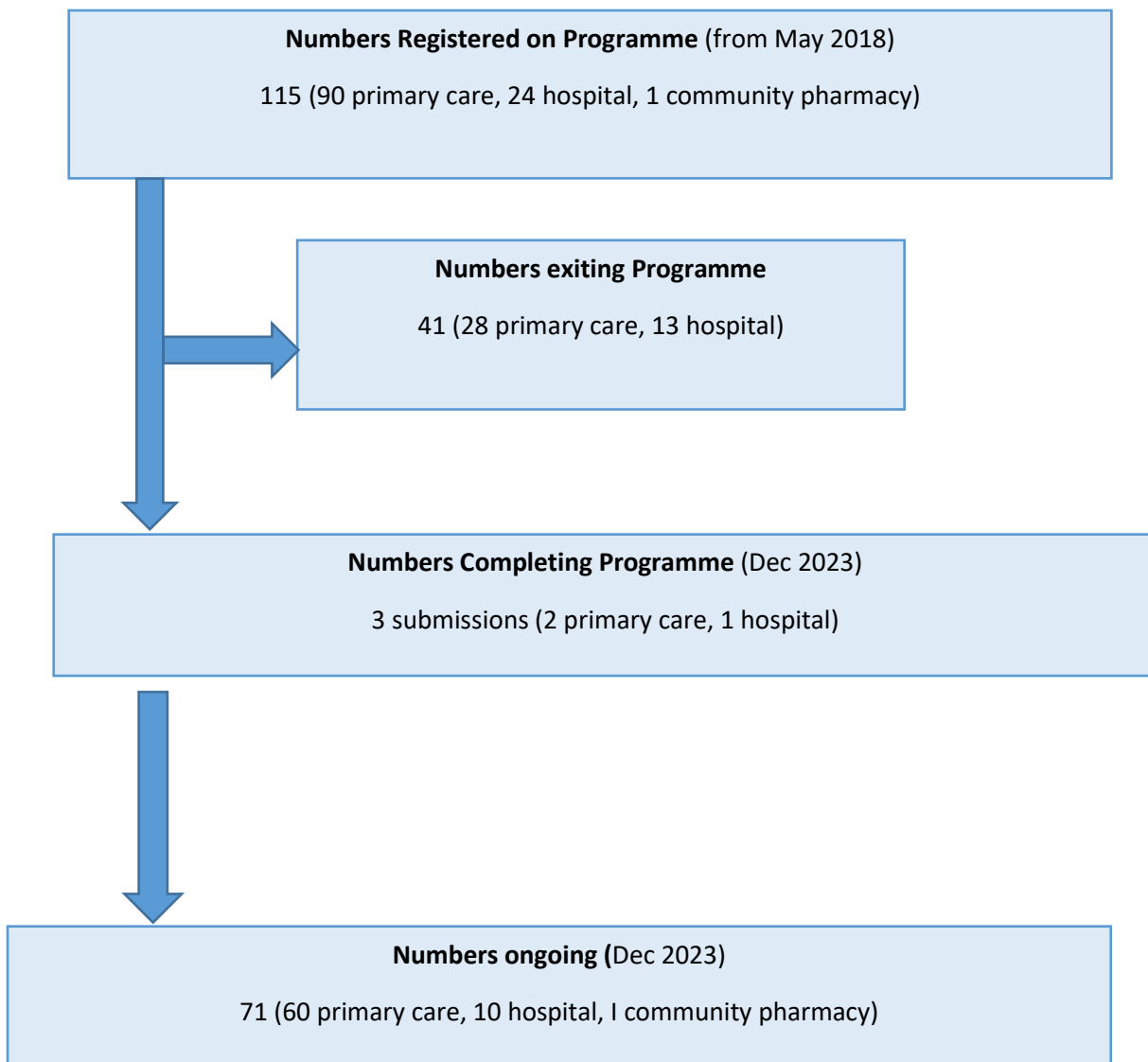**Table 4: Reason for leaving the programme.**

	Number (n=41)
Unknown	20
Perceive no benefit to themselves	5
Moved to promoted role	4
No longer in post	4
Completing other education programme (PDA, OU course)	3
Change in personal circumstances	2
Now working part-time hours	2
Increased work commitments	1

Three portfolios were submitted for final assessment in 2022, two from Pharmacy Technicians working in primary care and one from a Pharmacy Technician in the hospital sector. Two were submitted in Spring 2022, both from primary care but both required remediation, as neither fully met all the competences. In Autumn 2022 two portfolios were submitted for assessment – one a resubmission now passed (primary care) and one new submission (hospital) which is still awaiting feedback from a second assessor.[2] Variation in programme length is inevitable and has been exacerbated by the pandemic and its resultant heavy workloads. Figure 1 below summarises the progress of the Pharmacy Technicians broken down by sector

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[2] Although not part of the formal evaluation we have liaised closely with NES staff during this evaluation. It is worth noting that the portfolio newly submitted in September 2022 has not fully linked the competencies to the strongest pieces of evidence and that the portfolio displayed definite progression with time.

Assessors are all experienced in education and training and have undertaken a SVQ A1 assessor training qualification. In a recent calibration meeting they were all in agreement and their comments were very similar

Figure 1 Foundation Programme Recruitment/Retention Flowchart by sector

Numbers Registered on Programme (from May 2018)

115 (90 primary care, 24 hospital, 1 community pharmacy)

Numbers exiting Programme

41 (28 primary care, 13 hospital)

Numbers Completing Programme (Dec 2023)

3 submissions (2 primary care, 1 hospital)

Numbers ongoing (Dec 2023)

71 (60 primary care, 10 hospital, I community pharmacy)

4.2.1 Quantitative data (Baseline questionnaire)

The baseline questionnaires were completed by 59 of the 115 registered Foundation Pharmacy Technicians (51.3% response rate) as shown in Table 5.

Table 5. Baseline questionnaire responses by sector (N=59)

Sector	n (%)
Primary Care	44 (74.6)
Hospital	14 (23.7)
Community Pharmacy	1 (1.7)

Due to slower than anticipated progression through the programme at the time of writing this report we have only five early withdrawal and one end-of-Programme exit questionnaire. Therefore it has not been possible to use these surveys to describe the effect of the Programme on Pharmacy Technicians self-assessed confidence with the competences of the Framework.

Table 6 below shows the distribution of responses to the self-assessed confidence of meeting the individual framework competences at baseline. Analyses suggested that at baseline most respondents felt broadly confident, but there was room for improvement. On a scale of 1-10, (where 1 is not at all confident and 10 is very confident) there was most confidence (fairly confident/confident) with: 'understanding the purposes of standards and audit within the GP setting' (43/59), 'demonstrating a non-discriminatory attitude' (39/59), 'raising concerns about wrong doing in the workplace' (38/59), 'demonstrating a proactive approach to resolving issues' (36/59), 'understanding when to refer an enquiry to ensure professional clinical accuracy' (34/59), 'applying person-centred consultation skills' (32/59), and 'having a good awareness of public health priorities' (30/59).

There was less confidence (not confident or not very confident) in: 'using systematic and person centred decision making processes' (5/59), 'delivering (5/59) and evaluating training' (6/59), 'analysing local and national prescribing data' (6/59), understanding the impact of geographical settings on the delivery of health care' (6/59), 'undertaking a treatment review of medicines with patients' (7/59), 'providing information tailored to the individual enquirer' (7/59), 'understanding the pharmacy organisational structure and how it relates to health & social care' (8/59), demonstrating knowledge and understanding of 'financial governance issues in the GP setting' (9/59), 'medicine reconciliation in the GP setting' (10/59), and 'applying quality improvement methodology' (13/59). Unsurprisingly the average scores mask individual variations; in all individual competences there were considerable numbers scoring below the mid-point of 5 and there were few scoring the highest level of 10. In other words, there is considerable scope for development. Details of response categorised by domain are described below.

Personal & professional practice

Pharmacy Technicians were most confident in terms of 'always demonstrating a non-discriminatory attitude' (8.95, SD 1.07), followed by 'understanding the purpose of standards and audit within the workplace' (8.85, SD 1.14), 'demonstrating a proactive approach to resolving issues' (8.83, SD 1.21) and 'working professionally within a multi-professional team' (8.81, SD 1.12). They were least confident in relation to 'demonstrating knowledge and understanding of financial governance issues' (6.03, SD 2.16), 'demonstrating effective leadership skills' (6.44, SD 2.03) and 'applying Quality Improvement methodology' (6.54, SD 2.06).

Pharmaceutical care of patients

Pharmacy Technicians were most confident for: 'I can provide information about medicines tailored to the needs of the enquirer' (8.27, SD 1.62), 'I can apply processes and procedures to promote the safer use of medicines' (7.58, SD 1.59), 'I can carry out medicines reconciliation in an appropriate setting' (7.54, SD 1.76), and 'I have good awareness

of public health priorities'(7.24, SD 2.51). They were less confident in 'I use systematic and person-centred decision-making processes' (6.98, SD 2.14).

Overall, Pharmacy Technicians were less confident in the Pharmaceutical Care of Patients compared to Personal & Professional Practice

Table 6. Frequency distribution of responses to baseline questionnaire (N=59) : Likert scale of 1-10 recoded as follows: 1-2 not confident, 3-4 not very confident 5-6, neutral, 7-8 fairly confident, 9-10 confident).

Competency statement	Level of perceived confidence						
	Not confident n (%)	Not very confident n(%)	Neutral n (%)	Fairly confident n(%)	Confident n (%)	Average score	SD
Personal & Professional Practice							
I can communicate effectively with all levels of healthcare staff	0	0	4 (6.7)	34 (57.6)	21 (35.6)	8.12	1.27
I can demonstrate effective self-management skills	0	1 (1.7)	9 (15.2)	30 (50.8)	19 (32.2)	7.76	1.45
I can demonstrate effective service management skills	0	3 (5.1)	15 (25.5)	27 (45.7)	14 (23.7)	7.19	1.66
I can demonstrate effective leadership skills	2 (3.4)	7 (11.9)	20 (33.9)	19 (32.2)	11 (18.6)	6.44	2.03
I can demonstrate knowledge and understanding of financial governance issues	4 (6.7)	9 (15.2)	19 (32.2)	22 (37.3)	5 (8.5)	6.03	2.16
I can apply Quality Improvement methodology	1 (1.7)	7 (11.9)	19 (32.2)	23 (38.9)	9 (15.2)	6.54	2.06
I understand the pharmacy organisational structure and how it relates to health and social care	0	2 (3.4)	8 (13.6)	22 (37.3)	27 (45.7)	8.10	1.59
I work professionally within a multi-professional team	0	0	2 (3.4)	21 (35.6)	36 (61.0)	8.81	1.12
I demonstrate a proactive approach to resolving issues	0	0	2 (3.4)	18 (30.5)	39 (66.1)	8.83	1.21
I always demonstrate a non-discriminatory attitude	0	0	1 (1.7)	15 (25.4)	43 (72.9)	8.95	1.07
I understand the purpose of standards and audit within the workplace	0	0	2 (3.4)	19 (32.2)	38 (64.4)	8.85	1.14
I am happy to raise a concern about wrong doing in the workplace	1 (1.7)	1 (1.7)	9 (15.3)	16 (27.1)	32 (54.2)	8.17	2.02
The Pharmaceutical Care of Patients							
I can apply person-centred consultation skills	2 (3.4)	3 (5.1)	13 (22.1)	21 (35.6)	20 (33.9)	7.41	2.18
I use systematic and person-centred decision making processes	3 (5.1)	4 (6.8)	11 (18.6)	27 (45.8)	14 (23.7)	6.98	2.14
I can provide information about medicines tailored to the needs of the enquirer	0	2 (3.4)	6 (10.2)	21 (35.6)	30 (50.8)	8.27	1.62
I have good awareness of public health priorities	4 (6.8)	6 (10.2)	4 (6.8)	25 (42.4)	20 (33.9)	7.24	2.51
I can carry out medicines reconciliation in an appropriate setting	1 (1.7)	2 (3.4)	10 (16.9)	29 (49.1)	17 (28.8)	7.54	1.76
I can identify high risk medication/medication combinations on a routine basis	0	2 (3.4)	9 (15.3)	36 (61.0)	12 (20.3)	7.47	1.51
I can apply processes and procedures to promote the safer use of medicines	0	0	13 (22.0)	29 (49.2)	17 (28.8)	7.58	1.59
Education Training & Development							
I can support the development of others	4 (6.8)	2 (3.4)	8 (13.6)	24 (40.7)	21 (35.6)	7.41	1.59
I can deliver training in agreed formats	2 (3.4)	4 (6.8)	17 (28.8)	26 (44.1)	10 (16.9)	6.83	1.92
I can evaluate education and training I have delivered	0	5 (8.5)	10 (16.9)	30 (50.8)	14 (23.7)	7.36	1.69
Medicines Information							
I can answer medicines information enquiries utilising bibliographical databases and local medicines information sources	0	1 (1.7)	6 (10.2)	18 (30.5)	34 (57.6)	8.37	1.63
I understand when to refer an enquiry to ensure professional clinical accuracy	1 (1.7)	3 (5.1)	13 (22.0)	28 (47.6)	14 (23.7)	7.19	1.82
I am aware of the processes which guide medicines use	2 (3.4)	2 (3.4)	13 (22.0)	32 (54.2)	10 (16.9)	6.97	1.86
Data Analysis and Reporting							
I can apply principles of information governance	0	2 (3.4)	12 (20.3)	30 (50.8)	15 (25.4)	7.46	1.60
I can analyse data to make informed decisions	3 (5.1)	3 (5.1)	14 (23.7)	25 (42.4)	14 (23.7)	6.77	1.86
I understand the impact of geographical settings on the delivery of healthcare services	1 (1.7)	1 (1.7)	5 (8.5)	24 (40.7)	28 (47.6)	7.02	2.21
I can interrogate clinical software systems to collect prescribing data	3 (5.1)	1 (1.7)	9 (15.3)	35 (42.4)	21 (35.6)	7.63	2.12

Education, Training & Development

Pharmacy Technicians were most confident in relation to 'supporting the development of others' (7.41, SD 1.59), and least confident in 'I can deliver training in agreed formats' (6.83, SD 1.92). Again they were less confident in this domain compared to Personal & Professional Practice.

Medicines information

Pharmacy Technicians were most confident in 'I can answer medicines information enquiries utilising bibliographical databases and local medicines information sources' (8.37, SD 1.63), and least confident with 'awareness of the processes which guide medicines use'(6.97, SD 1.86).

Data Analysis & Reporting

Pharmacy Technicians were most confident with 'interrogating clinical software systems to collect prescribing data' (7.63, SD 1.86) and 'least confident with analysing data to make informed decisions' (6.77, SD 1.86).

