








CONFERENCE ABSTRACTS

Pharmacy Education Conference 2023

Manchester, United Kingdom

Oral presentations

Exploring current provision of interprofessional education during experiential learning placements for student pharmacists in Scotland

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Keywords: *Experiential learning, Interprofessional education, Interprofessional learning, Pharmacy education*

Background: Global strategies identify interprofessional education (IPE) as an integral part of transformative policies aimed at developing the health and social care workforce's capacity to strengthen integrated health systems (World Health Organization, 2016). This has led to health and social care regulatory bodies calling for the inclusion of IPE in undergraduate curricula.

Aim: To explore structures and processes needed to support planned and unplanned IPE during experiential learning (EL) placements for student pharmacists in Scotland.

Method: Online semi-structured focus groups or dyadic interviews were conducted with six EL facilitators, four practice educators and two academic staff. Recordings were transcribed verbatim, and a content analysis approach was used to identify themes. The development of data collection tools and data analysis was guided by the Biggs 3P Model (Biggs, 1993) and the 3P Model of Learning to Collaborate (Freeth & Reeves, 2004). Ethical approval was granted (S292)

by the School of Pharmacy and Life Sciences Ethics Review Committee at Robert Gordon University.

Results: "Current IPE delivery and context", "Factors affecting IPE delivery and student pharmacist learning", and "Re-thinking current IPE provision" were the three themes identified. Stakeholder views have provided valuable insights into presage, process and product factors relating to the current provision of IPE during EL placements for student pharmacists, highlighting what works well and what challenges – cultural, logistical and regulatory - need to be addressed to ensure high-quality IPE. Research findings highlight the need for future developments to focus on a continuum of learning and a more coordinated approach between the universities and placement providers and between interprofessional health and social care teams.

Discussion: This study has provided a better understanding of current IPE provisions and the changes needed; findings will guide the further development of IPE initiatives to ensure future plans are conducive to supporting effective planned and unplanned interprofessional learning.

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Developing cultural competence in pharmacy undergraduates through an interactive role-play workshop: Experiences of simulated patients

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Keywords: Cultural competency, Evaluation, Feedback, Simulated patient, Simulation

Background: Cultural competence is critical for all pharmacy professionals. Principle 3 of the Inclusive Pharmacy Practice initiative states, “We will proactively seek to learn and understand communities and cultures so that we can be more effective health and care practitioners and providers” (Health Education England, 2022). In collaboration with the Centre for Pharmacy Postgraduate Education (CPPE, 2022), a new workshop series on culturally competent person-centred care was developed and delivered to first-year pharmacy students. Working in small groups, the final workshop in the series utilised a range of cultural competency-based role-plays and reflective discussions with simulated patients (medical actors). Feedback was provided to students by the simulated patients (SPs).

Aim: Explore the experiences of SPs in the final cultural competency workshop: (1) perceptions of the workshop; (2) feedback given by SPs to students during the workshop.

Method: University ethics approval was obtained. All SPs were invited to participate in an audio-recorded focus group conducted in person after the workshop. The recording was transcribed verbatim, anonymised and analysed using reflexive thematic analysis (Braun & Clark, 2020).

Results: All eight (100%) SPs participated; the focus group duration was 55 minutes. Four themes relating to SP perceptions of the workshop were identified: (1) good engagement; (2) increased student confidence; (3) benefits of supportive group working; and (4) broad scenario scope and focus. Four themes related to feedback given to students by SPs were identified: (1) Demonstrated empathy and sensitivity; (2) Improvement of communication skills; (3) Avoid assumptions; and (4) Explore the person's agenda.

Discussion: This workshop has highlighted the benefits of group work in providing support to students in developing their cultural competency skills. Further work on competencies related to exploring a person-centred agenda is developed in the later years of the MPharm.

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An evaluation of 4th year MPharm mental health simulations and placement at Aston University

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Keywords: Education, Mental health, Placement, Simulation

Background: Gorton and colleagues (2023) found that some pharmacy students viewed themselves as less stigmatising than the general public, whereas others had their own preconceptions. To improve their professional competency, fourth-year MPharm students at Aston University were scheduled for a mental health hospital simulation (involving drug history taking, counselling and patient review) that acted as a gateway for a placement with a local mental health trust.

Aim: The aim of the project was to use students' opinions and feedback on mental health hospital simulation and placement to uncover areas of success and suggest potential improvements for following cohorts.

Method: An anonymous online questionnaire consisting of 39 (open, closed and Likert) questions was sent to fourth-year MPharm students at Aston University. Data collected was analysed using Excel, and statistical analysis was carried out via GraphPad.



Results: Questionnaire response rate was 27.6% (n=29). Nearly all students (96%, n=25) who attended the simulations found them useful. More than half (62.5%, n=15) of the students who attended the placement found it useful, and 78.2% (n=19) found attending the simulation prior to the placement to be beneficial in preparing them emotionally for the placement. Areas of success highlighted were insightfulness (n=9), exposure (n=8) and communication (n=6). Suggestions for improvement included increased preparation (n=9) for the simulation, additional activities (n=10), and patient contact (n=6) in the placement.

Discussion: Students enjoyed the exposure to a new area of pharmacy and were keen to practice their pharmacy skills, preferring longer placements with additional patient-facing activities in future. As the simulation aimed to mimic a hospital environment in practice, a limit must be set on the amount of pre-preparation given to students to retain simulation fidelity. However, this can be communicated to students to manage expectations and further simulations used to build confidence.

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Evaluating patient and public involvement (PPI) with teaching and learning for a postgraduate taught (PGT) pharmacy practice programme

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Keywords: Expert patient, Patient and public, Postgraduate pharmacy

Background: Person-centred care is essential for pharmacists working in patient-facing roles and is embedded in professional standards and the NHS Long Term Plan (NHS England, 2019). Patient and public involvement (PPI) in education has been shown to develop a healthcare workforce that embraces patient and public participation (Towle *et al.*, 2016), develops empathy and delivers effective medicine optimisation (Jubraj, 2016). PPI is embedded into teaching and learning for the MSc/PGDip Foundation Pharmacy Practice (multi-sector) programme at level 2 of Tew's ladder of involvement of service users (limited involvement) (Tew, 2004).

Aim: To evaluate innovative PPI teaching and learning for a PGT pharmacy practice programme.

Method: Tutors and expert patients co-design PPI workshops throughout the PGT programme. Using narrative accounts, expert patients describe their experiences linked to the clinical topic for the study day, with an opportunity for questions and answers with students. Student evaluation is through study day feedback, using Microsoft forms and assignments. Expert patient evaluation is through post-study days discussions with the PGT team.

Results: Since January 2020, expert patients have co-delivered workshops for seven induction days and sixteen study days. Student average rating from induction is 4.65/5.0, and free text qualitative feedback is positive: "Very good session understanding patients' journey. Sometimes as healthcare professionals, we forget about how patients feel". Asked about the future impact on practice, responses include: "Be more patient-focused and consider the patient and their needs". Assignment evaluation is through a demonstration of empathy and a person-centred approach to medicines optimisation aligned to the marking rubric. Feedback from expert patients is positive "Our teaching sessions have proven valuable to the students".

Discussion: Student and expert patient feedback for the workshops is positive. Since 2022-23, the authors are moving to level 4 (collaboration) (Tew, 2004) through expert patients joining the programme management committee and co-designing OSCE exams.

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An exploration of staff and student views on the use of supervised learning events in the teaching and assessment of consultation skills

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Keywords: Comparison, Consultation skill, OSCE, Supervised learning event, View

Background: New GPhC standards for pharmacy education (2021) prompted a radical change in the MPharm curriculum at Manchester. More effective methods for demonstrating

competence at the “shows how” level were explored to replace OSCEs when assessing skills (Mills *et al.*, 2015). Supervised learning events (SLEs) have been successfully implemented in the UK Foundation Programme (UKFP) for medical graduates (UKFP, 2023), inspiring the Manchester MPharm to adopt a similar approach.

Aim: To explore the views of staff and students around on-campus SLEs using simulated patients in comparison to OSCEs for assessing consultation skills through a final-year undergraduate project.

