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RESEARCH ARTICLE

An evaluation of the implementation of use of supervised learning events within pharmacy teams in practice

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Abstract

Background: Supervised Learning Events (SLEs) are formative assessment tools that support professional development through structured feedback and reflection. Their adoption in pharmacy practice aligns with the expanding responsibilities of pharmacy professionals in increasingly complex healthcare settings. This study evaluated the implementation and normalisation of SLEs within primary care pharmacy teams across NHS Greater Glasgow and Clyde, guided by Normalisation Process Theory (NPT). **Methods:** A two-phase mixed-methods approach was used. Phase 1 involved a scoping exercise and co-designed educational sessions delivered across eight Health and Social Care Partnerships (HSCPs). Phase 2 assessed implementation through surveys conducted at 6 and 18 months post-intervention. Quantitative data were analysed descriptively, while qualitative responses underwent thematic analysis. **Results:** Confidence in supervising and being supervised improved, with average scores increasing from 3.3 to 4.2 for supervising and from 3.4 to 4.0 for being supervised. Engagement with SLEs rose across all pharmacy roles, with more staff completing multiple events. Qualitative feedback highlighted benefits such as enhanced reflection, professional growth, and team cohesion. Barriers included time pressures, complex documentation, and logistical issues. **Conclusion:** Following the intervention, increased engagement with SLEs was observed, suggesting greater integration into routine practice. Recommendations include simplifying documentation, providing protected time, and enhancing feedback training to support sustained use and promote a culture of continuous learning.

Introduction

The pharmacy workforce in the United Kingdom (UK) is evolving to meet increasing healthcare demands, with expanded roles supported by structured educational frameworks (Scottish Government, 2022). These include an increase in the experiential learning component of the undergraduate pharmacy degree, the Foundation Training Year (FTY) governed by the General Pharmaceutical Council (GPhC) under its initial Education and Training Standards, the Royal Pharmaceutical Society's post-registration Foundation Framework, and the Core Advanced Pharmacist framework.

A key aspect of all these learning pathways is a robust assessment of learners in practice. Supervised Learning Events (SLEs), also known as workplace-based assessments, have emerged as key formative assessment tools, promoting professional development through feedback and reflection. Their integration into pharmacy practice aligns with contemporary educational standards and the need for robust workplace-based assessment (Rees *et al.*, 2014; Andreou *et al.*, 2024; Lim *et al.*, 2024). This shift towards a more developmental approach helps in building a supportive learning environment by providing real-time, context-specific evaluations that enhance both learning and performance. However, the effectiveness depends on the quality of feedback, the

context in which it is given and the alignment with learner needs (Norcini and Burch, 2007; Miller & Archer, 2021; Croft *et al.*, 2025). These tools, used across various healthcare roles, have been particularly effective in identifying and supporting doctors in difficulty (Patel *et al.*, 2016) to reliably assess performance when used with an adequate number of observations (Murphy *et al.*,2008).

Lim et al. (2023) compared the effectiveness of SLEs and Objective Structured Clinical Examination (OSCEs), demonstrating that SLEs provide a more authentic assessment of clinical competence as they occur in real-life settings, thus better preparing students for actual practice.

Successful implementation of SLEs require trained collaborators to be well equipped to provide high-quality feedback that can significantly influence trainee learning and performance (Rees *et al.*, 2014; Baboolal & Singaram, 2023).

Overall, the integration of SLEs in pharmacy practice not only enhances the accuracy of performance assessments but also fosters a culture of continuous improvement and professional growth (Miller & Archer, 2021; Baboolal & Singaram, 2023; Croft *et al.*, 2025).

Implementing SLEs in pharmacy practice presents several significant challenges. Firstly, there is a pervasive sense of negativity and scepticism among both trainees and trainers, often stemming from a lack of understanding regarding the purpose of these events and insufficient training for trainers (Massie & Ali, 2016). This scepticism can lead to poor engagement and the perception that these learning events are merely bureaucratic hurdles rather than valuable educational tools (Massie & Ali, 2016; Andreou *et al.*, 2024). Additionally, the quality and consistency of feedback provided during these events are frequently inadequate, which can impede their learning value (Murphy *et al.*, 2009; Miller & Archer, 2010). Time constraints and the demanding nature of clinical environments further complicate the effective implementation of SLEs, as both learners and collaborators struggle to find the time to conduct and participate in these learning events meaningfully (Norcini & Burch, 2007; Andreou *et al.*, 2024). Addressing these challenges requires comprehensive training for both trainees and trainers, clear communication of the educational value of these assessments, and structural changes to integrate these tools seamlessly into the workflow of pharmacy practice (Norcini & Burch, 2007; Massie & Ali, 2016).

SLEs are in their early stages of use within pharmacy teams in the United Kingdom and have not been widely adopted previously. To optimise their effectiveness, it is essential to embed the use of SLE's within everyday practice and ensure that there is a wide understanding within the workforce of how and when they should be used. Normalisation Process Theory (NPT) (Murray *et al.*, 2010) is a framework that explores how complex processes become routine in healthcare and other settings. It focuses on four key constructs: coherence (understanding the intervention), cognitive participation (engaging with it), collective action (implementing it), and reflexive monitoring (evaluating its impact). NPT helps to identify the factors that facilitate or hinder the integration of new practices, providing valuable insights into the implementation of these new processes. Guided by an NPT approach, this study explores the potential benefits of routinely implementing SLEs as a strategy to enhance the confidence and professional development of primary care pharmacy staff within NHS Greater Glasgow and Clyde. To contextualise this study, it is important to outline the distinct roles present within UK primary care pharmacy teams:

- **Pharmacists:** Registered healthcare professionals responsible for medication management, clinical services, and patient care.
- **Pharmacy Technicians:** Provide the multidisciplinary team with support for clinical tasks such as medicines reconciliation, audit support and patient communication.
- **Pharmacy Support Workers:** Provide administrative and operational support, including stock control and customer service.
- **Foundation Training Year (FTY) Trainees:** Newly qualified pharmacy graduates undertaking supervised practice as part of their registration process. These roles may differ in scope and training requirements from those in other countries.