There were three open text questions included in the baseline questionnaire. Responses after content analysis are reported below.

Expected differences the programme would make personally to the pharmacy technicians

There were 43 open text responses to this question. Responses demonstrate that over half of respondents (25/43) thought the main difference the training would make to them personally was to give them increased confidence*: 'It will give me more confidence and hopefully won't feel so anxious',* with other themes including identifying development needs (4), understanding their role (4), giving them a sense of achievement (1), better skills (3) and further their knowledge (Figure 2)[3].

Figure 2. Word map of open text responses for the expected differences the programme would make personally to the pharmacy technicians

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[3]Note figures provide a graphic image of the open text responses, and text size is not an exact scaled accurate representation of the numbers.

Expected differences the programme would make professionally to the pharmacy technicians

There were 59 open text responses, and there was less consensus than to question on the difference the training would make to their professional practice. The largest number of responses (17/59) related to increasing clinical knowledge '*I am keen to improve my clinical knowledge'.* Increased confidence was stated by twelve respondents (12/59) *'more confident employee with the ability to challenge myself further'*. Developing their professional role and being more competent was mentioned by 9/59 respondents each, *'It will allow other professionals to understand the level of my ability and ensure I am able to contribute at the high end of my professional capabilities'*, improved patient care (3/59), ease workload on other staff members (2/59). and a sense of achievement, support other by one respondent each (Figure 3).

Figure 3. Word map of open text responses for the expected differences the programme would make professionally to the pharmacy technicians

Reasons for undertaking the training given by the pharmacy technicians

Finally, the third open question asked for the main reason for doing the training. There were 31 responses. Of these, 19/31 stated personal development and career progression, developing their skills and knowledge 12/31, and three to increase their confidence and one respondent stated they '*wanted to be part of something new'* (Figure 4).

Figure 4. Word map of open text responses for the reasons for undertaking the training given by the pharmacy technicians

4.2.1 Quantitative data (Withdrawal and Exit questionnaires)

Five early withdrawal surveys were completed, and the responses are shown in Table 7 below. For the five responding there was a range of personal and programme related reasons for exiting. However, taking a holistic view of the responses overall the main issues would appear to be poor support in general including from tutors who may not have understood the programme requirements and to some extend NES. Incorrect expectations and again lack of understanding of programme were also contributory factors. Not all responders had made use of the support that was available but reasons for this were not explored. Nonetheless three of the five responders would recommend the programme for newly qualified technicians.

Table 7. Frequency distribution of responses to withdrawal questionnaire (N=5) : Likert scale of 1-10 recoded as follows: 1-2 not confident, 3-4 not very confident 5-6, neutral, 7-8 fairly confident, 9-10 confident).

Category	Characteristic/item	Response	n
Demograohy	Gender	Male	1
		Female	3
		Missing	1
	Sector	Hospital	1
		Primary Care	4
	Time in programme	13-18 months	1
		19-24 months	2
		31-36 months	2
Views on programme	Reason for exiting *	Workload/time	2
		No incentive	2
		Incorrect expectations	1
		New post	1
		Lack of support	1
		Not enjoyable	1
	Barriers*	Tutor issues	3
		NES issues (delayed feedback, staff shortages)	2

		Workload	1
	Did programme improve your practice?	yes	2
		No	3
	Reasons practice not improved *	Lack of understanding/stress	1
		Lack of time	1
		Nothing new	1
		Missing	2
	Did you feel well supported?	Yes	1
		No	4
	Reasons for lack of support*	Tutor issues	2
		Early registrant/ support not developed	1
		No feedback	1
		Lack of understanding of programme requirements	1
	Opportunities for exposure to higher level working	Yes	3
		No	2
	Areas for improvement*	Support for tutors so they understand what is required	2
		More new skills and advanced clinical components	1
		More explanation of programme requirements	1
		None	1
	Would you recommend this programme to newly qualified technicians ?	Yes	3
		No	2
Support accessed	NES Personnel/Programme Officers	Yes	2
		No	3
	NES peer review sessions	Yes	3
		No	2
	NES evidence workshops	Yes	1
		No	4
	Assessment Handbook	Yes	4
		No	1
	Assessment strategy	Yes	0
		No	5
	NES Evidence guide	Yes	1
		No	4
	NES Guidance and Resources	Yes	3
		No	2
	Turas e learning modules	Yes	3
		No	2
	Regular tutor meetings	Yes	2
		No	3
	Support from other colleagues	Yes	3
		No	2
	Health Board peer review sessions	Yes	1
		No	4

*Coded answers to open text comments

At the time of submitting this report only one exit questionnaire has been submitted and due to potential breach of confidentiality the responses are not reported here.

4.3 Qualitative findings

4.3. 1 Response rates and demography

Table 8 below summarises the focus groups and interviews that were undertaken with Pharmacy Technicians, and Educators (workplace tutors and programme officers) over the study duration. Response rates to invitations to take part in interview declined as the Programme progressed and therefore all those accepting an invitation were included. Lower response rates may be a result of pressures on the service given the Covid-19 pandemic.

Table 8: Numbers of Pharmacy Technicians and Educators participating in focus group or interview at different stages of the Programme

Mode of contact	Participant	Hospital				Primary Care				Comm Pharm			
		Base line	Early exit	Mid way	Programme end	Baseline	Early exit	Mid way	Program me end	Baseline	Early exit	Mid way	Programme end
*Focus Groups	Pharmacy Technician	1 (7)				4 (28)		2 (6)					
	Workplace tutors	1 (4)				3 (26)		2 (4)					
Interviews	Pharmacy Technician	2		3	1		2	6	1	1		1	
	Workplace tutors	2		1				4		1			
	Programme Officer (NES employed)					4		2					

* Numbers represent number of focus groups held with, in brackets, number of participants.

To facilitate participation, where possible, focus groups were held following either Pharmacy Technician induction or one of the peer review sessions. Due to Covid-19 restrictions, after March 2020, individual interviews were conducted utilising Microsoft Teams, at a convenient time for participants. Focus group and interview facilitation was undertaken by researchers independent of NES.

Pharmacy Technicians taking part in either a focus group or interview represented all three sectors of practice: hospital, primary care and community pharmacy. Overall, 13 focus groups have been held, with a total of 74 interactions with participants face to face, involving 41 Pharmacy Technicians and 34 Pharmacy Technician Educators

The majority of the interviews and focus groups were with participants from primary care, reflecting that overall, most Pharmacy Technicians registering with the Programme are from primary care, and that those from primary care were the earlier programme registrants.

This pilot Programme was being developed and refined throughout the period of the evaluation, with changes mostly linked to the support provided. Pharmacy Technicians continued to register progressively as shown in Table 1. At the start of the evaluation nine baseline focus groups were conducted involving 35 Pharmacy Technicians who were 'early' registrants and 25 Educators. As further Pharmacy Technicians registered another 6 online baseline interviews were conducted involving three Pharmacy Technicians and three educators. A cut-off date of end of October 2021 was set for any further baseline interviews.

At an anticipated midpoint of the Programme (one year after Programme registration) four focus groups were conducted face-to face involving six Pharmacy Technicians and four Educators. Midpoint interviews were conducted at a subsequent point with those registering at later stages of the evaluation. These were all undertaken after March 2020 and were therefore conducted using Microsoft Teams. These involved ten Pharmacy Technicians, including one based in community, five tutors and two NES Programme Officers.

Two interviews have been conducted with Pharmacy Technicians who exited prematurely, and two end-of-programme interviews have been conducted with Pharmacy Technicians after they submitted their portfolios. Both required a resubmission; at the time of the interviews one was aware of this outcome and the other was not.

In the following sections a summary of the themes and sub themes at each time point, from the perspective of the Pharmacy Technicians and their Educators, are reported. More details are provided in the Appendices (14-19) in which quotes are identified by focus group or interview id, sector of practice, and registration year (for Pharmacy Technicians). These appendices are a distillation of more than 350 pages of transcription, 31 hours of interviewing and 13 hours conducting focus groups[4]

4.3.1 Baseline findings
Pharmacy Technicians

In total 35 Pharmacy Technicians took part in focus groups at baseline: seven from hospital, and 28 from primary care. A further three attended an interview, two from hospital and one from community pharmacy. At baseline the main themes emerging are summarised in Figure 5 below. A full report of the views of the Pharmacy Technicians at the start of the programme is attached as Appendix 14.

Motivation for taking part

The Pharmacy Technicians were generally well motivated to take part at baseline and reasons included both the support they would get for their learning and their professional development. They anticipated the structure of the Programme would be a benefit and help them develop by identifying their training needs, and identifying and addressing knowledge gaps before they were required to apply these in a real world situation. This was particularly relevant for those in primary care and developing their role and wanting to show other members of the practice team '*what we are capable of'*. These were linked to their professional development and the potential for the Programme to aid their career progression and facilitate a move into different sectors of practice

Baseline competence

The Pharmacy Technicians felt they were already competent for their role; *'I'm quite competent in most areas in my work*' and their comments highlighted that they were already very patient centred in their approach: '*I do really like having the patient contact'*. One Pharmacy Technician who had already been registered for short time felt that their confidence had already improved including talking to other members of the team, but others already felt confident dealing with their colleagues: *'I've got good relationships with pretty much all of them….i definitely feel comfortable talking about any issues that I might have'*. However they felt that they did not always have the ability to deal with complex problems or to 'whistle blow'.

Professional identity

There were many comments about the lack of awareness of the Pharmacy Technician role by other health care professionals, including the GPs they worked with: '*they're told you're a technician and it's like oh, what can you do….it's so difficult trying to get across what you can do'.* This lack of awareness could also apply to pharmacist colleagues: *'I've worked with pharmacists in a practice that think I should just be doing non-clinical medication reviews which you teach to admin staff, and to patients'* and *'so there there's no public awareness and …..my husband still does not know what I do with my day'.* Central to this lack of awareness is the feeling that the role is undefined and of Pharmacy Technicians being lost:*'so unless you are very established in a practice we can feel and be a bit lost in amongst it'.*

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[4] At Baseline:Pharm Techs, 101 pages; Educators,79 page
At midway: Pharm Techs, 91 pages; Educators,70 pages
At End point: Pharm Techs, 16:

On a more positive note Pharmacy Technicians were very interested in ultimately providing mentorship for others both those doing the Foundation programme and other staff e.g. those doing the Buttercup courses: *'it's more going back to what we said before about us having our own unique professional identity and culture and such like, I would still say the best people to train pharmacy technicians are pharmacy technicians, I think it's like especially if I've been there and done it, it's our professional responsibility, so I'd be super keen for it as well'.*
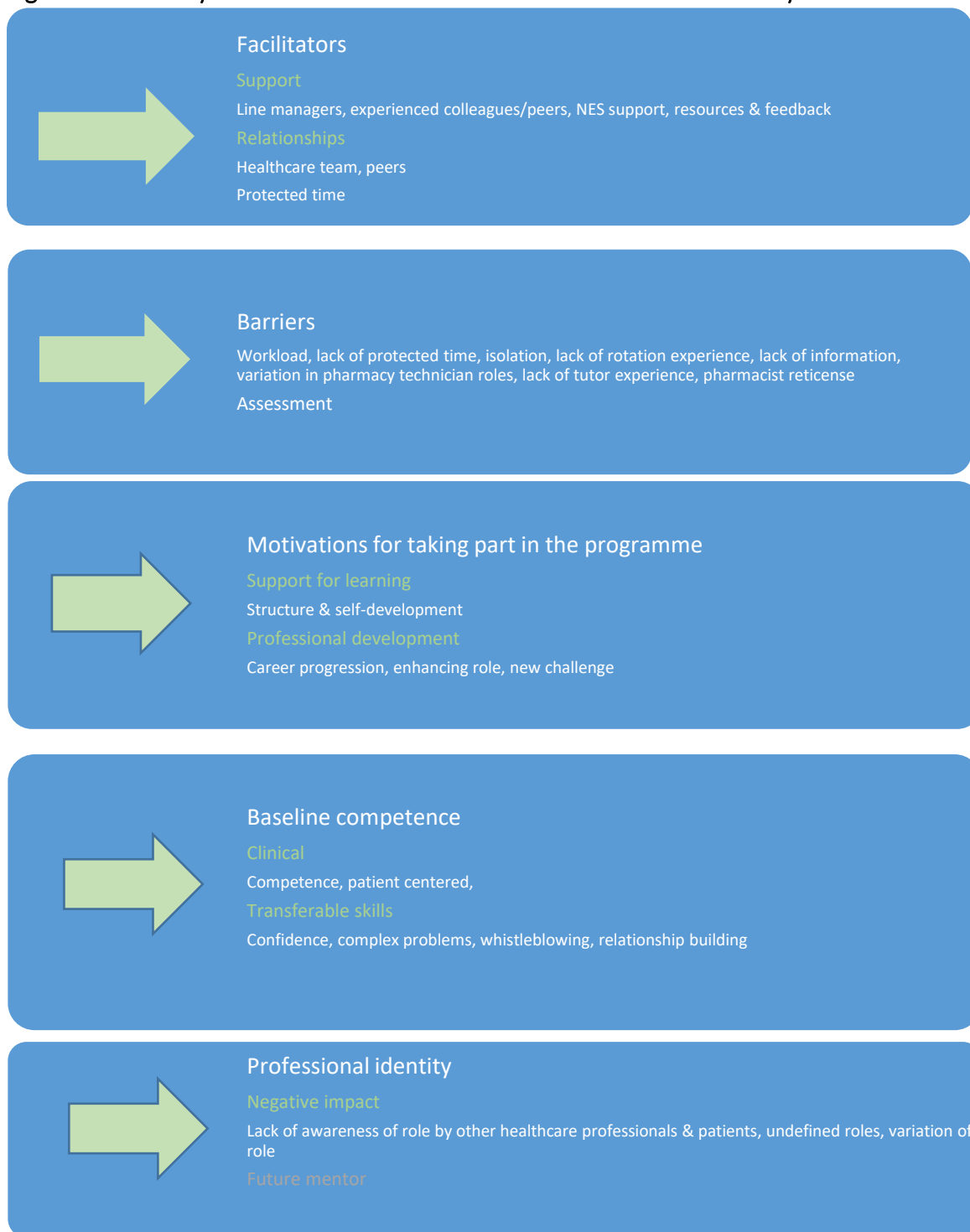
Facilitators

Looking ahead, facilitators for course completion were perceived to relate to both formal and informal support as well as other resources. The support of line managers and regular meetings with peers were highlighted: *'there is nothing like getting reassurance from a colleague who has felt exactly the way you felt…and just have honest feedback'*. NES were perceived to give a different sort of support providing information on the level of evidence required and the other NES resources such as the website and handbook. Structured feedback on portfolio entries confirming that the evidence submitted was of the required standard was also expected to be of value, as was informal feedback from other colleagues. Linking back to the theme of professional identity, feedback from other colleagues could also help better understand the role of the Pharmacy Technician: *'oh so that's what this pharmacy Technician is doing'.*

Barriers

Concern was raised by the Pharmacy Technicians in the hospital sector about the lack of staff, and workload pressures as they saw colleagues move into primary care and the earlier opportunity for a promoted Band 5 post. There was also concern about the lack of protected time particularly for community and hospital based Pharmacy Technicians: *'I come from community, I'm lucky if you get protected lunchtime, never mind, so I do agree with everybody that I think community and hospital will struggle'.* It was also recognised that the lack of protected time for tutors could also be a barrier as Pharmacy Technician and tutor sought to find a mutually convenient time to meet in the working day.