Method: Focus groups with the year 2 cohort and staff involved in the delivery of SLEs were conducted using a topic guide developed around the project aims and objectives. Focus groups were audio recorded, transcribed and thematically analysed (Clarke *et al.*, 2015). Both staff and students had experience with OSCEs, enabling a comparison. The university ethics decision tool determined ethical approval was not required.




Results: Three focus groups were held: 2 for students (4 and 2 participants respectively) and 1 for staff (6 participants). Student and staff views on SLEs were mostly positive, with both groups preferring SLEs to OSCEs. Reasons included reduced stress, anxiety and workload. Instant feedback from staff and simulated patients enabled continuous improvement. Staff acknowledged the increased workload for the SLE organiser.

Discussion: A comparison of UKFP trainee views on workplace-based assessments with SLEs gave similar findings (Rees *et al.*, 2014). These findings support the implementation of SLEs in the new curriculum so far, though support to deliver SLEs may be required to ensure sustainability. Further research is needed to explore the views of the full student cohort. Longitudinal studies could determine the impact on consultation skills development across the programme.

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Exploration of mental health Core Trainee (CT) level psychiatry training for experienced mental health prescribing pharmacists from a range of stakeholder perspectives

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Keywords: Diagnose, Mental health, Pharmacist, Prescriber, Specialist

Background: Specialist mental health pharmacist’s roles are expanding (Health Education England, 2020), with potential additional training needed, particularly in diagnosis. To consider this, Health Education England SW School of Pharmacy and Medicines Optimisation piloted pharmacists joining 6-month Core Trainee (CT) psychiatry training.

Aim: To explore the benefits and challenges of pharmacist prescribers participating in CT psychiatry training from stakeholder perspectives (pharmacists and CTs on course, pharmacists’ line managers and service users).

Method: A qualitative methodological approach was adopted. One-to-one semi-structured interviews with each pharmacist took place at the start and end of training. Line managers were invited to one-to-one semi-structured interviews in month 6. Service users and CTs contributed by qualitative e-questionnaire. Thematic analysis across all data (Braun & Clarke, 2021). The study did not need NHS ethics as service evaluation.

Results: Four pharmacists were interviewed at the start and three at month 6. One line manager (response rate 33%) was interviewed. Fourteen service users and 8 CTs (response rate 23%) participated in e-questionnaire.

Pharmacists and line managers accepted specialist roles that required further training; “*more training than prescribing course*”, Pharmacist A. Benefits were recognised “*This training is an extension of multidisciplinary clinical setting*” line manager.

All CTs supported pharmacists dispensing. One CT welcomed pharmacists prescribing. All CTs did not agree to pharmacists diagnosing mental health conditions. Four (50%) CTs supported learning with pharmacists; “*Useful to learn with and from pharmacists*” CT5.

Eight service users (62%) were unaware pharmacists did more than dispensing but embraced specialist roles; “*appointment with pharmacist... would be welcomed*” Respondent 7. All

service users agreed to health professionals learning together.

Discussion: The benefits of pharmacists and CT's learning together include learning with and from each other and adding to workplace multidisciplinary relationships. Challenges, such as some stakeholders holding a lack of awareness of current and future pharmacist roles, were noted.

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CPPE return to the register learning programme and subsequent returns to GPhC registration

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Keywords: Career break, Pharmacy professionals, Portfolio of evidence, Return to practice, Return to the register

Background: The healthcare workforce is under significant pressure, so retention and return to practice efforts are gaining traction (NHS England, 2020). The Centre for Pharmacy Postgraduate Education (CPPE) supports pharmacy professionals through its return to the register (RTTR) learning programme. This six-week programme has been delivered three times a year since 2013, moving fully online in 2021 due to COVID-19. It is aimed at those who have been off the register for at least 12 months to enable their portfolio development.

Aim: This study explores how many learners are registered with the GPhC subsequent to engaging with CPPE's RTTR.

Method: In April 2023, all past RTTR participants' internal CPPE numbers were identified and matched to their CPPE-held GPhC numbers. These data were extracted, ordered by year of RTTR participation, and analysed in Excel™. As service evaluation, this study did not require ethics

committee approval; no identifiable data were shared outside of CPPE.

Results: Of the 323 participants who completed the RTTR learning programme, 154 were on the GPhC register in April 2023. Of these, 131 were pharmacists and 23 were pharmacy technicians. A breakdown by year showing that following the move to online delivery in 2020 due to COVID-19, participant and GPhC registrant numbers appear higher than in previous years.

Discussion: Of the 323 participants who engaged in the programme since 2013, almost half (n=154) of all pharmacy professionals returned to GPhC registration. The study has some limitations: earlier cohorts may have joined, but since left the GPhC register, and recent cohorts may still be building their portfolio of evidence. Further study ought to investigate what facilitates and hinders the process of re-registration. The apparent increase in participant numbers since 2020 also deserves further investigation to explore the impact of online delivery.

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Using Fishbowl teaching to explore clinical reasoning and decision making with final year MPharm students

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Keywords: Prescribing, Consultation skill, Fishbowl, Clinical reasoning, Decision making

Background: Integrating prescribing into the MPharm degree to meet GPhC IETP standards (GPhC, 2021) necessitates a change in how consultation skills are taught. Fishbowl (Sutherland *et al.*, 2012) is a facilitated teaching technique that enables in-depth discussions of simulated consultations. The authors combined this with a clinical reasoning method of history-taking to explore advanced consultations with integrated reflection (Rutter & Harrison, 2020).

Aim: To evaluate the use of Fishbowl in consultation skills teaching.

Method: Groups of 30 final-year students participated in the Fishbowl session to discuss a clinical case. Students were given 20 minutes to consider a patient overview and recall their learning in the area. Students then stepped into the role of the pharmacist and were able to “tap out” and pass to another student. The facilitators would “pause” the consultation to encourage reflection and discussion.

Following the session, students completed a questionnaire about their experience, with a mix of closed and open questions. The School of Pharmacy research ethics committee advised ethical approval was not required.

Results: 128 students (74% female, 25% male, 1% prefer not to say) responded (59% response), made up of home/EU (64%), international (37%) and 2+2 (27%) students.

Overall students gave positive feedback, with 92% (n=116) saying they would recommend the Fishbowl method to other students. When asked to expand on this, one student commented,

“it’s a safe space to learn together in an informal way”.

Clinical reasoning and decision-making methods enabled students to feel they could participate in the session, 90.5% (n=112).

Students suggested smaller groups to increase time spent as the pharmacist and Fishbowl sessions earlier in the course.

Discussion: Overall students were positive about the Fishbowl sessions. Responding to feedback, group size will be reduced to 20, and the session will be delivered in Year 3 with further evaluation.

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CONFERENCE ABSTRACTS

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Poster presentations

Evaluation of psychology teaching during a polypharmacy workshop

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Keywords: Complexity, Polypharmacy, Psychology

Background: Inappropriate polypharmacy can lead to many problems for patients, especially the elderly. People taking ten or more medicines are 300% more likely to be admitted to hospital with an adverse event (Payne *et al.*, 2014). Admissions are preventable in 50% of cases (Mair *et al.*, 2017). The iSIMPATY project team in Northern Ireland benefitted from psychology training for medication reviews, achieving positive outcomes for patients. A workshop to “lend” final-year students their experience in dealing with complexity was developed and delivered.

Aim: To review student evaluation of a polypharmacy and psychology workshop.

Method: A full-day workshop was developed by the iSIMPATY pharmacist team and a consultant clinical psychologist and delivered to all final-year pharmacy students at Ulster University. Activities included polypharmacy medication review case studies, enhanced consultation skills discussion and role-plays. Feedback was through teaching evaluation with one quantitative question rating the quality of the workshop and free text answers.



Results: Student responses (97% response rate) were themed. The workshop was rated excellent by 80% of respondents and very good by 20%. The positive themes emerging were that the workshop environment was conducive to two-way interactions and was relaxed and informal. The presenters were engaging, and the students appreciated learning from their professional experience. Case studies and role-plays were used effectively. The students found the psychology session particularly beneficial, and they commented on the usefulness of seeing the psychologist’s perspective. Potential changes suggested by the students would include more breaks and a longer session with the clinical psychologist, including more role-plays.