The authors hypothesised that integrating SLEs into daily practice could provide structured opportunities for learning and reflection, thereby supporting workforce capability within primary care settings. Therefore, the aim of this study was to enhance understanding and promote the use of SLEs across the primary care pharmacy workforce as a tool for ongoing professional development, as well as evaluate the impact of implementation of SLEs in primary care pharmacy practice

Methods

This study used a two-phase mixed-methods design, guided by NPT (Murray *et al.*, 2010), to evaluate the implementation and normalisation of SLEs within

primary care pharmacy teams. The four NPT constructs (coherence, cognitive participation, collective action, and reflexive monitoring) were used to frame intervention development, delivery, and evaluation. A logic model was created to map out the required inputs and activities as well as potential outputs, measures and outcomes (Table I).

Table I: Mapping of intervention components to NPT constructs, measures, and observed results

NPT construct	Inputs/Intervention	Activities	Operational measure/Indicator	Observed result
Coherence	Explore need for educational sessions introducing SLEs	Delivery of training sessions Provision of materials explaining SLEs	Readiness scores Participant feedback	Increased understanding of SLEs
Cognitive participation	Co-design of sessions, stakeholder engagement	Collaborative planning Facilitated group discussions	Attendance rates Engagement in activities	High participation Commitment to SLEs
Collective Action	Team commitment to deliver a set number of quality SLEs in a set timeframe	Test and trial SLE paperwork and processes at training stage Integration of SLEs into routine workflow Team agreement on roles	Number of SLEs completed Team level agreements	Increased SLE completion Collaborative practice
Reflexive monitoring	Evaluation questionnaires and feedback processes	Collection and review of evaluative data Identification of areas of refinement	Qualitative responses Suggestions for improvement	Positive feedback Identification of barriers and areas for development

NPT: Normalisation Process Theory; SLE: Supervised Learning Events

Phase 1: Readiness and intervention development

To address the *coherence* construct, an initial scoping exercise was conducted with all eight lead pharmacists across Greater Glasgow and Clyde Health and Social Care Partnerships (HSCPs) to assess baseline understanding and current use of SLEs. The exercise revealed limited awareness and conceptual clarity regarding SLEs across the workforce.

In response, a two-session educational intervention was co-designed with one HSCP lead and their team, aligning with *cognitive participation*, which emphasises stakeholder engagement in implementation. The sessions were delivered via Microsoft Teams and piloted with the participating HSCP, then refined and delivered across all eight HSCPs beginning in November 2022.

Each session lasted one hour. The first session introduced SLE concepts, supervision principles, and practical tools through didactic content. Small multidisciplinary groups, including pharmacists, pharmacy technicians, and pharmacy support staff, then discussed local enablers and barriers to implementation, reflecting the *collective action* domain. Participants were encouraged to gain experience using SLE tools in practice between sessions. The second session, held six months later, explored their experiences and use of SLEs. At the beginning of each session, attendees were asked to rate their readiness on a scale from 1 to 5 (with 1 indicating very reluctant and 5 indicating very happy) to supervise others and receive supervision as part of an SLE.

Phase 2: Implementation evaluation

To address reflexive monitoring, the research team developed a custom evaluation questionnaire. The questionnaire included closed questions, Likert-scale ratings, and open-text fields to assess the uptake, benefits, challenges, and perceived value of SLEs. The evaluation questionnaire was designed by the research team and subsequently reviewed by subject matter experts in SLEs and education. While it was not derived from an existing validated tool, a pilot test with a small group was conducted to refine its clarity, content, and relevance. The questionnaire was disseminated to all 391 primary care pharmacy staff across the eight HSCPs at two time points: six months and eighteen months post-intervention.

Participants and data analysis

All 391 pharmacy team members, including pharmacists, technicians, and support staff, were invited to attend both sessions and complete the surveys. Descriptive statistics were used to summarise quantitative data from the questionnaire. Qualitative responses were analysed thematically using an inductive coding approach to identify patterns related to implementation outcomes (Braun and Clarke, 2006).

Prior to commencing the study, the research team consulted the NHS Health Research Authority's (NHS HRA) decision tool. The study was classified as a service evaluation and, as such, did not require formal ethical approval (NHS Health Research Authority, 2025).

Results

Phase 1: Readiness outcomes

A total of 205 pharmacy team members (52.4% of staff) attended the initial session, with 170 (43.4%) attending the follow-up. Readiness ratings were collected anonymously at each session and were not paired within individuals. Therefore, changes in average scores reflect group-level differences rather than within-person changes.

At session 1, the average score for readiness to supervise an SLE was 3.3/5 (range: 3.0–3.7), indicating moderate comfort but room for development. By session 2, this average increased to 4.2/5 (range: 3.8–4.7), reflecting a marked improvement in the average perceived preparedness to undertake supervisory roles.

Similarly, self-rated readiness to be supervised in an SLE rose from an average of 3.4/5 (range: 3.0–4.0) in session 1 to 4.0/5 (range: 3.7–4.4) in session 2.

During the final session, a consensus was reached that each team member would aim to complete a minimum of four SLEs per year.

Phase 2: Implementation outcomes

Participant characteristics

Following the educational interventions, 29.9% of the HSCP pharmacy staff completed the first questionnaire (n=117/391), while 29.2% completed the second questionnaire (n=114/391). The respondents represented a range of pharmacy staff, as shown in Table II. The majority were pharmacists, followed by pharmacy technicians, reflecting the composition of pharmacy staff within the primary care teams in Greater Glasgow and Clyde.