Other perceived barriers included isolation for those in primary care, and for those in hospital gaining experience in all required specialities was seen to be a potential challenge if this was not part of their rotation. Some barriers were the converse of the identified facilitators such as inexperienced tutors, or insufficient information on the Programme requirements. There were also barriers related to professional identity such as the variation in the role across Health Boards, and reticence of some pharmacists to delegate tasks to them.

Figure 5: Summary of themes and sub themes at baseline from Pharmacy Technicians

Facilitators

Support

Line managers, experienced colleagues/peers, NES support, resources & feedback

Relationships

Healthcare team, peers

Protected time

Barriers

Workload, lack of protected time, isolation, lack of rotation experience, lack of information, variation in pharmacy technician roles, lack of tutor experience, pharmacist reticense

Assessment

Motivations for taking part in the programme

Support for learning

Structure & self-development

Professional development

Career progression, enhancing role, new challenge

Baseline competence

Clinical

Competence, patient centered,

Transferable skills

Confidence, complex problems, whistleblowing, relationship building

Professional identity

Negative impact

Lack of awareness of role by other healthcare professionals & patients, undefined roles, variation of role

Future mentor

There were also comments about the assessment process with some implying that this was not really necessary as the course was not an accredited qualification, and a view that if their assessor had signed off their competences as they progressed through the Programme this should be sufficient.

In summary, Pharmacy Technicians portrayed themselves as a very motivated and enthusiastic group of health professionals. They have a strong sense of professional identity and are very keen to develop and enhance their roles

further. This came over strongly with respect to the primary care sector; they perceived the new roles in GP practices to be a challenge and a role that they are capable of undertaking with adequate training and development.

One of the issues that both primary care and hospital pharmacy technicians highlighted is the need for consistency and alignment of their roles across Scottish Health Boards. There appears to be a diverse approach in different areas and is very much Health Board dependent. They also emphasised the lack of awareness of their role, not only from pharmacists, but other health care professionals, as well as the wider patient population. They hoped that the Programme would go some way to addressing this issue.

Educators (Tutors)

In total 30 Educators took part in focus groups at baseline: four from hospital, and 26 from primary care. A further three attended an interview, two from hospital and one from community pharmacy. At baseline the main themes emerging are summarised in Figure 6 below. A full report of the views of the Educators at the start of the programme is attached as Appendix 15. All Educators at this timepoint were workplace based tutors.

Motivations for taking part

The tutors discussed both the motivations for them to take part as tutors and their perception of why the Pharmacy Technicians would or should take part.

For themselves, the tutors reflected that it was part of their own professional development. They felt they would both see things they had not experienced themselves and it would be a refresher for other activities. With respect to the Pharmacy Technicians, the tutors felt it would also develop them, build their confidence and knowledge and '*mov(ing) them out of their comfort zone'.* Linking in with professional identity (see below) it was felt that having the framework of competences to work from would support the Pharmacy Technicians' evolving role, maintain their motivation for continuing development and encourage consistency across settings and Health Boards: '*I like the fact that it's standardised across Scotland, taking away any kind of local or regional differences within their training'.* It was also thought that the programme would help identify training gaps and that completing the Programme could help their career progression. Finally tutors commented that the Programme would encourage Pharmacy Technicians to meet

great opportunity maybe to get in touch with folks in boards where that is something that they're doing, …….. sort of developing that network more widely'.
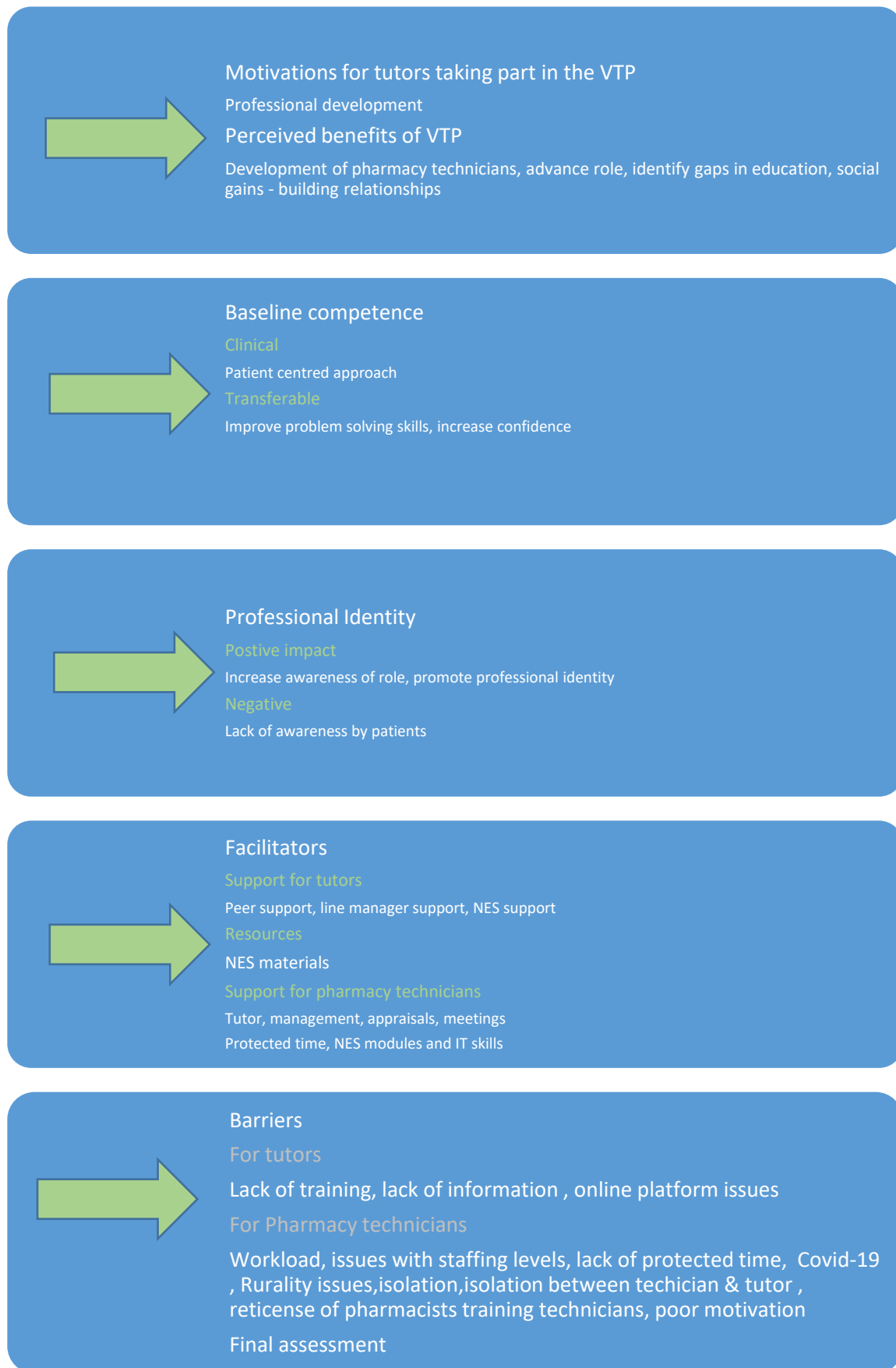
Baseline competence

Tutors discussed both the Pharmacy Technicians' clinical competence and that which was transferable. With respect to their baseline clinical competence, and in contrast to the Pharmacy Technician views, there was an emphasises on improving patient centredness as' *they might not have had a huge amount of patient facing roles, but that's obviously something that's really important, it's getting more important'* and *'and seeing how they can, can contribute to the patient journey and just, just maybe becoming a bit more patient centred'.* Conversely some tutors were more positive about the Pharmacy Technician's baseline ability: '….*has a really good manner with the patients'.*

There were also comments about the competence of transferable skills at this baseline point. These included problem solving skills: ' *so I've told her, if she's not 100% sure, just to speak to the pharmacist',*   and the need for increased confidence: '*I think that she does know the answers…but she'll always get somebody to double check …..it's just giving her that confidence in herself and her own ability'*

Professional identity

There was a widely held view that the Programme would have a positive impact on the Pharmacy Technicians' professional identity. They believed it would increase awareness of the professional role moving Pharmacy Technicians from being an '*assistant to the pharmacist'* to '*being a separate profession'.* At the moment there was a lack of awareness of the role by other health care professionals and patients and one tutor described how she/he and other colleagues tried to promote the role at multidisciplinary meetings:' *, she also is in her uniform, and everyone knows that she's a pharmacy technician, it's almost like you've got to get out there, and be proud of who you are, but it's a long time coming'.*

Figure 6: Summary of themes and sub themes at baseline from tutors

Motivations for tutors taking part in the VTP

Professional development

Perceived benefits of VTP

Development of pharmacy technicians, advance role, identify gaps in education, social gains - building relationships

Baseline competence

Clinical

Patient centred approach

Transferable

Improve problem solving skills, increase confidence

Professional Identity

Postive impact

Increase awareness of role, promote professional identity

Negative

Lack of awareness by patients

Facilitators

Support for tutors

Peer support, line manager support, NES support

Resources

NES materials

Support for pharmacy technicians

Tutor, management, appraisals, meetings

Protected time, NES modules and IT skills

Barriers

For tutors

Lack of training, lack of information , online platform issues

For Pharmacy technicians

Workload, issues with staffing levels, lack of protected time, Covid-19 , Rurality issues,isolation,isolation between techician & tutor , reticense of pharmacists training technicians, poor motivation

Final assessment

Facilitators

Tutors deliberated the support they anticipated they themselves would require to undertake their role and where they would obtain that support. They felt they would need support from their peers: '*if there's a group of tutors, …if we're going to be taking together, it's almost like, if I've got a problem, I can maybe email you'* as well as from their line manager:' *he's also keen for us to do this, so I mean initially I would go to him, to say, what do you think I should be doing here, I would get in touch with ***** or ****[NES], that kind of thing, but I would ask in house first'.* As this last excerpt from a quote illustrates the tutors would also seek support as necessary from NES as well as the evidence workshops NES organised; *…'so we had an evidence workshop … an initial session, for the trainee you know, to kind of see what a bit of evidence would look like and how you would go about writing one, ………. after attending that workshop, I have more of an idea now'.* Although these were primarily for the Pharmacy Technicians, the tutors who attended also got clear benefit as well.

Tutors also commented on the facilitators they felt would help the Pharmacy Technicians. They felt the tutor support would be very helpful including the 6 monthly appraisals and one commented that they would also plan extra monthly meetings. Support from other health care professionals and line management was also seen as vital: '*the need for this to be an important thing needs to come from the top as well, because we are all very, very busy in what we're doing, …and unless the understanding from the top is there, …then the pressure will still come on to people, so it needs to be seen as a priority, that they develop and spend time developing to enable their job to get better, and that will help the service in the long run'.*

It was also commented that the Pharmacy Technicians would need to develop their IT skills to use the on-line platform, and linked to this there were many comments on the need for protected time to complete the NES modules and portfolio. Several tutors had aspirations to give the Pharmacy Technician protected time but this was also tempered by the recognition that this could be difficult in practice: '*so we're trying to set aside an afternoon a week, whether that is realistic sort of moving forward, there might be different sort of time pressures and things, depending on the workload'.*

Barriers

Many barriers were discussed for both tutors themselves and their perceptions of the barriers for the Pharmacy Technicians. For themselves, lack of training was an issue: '*NES…gave examples of work and we had to feedback what we thought about them, but that's really all I've had…I would prefer more'.* There were also concerns raised about the Turas platform:' *..'we had a bit of an issue starting with* Turas*, so E***** wouldn't save and some, they'd set up E*****, they'd basically created another* Turas *S account for me, so I was signing on to my personal TURAS, somebody had created another one for me to be a tutor'.* Linked to this were comments about lack of information and managing IT issues as well as wanting more information on the level of evidence required.

When reflecting on the barriers for the Pharmacy Technicians themselves, several of these related to the workplace, including current workload pressures and critical staffing levels: '*…we are like an incredibly busy pharmacy, so I do worry about the sort of pressures of her trying to meet deadlines and things for the course and feeling a bit overwhelmed with trying to do this on top of what we've already got to do on a daily basis'.* Both workload of delivering the service and staffing had also been affected by the Covid-19 pandemic although altered working practices were also seen as being more streamlined:' *like phone call consultations with the doctors and stuff, so the prescriptions are arriving to us without the people waiting, so it kind of made our workload a little bit more streamlined'.* A lack of protected time to undertake the Programme was also frequently mentioned: '*For me that's the big one, is fitting in the opportunities to do training as well as writing it up, in amongst the rest of the workload, because the rest of the workload is probably time sensitive, it's going to be patient related stuff that needs dealt with, and you're right, the education stuff is the thing that comes last in that sort of situation, so just trying to make sure that we protect some time for that*'

Other barriers related to the workplace included the contrasting experiences of working in quiet rural locations and more challenging busier workplaces: '*so she maybe hasn't had the experience of a busy hospital, we've only got 2 wards up here, I worked in XXX prior and you know, it was obviously a much different environment than it is here*'.

Another issue particularly pertinent to the primary care sector was also the isolation between tutors and technicians leading to issues with communication. This contrasted with previous experience in the community: *, 'because I've been a tutor in the past, in pharmacy, community pharmacy, so just spending all your days with them you can see, you can help, like guide them like through that at the time* sector'.

Another barrier was the perceived lack of motivation for Pharmacy Technicians as the Programme is not mandatory, has no formal accreditation and for more experienced Pharmacy Technicians could be seen as just a tick box exercise. There were also barriers identified regarding lack of support for the Pharmacy Technicians including pharmacist reticence to provide training and an aspiration that in future experienced Pharmacy Technicians would be providing the training:' *but the vision is once, for our Health Board at least, once people have gone through this, they would be the ones that would then tutor the next round*?'.