Discussion: A polypharmacy workshop led by clinical pharmacists and a clinical psychologist was well received by final-year pharmacy students. The students developed new skills and learned to deal with complex situations. It is hoped that this type of workshop could be further developed.

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Ensuring academic rigour when repurposing Objective Structured Clinical Examinations (OSCE) exams for a Postgraduate Taught (PGT) pharmacy practice programme during and post-Covid-19 pandemic

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Keywords: eOSCE, OSCE, Postgraduate pharmacy

Background: OSCE exams were introduced in the UK as a means of objectively assessing clinical competency (Harden, 1975) and are widely used in undergraduate and postgraduate pharmacy programmes (Fathelrahman, 2018). OSCE exams for the MSc/PGDip Foundation Pharmacy Practice (multi-sector) programme were face-to-face on campus but switched to online in July 2020-July 2022 due to restrictions from the Covid-19 pandemic. Electronic OSCEs (eOSCEs) have been successfully utilised in pharmacy educational assessment (Chou, 2021).

Aim: To re-purpose OSCE exams during and post-COVID-19 to ensure academic rigour for a PGT pharmacy practice programme.

Method: Scenarios for eOSCE stations were written to focus on the assessment of consultation skills rather than assessing both clinical knowledge and consultation skills. Scenarios were made available to students 24 hours prior to the exam, which was delivered synchronously online. Students were assessed using a standardised marking rubric.

Results: Student marks were higher when assessing consultation skills alone compared to assessing clinical knowledge and consultation skills (Table I).

Table I: Student marks

	Max mark (%)	Min mark (%)	Average mark (%)
Dec 2019 (Clinical knowledge and consultation skills)	69	23	52
Dec 2020 (eOSCE: Consultation skills alone)	92	51	77
Dec 2021 (eOSCE: Consultation skills alone)	93	50	71
Dec 2022 (Clinical knowledge and consultation skills)	80	42	65

Student feedback was positive: "New eOSCE format preferred by myself and others who I have spoken to. Enjoyed new medium". The assessor's feedback was also positive.

Discussion: Challenges included ensuring that programme learning outcomes were met and that students and staff had appropriate devices and access to reliable Wi-Fi for synchronous assessment.

Since July 2022, OSCE exams returned to on-campus and assessed both clinical knowledge and consultation skills. The PGT team feel that this format is more authentic, inclusive and comprehensive by assessing both types of skills and reflecting real-life uncertainty by first meeting the scenario during the exam.

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What's another peer? Extending the use of Near-Peer Teaching in the MPharm degree

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Keywords: Experiential learning, Medication history, MPharm placement, Near peer teaching, Peer feedback,

Background: Near Peer teaching (NPT) is known to develop pharmacy student teaching and feedback skills (De Menezes & Premnath, 2016), enhancing the knowledge of peer teachers and learners (Rodis *et al.*, 2014). Previous evaluations indicated benefits for teachers. The purpose of this study was to further determine the influence of NPT during hospital experiential placement on MPharm student development from the perspective of both peer teacher and learner.

Aim: To explore Year 2 and 4 MPharm students' experiences of NPT of medication history taking within their hospital experiential learning programme.

Method: Experiences of NPT from the perspective of both the Year 4 peer teacher and Year 2 peer learner were gathered via two focus groups. Audio recordings were transcribed and analysed using Thematic Analysis (Braun & Clarke, 2006) to generate codes which were interpreted and organised into themes (Table I).

Results: NPT improved confidence, fostered professionalism and facilitated role modelling. Participants learnt from each other and developed skills but experienced anxiety about being perceived negatively by their peers. They identified trust as integral to better feedback experiences. However, a perceived barrier was a lack of time together in advance to establish this.

Table I: Themes and subthemes identified from study data

Themes	Sub-themes
Benefits	-Consolidated learning -Improved professionalism -Improved teaching/ feedback skills
Challenges	-Quality of teaching/ feedback -Difficulty providing feedback/teaching -NP learners of different knowledge levels
Emotional behaviour	-Increased confidence -Improved motivation -Tension -Trust
Relationships	-Reliability and rapport -Social and cognitive congruence
Feedback	-Balancing positive and negative feedback -Feedback preferences -Constructive

Discussion: With adequate preparation and protected time to develop trust and rapport in advance of the teaching experience, the inclusion of NPT within MPharm programmes may help students develop skills, confidence and professionalism, particularly during experiential learning. This study is unique since the experiences of near-peer teachers and learners in the pharmacy practice setting are considered.


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Queen’s University Belfast (QUB) MPharm students’ views and understanding of academic misconduct

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Keywords: Academic misconduct, Fitness to practise, Pharmacy, Plagiarism, Student

Background: Academic misconduct by pharmacy students can raise concerns about their probity and invoke “Fitness to Practise” investigations (GPhC, 2020). Previous studies within pharmacy and medical schools found that male students were more likely to plagiarise assignments than female students (Aggarwal *et al.*, 2002). Moreover, males often had a more lenient perception towards academic misconduct behaviour (Ip *et al.*, 2018).

Aim: To determine final year MPharm students’ views and understanding of academic misconduct.

Method: Following ethical approval, a Microsoft Forms questionnaire was distributed to fourth-year QUB MPharm students (n=69) to explore views and understanding of academic misconduct through evaluating scenarios with varying degrees of ambiguity. The questionnaire gathered demographic data, whether they attended a Code of Conduct/Fitness to Practise Induction Event and their knowledge regarding academic misconduct and professional standards. The questionnaire also contained 12 academic misconduct scenarios in a format proposed by Emmerton *et al.* (2014). Responses were analysed for significance ($p < 0.05$) by gender using the chi-square test.

Results: The response rate was 41.1%(n=28). 46.4%(n=13) of respondents self-declared as male, 50%(n=14) as female and 3.6% (n=1) as non-binary. All respondents (n=28) attended the Induction and reported awareness of QUB’s academic offence procedures. Most students correctly identified academic misconduct, such as copying in exams, not referencing others’ work and discussing OSCE contents within the 12 scenarios involving two fictional students. When students were presented with ethical dilemmas involving one student engaging in academic misconduct and another being aware but not reporting this, a low proportion of students identified that it was wrong not to report this misconduct. Overall, there were no significant gender-based differences observed.

Discussion: Ensuring pharmacy graduates are prepared for practice is a fundamental role of educators. QUB fourth-year MPharm students were aware of academic misconduct but were reluctant to report colleagues.

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An evaluation of year 4 pharmacy students' psychological attachment to smart phones

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Keywords: Mental health, Nomophobia, Pharmacy, Student

Background: Nomophobia comes from the abbreviation of the phrase “NO MOBILE PHOne phoBIA”. It has been described as a psychological condition relating to the fear of not having a mobile phone. Overuse of smartphones leading to nomophobia can result in symptoms such as anxiety, depression, sleep disturbances, reduced attention span and difficulty concentrating (Yildirim, 2015). In academia, excessive smartphone use can have a negative impact on academic performance (Celikkalp, 2020). The Nomophobia Questionnaire (NMP-Q) is a validated tool used to assess nomophobia (Yildirim, 2015).

Aim: The aim of this study was to assess the prevalence and severity of nomophobia amongst final year Pharmacy Students at a UK School of Pharmacy using the NMP-Q tool.

Method: Following ethical approval, an online questionnaire was distributed to final-year pharmacy students (n=87). This 20-item questionnaire was based on the NMP-Q. Descriptive statistics were used to analyse the questionnaire data, NMP-Q scores were calculated, and a content analysis was undertaken on the free-text responses.

Results: A total of 67 students completed the questionnaire, providing a response rate of 77%. All students (100%)

reported owning a smartphone device, with the most popular device being an Apple iPhone (83.6%). The overall mean nomophobia score was 79.82, which indicates “*moderate nomophobia*”. The majority of students were classified as having “*moderate*” nomophobia (62.7%), with 16.4% falling into the “*mild*” range and 20.9% being classified as “*severe*”. There was no statistically significant difference found regarding gender. Within the free text comments, students described over-reliance on mobile phones and links with social media.

Discussion: This study has shown substantial levels of nomophobia in final-year pharmacy students and their excessive reliance on mobile phones. Educators need to establish mechanisms to prevent, identify and manage nomophobia and its consequences. Further research will explore strategies to develop and implement such mechanisms.