Table II: Demographics of respondents to questionnaires

Staff role	Questionnaire 1 (n)	Questionnaire 2 (n)
Pharmacists (N=198)	68	74
Pharmacy technicians (N=150)	29	32
Pharmacy technician / Pre-registration trainees (N=12)	4	0
Pharmacy support workers (N=34)	14	8
FTY trainee pharmacists (N=4)	2	0
Total Respondents	**117**	**114**

N: total number of staff in each role working in Primary Care in Greater Glasgow and Clyde; FTY: Foundation Training Year

SLE usage across pharmacy roles

The completion figures for the questionnaire on SLE usage are in Appendix B, illustrated by the graphs below.

Overall SLE usage

As shown in Figure 1, the results from the questionnaire on the use of SLEs provide insightful data on the engagement levels of pharmacy team members in different roles.

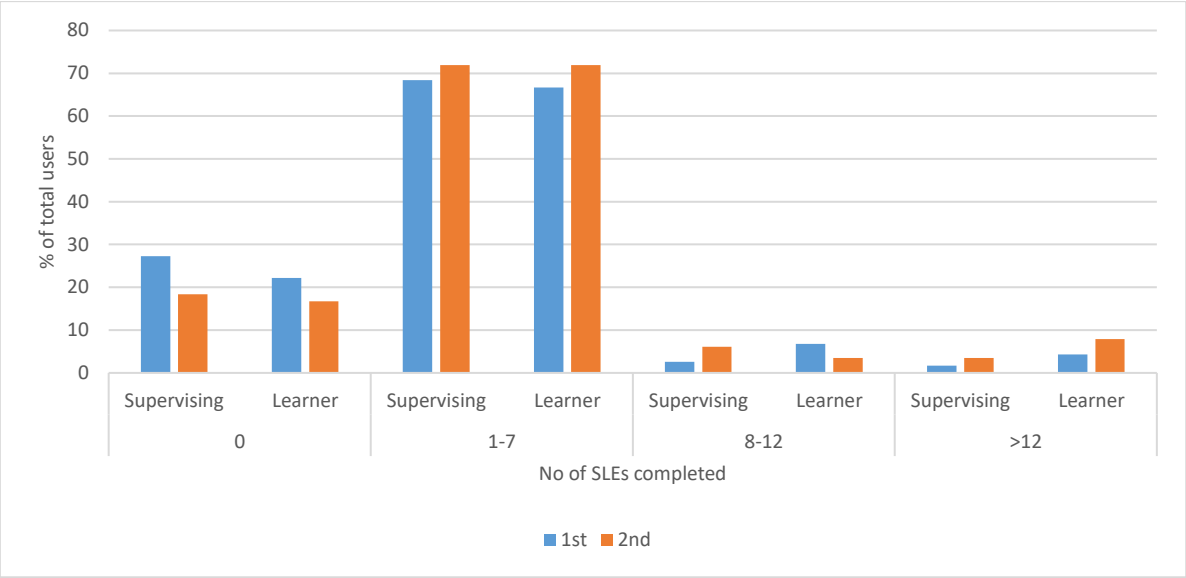

Figure 1: Total respondents use of SLEs

For those supervising SLEs, the data shows a notable shift in engagement over time. Initially, 27.3% of respondents had not used any SLEs, but this number decreased to 18.4% in the second questionnaire. The majority of respondents (68.4%) used SLEs for supervision between 1 to 7 times initially, and this increased to 71.9% in the second round. There was also a slight increase in respondents using SLEs for supervision 8 to 12 times, from 2.6% to 6.1%, and those using them more than 12 times rose from 1.7% to 3.5%.

For learners using SLEs, the initial data showed that 22.2% had not used any SLEs, which decreased to 16.7% in the second questionnaire. The majority of respondents (66.7%) used SLEs for learning between 1 to 7 times initially, and this increased to 71.9% in the second round. There was a decrease in respondents using SLEs 8 to 12 times for learning, from 6.8% to 3.5%, but an increase in those using them more than 12 times, from 4.3% to 7.9%.

Pharmacists

The results from the questionnaire on the use of SLEs among pharmacists (figure 2) in Greater Glasgow and Clyde provide valuable insights into their engagement levels over time.