Finally, there were mixed views about the final assessment, with some thinking a formal assessment would be best and others preferring continual assessment in some form. It was felt a formal assessment would be *'scary'* for the Pharmacy Technicians and some concerns that when Pharmacy Technicians had signed up for the Programme the form of the final assessment had not been clear: *I'm not sure that it's fair that we've already signed people up to a pilot, and now letting them know there could be a formal assessment.*'

The above themes generated by the inductive analysis were then mapped onto the domains of Social Cognitive Theory and are summarised in Table 9 below. From the perspectives of both Pharmacy Technicians and Educators, the Environmental domain influenced all themes other than baseline competence which was all about the behavioural domain. Motivation, whilst also including some influence of environmental factors also depended on factors from the personal domain relating to attitudes to career progression and self-development, and the behavioural domain for identifying training gaps in skills

Table 9 Summary of the themes and subthemes at baseline mapped to the social cognitive theory domains.

Theme	Viewpoint	Reporter	Sub- theme	Social cognitive theory domain	Aspects of sub-theme
Motivation for taking part	Educators	Reported by Educator	Professional development	Behavioural	
	Pharmacy Technician	Perceived by Educators	Professional development	Personal	Identify gaps in education
			Advance role (perceived by others)	Environmental	
			Social gains	Environmental	Building relationships
		Reported by Pharmacy Technicians	Professional development	Personal	Career progression New challenge
				Environmental	Enhancing role
			Support for learning	Personal	Self-development Structure
Baseline competence	Pharmacy Technician	Perceived by Educators	Clinical	Behavioural	Patient centred approach
			Transferable	Behavioural	Problem solving Confidence
		Reported by Pharmacy Technician	Clinical	Behavioural	Patient centred approach Competence
			Transferable	Behavioural	Confidence Problem solving Whistleblowing Relationships
Professional Identity	Pharmacy Technician	Perceived by Educators	Awareness of role	Environmental/social norms	Increase awareness Promote profession
		Reported by pharmacy technicians	Awareness of role	Environmental/social norms	Lack of awareness of role (HCPs & patients) Undefined role Variation across Health Boards

			Future mentor	Environmental/social norms/influence on others	
Facilitators	Educators	Reported by Educators	Support/personal	Environmental/Social norms	Peers Line managers NES
			Support/resources	Environmental	NES materials
	Pharmacy Technician	Perceived by Educators	Support	Environmental	Tutors Managers Appraisal process Meetings
			Protected time	Environmental	NES modules
		Reported by Pharmacy Technician	Support/personal	Environmental	Managers Colleagues/peers NES
			Support/resources	Environmental	NES resources Feedback
			Relationships	Environmental	Healthcare team Peers
Barriers	Educators	Reported by Educators	Support/resources	Environmental	Lack of training/lack of information On line platform
	Pharmacy Technician	Perceived by Educators	Workload	Environmental	Staffing Covid-19 Portfolio workload
			Isolation	Environmental	Rurality
			Resources	Environmental	Online platform Lack of information
			Tutor issues	Environmental	Lack of training Isolation from technician Reluctance to accept Training from pharmacists
			Final assessment	Environmental	Formal or portfolio
		Reported by Pharmacy Technician	Workload	Environmental	Staffing Protected time Lack of rotation experience
			Tutor	Environmental	Lack of tutor experience
			Resources	Environmental	Lack of information
			Role	Environmental	No recognition for role (from pharmacists, other HCPs, public) Feeling isolated in new role
			Final assessment	Environmental	Not required

4.3.2. Midway findings

Pharmacy technicians

In total six Pharmacy Technicians attended one of two focus groups at the midway point: all were from primary care. In addition, nine interviews were undertaken with Pharmacy Technicians (three from hospital, six from primary care and one from community pharmacy). At the midway point the main themes emerging were about the skills they had acquired, the facilitators and barriers they had experienced and their overall views. These are summarised in Figure 7 below; as before there is some overlap across themes. A full report of the views of the Pharmacy Technician at the midpoint of the programme is attached as Appendix 16.
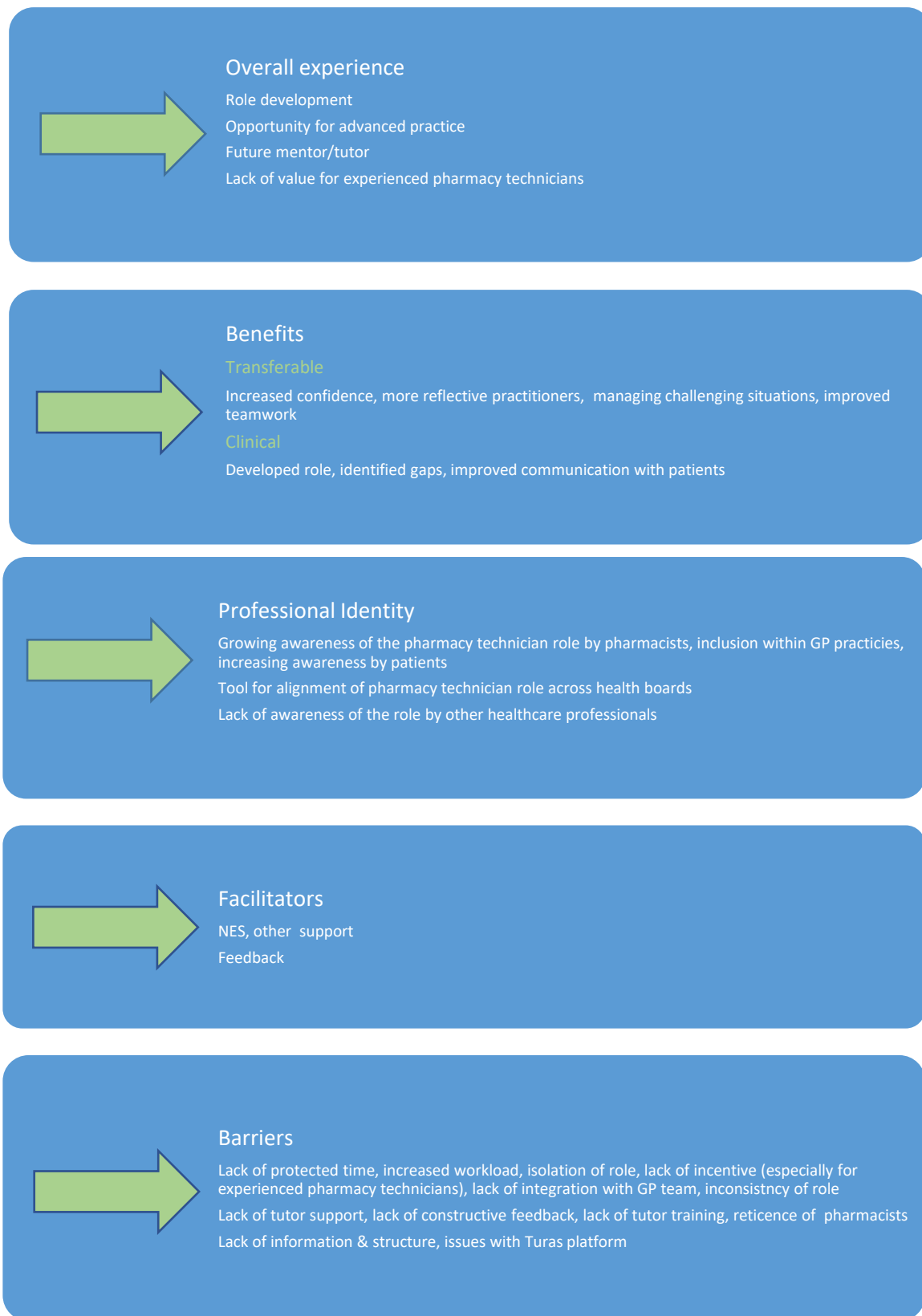
Overall experience

There were generally positive reports from Pharmacy Technicians at the midway point about the Programme overall. They felt it had given them an opportunity to develop their role:' *I found it quite good being involved in a training programme that's going to help people in the future, ….it's opening up other suggestions and ideas that we could do'*, and to undertake *advanced practice.* Some also looked ahead to supporting more junior Pharmacy Technicians and acting as mentors. However, despite these positive comments there was a clear feeling that the Programme was more

suited to those who were newly qualified and there was a lack of challenge for more experienced Pharmacy Technicians some of whom regarded it as '*tick box exercise'*.

Benefits

There were many benefits attributed to undertaking the Programme with respect to both transferable and clinical skills. Transferable skills mentioned included a general increase in confidence and ability to reflect. This latter skill came over strongly: '*when I'm recording a piece of work I've done, sometimes when I'm actually doing work itself, I'm doing the work, thinking I'm going to put this in as evidence for my framework, ..it encourages me then to, maybe do a better quality of work, because I'm reflecting on it almost as I'm doing it*'. An interesting application of both increased confidence and reflection was an improved ability to manage challenging situations: '*when I'm responding or dealing with something that might be more challenging, I'll think about it a bit more, before I, you know, before acting than*

Figure 7: Summary of themes and sub themes at midpoint from Pharmacy Technicians

Overall experience

Role development

Opportunity for advanced practice

Future mentor/tutor

Lack of value for experienced pharmacy technicians

Benefits

Transferable

Increased confidence, more reflective practitioners, managing challenging situations, improved teamwork

Clinical

Developed role, identified gaps, improved communication with patients

Professional Identity

Growing awareness of the pharmacy technician role by pharmacists, inclusion within GP practices, increasing awareness by patients

Tool for alignment of pharmacy technician role across health boards

Lack of awareness of the role by other healthcare professionals

Facilitators

NES, other support

Feedback

Barriers

Lack of protected time, increased workload, isolation of role, lack of incentive (especially for experienced pharmacy technicians), lack of integration with GP team, inconsistncy of role

Lack of tutor support, lack of constructive feedback, lack of tutor training, reticence of pharmacists

Lack of information & structure, issues with Turas platform

maybe I would in the past, because you know, I'll reflect on it'. There was also a feeling that teamworking had improved, and this also links to Professional Identity (see later)

Clinical benefits were largely related to opportunities to undertake more advanced clinical activities because they were included in the framework: *'So there's parts of I'm maybe, like in my job I wouldn't have been doing, so I don't know,*

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like DMARDSs were one of them, and because of the framework that was in there' but with the caveats of recognising that some things remained the pharmacist's' role, that they had to be aware of issues of liability and indemnity and work within their own competence as they took increased responsibility for medication related tasks. Overall, the Framework helped them identify gaps in their clinical skills as illustrated by the above. By doing more different tasks it also increased their opportunities to interact directly with patients- thus developing their communication skills.

Professional identity

Linked to role development, mentioned in overall experience, the framework had increased awareness of the identity of the Pharmacy Technicians and their scope of practice: '*through doing the framework, they've begun to get a better grasp of what we can do, and that's then leading them on to be more like keen and pushing, pushing us as techs to work to almost like the top of our licence'.* There were specific examples given from primary care of increasing recognition of the role by GPs: '*so it's quite good that they're coming now to ask for me to do things for them, where before they didn't…. but now they're, they're visibly coming to me and asking me to do things, so it's all positive'.* It was hoped that in a similar way the Programme and its framework would promote greater consistency in role description across different Health Boards.

There were also indications that patients are becoming more aware of the role and sometimes asked to speak to the Pharmacy Technician directly; '*'yeah, and quite often getting patients phoning now asking for the pharmacy team, rather than like the reception staff, because of remembering that you're in practice and that you can help with these things'.*

However, despite these above positive findings there were still examples from Pharmacy Technicians that there was confusion about their role including their title. One Pharmacy Technician gave the example of being introduced as '*the assistan*t' and another of being called '*the pharmacist'*.

Facilitators

NES was mentioned as one of the ways in which Pharmacy Technicians felt supported, including individual feedback on managing the Turas platform or the submitted evidence. The NES resources, such as the organisation of the peer review groups were also a support although it was commented by some that NES had not done much more. Experiences, not surprisingly, were very varied. As well as support from NES, varied though it was, support from other health care professionals was also mentioned as a facilitator.

Barriers

Far more barriers than facilitators were mentioned with many of them linked to the workplace. For example, as had been flagged at the Programme start, lack of protected time for the Programme for both Pharmacy Technicians and their tutors was a problem: *'it would also help getting the supervisors time in order to sign off that piece of evidence as well, because that's another kind of problem, … we don't have the time to write it, they don't have the time to assess it',* and this was exacerbated by the increased general workload and the work of the Programme. The lack of incentive for some in completing the Programme would have made motivation to find the time even more problematic.

Other different barriers also related to the workplace-and linked to professional identity- was a persistent feeling of being excluded: '*so I had a meeting with them and brought it up and just told them how I felt about being excluded'* which would be demoralising and concern that experiences and opportunities varied across different workplaces: '*speaking to technicians in different Health Boards, I would say xx is maybe quite advanced in certain things, because all Health Boards are doing things at a different level, but there's no real consistency of structure of standards just now'.*

Finally lack of various potentially facilitative issues were also barriers; for example lack of support from their tutor/educator. One Pharmacy Technician described although she/he herself/himself had time the supervisor did not: *'the issue I'm having is getting time with my supervisor, they're not been really supported to be able to see me, so trying to arrange an appointment with them, so that's been probably months since I saw my supervisor, which then means I'm not getting the feedback that I might like, ….that's been my big difficulty, getting supervisor time'.*

Others commented on lack of constructive feedback and perceptions that the tutor had not been trained to understand the level of evidence required, and having too high expectations of what was required to meet the standard. One Pharmacy Technician again mentioned that reticence of pharmacists to recognize what the technician could do was also a barrier, but this was not generally cited as an issue.

Apart from personal support there were barriers associated with a lack of structure and information about the Programme and feelings that the booklet could be laid our more helpfully, citing the SVQ approach as a good example:' *I don't know, sometimes I feel that it's like quite a long, quite a large booklet and you're just having to follow through it and find things, whereas when you do an SVQ, it's quite kind of, it's broken down into sections'.* Similarly, the Turas platform continued to give problems:' *'I think there has to be an easier way to record the things you've actually done, I don't think [Turas] …it's quite a cumbersome way to do it',*

Educators

In total four Educators attended one of two focus groups at the midway point: all were from primary care. In addition, seven interviews were undertaken with Educators (one from hospital, and six from primary care (four tutors, two programme officers). As well as overall views of the Programme, the main themes emerging were about the benefits of the Programme, the effect of the Programme on the Pharmacy Technicians' identity and the facilitators and barriers for both themselves as Educators and perceived for the Pharmacy Technicians. These are summarised in Figure 8 below; as before there is some overlap across themes. A full report of the views of the educators at the midpoint of the programme is attached as Appendix 17.

Overall views of the Programme

When reflecting on the Programme overall, the Educators felt it was giving valuable development opportunities and *'doing some things they would not normally do', and* building confidence to support autonomous working within the Pharmacy Technicians own workload including clinical roles. They also thought that because the framework included activities that Pharmacy Technicians might not normally do, for example relating to finance, it would enhance their promotion prospects for going beyond a Band 4. As reported by the Pharmacy Technicians, the variability in baseline competence was noted and the value of the Programme for less experienced Pharmacy Technicians identified.