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Pharmacy students' knowledge, views and attitudes towards people living with HIV

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Keywords: Equality, Diversity and inclusion, HIV, Pharmacy, Pharmacy education, Stigma

Background: People living with HIV (PLWH) are known to experience stigma associated with the infection (Ware, 2015). Accordingly, it is important to ensure that pharmacy students have a sound knowledge of HIV and exhibit no negative attitudes towards PLWH. This is particularly important considering the most recent Standards for the Initial Education and Training of Pharmacists have a “*greater emphasis on equality, diversity and inclusion to combat discrimination and deal with health inequalities*” (GPhC, 2021).

Aim: The aim of this study was to assess the knowledge and attitudes of Year 3 and Year 4 pharmacy students to HIV and to people living with HIV (PLWH).

Method: Following ethical approval, an online questionnaire was distributed to Year 3 and Year 4 pharmacy students (n=173). This 29-item questionnaire assessed knowledge and attitudes to HIV and PLWH (Ware, 2015). Furthermore, student views on the teaching of this subject were explored. Descriptive statistics were used to analyse the questionnaire data, and a content analysis was undertaken on the free-text responses.

Results: A total of 121 students completed the questionnaire, providing a response rate of 70%. The level of HIV knowledge among the students was high. Overall the students' attitudes towards PLWH were encouragingly positive. However, some stigmatising views towards PLWH were still observed among a small number of students. Students reported placements (e.g. in an HIV clinic) and small group workshops led by a patient would be the most beneficial teaching methods for the delivery of HIV content.

Discussion: This study has shown that whilst the majority of students participating in the study had high levels of HIV-related knowledge and overall positive attitudes towards PLWH, some misunderstandings and negative perceptions are still present among a minority of students. As the authors transform the MPharm curriculum, additional educational opportunities will address issues of HIV stigma.

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Cultural competency interventions in undergraduate pharmacy education: What do we know?

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Keywords: Cultural competence, Pharmacy education

Background: As pharmacists take on more varied roles, knowledge and confidence in caring for diverse populations are increasingly important (RPS, 2022). Literature has demonstrated the beneficial impacts of cultural competence interventions on pharmacy students, enhancing areas of personal, clinical and cultural knowledge, confidence and the

acquisition of a more holistic consultation skill set (O'Connell, 2007).

Aim: The aim of this research was to identify peer-reviewed evidence on the impact of cultural competency interventions on undergraduate pharmacy students' knowledge, understanding and confidence in delivering patient-centred consultations.

Method: OVID, EBSCO, MEDLINE and Cochrane Central Register of Controlled Trials were searched to identify peer-reviewed research published 2000-2023 relating to educational cultural competency interventions for pharmacy undergraduate students in any year group (keywords included: pharmacy cultural competency interventions, cultural competency education outcomes'). Ethics approval was not required.

Results: Eighteen studies were retrieved; three were qualitative, and fifteen were quantitative. Students experienced increased culturally competent knowledge post-intervention than at baseline, albeit not always significantly (three studies). Data pertaining to clinical skills and confidence demonstrated positive outcomes with some significant increases in post-intervention confidence scores regarding providing person-centred, culturally competent care (nine studies). Skills involved increased awareness of implicit biases, the importance of cultural empathy, the ability to modify communication styles, and consultation questions to consider, understand and involve patients' beliefs and cultural needs in the provision of their care. Expansions of knowledge regarding resources for pharmacists and their roles in service access improvement when caring for diverse patients were also demonstrated.



Discussion: Educational interventions can improve knowledge, understanding, skills and confidence in cultural competency in the provision of culturally competent care; this supports the inclusion of embedding this topic into pharmacy curricula. These findings contribute to the benefits of cultural competency education, though there is limited evidence about the impact on longitudinal practice. More research is required in this area.

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Evaluation of a novel interprofessional education (IPE) simulation on the hospital management of an older person with dementia and delirium

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Keywords: Delirium, Dementia, Interprofessional education, Simulation

Background: Students must engage with IPE, which should “mirror practice and focus on interaction with other health and social care professionals” (GPhC, 2021). To facilitate this, a novel IPE simulation was piloted.

Aim: To evaluate the views/opinions of students from a range of backgrounds who undertook IPE activities.

Method: Seven students from Pharmacy, Social Work, Nursing and Medicine undertook an IPE simulation, caring for an older person with dementia/delirium (covering the emergency department, ward and discharge), held on two occasions. Following ethical approval, students were invited to attend a focus group, which was audio/video recorded on Microsoft Stream, transcribed verbatim and analysed thematically.

Results: Six students participated in the focus group. A final-year medical student participated in the first IPE activity but not the focus group. Themes and examples of quotations include:

Professional identity

“excellent opportunity ...to see what the other professions...did” (SW1)

Augmentation of Clinical Knowledge

“.....sometimes you can underestimate people with dementia ...or what people's capabilities are.” (P2)

Teamwork and collaboration

“At that final discharge meeting.....we were quite a solid team.” (SW2)

Authenticity of and Safety in Simulation Activities

“I work in a care home.....the acting of delirium was quite good, good for pharmacists ...to get experience with that” (P1)

“if it was real life, I wouldn't feel safe” (P2)

Views on the IPE experience

“more.....feedback on what I could do to improve” (P2)

“A sample of the ideal outcome...” (N1)

“I...felt like I couldn't get things finished properly” (P1)

Future IPE activities

“It should definitely be added to our course” (N2)

Discussion: Students recognised the value of the IPE experience and saw it as an opportunity to learn from each other. The feedback received will be used to develop the activity further to enhance the educational experience.

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Foundation trainees' perspective on optimising skill-based learning, and on their confidence and competence in applying clinical skills in foundation training

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Keywords: Clinical skill, Consultation skill, Peer learning, Prescribing, Skill-based learning

Background: Community Pharmacist Consultation Service training was delivered to foundation trainees by pharmacists and a general practitioner to foster employability skills and professional development.

Underpinning the addition of this training is the change to the initial education and training of pharmacists (Health Education England, 2022). This training aims to provide newly qualified pharmacists with the necessary consultation and clinical skills required to prescribe (General Pharmaceutical Council, 2020).

Aim: To explore the trainee's perspective on the impact of the training on their confidence and competence related to consultation and clinical skills and on how skill-based learning can be optimised.

Method: Data was collected from foundation trainees (n=15) through an online self-assessment questionnaire before and after the training. This was followed by semi-structured interviews. Data was analysed via thematic analysis. Ethical approval was granted by the school research ethics committee.

Results: Results from the questionnaire highlighted competence and confidence were increased for all trainees. All 15 were able to apply their consultation learning in practice, and 14 were able to apply their clinical skills. Nine out of fifteen students stated training should be earlier to allow for increased application opportunities.

From the interviews, key themes included practice opportunities with experts within the multi-disciplinary team, multi-source feedback, self-reflection, peer learning and complex simulated scenarios considering patient social factors. Students appreciated demonstrations, being observed, receiving feedback immediately and working in small groups.

Discussion: This training had a positive impact on trainees' consultation and clinical skills. The authors recommend this training be undertaken before foundation training to ensure successful embedding of the learning.

To further increase development, there should be reflection-promoting discussions on rationale, involvement of interprofessional learning and feedback from simulated patients.




To further understand the impact of this training, supervisors should be included to provide feedback on students conducting entrustable professional activities before and after training.

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A questionnaire-based study to ascertain pharmacy students' opinions on the use of virtual reality to deliver simulated pharmacy practice training

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Keywords: Pharmacy practice, Pharmacy student, Questionnaire, Simulation, Virtual reality

Background: Simulation in healthcare education has evolved to include the integration of Virtual Reality (VR) (Mäkinen *et al.*, 2022). Understanding students' attitudes towards its use as a teaching approach and their intention to integrate it within their studies are indicators of the success of its implementation (Alfalah, 2018).

Aim: To ascertain Queen's University Belfast Year 3 and Year 4 MPharm students' views on the use of VR to deliver simulated pharmacy practice training.

Method: Following ethical approval and an invitation to participate, data were collected from consenting students via a pre-piloted online questionnaire hosted via Microsoft Forms (January 2023). Data were coded, and analysis mainly took the form of descriptive statistics. To ascertain whether there were significant differences ($p < 0.05$) by gender and year group, the Mann-Whitney U Test was employed.