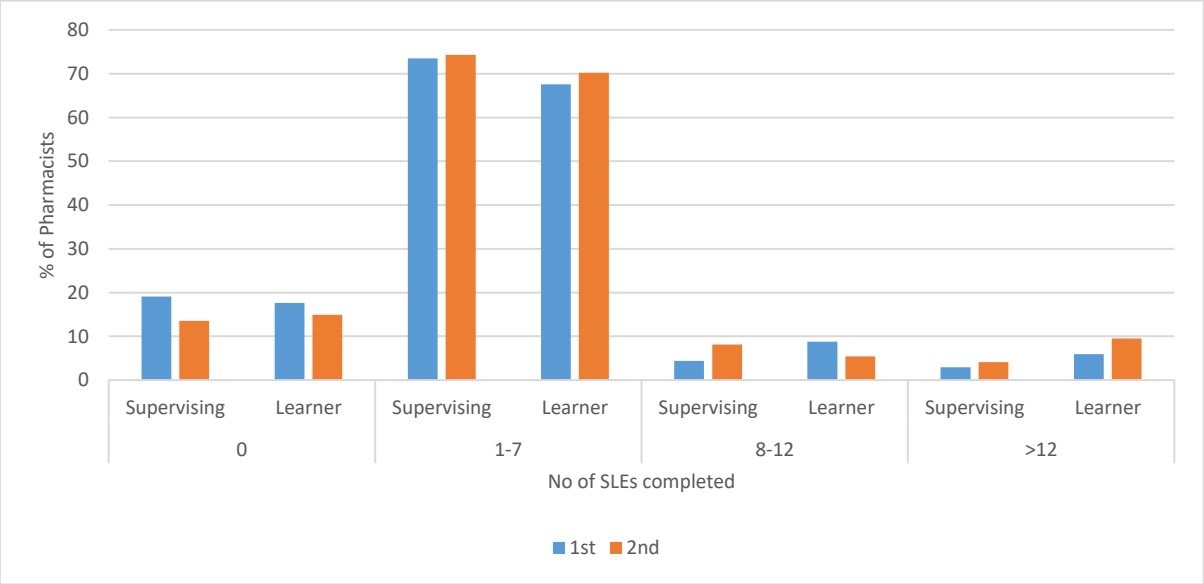

Figure 2: Pharmacists use of SLEs

For those supervising SLEs, the data indicates a positive trend in engagement. Initially, 19.1% of respondents had not used SLEs for supervision, but this number decreased to 13.5% in the second questionnaire. The majority of respondents (73.5%) used SLEs between 1 to 7 times initially for supervision, and this increased slightly to 74.3% in the second round. There was also an increase in respondents using SLEs 8 to 12 times for supervision, from 4.4% to 8.1%, and those using them more than 12 times rose from 2.9% to 4.1%.

For respondents using SLEs for learning, the initial data showed that 17.6% had not used SLEs, which decreased to 14.9% in the second questionnaire. The majority of respondents (67.6%) used SLEs between 1 to 7 times initially for their development, and this increased to 70.2% in the second questionnaire. There was a decrease in respondents using SLEs 8 to 12 times for learning, from 8.8% to 5.4%, but an increase in those using them more than 12 times, from 5.9% to 9.5%.

Pharmacy technicians (PT)

Similarly to the other professions, the results, generally show that the use of SLEs among Pharmacy Technicians in Greater Glasgow and Clyde have increased (figure 3).

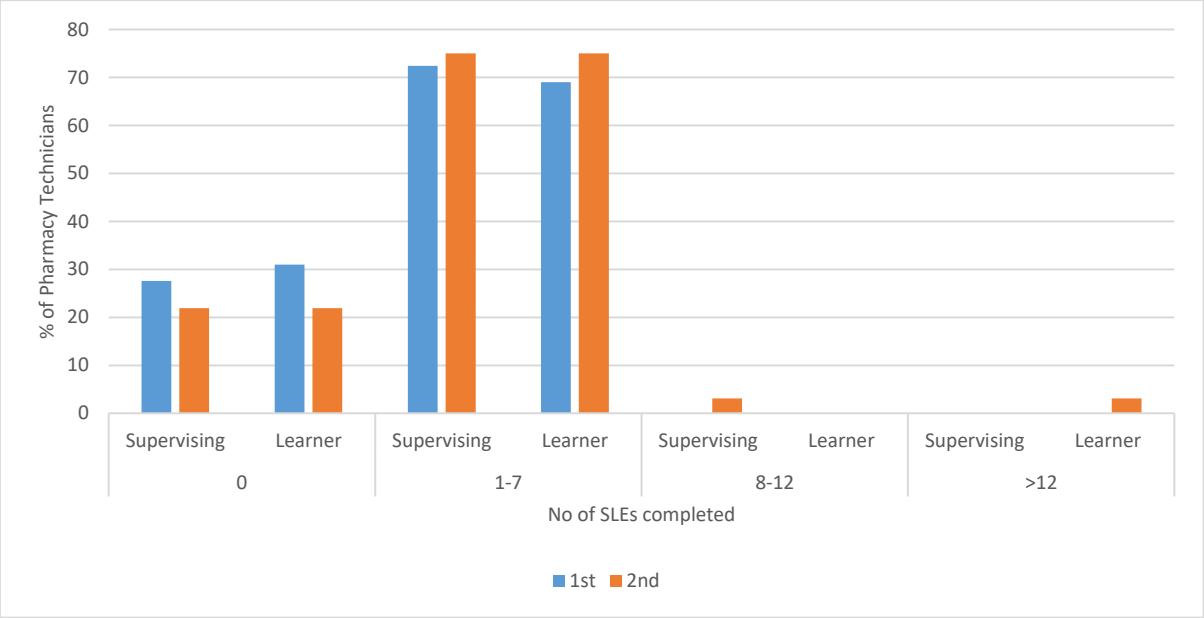

Figure 3: Pharmacy technicians use of SLEs

For those supervising SLEs, the data shows a positive shift in engagement. Initially, 27.6% of respondents had not used SLEs for supervision, decreasing to 21.9% in the second questionnaire. The majority of respondents(72.4%) used SLEs between 1 to 7 times initially for supervision, and this increased to 75.0% in the second round. Notably, one respondent reported supervising 8 to 12 SLEs in the second questionnaire while those supervising SLEs more than 12 times remained at 0.0%.

For respondents using SLEs, the initial data showed that 31.0% had not used SLEs for their development, which decreased to 21.9% in the second questionnaire. The majority of respondents (69.0%) used SLEs between 1 to 7 times initially for their development, and this increased to 75.0% in the second round. There was no change in respondents using SLEs 8 to 12 times, remaining at 0.0%, but there was one respondent highlighting that they used SLES for their professional development more than 12 times.

Pharmacy Support Workers (PSW)

The number of pharmacy support workers who completed the questionnaires was small. As a result, it was difficult to determine if the findings accurately represent the broader workforce of pharmacy support workers.

Figure 4 shows that for those supervising SLEs, similar to the trends observed among Pharmacists and Pharmacy Technicians, there was a significant decrease in the number of pharmacy support workers who had not completed any SLEs from 57.1% initially to 50.0% in the second questionnaire. The percentage of respondents using SLEs between 1 to 7 times for supervision decreased from 42.9% to 37.5%. Notably,

there was an introduction of respondents using SLEs more than 12 times, which increased from 0.0% to 11.1%, while those using them 8 to 12 times remained at 0.0%.