Benefits

In addition to the benefits implied in the overall comments above there were some specific transferable and clinical benefits identified. In the transferable benefits, improved decision-making skills, including '*the ability to digest the evidence base and make a decision based on that'.* Some Educators observed an improvement in problem solving skills although as in improved decision making there were some exceptions where it was commented that some still lacked confidence in that area: '*she's good at that type of thing, but she maybe just worries slightly'.* It was also noted that they had adopted a more reflective practice and become more reflective practitioners.
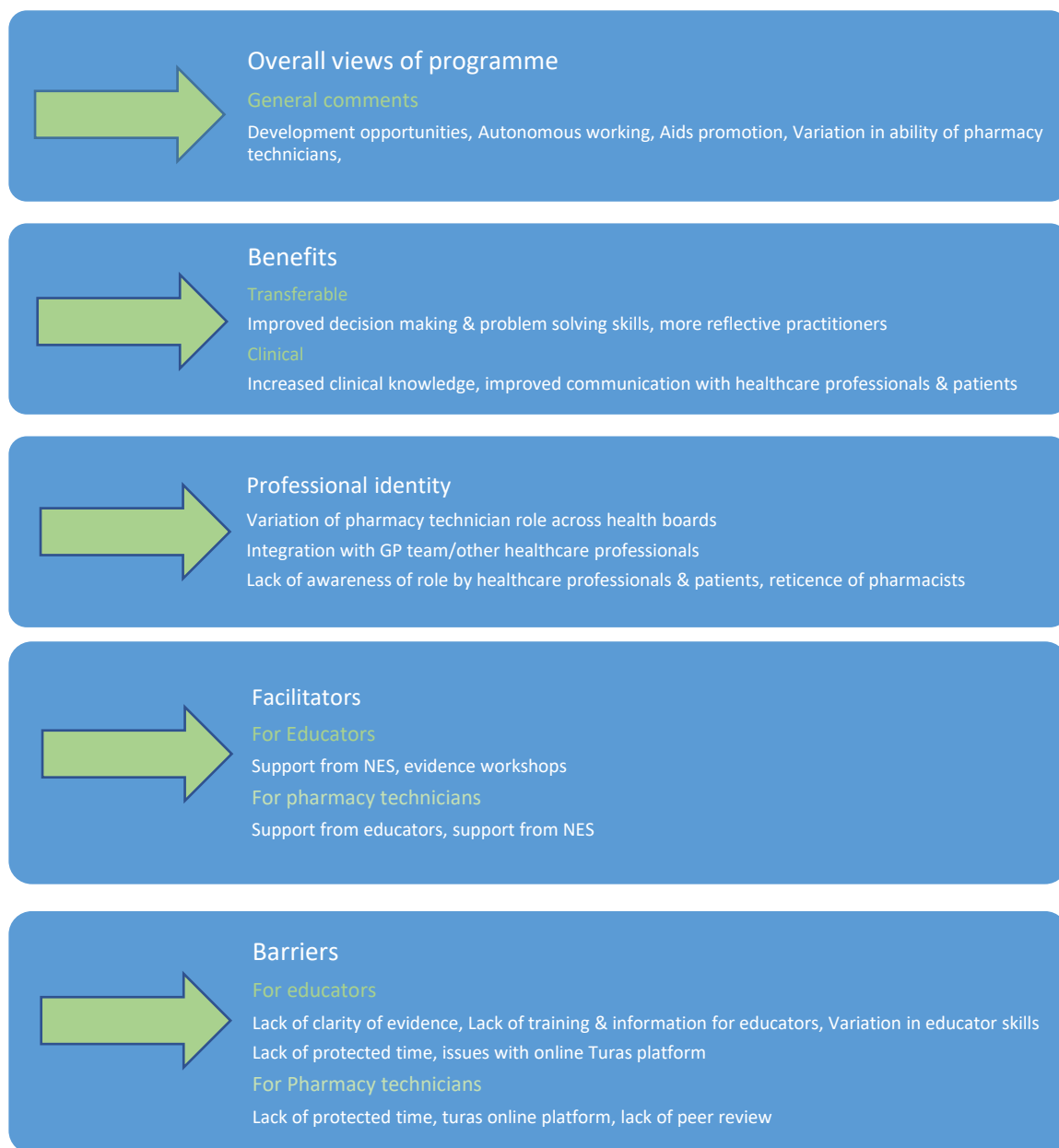
Specific clincial benefits were linked to increased clinical knowledge and the ability to deliver advanced roles, again mentioning '*DMARD management in particular'.* Their good communication skills were also discussed including with other health care professionals, and pharmacists. More experienced Pharmacy Techncians had ben able to build relationships with GPs who were remarked as being '*notoriously unapproachable'.* Good communication also extended to patients and was noted as being especially good for those who had worked in community. Good communication skills with patients were also linked to being patient centred: '*she doesn't sort of rush them, she adapts her communication, like depending what they want'.*

Professional identity

As with the Pharmacy Techncians there was a suggestion that undertaking the programmme had increased the recognition of **'***pharmacy technicians as health care professionals'.* However more comments related to the persistent lack of recognition by other health care professionals:' *, some of the GP's that we work with can't really distinguish between a pharmacist and an pharmacy technician'.* Patients also were reported to be unable to distinguish

between health care professionals. There was also an apparent hierachy within the pharmacy team and a perceived need by Pharmacy Technicians to feed things through the pharmacist.

Figure 8: Summary of themes and sub themes at midpoint from Educators

Overall views of programme
General comments
Development opportunities, Autonomous working, Aids promotion, Variation in ability of pharmacy technicians,

Benefits
Transferable
Improved decision making & problem solving skills, more reflective practitioners
Clinical
Increased clinical knowledge, improved communication with healthcare professionals & patients

Professional identity
Variation of pharmacy technician role across health boards
Integration with GP team/other healthcare professionals
Lack of awareness of role by healthcare professionals & patients, reticence of pharmacists

Facilitators
For Educators
Support from NES, evidence workshops
For pharmacy technicians
Support from educators, support from NES

Barriers
For educators
Lack of clarity of evidence, Lack of training & information for educators, Variation in educator skills
Lack of protected time, issues with online Turas platform
For Pharmacy technicians
Lack of protected time, turas online platform, lack of peer review

Facilitators

Facilitators for the tutors to carry out their role were identified by the Educators, as well as having perceptions of the facilitators for the Pharmacy Technicians. With respect to the tutors, the main facilitators were the support from NES relating to the level of evidence required where both individual and group sessions had been helpful: '*we were a wee but unsure, but we've had a couple of sessions now with both ***** or ***, and we've went over some evidence and they're happy with what we're doing, so, so that's been really good.*' and '*we've had one evidence workshop, …which was really good*' and the framework book*: 'We got one of the framework books from NES, so we've been using that, ……. it's mainly that framework book, just going through it, and, and tallying it up, yeah.'*.

Perceived facilitators for the Pharmacy Technicians similarly related to understanding how to demonstrate a competence had been reached including help from the tutors: '*I try and sit down, kind of either once a month or once*

every couple of months, and I've gone through and kind of the types of things that I think could maybe meet, you know' and from the Turas on line courses.

Barriers

Again barriers are divided into barriers for the Educators and perceived barriers for the Pharmacy Technicians. Barriers for the Educators were sometimes the converse of the facilitators such as a lack of information and training: '*the gap in there is clarity at the level of evidence',* and *'the framework is a great idea, but it's quite vague'*. It was felt that more feedback would be helpful and a tutors' version of VTP guide for example a '*a small 4, 5 page sort of tutors like guide, and then with links on it'*. The Turas platform was '*not most user friendly'*. Variation in basic skills of the tutors themselves and a lack of protected time were also barriers.

The main barriers perceived for the Pharmacy Technicians again were lack of protected time to write up the evidence as distinct from them not having the evidence: '*trying to get time to do it, you know, because a lot of it is work based, so, so the evidence is there, but it's just getting time to write it all up',* There was also a need for protected time for others: '*she'll need to speak to other people involved, so making sure that they're free as well, you know, to help her and to, you know, to do the stuff with her, so it's just marrying up the time'. W*hilst some Pharmacy Technicians were apparently willing to work in their own time this did not apply to all of them:' *'I don't think my technicians would do it at home at the moment, and it tends to be sporadic when they're doing it'*. The Turas platform was not up and running at the start of the Programme which had delayed progress and similarly peer review sessions for the Pharmacy Technicians were not always available. Both of these were seen as barriers for those early registered on the Programme.

As at baseline, the themes generated by the inductive analysis were then mapped onto the domains of Social Cognitive Theory and are summarised in Table 10 below. From the perspectives of both Pharmacy Technicians and Educators, the Environmental domain influenced the Professional Identity, Facilitators and Barriers themes, whilst the Behavioural and Personal domains were most relevant to the overall views of the Programme and the benefits.
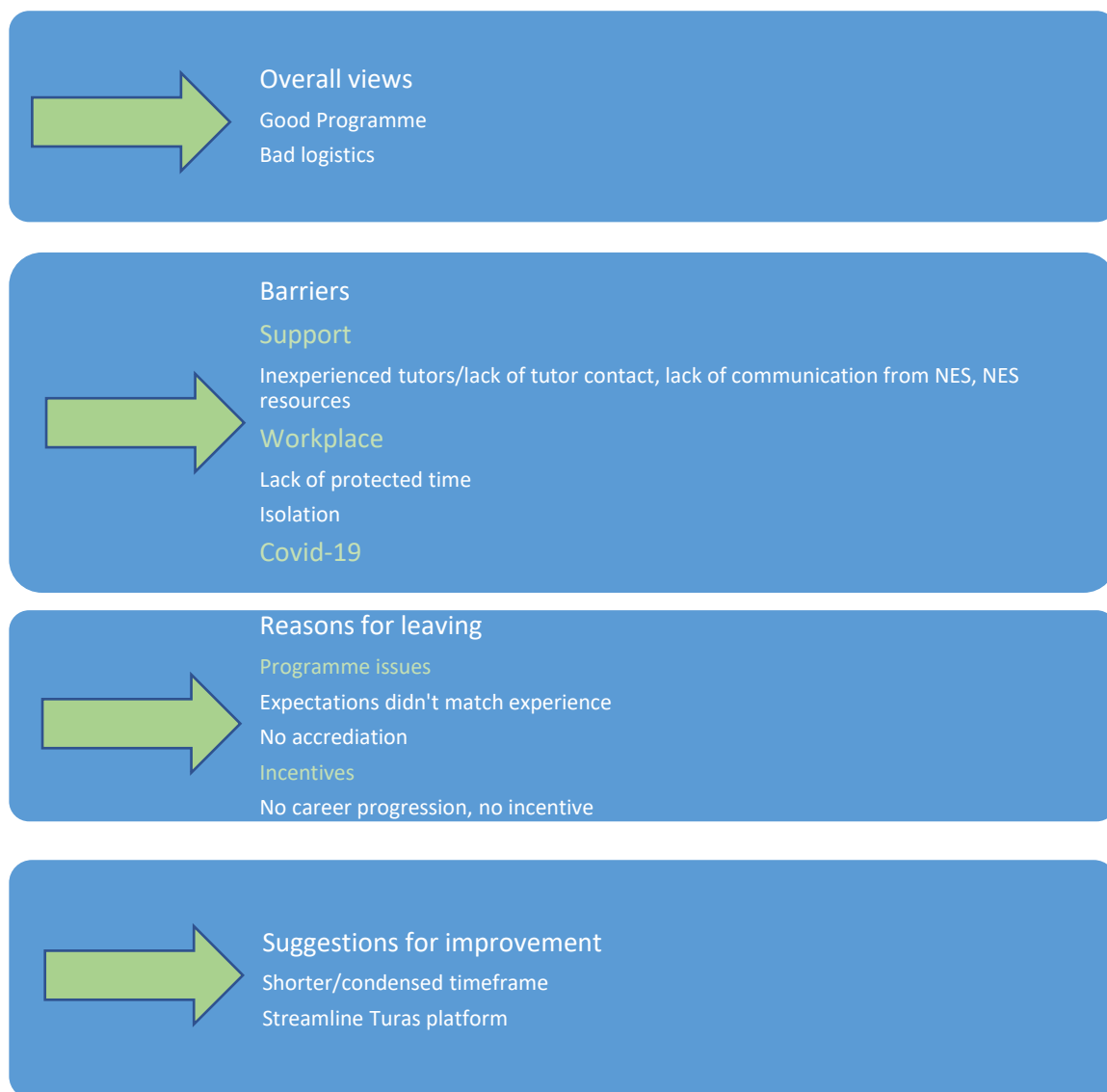
Table 10 Summary of the themes and subthemes at midway point mapped to the social cognitive theory domains

Theme	Viewpoint	Reporter	Sub- theme	Social cognitive theory domain	Aspects of sub-theme
Overall views	Pharmacy Technician	Perceived by Educators	Professional development	Behavioural	Variation in ability
					Aid promotion
			Advance role (perceived by others)	Behavioural/Environmental	Autonomous working
		Reported by Pharmacy Technicians	Professional development	Behavioural	Opportunity for advanced practice
					Role development
					Future mentor/tutor
			Relevance to different stages of practice	Behavioural/Personal	Lack of value for experienced technicians
Benefits	Pharmacy Technician	Perceived by Educators	Transferable	Behavioural	Decision making
					Problem solving
					Reflection
			Clinical	Personal	Increased knowledge
				Behavioural	Communication
		Reported by Pharmacy Technician	Transferable	Behavioural/self-efficacy	Confidence
				Behavioural	Reflection
				Environmental	Team working
			Clinical	Behavioural	Developing role
					Communication with patients
				Personal	Identifying gaps
Professional Identity	Pharmacy Technician	Perceived by Educators	Awareness of role	Environmental	Lack of awareness by other healthcare professionals including pharmacists
					Lack of awareness by patients
			Consensus of role	Environmental	Variation across health boards
		Reported by pharmacy technicians	Awareness of role	Environmental	Increased awareness by pharmacists
					Increased awareness by patients
					Increased awareness by other healthcare professionals (GPs)
			Consensus of role	Environmental	Tool for alignment of technician role across health boards
Facilitators	Educator	Reported by Educators	Support/resources	Environmental	NES resources
					Evidence workshops
	Pharmacy Technician	Perceived by Educators	Support/personal	Environmental	Educator support
			Support/resources		NES support (evidence workshops, framework, Turas)
		Reported by Pharmacy Technician	Support/personal	Environmental	Other support (pharmacists)
					Tutor feedback
			Support/resources	Environmental	NES Turas
					Peer review
Barriers	Educators	Reported by Educators	Workload	Environmental	Time
			Training & information	Behavioural	Variation in baseline skills
				Environmental	Lack of training & information
					Lack of clarity of evidence
					Turas platform
	Pharmacy Technician	Perceived by Educators	Workload	Environmental	Time
			Resources	Environmental	Lack of peer review
					Turas platform
		Reported by Pharmacy Technician	Role	Environmental	Isolation
					Incentive
					Integration
			Workload	Environmental	Increased workload
					Lack of protected time
			Support personal	Environmental	Lack of tutor support
					Untrained tutors
					Lack of feedback
					Lack of peer review
			Support resources	Environmental	Lack of information
					Turas platform

4 .3.3 Early exit findings

Two Pharmacy Technicians who had exited the Programme early took part in an interview. They were both based in primary care. The main themes emerging were about their overall views, the barriers they had encountered, their reasons for leaving and their suggestions for improvement. These are summarised in Figure 9 below; as before there is some overlap across themes. A full report of the views of the Pharmacy Technician who exited the Programme early is attached as Appendix 18.