Results: Response rates for Year 3 and Year 4 were 24.1% (28/116) and 55.9% (38/68), respectively. While 45.5% of student respondents reported never making use of a VR System, and only 33.3% reported being moderately to extremely familiar with the concept, many respondents considered it would reduce nervousness and/or anxiety associated with in-person pharmacy practice scenarios [max score was 7 with mean scores of 5.00 (for male), 5.24 (for female), 5.43 (for Year 3) and 4.89 (for Year 4) respectively]. Additionally, males preferred using digital education resources to learn more than more traditional methods (mean score of 5.05 for males versus 3.54 for females, $p = 0.004$).

Discussion: A lack of awareness/experience with VR did not deter students from seeing the potential benefits of pharmacy practice training. These findings, while only conducted at one institution and with a low response rate for Year 3 students in particular, will inform the development of the school's VR resources and could help with other known issues, including that female pharmacy students typically outperform males.

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Do you see me? Developing cultural competency in pharmacy undergraduates

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Keywords: Cultural competency, Pharmacy education, Pharmacy undergraduate

Background: The National Statement of Principles on Inclusive Pharmacy Professional Practice provides a driver for developing cultural competence in pharmacy to address health inequalities in under-represented groups in the UK (Royal Pharmaceutical Society, 2021). All healthcare professionals must communicate effectively and develop an understanding of the influence of culture on healthcare communication. A new workshop series on culturally competent person-centred care was developed in collaboration with the Centre for Pharmacy Postgraduate Education (CPPE, 2022) and delivered to first-year pharmacy students (face-to-face workshops on culturally appropriate language; CPPE e-learning, application and reflective discussion with lived-experience peer-leaders and simulated patients).

Aim: To evaluate the impact of a new workshop series on self-perceived culturally competent person-centred care behaviours in first-year pharmacy students.

Method: An 18-item self-reflection behavioural tool on culturally competent person-centred care was distributed to all first-year pharmacy students. Students rated agreement for each behavioural statement using a 4-point Likert scale (1= strongly disagree; 4=strongly agree). Responses were analysed using an independent-samples *t*-test to explore differences in mean pre-completion and post-completion scores to investigate the impact of the workshops on self-perceived behaviours. University ethics approval was obtained.

Results: 137/179 students completed the pre-workshop questionnaire, and 85/179 completed it post-workshop. Statistical differences in perceived behaviour for “*treating people with dignity and respect regardless of race, religion, physical or learning ability, gender, age, sexuality, current health, socio-economic status and preferred living style*” were found; pre-workshop (M=3.73, SD=0.46) vs post-workshop (M=3.65, SD=0.58), $t(234) = 1.05$, $p = 0.024$.

Discussion: On completion of the workshop, students’ agreement score was reduced regarding treating others with dignity and respect. Further research, including paired *t*-test analysis, to see whether similar results are found may be beneficial. This type of workshop could lead to reflection on current behaviours, contributing to increasing pharmacy student’s ability to carry out culturally competent person-centred care in future practice.

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Designing, delivering and evaluating an educational activity integrating human factors principles and practices into the undergraduate pharmacy curriculum

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Keywords: Curriculum, Human factor, Patient safety, Pharmacy education, Pharmacy practice, Undergraduate pharmacy

Background: High-profile cases worldwide have raised public, professional and political awareness of avoidable health and social care harm. This increased focus on patient safety has been reflected by regulators mandating strengthened patient safety education within undergraduate curricula.

Aim: To design, deliver and evaluate an educational activity integrating Human Factors approaches into the undergraduate pharmacy curriculum.

Method: The activity was developed as a 1.5-hour workshop using a simulated dispensing exercise as the work system and involved group work to complete: (1) Dispensing a Controlled Drug and field observation. (2) Work System Analysis. (3) A Hierarchical Task Analysis of the dispensing process (Stanton, 2006). Integration into the curriculum took an iterative approach. The activity was piloted with seven Year-2 student pharmacists; data collection involved pre-/post-workshop surveys, a focus group and staff observation as participants completed the activity. Delivery to ninety-five Year-2 student pharmacists in 2022 followed; this was evaluated through a post-workshop survey and staff observation. A second post-workshop evaluation was completed in 2023 after delivery to seventy-nine Year-2 student pharmacists. Approval was granted by the Robert Gordon University School of Pharmacy & Life Sciences Ethics Review Committee.

Results: The pilot provided staff with valuable insight into the acceptability, appropriateness, feasibility and perceived effectiveness of the activity as an educational resource; it was instrumental in establishing optimum group size and highlighting student pharmacists' confidence levels with the topic. In 2022, ninety-one student pharmacists completed the evaluation; 93% (n=85) agreed that completing the activity had changed their understanding of how Human Factors can impact patient safety. In 2023, seventy-four student pharmacists completed the evaluation; 89% (n=66) agreed that completing the activity had enhanced the development of skills that could be used in future practice.

Discussion: The activity can be used to support the development of student pharmacists' Human Factors knowledge, skills and patient safety competencies.

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“Practice makes perfect” - Second-year pharmacy students' perceptions of clinical skills teaching and assessment and application to future practice

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Keywords: Clinical skills, Future practice, Physical examination, Simulation

Background: Standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2021) introduce learning outcomes with a greater focus on diagnostic and consultation skills. Based on a modified Peyton's Approach (Walker & Peyton, 1998), a new clinical skills teaching and assessment strategy was delivered to second-year pharmacy students. This utilises a blended approach of interactive lectures, self-directed learning and hands-on simulation skills workshops incorporating supervised learning events.

Aim: Explore second-year pharmacy students' views on teaching and assessment of clinical skills and application to future practice.

Method: University ethics was not required; teaching evaluation requirements were met. An anonymous online questionnaire on self-reported confidence in carrying out clinical skills and perceptions of learning was distributed to students via Qualtrics. To explore an approach to clinical skills and perceived application to future practice, students commented on the open-ended question, “After participating in these prescribing workshops, please explain how you think it will help you in your future practice”. This rich free-text data was analysed using reflexive thematic analysis (Braun & Clark, 2020).

Results: The questionnaire response rate was 63% (n=112/177). Of these, 62% (n=69/112) included free-text comments. Six major themes related to teaching and learning of clinical skills and application to future practice were identified: (1) realistic scenarios; (2) confidence in consultation structure; (3) development of communication skills; (4) benefit of repetition/reinforcement; (5) ability to interpret and apply information; and (6) awareness of expectations.

Discussion: Pharmacy students reported feeling prepared for future practice through repetition, realistic scenarios and awareness of expectations. Increased confidence in consultation structure and ability to interpret/apply information was described. This approach could support students in developing the knowledge, skills and behaviours essential for future practice. Further work exploring transferability to practice is required.


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A test-teach-test approach to support first year undergraduate pharmacy students with pharmaceutical calculations

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Keywords: Calculation, Numeracy, Mathematics, Pharmaceutical calculation, Pharmacy practice

Background: Mastering pharmaceutical calculations is essential for healthcare professionals, particularly given the potential harm to patients if performed incorrectly (Ancker & Kaufman, 2007; Taylor & Byrne-Davis, 2016).

Aim: To determine if a test-teach-test approach to teaching pharmaceutical calculations increases the knowledge and confidence of first year undergraduate pharmacy students (PS).

Method: The study population was first-year PS (N=140) students at one UK university. The study was in three phases. Phase one - a survey. PS listed calculation topics they struggled with. They also indicated their preferred learning methods. Phase two was a teaching session using phase one data. Participants sat a 10-question calculation test (T1) for 25 minutes. They then had a one-hour teaching session that incorporated their preferred learning methods. After this, they sat another 10-question calculation test (T2), covering the same topics to determine if their scores improved. Following phase two, phase three was an evaluation survey to determine if student confidence had improved. Ethical approval was obtained. Data were analysed in Excel and SPSS. Paired *t*-test was used to compare mean test scores ($p < 0.05$).