For respondents using SLEs for their own development, the initial data showed that 28.6% had not used SLEs, which decreased significantly to 11.1% in the second questionnaire. Most respondents (71.4%) used SLEs between 1-7 times initially for their development, but this decreased slightly to 66.7% in the second round. There was no change in respondents using SLEs 8-12 times, remaining at 0.0%, but there was an introduction of respondents using them more than 12 times, which increased from 0.0% to 11.1%.

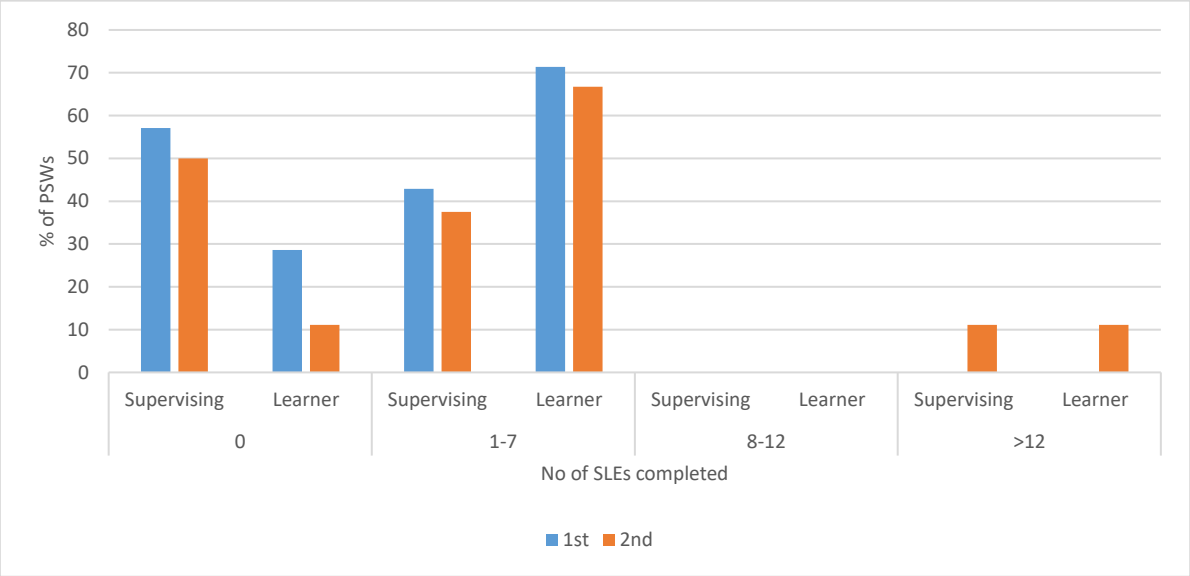

Figure 4: Pharmacy support workers use of SLEs

FTY trainee pharmacists and pharmacy technician pre-registration trainees

There were only a small number of both FTY trainee pharmacists and pharmacy technician pre-registration trainees who completed the first questionnaire, and none completed the second questionnaire. The study could not determine whether the number of SLEs completed changed over time for this group of participants.

Respondents' perspectives on SLEs use

The results from the questionnaires indicate varying levels of perceived benefit from using SLEs by both learners and supervisors (Table III). The consistency observed across both questionnaires demonstrates the reliability of the results.

Table III: Users views on SLEs

	Using SLE's as a learner		Using SLE's as a supervisor	
	Questionnaire 1	Questionnaire 2	Questionnaire 1	Questionnaire 2
Extremely beneficial	27 (23.08%)	29 (25.44%)	8 (6.84%)	11 (9.65%)
Very beneficial	43 (36.75%)	35 (30.70%)	35 (29.91%)	34 (29.82%)
Somewhat beneficial	29 (24.79%)	30 (26.32%)	52 (44.44%)	45 (39.47%)
Not so beneficial	2 (1.71%)	4 (3.51%)	6 (5.13%)	10 (8.77%)
Not at all beneficial	16 (13.67%)	16 (14.03%)	16 (13.68%)	14 (12.28%)
Total	117	114	117	114

SLE: Supervised Learning Event

When SLEs are used by a learner for their development, both questionnaires showed most respondents found the tools extremely beneficial, very beneficial or somewhat beneficial. This demonstrates that learners can clearly identify advantages in using SLE tools for their development. However, these findings also suggest that while most learners recognise the value of SLEs, there remains a significant minority who do not perceive substantial benefits from using SLEs for their development.

Similarly, the responses from supervising SLEs revealed that most respondents found the tools either extremely beneficial, very beneficial, or somewhat beneficial. A minority reported that SLEs were not very beneficial or not beneficial at all in both questionnaires. These results indicate that while supervisors perceive the value of SLEs, there is a significant portion who do not find them particularly advantageous.

Qualitative findings

The qualitative responses collected from open-ended items within the questionnaire provided valuable insights into participants' experiences and perceptions regarding the implementation of SLEs in professional practice. These qualitative responses, detailed in Appendix C, were analysed thematically using Braun and Clarke's approach (2006). Three main themes emerged: Benefits, Challenges, and Suggestions for Further Development.

Benefits

Participants widely described SLEs as supporting professional growth, reflective practice, and increased confidence. These views illustrate the *reflexive monitoring* domain of NPT, wherein individuals appraise the value of a new practice and use these assessments to adapt their behaviours.

A key sub-theme concerned the value of feedback in promoting development. One Pharmacy Technician Pre-registration Trainee shared: "*Receiving feedback allowed me to reflect on my processes to make them better,*" noting that it also helped to "*be more confident within my role.*" Feedback was generally characterised as timely, constructive, and supportive of reflective learning.

The importance of sustained supervisory relationships also emerged. Participants appreciated longitudinal engagement that enabled mentorship, with one pharmacist noting the benefit of being able to "*witness development in the pharmacist and encourage training.*"

Additionally, SLEs were viewed as a vehicle for reciprocal learning. The dual role of both giving and receiving feedback fostered team cohesion and improved communication. A respondent remarked that they had gained "*more confidence when giving feedback and learned new skills from observing others' processes.*" This aligns with the collective action domain, reflecting the collaborative and relational work required to embed new practices within a team-based context.