Figure 9: Summary of themes and sub themes from Pharmacy Technicians exiting

Overall views
Good Programme
Bad logistics

Barriers
Support
Inexperienced tutors/lack of tutor contact, lack of communication from NES, NES resources
Workplace
Lack of protected time
Isolation
Covid-19

Reasons for leaving
Programme issues
Expectations didn't match experience
No accrediation
Incentives
No career progression, no incentive

Suggestions for improvement
Shorter/condensed timeframe
Streamline Turas platform

Overall views

Overall the Pharmacy Technicians who exited early felt the Programme was an excellent tool: *'I think it's great, I like everything in it, I agree to it'* but they were critical of the underpinning logistics which are described in more detail under the next section on barriers.

Barriers

Many barriers were described related to the quality of the support the Pharmacy Technicians had received and workplace issues. With respect to the support, there were concerns about both the inexperience of the tutors: *'I think because she never done this Programme as well, she wasn't even sure what was expected of her as tutor'* and *'she*

admits herself, she's not had any specific training for being my tutor'. There were also comments about lack of contact with the tutor: '*I still haven't seen my actual tutor properly at all'.*

Various aspects of NES support and communication were also highlighted as having been problematic for the Pharmacy Technicians who exited early. For example late feedback on work submitted was commented on with several different examples of this and a feeling that more information on the evidence requirements could have been provided earlier: '*and then a NES tutor comes in and says, yeah, that's perfect, or you know what, can you actually log your evidence differently, that would even been much helpful'.* The NES resources such as the on-line platform were also flagged because it was considered '*convoluted'* and '*not user friendly'* and the additional training on Turas had not been helpful. The frustration of the word limit being capped was also commented on*.*

Workplace barriers once again emphasised the challenges of the lack of protected time and the resultant slow progress through the Programme: '*I'm a year into this and I'm not even like a fraction of, of a bit into it'* Covid-19 had impacted because of the need for staff to work differently and the lack of face to face contact with patients. Isolation for Pharmacy Technicians in rural areas was noted meaning that there was no local peer support and feeling *'forgotten'.*

Reasons for exiting

Reasons for exiting included the fact that expectations of the Programme were not met, both relating to understanding what engagement in the pilot Programme meant: '*I was under the impression when I signed up that they wanted a group of technicians to work through the pilot programme as it stood, feedback things that they liked, things that they didn't like, ….. but it just, it just didn't seem to be that'*, and understanding exactly what the Programme involved. This was coupled with the fact that at the moment there is no formal accreditation for the Programme, and therefore incentives and benefits were perceived to be limited. It was not expected to affect career progression: *'if I had this on*

Table 11. Summary of the themes and subthemes at midway point mapped to the Social Cognitive Theory domains

Theme	Viewpoint (Only Pharmacy Technicians interviewed)	Reporter	Sub-theme	Social Cognitive Ttheory domain	Aspects of sub-theme
Overall views	Pharmacy Technicians	Reported by Pharmacy Technicians	Programme structure	Environmental	Good programme
			Programme implementation	Environmental	Bad logistics
Barriers	Pharmacy Technician	Reported by Pharmacy Technician	Support	Environmental	Inexperienced tutors Lack of tutor contact Lack of communication from NES
			Workplace issues	Environmental	Lack of protected time Isolation
			Covid-19	Environmental	Changed roles Uncertainty
Reasons for leaving	Pharmacy Technician	Reported by Pharmacy Technician	Programme issues	Personal/Cognitive	Expectations didn't match experience
				Environmental	No accreditation
			Incentives	Personal/Cognitive	No incentive
				Environmental	No career progression
Suggestions for improvement	Pharmacy Technician	Reported by Pharmacy Technician	Programme issues	Environmental	Shorter/condensed timeframe
			Resources	Environmental	Streamline Turas platform

*my CV, if I applied for a job, nobody would look at it and think I had an edge over anyone else and was just seen as '
writing down what I do every day, and it seems the main focus is how you log your evidence, not the work that you
are doing,'*

Suggestions for improvement.

The suggestions for improvement related back to some of the earlier noted barriers and issues. Ideas included
shortening the timeframe to a one-year programme and streamlining the Turas platform, with colour coding to
facilitate navigation.

The views above represent only two Pharmacy Technicians but they reflect many of the themes and subthemes from
earlier sets of data. Mapped to Social Cognitive Theory domains (See Table 11) they once again illustrate the
importance of environmental issues.

4.3.4 End of Programme findings

Two Pharmacy Technicians attended an interview after they had submitted their portfolio for assessment. No further
interviews were conducted with Educators; none responded to repeated invitations to take part in a final interview.
One of the two Pharmacy Technicians interviewed was from primary care and one was from hospital. One had
submitted their completed portfolio in April and one in September 2022. At the time of the interview they did not
know the outcome of their assessment. In fact the decision on both was a resubmission; the one from primary care
who had originally submitted in April passed the assessment after a resubmission in September. The main themes
were the overall opinion of the Programme, its benefits, and facilitators for completing it. However, the barriers to
delivery were multiple and there were suggestions for improvement. These are summarised in Figure 10 below; as
before there is some overlap across themes. A full report of the views of the Pharmacy Technician at the end of the
programme is attached as Appendix 19.

Overall Views

Overall the two Pharmacy Technicians completing the Programme were very positive believing it to be *'really
beneficial'* even for those with some years of experience: *'I think anybody can get anything from it'* and *'it just gets
you thinking about what you're doing'*. It was considered *'off putting'* that it was labelled as a Foundation Programme.

Benefits

All the benefits mentioned can be categorised as transferable. They included, as at midway, the promotion of reflective
practice as well as improved working relationships with colleagues resulting from their reflection, whilst recognising
that these changes might have just been the result of increased experience rather than taking part in the Programme
: *'so I suppose reflecting on it makes you think about other scenarios or other ways you could have dealt with it, so it
does make you maybe want to engage with different people, but I certainly feel 18 months down the line that I would
be engaging with different people anyway….'*. Another noted benefit was improved writing style, which could be a
result of having to write more than usual and getting feedback. All of these meant that the Pharmacy Technicians
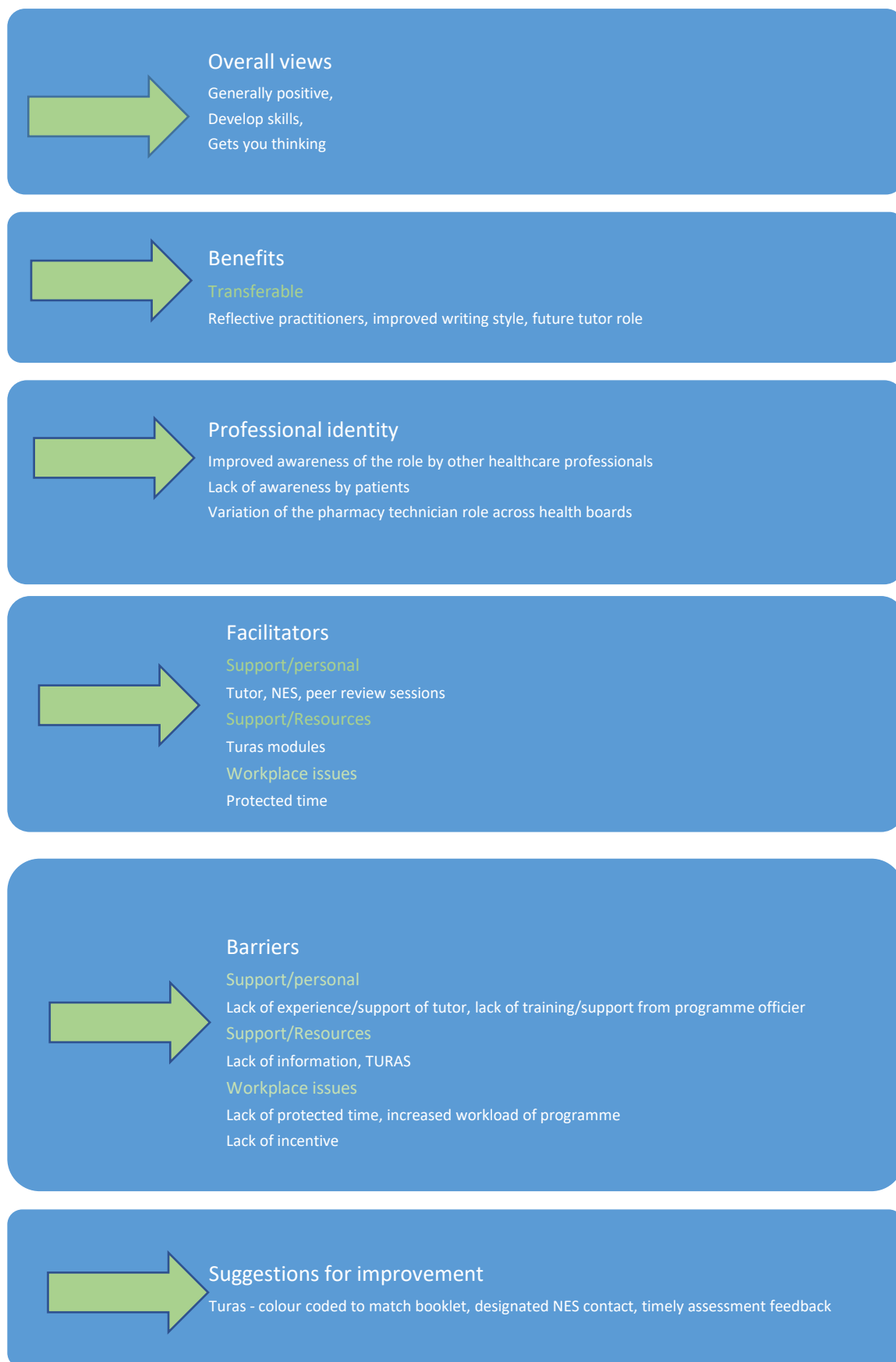interviewed now felt they could support other trainees and be a future tutor.

Professional identity

It was commented by one of the Pharmacy Technicians that taking part in the Programme had improved their
professional identity, and that their role had become more visible: *'as soon as the doctors come to the hospital, like
the new FY1's, we're like up there doing face to face training with them so it kind of lets them know then, like the role
of the pharmacy technician'*.

Facilitators

The facilitators highlighted by the Pharmacy Technicians include issues of support, both from individuals and general
resources, and the workplace. With respect to the personal support, tutors (*'my tutor was quite good, and we met
up quite often'*), NES staff (*'I had good relationships with NES she would be my go to'*) and Programme Officers
(*they're really great [programme officers], they come on peer review …….. and they're very helpful '*), were all
mentioned. The role of the Programme Officers in supporting the peer review sessions was highlighted, and one of

Figure 10: Summary of themes and sub themes from Pharmacy Technicians at end of Programme

Overall views
Generally positive,
Develop skills,
Gets you thinking

Benefits
Transferable
Reflective practitioners, improved writing style, future tutor role

Professional identity
Improved awareness of the role by other healthcare professionals
Lack of awareness by patients
Variation of the pharmacy technician role across health boards

Facilitators
Support/personal
Tutor, NES, peer review sessions
Support/Resources
Turas modules
Workplace issues
Protected time

Barriers
Support/personal
Lack of experience/support of tutor, lack of training/support from programme officier
Support/Resources
Lack of information, TURAS
Workplace issues
Lack of protected time, increased workload of programme
Lack of incentive

Suggestions for improvement
Turas - colour coded to match booklet, designated NES contact, timely assessment feedback

the Pharmacy Technicians found these useful although the other did not because they did not gain anything new: *'I didn't find it that useful…. I'm quite good at reflection anyway, so I felt like some, it was quite basic, ….. I would say*

personally I didn't find the sessions that useful'. There was a clear difference between the two Pharmacy Technicians as to how much they had engaged with NES, but the one who had engaged less had found the Turas modules useful especially *'for covering the things that are not as common in the workplace'* like child protection. Finally, under the facilitator theme, it was clear that protected time, which not everyone had, was appreciated: '*we get half a day a month's training, which I know not everybody gets time given… so absolutely, it's, we're quite lucky here'*.

Barriers

Most of the barriers mentioned were the opposite of the facilitators including inexperience of the tutor and Programme Officer ('*I don't think she's [tutor] every really done anything like this before herself'* and ' '*I don't even know if the programme officers have had real training',)* and limited contact with either the tutor due to changes ('*my tutor then left, so initially she started with me, and then she left and got another role')* or Programme Officer who had not made contact pro-actively ('*I've only really contacted them').* Lack of information from NES at the start of the Programme on exactly what was required when linking the evidence, and challenges of the Turas platform ('*I don't think it's too easy to navigate to like the framework section',)* were also mentioned. Lack of protected time in the acute setting and fitting work on the Programme into the *'odd 5 minutes'* were definite challenges exacerbated by submitting more pieces of evidence than required due not being fully aware of the Programme requirements. Finally lack of incentive, such as achieving a recognised qualification was again highlighted: *'I think, you think what I am getting at the end of this, is there anything to be had.*

Suggestions for improvement

Three suggestions for improvement were mentioned. These were colour coding the Turas platform to match the NES booklet, having a designated NES contact for each Pharmacy Technician and prompter feedback after submitting their portfolio for assessment. However given Turas is NHS Education for Scotland's single, unified platform for learning this might not be possible.

As with the summary of the views of the Pharmacy Technicians exiting the Programme early the themes and sub themes identified above are based on only two Pharmacy Technicians but similarly they reflect many of the themes and subthemes from earlier sets of data. Mapped to Social Cognitive Theory domains (See Table 12 below) they once again illustrate the importance of environmental issues.