Results: Response rate: 62.1% (N=87/140). Topics struggled with included displacement volume, infusion rate, and equivalent doses. Preferred learning methods included the use of videos and drawings. Paired sample *t*-test indicated a significant improvement in student knowledge (t_1 mean = 3.7/10, t_2 mean = 6.8/10; $t(86) = -12.05$ ($p < 0.01$)). Almost all (98.9%, N=86/87) stated that their confidence in calculations had improved following the session, with 38.0% (N=33/87) noting a significant improvement. Furthermore, there was an uplift in the proportion of students who stated that they felt they had a high level of understanding of the taught topics.

Discussion: A test-teach-test approach for teaching pharmaceutical calculations increases PS knowledge and confidence. Taking students' preferred learning methods into account may also increase engagement and understanding.

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Use of PowerBI to monitor outcome equality of awarding and progression of MPharm students at Aston University

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Keywords: Education, Equality, Outcomes

Background: A report to the General Pharmaceutical Council (GPhC) highlighted the awarding gap at (the then-pre-registration level for Black African students (Johnson *et al.*, 2016). This gap was not seen in the MPharm programme at Aston University. A means of monitoring outcomes based on protected characteristics was sought to operationalise the authors' commitment to equality of opportunity and provide an evidence base for action if needed.

Aim: This project aimed to produce a proof-of-concept dashboard to monitor MPharm student outcomes and to enable the identification of areas for action/support via descriptive and statistical analysis.

Method: Demographic and summative assessment data for the 2022 final year MPharm cohort was imported into PowerBI (an interactive data visualisation software product), and a dashboard was created to present visual breakdowns of assessments by protected characteristic (e.g. sex, race, disability) with built-in dynamic descriptive statistics. Paired *t*-tests and One-Way ANOVA were performed to determine if any statistical differences existed.

Results: The dashboard presented visuals on outcomes by student characteristics. A one-way ANOVA did not reveal a statistically significant difference between final programme scores between ethnic groups ($F(5, 142) = [1.59]$, $p = 0.05$) or



socio-economic groups ($F(8,139) = [0.57], p = 0.05$). A t -test showed a difference in the final stage average, with females performing better (female $m=68.18, SD=6.4$ and male $63.73, SD=7.52; t(54) = 4.29, p = 0.00073$).

Discussion: The dashboard allowed for the investigation of protected characteristics and aided programme review with colleagues. Apart from the difference in gender (highlighted by Johnson in 2016), no significant differences were found between other protected characteristics investigated. Subsequent dashboards have been created for another stage as colleague feedback was positive. It is hoped that the concept can be applied to an automated feed from the University's data holdings in future.

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Student perceptions of Team-Based Learning (TBL) to deliver innovative teaching, learning and assessment for a postgraduate taught pharmacy practice programme

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Keywords: TBL, Team-based learning, Postgraduate pharmacy

Background: Team-based learning (TBL) is an evidence-based collaborative learning teaching strategy (Team-based Learning Collaborative, 2023). Postgraduate pharmacists are adult learners, whereas andragogy is “about student-focused approaches that adopt discussions and group work” (Fathelrahman, 2018). TBL was introduced to the MSc/PGDip Foundation Pharmacy Practice (multi-sector) programme in January 2020.

Aim: To assess student perceptions of using TBL for a new postgraduate taught pharmacy practice programme.

Method: Tutors prepared pre-reading packs as part of module teaching materials. To test student knowledge and understanding from the pre-reading pack, readiness assurance questions for individual students (iRAT) and student teams (tRAT) were written at the start of each study day. Subsequent clinical case scenarios were used in application exercise (AE) workshops. Quantitative evaluation

was through student marks for iRATs and tRATs. Qualitative student evaluation was captured through study day feedback using Microsoft Forms.

Results: Results from the iRAT and tRAT questions showed a normal distribution of correct answers, with the tRAT average higher than the iRAT (Table I).

Table I: Average of iRAT's and tRAT's results

Academic year	Year 1 module: average iRAT mark	Year 1 module: average tRAT mark	Year 2 module: average iRAT mark	Year 2 module: average tRAT mark
2021-22	60.9%	87.6%	57.4%	81.1%

Student feedback from post-study day evaluation has been mostly positive: “I like the quizzes at the beginning of each session” and “Discussions are useful, and I enjoy working with my TBL team”. Suggestions to improve TBL have included that “Pre-reading is a lot of work and needs to be more generic”.

Discussion: Higher student marks from the tRATs compared to the iRATs are in line with experience from TBL in undergraduate pharmacy teaching at the university. Team discussions in the tRAT and AE workshops were lively and interactive and reflected the application of knowledge signposted in the reading pack.

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Evaluating the impact on student confidence and understanding of the role of the hospital pharmacist following an in-person simulation event

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Keywords: Placement, Practice, Preparation, Simulated, Simulation

Background: To facilitate the introduction of prescribing rights at the point of registration from 2026 (GPhC, 2021),

there is a renewed focus on providing undergraduate placement experiences that help develop clinical and professional skills. Simulation has been identified as a favourable mechanism of preparation for in-person placements (Larue, 2015). At Liverpool John Moores University, a half-day simulation placement is utilised to help students develop an understanding of the hospital pharmacist's role prior to undertaking placements in this setting.

Aim: To evaluate changes in student confidence and understanding of the role of the hospital pharmacist following a simulated event

Method: Following ethical approval from LJMU PBS REC, students undertaking the placement were asked to complete pre-session and post-session questionnaires. Students were asked to rate their confidence in key aspects of the pharmacist's role on a scale of 1-5 (with 5 representing the highest level of confidence), as well as commenting on aspects of the session they were looking forward to or apprehensive about.

Results: A total of 47 pre-session and 50 post-session questionnaires were completed. Table I shows the mean change in student confidence levels.

Table I: Summary of student-rated confidence before and after simulated placement

	Pre-session mean (/5)	Post-session mean (/5)	Change in mean
Understanding of the role of the hospital pharmacist	3.26	4.06	+0.8
Clinical history taking	2.87	4.04	+1.17
Medicines reconciliation	3.11	4.08	+0.97
Clinical review of prescriptions	3.34	4.14	+0.8
Discharge letter screening	2.74	4.14	+1.4
Discharge counselling	2.51	3.94	+1.43

Analysis of free-text responses revealed participants were frequently apprehensive about interaction with a simulation manikin, but this often proved to be the aspect they enjoyed most.

Discussion: Undertaking a simulated placement was found to support students in preparation for in-person placements by improving confidence and understanding of all measured aspects of the hospital pharmacist's role.

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Evaluation of self-management support education in an MPharm programme: A curriculum mapping and qualitative study

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Keywords: Curriculum, Education, Pharmacists, Pharmacy, Qualitative research, Self-management

Background: In Ireland, a national self-management support (SMS) curriculum was launched in 2020 to equip future healthcare professionals with skills to support people in the management of chronic conditions. (1) As pharmacists play an important role in caring for people with chronic conditions, it is vital that SMS skills are included in MPharm curricula.

Aim: To identify where SMS concepts and skills are taught and assessed and the methods employed to do this in an MPharm programme in Ireland.

Method: The study took place in the School of Pharmacy, University College Cork, from August to December 2022. Part one of the study, involved curriculum mapping, using information from the module content entries of all MPharm modules, and accessing learning and assessment materials via the university's virtual learning environment. Study part two consisted of semi-structured interviews. Interview inclusion criteria were School of Pharmacy staff involved in MPharm teaching, including academic staff, technical staff, demonstrators, part-time staff and practice educators. Interviews were conducted via Microsoft Teams videoconference and were analysed by thematic analysis.

Results: Of 43 MPharm modules, SMS was taught in 16 modules across five years. Teaching methods for SMS included didactic lectures, case study workshops, role-play workshops, discussion boards, and supplemental reading. Formats for SMS assessment included written assessments, case presentations, and Objective Structured Clinical Examinations. Interviews were conducted with 15 participants, nine of whom were female and nine of whom were academic staff. Five themes associated with SMS teaching and assessment were identified: addressing SMS in

the curriculum, increasing patient representation in the curriculum, optimising students' learning of SMS skills, concepts yet to be addressed in the curriculum, and assessment of SMS skills.

Discussion: SMS is taught and assessed throughout the MPharm. Educators identified increased patient representation, groupwork-based teaching, and roleplay-based assessment as means to enhance the teaching of SMS in the programme.