Challenges

Despite positive perceptions, several barriers to SLE implementation were noted. The most frequently cited challenge was lack of time, particularly within the context of expanding workloads. One pharmacist stated: *"It is particularly more challenging to find time as we continue to expand and deliver the pharmacotherapy contract.*" These concerns reflect tensions within collective action, as time and workload pressures can hinder operational delivery of new practices.

Logistical issues were also identified, including scheduling difficulties, the impact of remote working, and limited access to private consultation spaces. A Pharmacy Technician noted: "*There is a lack of space in practices to do them face to face.*"

Participants also reported that documentation associated with SLEs was complex, lengthy, and overly tailored to pharmacists. One respondent described the forms as "*confusing and pharmacist-centric*," suggesting a need for improved accessibility.

Suggestions for further development

While approximately half of respondents indicated no further learning needs, others highlighted areas for improvement. Many requested more practical support, including exemplar completed forms, recorded demonstrations, and structured feedback workshops. One participant suggested: "*examples of completed forms... I'm not totally sure I'm filling them in right.*" This indicates gaps in coherence, where greater clarity and shared understanding of expectations are needed.

Additionally, respondents sought more support on delivering constructive, balanced feedback. One participant reflected: "*There is no point just saying someone did really well—we learn more from our mistakes than our successes.*"

Discussion

This study explored the implementation and normalisation of SLEs within primary care pharmacy

teams across Greater Glasgow and Clyde, using NPT as a guiding framework. The study's findings indicate that following the co-designed educational intervention, participants reported greater understanding, engagement, and use of SLEs. The evaluation also identified important barriers and areas for future development.

Impact of the interventions

The educational intervention designed to increase the understanding and normalise the use of SLEs has shown results similar to interventions in other healthcare professions (Prins *et al.*, 2019). The readiness scores for supervising and receiving SLEs increased from the first to the second session, indicating growing comfort, confidence, and willingness to engage among participants. This improvement may suggest an increasing normalisation of supervision as a supportive developmental practice, aligning with the collective action domain by fostering a shared professional culture around learning through feedback. The structured educational sessions appear to have been effective in fostering not only stronger conceptual clarity (coherence) and engagement (cognitive participation), but also a collective sense of responsibility for implementing the practice (collective action), all of which are important for sustained normalisation. This is consistent with literature emphasising the need for training to improve the knowledge and understanding of SLEs (Massie & Ali, 2016; Prins *et al.*, 2019).

This improvement may indicate an increasing normalisation of SLE use as a supportive developmental practice, aligning with the collective action domain by fostering a shared professional culture around learning through feedback. This is consistent with literature emphasising the need for training to improve the knowledge and understanding of SLEs (Massie & Ali, 2016; Prins *et al.*, 2019).

The data from the questionnaires revealed a positive trend in the engagement with SLEs over time. Both supervisors and learners showed increased usage of SLEs, with a notable decrease in the number of participants who had not used SLEs at all, which indicates successful cognitive participation, as team members not only understood but actively enrolled and sustained their involvement. This growing engagement reflects the successful integration of SLEs into routine practice and underscores their perceived value in professional development.

The data from across the pharmacy professions show distinct trends in engagement levels. Both pharmacists and pharmacy technicians showed a positive trend in engagement, while other professions showing varying engagement, which may be due to the low numbers of participants for pharmacy support workers, trainee pharmacy technicians and trainee pharmacists. These findings highlight a growing adoption of SLEs across all professions, indicating their effectiveness in enhancing professional development and engagement within the pharmacy team.

When comparing the use of SLES as learners or supervisors, it is noteworthy that while most respondents acknowledge the benefits of using SLEs in both roles, a greater number find them more advantageous as learners.

The implementation process also illustrated features of *collective action*, with teams collaborating to practice and discuss SLE use. Qualitative data highlighted that this collective engagement facilitated mutual learning and enhanced professional relationships. However, practical barriers, such as time pressures, lack of private space, and the complexity and accessibility of documentation, are consistent with findings in other literature, which also highlight these challenges in similar contexts (Rees *et al.*, 2014; Massie & Ali, 2016). These concerns reflect tensions within collective action, as time and workload pressures can hinder operational delivery of new practices. Such contextual constraints can undermine implementation despite positive attitudes, underscoring the need for structural and organisational support to facilitate the normalisation of SLEs.

Finally, the evaluation component supported *reflexive monitoring*, with participants actively reflecting on the value and challenges of SLEs. Notably, the collective commitment made by teams to complete a minimum number of SLEs per year demonstrates early indicators of reflexive monitoring, as teams recognised the value of SLEs and agreed to embed them as a routine element of practice. Feedback was generally constructive, with respondents recognising the developmental benefits of supervision, but also expressing a desire for more tailored resources and streamlined tools. This suggests an opportunity to strengthen reflexive monitoring by enhancing users' capability to assess and improve the quality of supervision provided. Embedding SLEs into routine practice requires not only initial training, but ongoing refinement of tools and processes, supported by regular evaluation to ensure continuous improvement in supervisory quality.

Recommendations for improving SLE implementation

To maximise the effectiveness of SLEs, several recommendations can be made. Firstly, integrating feedback into routine practice is essential. Pharmacy teams should be encouraged to normalise structured feedback as part of their everyday activities. This

approach can help create a culture where feedback is valued and seen as an opportunity for growth, rather than a mere formality.