Table 12 Summary of the themes and subthemes at end of programme mapped to the Social Cognitive Theory domains.

Theme	Viewpoint (Only Pharmacy Technicians interviewed)	Reporter	Sub-theme	Social Cognitive Theory domain	Aspects of sub-theme
Overall views	Pharmacy Technician	Reported by Pharmacy Technicians	Professional development	Behavioural	Develop skills
				Personal/cognitive	*'Gets you thinking'*
Benefits	PharmacyTechnician	Reported by Pharmacy Technicians	Transferable	Behavioural	Reflective practice
				Behavioural	Improved relationships
				Behavioural	Improved writing style
				Behavioural	Future tutor
Professional identity	Pharmacy Technician	Reported by Pharmacy Technician	Awareness of role	Environmental	Improved awareness of role by healthcare professionals
					Lack of awareness by patients
			Consensus of role	Environmental	Variation of the pharmacy technician role across health boards
Facilitators	Pharmacy Technician	Reported by Pharmacy Technician	Support	Environmental	Tutors NES Peer review
			Resources	Environmental	Turas modules
			Workplace issues	Environmental	Protected time
Barriers	Pharmacy Technician	Reported by Pharmacy Technician	Support	Environmental	Inexperienced/untrained tutors Lack of support from tutors Lack of support from programme officers
			Resources	Environmental	Lack of information Turas
			Workplace issues	Environmental	Increased workload of programme Lack of protected time
			Lack of incentive	Personal/cognitive	No accreditation
Suggestions for improvement	Pharmacy Technician	Reported by Pharmacy Technician	Support	Environmental	Turas to match booklet
				Environmental	Designated NES contact
			Resources	Environmental	Timely feedback on submission

4.3.5 Stakeholder meeting

There were sixteen attendees at the virtual Stakeholder workshop with representation from National Acute Pharmacy Services (Hospital), Primary Care and Community Pharmacy Leads group, Boots Pharmacy, Davidson's Pharmacy, NES Programme Officers, NES Assistant Post Graduate Pharmacy Dean, Guys Hospital (Programme Development Manager Buttercups, Assessor for APTUK), Professional Advisor Pharmacy Technician Practice, NHS England, Health Education

in Wales, Lead Education & Training Pharmacy Technicians and the Royal Pharmaceutical Society of GB. The discussion was interactive and limited to one large group. Table 13 below is structured to report the suggestions made to address five key barriers (Protected time, Support, Course issues, Incentives and Variation in role across Health Boards). In addition, issues relevant to the Programme, and recommendations as appropriate, but not identified explicitly during the focus group and interviews are included (RPS frameworks, Workforce issues, Employer understanding and Benchmarking of standards).

Table 13 Pharmacy Technician Stakeholder Event Discussion/Comments on 'How to address issues'

Protected Study Time	Support
Possible training bursaries to support the release of PTs Time for supervisors as well as PTs Protected time is first thing to be pulled- frustrating for practitioners Expectations of time commitment required Produce data on the minimum time that practitioners are expected to commit (& does this include personal study time) An academic qualification or a course where they maybe are timetabled out of service provision?	Tutor support is pivotal to successful completion Crucial that tutors understand the programme and it's wider benefits Tutors need to help provide opportunities for pharmacy technicians Needs to be transparent regarding how much time tutors require Clear indication/documentation of support required
Course Issues	**Incentive**
Feedback might suggest that the workforce are looking for a more structured course. If there are no deadlines, then it can always be pushed back and becomes a far bigger mountain to climb leading to drop out etc Produce data on the minimum time that practitioners are expected to commit (& does this include personal study time)	Needs to be part of career progression Need to consider where this sits on the CF - after post-qualification especially with the new PDA and the development of an advanced framework Accreditation of the programme & level of accreditation linked to bigger career framework for pharmacy technicians An academic qualification or a course where they maybe are timetabled out of service provision? KC 100% rate limiting step for Post Reg Pharmacist course for me was waiting on the reason otherwise trainees didn't engage (extrapolating from pharmacy experience)
Variation across Health Boards	
A review of the defined roles of PT/Pharmacists. If defined roles clear then across the Boards can aim to be same levels, stops the disparity causing limits to the scope of practice.	
RPS statements (patient & service need) as examples	**Workforce Issues**
The purpose statements in the RPS curricula are designed to clearly anchor the framework in patient and service need.	Government aware of workforce issues and the issues of shortages across all health care professionals. Bigger workforce issue that is being discussed at SG level in relation to what is needed across Scotland to deliver what is needed Skill mix and other solutions eg Digital solutions need consideration
Employer understanding of the value of the programme	**Benchmark**
Employers need to recognise the opportunities that the programme brings in order to see the value/benefits of releasing time Needs to be meaningful to both employers & practitioners To get buy in from employers that might help with protecting time we need to make sure that this framework actually meets the needs of the workforce and future service requirements.	Learn from other Allied Health Care professionals (frameworks), although pharmacist & pharmacy technicians perceived as more advanced than other AHP Medicine regulators appreciate the importance of a clear post registration development pathway for patients & services

4.3.6 Triangulation and summary of Social Cognitive Theory findings

Personal cognitive factors

This domain (personal/cognitive) pertained to the knowledge, attitudes and expectations of Pharmacy Technicians and their Educators, and to a lesser extent the employers.

In the baseline survey the Pharmacy Technicians self-assessed themselves as fairly confident or confident in most areas of the Framework relevant to the Personal/cognitive domain. Nonetheless in the open questions increased clinical knowledge was an expectation of undertaking the Programme alongside career progression and development and understanding of their role. A sense of achievement and being part of something new were also mentioned. These were reflected in the baseline focus groups and interviews together with providing a structure for the Pharmacy Technicians' learning. The baseline focus groups and interviews also confirmed that the Pharmacy Technicians felt themselves already to be competent. In contrast the Educators thought the Programme would result in better patient care and would identify the gaps in the Pharmacy Technicians' clinical knowledge. At the midway point the Educators felt the Pharmacy Technicians' clinical knowledge had increased and the Pharmacy Technicians reported they had now

identified gaps in their clinical knowledge. The early exit interviews and the end of Programme interviews identified a lack of incentive, and experience not matching expectations as barriers relevant to the personal cognitive domain. The Stakeholders additionally noted a need for employers to recognise the opportunities that the Programme brings in order to see the value/benefits of releasing time.

Behavioural factors

Behavioural factors relevant to the participants' (Pharmacy Technicians and Educators) skills, practice and self-efficacy came through slightly more strongly than the personal cognitive factors. In the baseline survey the Pharmacy Technicians self-assessed themselves as fairly confident or confident in most areas of the Framework relevant to the Behavioural domain. Nonetheless in the open questions increased confidence and competence came through strongly as an expectation of undertaking the Programme. In the focus groups and interviews conducted at base line the tutor/Educators felt that taking on the role would aid their own personal development as well as that of the Pharmacy Technicians. Relevant to this domain they also felt the Programme would improve the Pharmacy Technicians' skills and practice in both clinical (e.g. better communications skills) and transferable (e.g. problem solving, relationships) areas of practice. These were reinforced at the midway point, but an important addition not previously identified by either the Pharmacy Technicians or the Educators was the recognition of the value of the newly acquired skill of reflection. Another new area identified by the Educators was the encouragement for autonomous working and variation in ability across the cohort, so some would gain more than others. The Pharmacy Technicians also noted that there was less value in undertaking the Programme for those with more experience. At the end of the Programme the only additional behavioural issue identified was improved writing skills.

Environmental factors

Of the three domains of the Social Cognitive theory the environmental factors (social norms, access in the community, influence and others and environment) were the ones that had most influence, but particularly in the areas of professional identity and the facilitators and barriers. The next paragraph relates to the findings from the qualitative approaches and the Stakeholders.

At baseline the views of both the Pharmacy Technicians and the Educators identified that support from others and from the NES resources, protected time and workload would all affect progress – acting either as faciltors or barriers dependent on whether they were present or not. Professional identity- an important aspect of the Programme objectives- was again contingent on the way the Pharmacy Technicians were perceived by others and how their role was defined, and thus was an environmental issue. At midway the facilitators and barriers remained much as had been perceived at baseline but positively it was commented that undertaking the Programme was having a beneficial effect on professional identity and recognition of the Pharmacy Technician role by pharmacists, other health care professionals and patients. At the end of the Programme, both from those exiting early and those who had submitted a portfolio, the areas for improvement were all environmental including a designated NES contact to improve support, accessibility and usability of the Turas platform to be improved and a shortened condensed timeframe for Programme completion. The motivational benefit of the Programme being recognised as an externally accredited professional qualification also came over strongly

The Stakeholder workshop discussions added further ideas to improve the Programme relevant to the environmental domain. These included issues about the course to ensure it was explicitly meaningful to both employers & practitioners and was actually meeting the needs of the workforce and future service requirements. Gaining such buy-in from employers, enabling them to see the value and benefit of the course could justify them providing protected time for the Pharmacy Technicians. They noted that the medicine regulators appreciate the importance of a clear post registration development pathway for patients & services.

They also highlighted the wider context of workforce issues, the issues of shortages across all health care professionals, and a recognition that skill mix and digital solutions need to be considered. They also reinforced course issues mentioned by the Pharmacy Technicans and Educators but added to these that some bench marking of the course against that standards and frameworks for other allied health care professionals, and the RPS frameworks were mentioned as clearly anchoring the framework in patient and service need.

So, in summary, the Programme was seen as being inherently good, supporting improved personal and behavioural development, but with achievement impeded by a wide range of environmental factors which need to be addressed going forward. Feedback from the Stakeholders in how these improvements could be achieved are included in the summary of recommendations which follow the discussion below.

5. Discussion

Summary of main findings

The overall aim was to examine the perceptions and views of the Foundation Pharmacy Technicians and other key Stakeholders regarding the training Programme. Overall, the findings from the interviews and focus groups with the Pharmacy Technicians and their Educators have confirmed that the Programme is recognised as being an important part of the development of the Pharmacy Technician role. There has only been positive feedback about the relevance of the competencies in the framework and the benefit experienced by the Pharmacy Technicians who are progressing through the programme. High self-assessment scores of perceived competencies at baseline were noted in the baseline survey yet those Pharmacy Technicians taking part in the qualitative research reported improvement in many of the competences, and this was also observed by their Educators. However, the research has identified facilitators for delivery of the Programme which if absent become challenges for Pharmacy Technicians. This provides some explanation as to why at a point 4.5 years after the first cohort enrolled, only three portfolios have been submitted, and only one has met the standard. The meeting with Stakeholders confirmed support for the principle of the Programme and added to the suggestions of how to facilitate delivery of the Programme. Applying Social Cognitive Theory to these findings, it is clear that whilst the personal and behavioural domains influence the motivation for taking part in the Programme and the benefits acquired, the facilitators are predominantly in the environmental domain, and are in theory implementable and the barriers modifiable.

In this first section of the discussion the findings which addressed the evaluation objectives are presented, and then selectively discussed in more detail after the strengths and limitations of the work have been presented.

Research question 1. What are Foundation Pharmacy Technicians' perceptions of:
a. The benefits of undertaking the Programme
b. The facilitators to learning during the Programme
c. How the Programme contributes to further their professional identity?
d. The social gains from the Programme such as sharing experiences, developing relationships
e. Their ability to respond to complex professional demands and manage problems as a result of the Programme
f. Their ability to establish peer review sessions and act as mentors for further Pharmacy Technicians ?
g. Their understanding of patient-centred care.

At baseline and ongoing through the Programme there was evidence from the qualitative work that there were benefits from undertaking the Programme with a focus on improved skills- both transferable and clinical. Facilitators and challenges (or barriers) were largely recognised at baseline and were generally the converse of each other. In terms of facilitators the importance of good support from well-trained tutors, other professional colleagues and NES staff were noted. Progression through the programme confirmed these perceptions were experienced especially by the earlier cohorts. Whilst numbers of interviews with those exiting early and those completing the Programme are small (only two in each group) both those exiting early registered in the first cohorts (2018) and those completing the Programme were later registrants (2020). The main challenges were lack of protected time, the workload of the programme and their clinical role, and particularly for those in primary care the recognition of the Pharmacy Technician as a profession in its own right, and an understanding from other health care professionals how best the skills of that profession could be utilised. The professional identity of the Pharmacy Technicians was seen to develop as participants progressed through the Programme, possibly as the Framework provided a rationale for the Pharmacy Technicians to work to the full scope of their practice and thus illustrate to both other health care professionals and patients the value they could bring to patient care. However, this improved recognition was not universally experienced. Linked to Professional identity the Pharmacy Technicians commented on the better relationships they

now had with other health care professionals possibly resulted from the increased confidence gained through undertaking the Programme. There was an indication from some Pharmacy Technicians of an interest in supporting others and being future tutors and mentors. Finally understanding of patient care was noted to be strong at the start of the programme and there were only a few comments on this improving as Pharmacy Technicians progressed through the Programme.

Research question 2. How do the above perceptions change with progression through the Programme
Perception of the extent of these benefits, and especially those less tangible such as reflection, problem solving and relationships noticeably increased from baseline with progression through the programme, with both Pharmacy Technicians and the Educators specifically mentioning this.

The original protocol included analysis of the survey sent to all Pharmacy Technicians at baseline and as they exited the Programme asking them to self-assess their confidence in meeting the competence of the Framework. A comparison of these two time points, ideally using paired data, but also comparing the two cohorts of starters and completers would have provided a measure of the effect of the Programme on these competences. Unfortunately given the minority of Pharmacy Technicians completing the Programme at this point, this comparison was not possible. However, as the response to Objective 2 above shows, the qualitative findings indicate clear development of ability to meet many of the competences although effect on individual ones is not possible to assess form that data. At baseline the competences where self-reported confidence was lowest were demonstrating effective leadership skills, financial governance and applying quality improvement methodology, delivering training in agreed formats, and analysing data to make informed decisions. For those Pharmacy Technicians taking part in the qualitative research there were comments on improved decision making.

Research question 3: What are the perspectives of the Educators/supervisors, regional/health board professional support staff and educational leads in regard to the Programme?
The views of the Educators, mostly tutors but also two Programme officers largely reflected those of the Pharmacy Technicians with regard to the benefits. They suggested facilitators which at baseline were mostly about support but by midway they were also recognising the need for protected time and the implications of workload (from undertaking the Programme combined with their clinical load). Some of these also affected their own delivery of the tutor role. From their own perspective, they felt it was part of their role to be a tutor and valued the peer support and resources available, but the need for more tutor training was identified quite strongly. At the Stakeholder meeting no concerns were expressed about the inherent value of the Programme but further challenges, additional to those identified by the other participants were noted.