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Breast is best? How much do MPharm students know about breastfeeding?

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Keywords: Breastfeeding, Medicines safety, MPharm curriculum, Pharmacy student

Background: The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life, with supplementary breastfeeding continuing until at least two years of age (WHO, 2021). Breastfeeding provides health benefits for infants and mothers and is a significant public health strategy, impacting the future health of the population. Pharmacists are trusted, accessible medication specialists. There is a lack of education on medication use during lactation, often leading to unnecessary cessation of breastfeeding (Byerley *et al.*, 2022).

Aim: To explore breastfeeding knowledge, attitudes, and training amongst pharmacy students.

Method: Following ethical approval, an online or paper questionnaire comprising 19 mixed-style questions was distributed to 4th-year MPharm students at Kingston University. An online focus group discussion was conducted using a validated interview guide. Analyses were performed

using SPSS software alongside thematic analysis for focus group responses.

Results: The response rate was 73% (n=81/111), and five students participated in the focus group. Of 93.8% (n=76/81), students agreed they should be able to provide patients with breastfeeding advice. However, 60% (n=49/81) felt poorly informed on breastfeeding. More than two-thirds of students did not feel confident identifying medical conditions (67.9%, n=55/81) or advising how to manage medical conditions associated with breastfeeding (70.4%, n=57/81). Only 27% (n=22/81) of students felt confident dealing with prescribed and over-the-counter medicines for breastfeeding patients. Only 13.6% (n=11/81) of students felt satisfied with breastfeeding training in the curriculum. Thematic analysis showed students favoured learning about breastfeeding through practicals/workshops with OSCE-style scenarios.

Discussion: Most students showed a lack of confidence in advising patients about medication safety during lactation, similar to findings from Merz, Shield, and McClatchey (2019). Changes to the MPharm curriculum and teaching are needed to develop students' understanding of medicines used in breastfeeding and breastfeeding as a public health strategy in accordance with Unicef learning outcomes for pharmacy students (Unicef, 2019).

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Students as partners in the development of a veterinary pharmacy interprofessional learning resource

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Keywords: Co-creation, Inter-professional learning, Student

Background: Funding from the University of Nottingham Education and Student Experience Grant Scheme enabled students from the School of Pharmacy and School of Veterinary Medicine and Science to work together to develop an inter-professional learning (IPL) resource. IPL develops key skills required by health professionals, including communication, leadership, and teamwork (Homeyer *et al.*, 2018). By working together as partners, students were empowered as producers through co-creation, which involves the collaboration between students and academic staff in the production of teaching and learning content (Lubicz-Nawrocka, 2022).

Aim: To evaluate the IPL resource produced by students. To reflect on the co-creation process.

Method: Two questionnaires were created using Microsoft Forms to capture evaluation and reflection data, incorporating the Likert Scale and free-text questions. Evaluation of the IPL resource focussed on accessibility, structure, relevance and content and was carried out by an expert student panel. The reflection asked student co-creators about their experiences of the process, collaboration between students, challenges faced and skills developed. The University of Nottingham Research Ethics Committee identified this work as having minimal risk and deemed ethical approval was not needed.

Results: The evaluation, completed by five students, highlighted the IPL resource as relevant, valuable and easy to use. Interactivity and engagement were highlighted as strengths. Limitations focused on lack of accessibility, implying a lack of awareness around this. The reflection, completed by two students, indicated that students involved in the co-creation gained digital, organisational, and teamwork skills. Through this project and working with students in different disciplines, they were able to appreciate the value of IPL and the overlap between the two professions.




Discussion: This project shows the value co-creation can have on empowering students and further emphasises the importance of IPL. Improvements based on the evaluation will shape the IPL resource ahead of embedding it into both schools' curriculums.

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Education and practice: The development of a pharmacists professional ethos

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Keywords: Pharmacy, Pharmacy education, Professional development

Background: The development of a professional ethos is an ongoing process, and all stages of life play a role in continuing development.

Aim: To assess the importance of different stages of life, education and practice in the development of a professional ethos in pharmacists.

Method: An online questionnaire was distributed in January 2015 to a random sample of 9,999 pharmacists registered with the General Pharmaceutical Council (GPhC). Respondents were asked how important they thought a number of different stages of a pharmacist's life are in the development of a professional ethos. They were asked to make a judgment using a five-point Likert scale ranging from very important at one extreme to very unimportant at the other. The stages used to investigate development were upbringing, schooling, undergraduate education, pre-registration year, early years as a practising pharmacist or other years as a practising pharmacist. Data were imported into SPSS 22 for analysis. Ethical approval was granted by Aston University.

Results: Overall 706 registrants responded (response rate of 7.1%), the majority of whom were community pharmacists (69.1%, n=488). The majority of respondents indicated that all stages of development were considered very important or somewhat important, ranging from 80.0% to 97.3% of respondents. The mean was then taken (very important = 5.0, very unimportant = 1.0), and the results were ranked to identify the highest average. The development stages that scored the highest were pre-registration year (4.80) and early years as a practising pharmacist (4.73).

Discussion: Pharmacists Identified the pre-registration year and early years as practising pharmacists as the most important periods of time for the development of a professional ethos. Undergraduate education is ideally placed to nurture a professional ethos and prepare students for lifelong development. Study limitations include the low response rate, which may limit the generalisability (Phelps *et al.*, 2013).

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Evaluation of orientation session to pharmacist participants in a mentoring pilot

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Keywords: *Independent prescribing, Mentee, Mentor, Mentoring, Pharmacist independent prescriber*

Background: Mentoring is a key tool supporting professional development (Hudson, 2013; GPhC 2021). Previous work identified a significant number of Pharmacist Independent Prescribers (PIP) lacking confidence or not actively prescribing (HEE, 2023); therefore, a mentoring pilot was initiated to address PIP confidence concerns.

Aim: To recruit and pair participants into PIP mentor/mentee pairs and evaluate orientation sessions delivered to participants.

Method: Expressions of interest were sought from participants by self-enrolling as mentors (PIPs actively prescribing for three or more years) or mentees (PIPs with little/no prescribing experience). Participants completed an enrollment questionnaire, obtaining consent and enabling pair formation based on similar scope/ sector of practice. Ethical approval was not required.

Online orientation sessions were held to introduce the pilot (Table I), participants’ pairs and mentoring resources. Attendees completed an anonymised session evaluation survey, and data were analysed qualitatively.

Table I: Outlines of the pilot mentoring

Timeline	Key outputs
February 2023	Call for expression of interest and enrolment questionnaire capturing baseline data.
March 2023	Participants attended an orientation session, including an introduction to each mentoring pair.
March – April 2023	Participants independently conducted a minimum of 2 mentoring sessions.
May 2023	Evaluation focus groups and questionnaire
June 2023	Analysis of results and report

Results: Participants included General Practitioners (GPs) and secondary care PIPs. Overall, nine mentors and eight mentees attended the session; three were unable to attend, and two withdrew from the pilot. A total of eight out of fifteen attendees completed the session evaluation survey (three mentors and five mentees).

All participants felt the session was useful/very useful, and 7/8 participants stated they gained an improved pilot understanding. Useful elements of the session were the opportunity to meet with the mentor/mentee (4/8) and IP peer discussion/networking (2/8). Other key learning points included awareness of mentoring resources and recognition of the need for further mentoring training.

Discussion: Session evaluation confirmed the benefits of the initial meeting: enabling the establishment of mentoring pairs, increasing awareness of mentoring training resources and confirming the need for future mentoring training. A study limitation was that it included a small number of learners; however, key themes were identified. Future work is planned to identify the impact of mentoring arrangements on prescribing confidence.

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Exploring the opinions of year 4 MPharm students on prescribing skills and how prescribing should be taught and assessed

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Keywords: Confidence, Pharmacy education, Prescribing skill

Background: The introduction of new Standards for the initial education and training of pharmacists in 2021 (General Pharmaceutical Council, 2021) is seeing seismic changes in the organisation and content of MPharm degrees. The new Standards set out the requirements that course providers must attain to ensure that qualified pharmacists are capable of safely and competently prescribing from 2026. There is also an impetus for pharmacy schools to seek student views for curriculum evaluation (General Pharmaceutical Council, 2021).