Enhancing documentation processes is another critical recommendation. Developing streamlined, user-friendly forms and digital solutions for recording feedback efficiently can significantly reduce the time and effort required for documentation. This improvement will make it easier for participants to engage with SLEs without feeling overwhelmed by administrative tasks. Importantly, the current challenges with documentation also reflect issues within coherence, pointing to inconsistent understanding and perceived relevance of the practice across different staff groups. Addressing these coherence-related barriers by making documentation more accessible and relevant to all roles is essential for ensuring that SLEs are effectively embedded and embraced throughout the pharmacy team. Allocating and scheduling protected time for SLEs is crucial, as it ensures that structured learning experiences and feedback discussions are prioritised and conducted meaningfully, allowing participants to focus on the learning process without the pressure of other work commitments.

Fostering a feedback culture within the pharmacy teams is vital. Promoting a culture where feedback is constructive and supportive can help build confidence and morale among participants. When feedback is perceived as a tool for development rather than criticism, participants are more likely to engage actively with SLEs.

Enhancing the accessibility of SLEs is crucial. By addressing logistical challenges, such as optimising the use of workspace and utilising virtual communication methods will facilitate the implementation of SLEs across different settings. This approach ensures that all participants, regardless of their location or work environment, can benefit from these valuable learning opportunities.

Finally, there is the need for continuous training and evaluation of individuals in delivering constructive and meaningful feedback through SLEs. This involves acknowledging the effect of the feedback on learners' confidence and morale, encouraging their development, and ensuring a supportive approach to learning.

Strengths and limitations

A key strength of the study has been using the NPT framework as a lens to understand the complexity of the intervention and support its implementation. The study shows high levels of engagement in educational interventions, indicating receptivity to SLEs within pharmacy teams. This study is believed to be the first to demonstrate the real-world application of SLEs within primary care pharmacy settings, thereby enhancing external validity. In addition, the structured, phased approach allowed for iterative refinement of training and evaluation. The mixed-methods approach, combining quantitative and qualitative data, provided a comprehensive understanding of SLE impact

However, no control group was included, limiting causal inferences regarding the intervention's effectiveness. The voluntary nature of SLE engagement means variability in implementation across teams. In addition, there may be potential selection bias, as those more inclined toward professional development may have been overrepresented in participation. Furthermore, the fact the study was only conducted in one area of Scotland and was restricted to pharmacy teams practising in primary care, and the moderate questionnaire response rate may introduce response bias and limit generalisability. Finally, the study only captures short to medium term impact, with no long-term follow-up data available.

Further Research

One aspect identified in the research was that a significant minority of participants did not view SLEs as beneficial, indicating the need for further investigation into the reasons behind this minority view.

Further research into long-term impact and best practices for embedding SLEs in pharmacy practise in all pharmacy staff regardless of setting is recommended. This could involve exploring the sustainability of SLE implementation and identifying strategies to overcome the challenges identified in this study.

Conclusion

The study found an increase in reported understanding and use of SLEs within primary care pharmacy teams following a co-designed educational intervention. The participants described improved confidence in both supervising and receiving SLEs, reinforcing their value in professional development and reflective practice. However, addressing the challenges related to time management, logistical constraints, and documentation could enhance the effectiveness and ease of use of SLEs. Participants emphasised the need for structured guidance, protected time, streamlined documentation, and enhanced supervisory support to maximise the effectiveness of SLEs. Addressing these themes through targeted interventions could help

integrate SLEs more seamlessly into daily practice, sustaining and expanding their implementation in the future, ultimately contributing to the advancement of pharmacy practice.

Conflict of interest

The authors declare no conflict of interest.

Source of funding

The authors did not receive any funding.

Ethical approval

Ethical approval details were not required for this study, as determined by the NHS Health Research Authority (NHS Health Research Authority, 2025)

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Appendix A: Plan for educational sessions 1 & 2

Session 1

Learning outcomes/Aims

By the end of the session teams should be able to:

- describe what a Supervised Learning Event (SLE) is and why we are asking everyone, regardless of role to both receive and provide SLEs
- discuss the distinct types of SLE and how these can be used
- plan how to incorporate SLEs into your day-to-day practise

Session plan

Introduction- Health and Social care Partnership (HSCP) lead

1. Presentation –Introduction to Supervised Learning Events (30 mins)
2. Pre- group discussion -Poll Questions (5mins)
    - Choose one word to describe how you feel about receiving SLEs
    - Choose one word to describe how you feel about supervising in and SLE
    - On a scale of 1 to 5 where 1 is reluctant to 5 being excited rate how you feel about receiving an SLE
    - On a scale of 1 to 5 where 1 is reluctant to 5 being excited rate how you feel about supervising an SLE
3. Breakout Room Discussion (15 mins)
    - Small workgroups of up to 7 participants and 1 facilitator to discuss
        - What are the barriers to undertaking supervised learning events in practice?
        - How can you ensure that these barriers are minimised?
        - What measures can be put into place to ensure that colleagues are able to support each other to support uptake of the SLEs
4. Redo question 3 and 4
5. Next steps- follow up session after six weeks everyone to commit to action of receiving and delivering on SLE and come back to discuss how it went.

Between Session Work

1. What is one practical step you will take to apply the learning from today to either yourself, your team, or your organisation?
2. What do you plan to achieve in terms of receiving and supervising SLEs, what actions will you take and by when?

What	How	By when

3. What are your reflections on what you have learned, what has gone well, not so well and what would you do differently?