Research question 4 What, if any, modifications are needed to the programme to address identified needs of participants?
Suggested improvements to the programme were occasionally mentioned either directly or implied by the Foundation Pharmacists and tutors and were specifically asked of the attendees at the Pharmacy Technician Stakeholder workshop. These and other suggested changes to address the identified barriers are considered below and summarised in Box 1.

Strengths and Limitations

This was an evaluation of a pilot training programme for Pharmacy Technicians, which was based on an existing Pharmacist Training Programme. The primarily qualitative approach of focus groups and interviews generated an in-depth understanding of the value that was placed on the Programme, facilitators to its delivery and conversely challenges that need to be addressed. The Programme was iteratively developed through the course of the evaluation, and some of the challenges identified may already have been resolved; however comments suggest more remains to be done. Therefore the recommendations below list all suggested modifications. It is recognised that the views of the Pharmacy Technicians are personal, and subjective and not necessarily all experienced by all participants. Nonetheless the assessment of the Programme from the Educators validates the reports of the Pharmacy Technicians. It is

unfortunate that there is no end of programme survey data from the whole cohort to allow some quantification of the effect of Programme on the framework competences but the baseline data shows the areas where Pharmacy Technicians felt most support was needed. Sharing the interim findings with a wider group of Stakeholders gave broader perspectives and additional recommendations.

The proportion of Pharmacy Technicians (45/115; 39%) and Educators (29/66;44%) taking part in the qualitative work is impressive as approaching half of those registering, which is a higher response rate than is often experienced with this methodology and may be partly due to the interest in the Programme and scheduling early baseline focus groups to coincide with other Programme events such as induction days. However, as the Programme progressed response rates at midpoint were lower, partly due to arranging individual interviews rather than focus groups linked to the induction events. This slight attrition in numbers may also be due to already heavy workloads exacerbated by the Covid-19 pandemic. We have not followed up individuals longitudinally although 13 Pharmacy Technicians took part in more than one interview of focus group. From those consenting there was representation from a range of geographical areas/eight Health Boards Highland, Dumfries & Galloway, Ayrshire & Arran, Greater Glasgow & Clyde, Tayside, Shetland, Lothian & Borders) and sectors, although the cohort overall was dominated by those based in Primary Care. This is partly attributed to the fact that recruitment was initially targeted at that sector; as the Programme was rolled out there was good uptake from the hospital sector but during the period of the evaluation only one Pharmacy Technician based in a community pharmacy has been recruited. Their findings on interview did not differ from those of their peers in other sectors. Taken overall we believe, whilst accepting the inevitable self-selection of those who participated in the evaluation, that the results have face validity and can be used to inform the future delivery of this or similar programmes. There was no indication from the Stakeholder group that the findings presented to them wee implausible.

Wider Discussion

There has generally been slow progression through this pilot Programme, and the findings reported above help understand the reasons for this. The many challenges identified can largely be mapped to the environmental domain of the Social Cognitive Theory, and those which are within the personal domain such as unmet expectations, of both the mode of delivery, and personal commitment required can be addressed through changes in the environmental domain. However, in order for the Pharmacy Technicians to engage they need to see the benefits of undertaking the Programme both with respect to their own career progression and the improved delivery of care. There are parallels here with the sister Foundation Pharmacist programme and a systematic approach to both of these could be a way forward. At the Stakeholder meeting the positive effect of including independent pharmacist training into the Foundation Programme was perceived as having made participation in the Foundation Programme an immediate tangible benefit to both the individual and the service. Award of a formal qualification for Pharmacy Technicians who complete this Programme could provide a similar incentive. The service also needs to recognise the value of the training and its role in addressing the current workforce challenges through improved skill mix and use of technology. If this were more clearly recognised this could facilitate protected training time in job plans (as is the case in general practice settings) which would be of benefit for both the Pharmacy Technicians and their tutors allowing them to attend training and complete their portfolios. There is increasing recognition of the core role played by Pharmacy Technicians and a move to more integrated working with Pharmacy colleagues. In NHS England, Liz Fidler, the Senior Professional Adviser for Pharmacy Technician practice is a member of the Chief Pharmaceutical Officer's team, and Pharmacy Technicians are included in the Chief Pharmaceutical Officer's Pharmacy Leaders' Development Programme. Liz Fidler has highlighted the increasing clinical role of Pharmacy Technicians and called for education standards, a career pathway and support to help them fulfil that role[5]. This Programme would meet that goal.

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[5] (2) David Webb on Twitter: "Delighted to launch the Chief Pharmaceutical Officer's Pharmacy Technician Professional Advisory Forum today. Please watch this message from @liz_fidler & share with colleagues. Apply to join the forum here: https://t.co/Vh1FDm3gei @APTUK1 @NHS_HealthEdEng @cppeengland @PTOC11 https://t.co/lK82UcEMbF" / Twitter

Recommendations

In the following section recommendations are made for refining this pilot Programme as it is taken forward recognising its relevance to the more general developments across the UK in terms of best use of skill mix in teams, professional development for Pharmacy Technicians and clear roles. They bring together the findings from the focus groups and interviews as well as from the Stakeholder workshop. These recommendations are also summarised in Box 1 at the end of this section. Whilst some might already be in place our findings suggest the details of their delivery need to be reviewed since the feedback from this evaluation suggests improvements may still be needed. Some of the recommendations also link to more than one of the issues but are currently classified against the one to which they relate most directly. Finally, some recommendations are not readily delivered particularly in the light of current high workload and financial pressures. They will also need wider engagement beyond NES. However, by including them here it is hoped that they will be acknowledged and addressed in future policy and plans.

Expectations and experiences of the Programme

Prior to committing to the Programme Pharmacy Technicians, and their employers should be given sufficient information about the nature of the programme emphasising that it may involve some self-directed learning, and will include both transferable as well as knowledge-based skills. Whilst many of the current cohort already felt confident in their ability to meet the majority of the Framework competences before they started the Programme they subsequently recognised the Programme actually helped then identify previously unrecognised or unacknowledged knowledge gaps. Helping Pharmacy Technicians understand this at Programme start could be achieved through case studies of those already completing the Programme, and potentially acting as mentors and tutors to subsequent cohorts.

The personal commitment required should be explicit even if more protected time were secured. Similarly, when employers signed off their approval for Pharmacy Technician participation consideration should be given to them completing a check list ticking off their commitment to supporting the pharmacists as necessary (e.g. time, flexibility, opportunity). Reflecting the points in the earlier discussion achieving this may only be possible once workforce shortages are resolved and budgets are made available. Sharing this report more widely with employers and Scottish Government could inform those discussions.

Benefits of the Programme

Linked to expectations, the benefits of the Programme should also be made clear to both potential participants and their employers. As noted earlier in expectations many Pharmacy Technicians self-reported at baseline as already meeting the competences yet recognised the benefits as they progressed. This was partly because in order to meet the competences they were forced to undertake a wider range of clinical roles 'outwith their comfort zone' and work to their full scope of practice. There were also less tangible skills developed such as the importance of reflection, and improved writing skills. Increased confidence more generally was reported. Linking back to the need for the Programme to be formally recognised it can be hypothesised that this would further build a Pharmacy Technician's confidence in discussing with managers and other team members areas how their skills could be fully utilised. Further, there is a lack of consistency across Health Boards in how Pharmacy Technicians are deployed and this contributes to a lack of awareness and understanding of the role that was reported, not just from patients and other health care professionals but also pharmacists. Completing the Framework and having external validation of a Pharmacy Technician's core skill set might encourage more consistency, role definition and a clear professional identity. Linking to the APTUK career frameworks, such as the APTUK Foundation Pharmacy Framework[6] and the one for working in Primary Care[7] would also ensure the benefits of the Programme were more tangible.

A final point is that the benefits of the Programme appear to be least recognised by those Pharmacy Technicians working in community pharmacy, based on the fact that despite it being promoted to that sector only one Pharmacy Technician has been recruited. They are currently still progressing through the Programme.

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[6] APTUK_Foundation_Pharmacy_Framework_June_14.pdf (1).pdf
[7] National_Competency_Framework_for_PCPTs.pdf (aptuk.org)

Support

There were many comments about the benefit of good support from tutors, other Educators, and Pharmacy Technician peers and other health care peers. Whilst one of most frequently mentioned facilitators was the support of the tutor, this was also most frequently mentioned as a barrier, when there were perceptions that the tutor was inexperienced and lacked sufficient training, and did not give timely feedback. Tutors themselves also commented that they sometimes felt insufficiently trained and would have liked more support from NES and more time. It is recognised that as the Programme has been developed new tutors and Programme Officers have been recruited and more training has been arranged but these developments need to be further reviewed to ensure that tutors' development needs have been met.

Similarly, while some of the Pharmacy Technicians reported that the NES resources, particularly the peer review session and the evidence workshops, were helpful, these did not work well for all Programme participants, especially when numbers attending were small. Some felt there was insufficient communication from NES, that the Programme lacked structure and that the TURAS platform was complex and hard to navigate. Going forward streamlining all the different documents and mapping them to the TURAS platform, and having a designated NES contact as well as a tutor, as suggested by the interviewees, should be considered.

Protected time

The lack of protected time was noted as a challenge for both Foundation Pharmacy Technicians and tutors, and employers need to understand and commit to this prior to Programme start. Whilst it is often expected that undertaking a further qualification may need some commitment of personal time, other health care professionals do get protected learning time and this should be extended to Pharmacy Technicians. This is especially pertinent to scheduling meetings between the Pharmacy Technician and their tutor which would be most conveniently held in the workplace in the working day, and for allowing absence from the workplace to facilitate attendance at NES training events- again for both the Pharmacy Technicians and tutors. The logistics of organising this are beyond the remit of this evaluation, but reviewing job plans, workforce planning and budgets will be a key part of the process. An alternative possible interim solution suggested at the Stakeholder meeting was to identify relevant training bursaries that prospective Programme participants could apply for.

Tailoring the Framework

Some of the comments on improving the Programme could be grouped under the alternative heading of tailoring the Framework. With the hope that as the Programme became more established it would attract participants form all three main sectors of practice there were suggestions that the Framework and its accompanying resources were all relevant to all sectors and that involving Pharmacy Technicians those sectors would be helpful. Similarly, facilitating the logistics of completing the Programme, ensuring full compatibility of the Framework with Turas was suggested. It was also suggested that cross checking the Framework against the APTUK frameworks would ensure its relevance, and bench marking standards against similar frameworks for other professions. Some of these may already have been done in the earlier development of the Programme but some issues remain.

BOX 1 Recommendations for delivery of Programme for Pharmacy Technicians linked to the evaluation findings

ISSUE	RECOMMENDATION
EXPECTATIONS	• Provide full details of programme to employers and Pharmacy Technicians, including experiential delivery mode, time commitment, holistic content with emphasis on transferable as well as clinical skills • Employer to confirm, in writing, support for the Pharmacy Technician and the tutor specifically ticking protected time, flexibility, opportunity to provide appropriate experience
BENEFITS	• Ensure information on the programme includes the benefits • Have case studies and blogs readily available on NES website • Seek to accredit Programme as a formal qualification/endorsement by APTUK • Provide support and mentoring from Pharmacy Technician Programme completers • Anchor framework to goals of service and patient needs • Encouraging consistency in roles across Health Bords • Linking to career progression
SUPPORT	• Provide tutor training to ensure all tutors (i) fully understand the standards required and (ii) can give constructive feedback • Accredit tutors have annual meetings to share ideas and keep them engaged • Ensure consistency of information across all resources
PROTECTED TIME	• Employers, Pharmacy Technicians and tutors to understand and commit to the need for protected time out of the working day • Training time to be added into job plans • Financial implications of protected time to be recognised and incorporated into budgets • Training time to be factored into workforce planning • Skill mix and digital solutions could free up time • Seek funding for training bursaries
TAILORING THE FRAMEWORK	• Framework and other resources to be reviewed by Pharmacy Technicians in all sectors to ensure equal relevance to all trainees • Streamline Framework to map to Turas • Map Framework to other relevant APTUK and nationally approved CPD plans • Benchmarking the Framework • Having clear deadlines to meet

6. Conclusion

All three Social Cognitive Theory factors influenced the learning and development of the Pharmacy Technicians, but environmental influences dominated the barriers. These results highlight areas to explore in more detail for future Programme delivery. The main conclusion however is that the core principles of the Programme were universally supported by the Pharmacy Technicians, and their Educators with both groups reporting or observing the positive effect of the Programme on developing skills and competences. Specifically, there is evidence that the Programme helped Pharmacy Technicians experience a wider range of clinical skills, develop in the ability to handle complex issues and appreciate the benefit of reflection as a means of improving their practice. They became more confident as well as competent and they felt more able to communicate with other health care professionals and, whilst not universal, undertaking the Programme facilitated both their own and others' appreciation of their professional identity.

Facilitators and challenges to learning during the Programme were identified and these were broadly consistent across the Pharmacy Technicians and Educators and recognised by the Stakeholders. There was much commonality with the

parallel evaluation we have undertaken for Foundation Pharmacists suggesting some core issues for NES to consider. On this basis we have made recommendations for future delivery of the programme- or its successor- which should optimise participation and success.

Dissemination

An abstract has been submitted to the 2023 APTUK conference. See Appendix 20.

List of Appendices

Appendix	
1	Protocol version 3 31.3.21 untracked.docx
2a,2b	Baseline Questionnaire 7.6.19.pdf and Programme completion Questionnaire pdf 25.04.23
3	Early exit Questionnaire pdf 25.04.23
4	FG Int Schedules Baseline for PTVTFP Pharm tech version 2 15.03.21
5	FG Int baseline for PTVTFP EDUCATORS Version 3 15.03.21
6	FG int follow up for PTVTFP Pharm tech version 3 15 03 21
7	FG Int follow up for PTVTFP EDUCATORS Version 3 15.03.21
8	FG int end of pgm for PTVTFP PharTech Version 2.1 Sept 2018.docx
9	FG int end of pgm for PTVTFP EDUCATORS - Version 2.1 Sept 2018.docx.docx
10	Agenda for Stakeholder event.docx
11	Pharmacy Technician Stakeholder Event Presentation 09.10._JI_pptx cb.pptx
12	Codebook - Pharmacy Technician FVTP - 13-01-2021cb.docx
13	Codebook - Pharmacy Technician Educator - 14-03-2023.docx
14	Pharmacy Technician Baseline Focus Group_Interviews _Appendix .docx
15	Pharmacy Technician Educators - Baseline focus groups_interviews_ Appendix .docx
16	Midway Pharmacy Technician - Thematic Summary_ appendix.docx
17	Midway Pharmacy Technician Educator_Appendi25.012023.docx
18	Early Exit Interviews - Thematic Summary_ Appendix.docx
19	End of programme Pharmacy Technician_ Appendix.docx
20	APTUK Abstract 2023 PT experiences of the Programme submitted.docx