Session 2

Learning outcomes

- Describe your experience of supervised learning events
- Describe the challenges, enablers, and benefits
- Action plan steps for the next year to embed SLEs into normal practice

Plan

1. Recap of Previous session (5mins)

2. Discussion in Breakout Rooms for questions below (20mins)
    - How did everyone get on with doing the SLEs?
    - What situations did everyone use?
    - How did you feel undertaking the SLE as a learner and as a Collaborator?
    - What were the Challenges?
    - How were these overcome?
    - Are there any ways that you have identified to support further uptake?
3. Action Planning (15 minutes)

Appendix B: Completion figures for the questionnaire on SLE usage

SLEs completed as a supervisor

Role	No of respondents (%)							
	0		1 to 7		8 to 12		>12	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Pharmacist (1st - 68, 2nd - 74)	13 (19.1)	10 (3.5)	50 (73.5)	55 (74.3)	3 (4.4)	6 (8.1)	2 (2.9)	3 (4.1)
Pharmacy Technicians (1st -29, 2nd - 32)	8 (27.6)	7 (21.9)	21 (72.4)	24 (75.0)	0 (0.0)	1 (3.1)	0 (0.0)	0 (0.0)
Pharmacy Technician Pre-registration Trainee (1st - 4, 2nd - 0)	1 (25.0)	0 (0.0)	3 (75.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Pharmacy Support Worker (1st - 14, 2nd - 9)	8 (57.1)	4 (44.4)	6 (42.9)	4 (44.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)
FTY Trainee Pharmacist (1st - 2, 2nd - 0)	2 (100.0)	0 (0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

FTY: Foundation Training Year

SLE's completed as a learner

Role	No of respondents (%)							
	0		1 to 7		8 to 12		>12	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Pharmacist (1st - 68, 2nd - 74)	12 (17.6)	11 (14.9)	46 (67.6)	52 (70.2)	6 (8.8)	4 (5.4)	4 (5.9)	7 (9.5)
Pharmacy Technicians (1st -29, 2nd - 32)	9 (31.0)	7 (21.9)	20 (69.0)	24 (75.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.1)
Pharmacy Technician Pre-registration Trainee (1st - 4, 2nd - 0)	1 (25.0)	0 (0.0)	2 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)
Pharmacy Support Worker (1st - 14, 2nd - 9)	4 (28.6)	1 (11.1)	10 (71.4)	6 (66.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)
FTY Trainee Pharmacist (1st - 2, 2nd - 0)	0 (0.0)	0 (0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)

FTY: Foundation Training Year

Appendix C: Qualitative feedback

Theme	Sub-theme	Illustrative comments from questionnaire
Benefits	Development	Points for development are highlighted. (Foundation Training Year Pharmacist) Picking up areas of less optimal or efficient practice and correcting these. (Pharmacist) To identify future learning needs. (Pharmacy Support Workers) helps to reflect on my own practice and opens a discussion about difference in decision making and process. (Pharmacy Technician)
	Improving Confidence	It helps support other people's development and confidence in their role. (Pharmacist) Gain more confidence when giving feedback and learn new skills from observing other's processes. (Pharmacy Technician Pre-registration Trainee) Getting feedback what I can improve on - this allows me to reflect on my processes to make them better. When I receive positive feedback, this has allowed me to be more confident within my role. (Pharmacy Technician Pre-registration Trainee) Reassurance, confidence, constructive feedback, patient safety, self-development, completing GPCP portfolio. (Pharmacist)
	Giving and receiving feedback	People with first-hand knowledge are able to give you advise instead of just staring at a screen. (Pharmacy Technician Pre-registration Trainee) Developing skills at providing constructive feedback. (Pharmacist) Gives myself confidence to give feedback the more I do it. (Pharmacy Technician) I enjoy getting feedback to see if what I am doing is right or if there is feedback on what I could do better. (Pharmacy Support Worker)
	Demonstration of competence	Feeling more comfortable that people have the necessary information / skills / understanding to carry out their role. (Pharmacist) Upskilled pharmacy technician in performing medicines reconciliation on clinical letters. (Pharmacist) Ability to scrutinise other's practice and allow further reflection of own practice. (Pharmacist) Encouraging to demonstrate new practical skills + fine-tune technique. (Pharmacist)
	Transitioning to new role	to learn how to work in new environment like hospital pharmacy. (Pharmacy Technician Pre-registration Trainee) help in training new staff. (Pharmacy Technician Pre-registration Trainee)
	Reflective Practice	Encouraging reflection of my own practice. (Pharmacy Technician) Been able to look at things from a different perspective. (Pharmacist)
	Learning Culture	Builds trusting relationships between colleagues. (Pharmacist) Fulfilling role of supporting team. (Pharmacist) Mentoring others. (Pharmacist) Fosters good working relationships. (Pharmacy Technician) Learning from each other, having other people's input. (Pharmacy Technician)
Challenges	Time	Time - it's not always a priority when we have so much workload to get through. Its particularly more challenging to find time as we continue to expand and deliver the pharmacotherapy contract. (Pharmacy Technician) Time constraints and opportunity. (Pharmacist) Prioritising time for this. (Pharmacist) balance between own work commitments and scheduling time for SLE. (Pharmacist) I feel like I am pulling people away for their day to day roles. (Pharmacy Technician)
	Location	Meeting people in person. Lack of space in practices to do them face to face. (Pharmacy Technician) trying to arrange a place/time with restrictions on space. (Pharmacy Technician Pre-registration Trainee) Remote working in different locations. (Pharmacist) Having suitable areas to carry them out. Aligning diaries to allow supervision. (Pharmacist)
	Logistics	Documenting them the forms are not very user friendly, and language is pharmacist based. (Pharmacy Technician) Paperwork is confusing and time consuming. (Pharmacy Support Worker) Documentation can be tricky to fill out, not possible to complete straight away. (Pharmacist) Having suitable areas to carry them out. Aligning diaries to allow supervision. (Pharmacist)
Further developments		I would like to see how the paperwork is filled out and examples. Quarterly meeting re SLEs to prompt to get some recorded. (Pharmacy Technician) More practice on how to write up, how to go about organising SLEs, or what situations are suitable examples of things to discuss/practice. (Pharmacist) More practice in giving not so good feedback - how to do it constructively so as not to ruin good working relationships. (Pharmacist) To extend the range of ones I have undertaken and also the range of people providing. (Pharmacist) I think the recording of it needs to be more simplified. (Pharmacy Technician)

GPCP: General Practice Clinical Pharmacist ; SLEs: Supervised Learning Events