Aim: To explore the views of MPharm students on prescribing skills and how they should be taught and assessed within the MPharm course.

Method: This study adopted a qualitative approach. Following ethical approval (MHLS 23_10), ten final-year students consented to participate in the focus group study (15% of the year group). The focus group was audio/video recorded on Microsoft Stream, transcribed verbatim, and analysed thematically (Braun & Clarke, 2006).

Results: Several themes were identified following the thematic analysis. These included "role of an independent prescriber", "clinical reasoning", "confidence and competence", "communication skills", "authenticity", "placements", "mentorship and preceptorship", and "repeated practice". Evidently, the students did not fully understand what constituted a prescribing skill. The students perceived the Prescribing Safety Assessment to be an appropriate assessment method but acknowledged that it needed to be combined with OSCE assessments.

Discussion: The students affirmed that collaborative work with peers and mentors at the university and on placement is essential to teaching prescribing skills. Pharmacist educators must ensure that prescribing skills and what they constitute are highlighted to students at all opportunities. Students affirmed that learning opportunities allowing for repeated practice of tasks with increasing complexity consolidated skills. Students recognise the importance of assessment and wish to avail of both knowledge-based and communication-

based assessments to demonstrate their prescribing competence and proficiency.

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Evaluation of the introduction of a synchronous online induction for postgraduate diploma students

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Keywords: Distance-learning, Induction, Pharmacist, Postgraduate education

Background: A previous qualitative study identified the need for postgraduate clinical diploma distance-learning students to have a synchronous induction (O'Byrne, 2022). An induction session was created, starting in January 2022, for each new cohort of students, and it occurred monthly. Evaluation of inductions has previously been identified as important (Billing, 1997).

Aim: To evaluate the content and usefulness of a synchronous online induction session.

Method: Ethical approval was not required as this was a service evaluation. An online evaluation form was created using Microsoft Teams, which attendees were asked to anonymously complete at the end of each induction session. Respondents rated the content and usefulness of the session using the rating scale 1 (least useful) - 5 (most useful). Responses were collated in an Excel spreadsheet for descriptive analysis of the quantitative data and thematic grouping of points made in free-text responses (Clarke & Braun, 2017).

Results: 88 students, between January-December 2022, attended an induction session. 31% of session attendees completed the evaluation. Questionnaire-rated responses are shown in Table I.

Table I: Questionnaire responses

How useful you found:	Mean score
Welcome activity	4.62
Resources information	4.73
Referencing	4.46
Assessment overview	4.74
Communication and support	4.82

Three overarching themes emerged from the qualitative data:

“Positive experience”

“Please provide for all. Was very important to me to see humans and not just emails” [P1],

“Problems with advance information and access” and

“Wanting more content”

Discussion: Although the findings are limited to one university, this evaluation suggested that respondents found the induction useful and supports the view that postgraduate distance learning students should have a synchronous induction to enable them to see peers and staff (McPherson *et al.*, 2017). Key implications include ensuring advance information is clear on session content for students and recognising that students will likely appreciate having an opportunity for face-to-face interaction with peers and staff.

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Learning underpinning pharmacy professionals’ roles and responsibilities in safeguarding

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Keywords: CPD, Safeguarding

Background: Pharmacists and pharmacy technicians play a key role in recognising potential signs of neglect and abuse. Undertaking relevant training is a mandatory requirement for all healthcare professionals, and it is important these impacts safeguarding practice positively. Centre for Pharmacy Postgraduate Education (CPPE, 2022) introduced pharmacy-specific case studies (2½ hours e-learning/assessment) to complement Health Education England’s safeguarding e-learning and assessment via e-learning for healthcare (left) hub (NHSE, 2022a; NHSE, 2022b).

Aim: This study surveyed pharmacy professionals who had accessed the recently introduced CPPE e-learning to investigate their understanding of their roles and responsibilities in safeguarding and if and how the e-learning impacted their knowledge and confidence.

Method: A survey was designed using closed questions and Likert-type agree/disagree statements. CPPE emailed the online survey link to all 654 learners enrolled at the end of November 2022, followed by reminders in December 2022 and January 2023. As service evaluation ethics approval was not required, and only anonymous data were shared for analysis using SPSS.


Results: Twenty-three responses (3.5% response rate) were received from 18 pharmacists, three pharmacy technicians, and two trainee pharmacists; most (72%) worked in community pharmacy. Respondents (96%) were aware of mandatory training requirements and how to access training. Only half (52%) were aware that the CPPE safeguarding case studies were not sufficient by themselves. Eighteen respondents (78%) had completed some/all case studies, found them easy to navigate (89%), and were relevant to pharmacy practice (72%).

Discussion: This study offers early insights into the changed approach of combining generic ELFH safeguarding learning with pharmacy-specific case studies. The case studies’ e-learning was perceived well, but how the elfh and CPPE case studies relate may need clarification. The low response rate is a study limitation.

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What matters to pharmacy students in the early weeks of the MPharm?

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Keywords: *First year student experience, Pharmacy student, Transition to higher education*

Background: Successful transition into higher education, whilst necessitating considerable adjustment for students, supports greater academic success and a sense of belonging and reduces the likelihood of students withdrawing (Briggs *et al.*, 2012). Factors within the academic environment which influence this process include the social aspects of learning (Tinto, 1997; Wilcox *et al.*, 2005), access to teaching staff and clear information to aid understanding about teaching, learning and assessment (Hanna *et al.*, 2014)

Aim: The study aimed to understand MPharm students' views and experiences of the early weeks of their course, including the induction week, in order to inform planning for future cohorts.

Method: An invitation to complete an MS Forms questionnaire was sent to all first-year students four weeks into their first term. During the Spring term, students were invited to attend a semi-structured interview about their early experiences of the MPharm, including induction week. Ethics approval was granted by the Nottingham School of Pharmacy Research Ethics Committee.







Results: Of a cohort of 190, 52 students completed the questionnaire, and six students were interviewed. Three main themes arose as important for student transition into the MPharm: social aspects of learning, such as the value of group learning, the course as a source of friendships and learning from others; managing learning, including support in the early weeks for note-taking, participating in workshops; and communication with staff, such as knowing where and how to seek support, the role of tutors and interactions with academic staff.

Discussion: Students overwhelmingly commented less about what was taught during the early part of their course but about the pedagogy and "hidden curriculum". Findings show that the classroom ethos and interactional aspects of learning, as well as the subject material, can have a profound effect on learning, confidence in learning and successful transition into the pharmacy course.

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A qualitative evaluation of external assessment of competency in experiential learning (ACTp study)

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Keywords: *Competency-based assessment, Experiential learning, External assessor, Facilitator, Pharmacy*

Background: One of the remits of the Pharmacy Additional Cost of Teaching (ACTp) Study was to develop competency-based assessments (CBAs) during experiential learning (EL) for student pharmacists in Scotland (Jacob *et al.*, 2021). As this is a new undertaking for undergraduate pharmacy programmes, and based on previous recommendations, it was important to obtain expert opinions from other programmes with experience in CBAs undertaken by external assessors during EL.

Aim: To obtain the opinion of experts in other programmes on the structures and processes of CBA.

Method: Semi-structured, online, one-to-one interviews with lead academics, programme directors, and facilitators from Medicine, Nursing, Teaching, and Postgraduate Pharmacy programmes in the United Kingdom. Recruitment was done through purposive and snowball sampling. A descriptive analytical approach was adopted. Departmental Ethical Committee approval received.




Results: Nine academics/programme directors and seven facilitators participated. The method of assessment depended on placement sites and competencies being assessed. Quality assurance of marking was undertaken using tripartite reviews, peer-review of marking, and facilitator training. Suggestions included the development of learning and assessments that are similar to those in postgraduate programmes, to involve stakeholders in the design of assessments, and to ensure quality assurance of marking.

Discussion: There is a need to adopt a more collaborative and progressive approach to the tools and methods of assessment to accommodate students with different experiences and placement sites (Prescott-Clements *et al.*, 2008; Clements & Cord, 2013). Embedding a quality assurance process to ensure consistency in marking is key. In the next phase, key stakeholders, including students, academics, and facilitators, will be involved in the design of the assessment process.

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Education supervisor café: The impact of virtual peer support sessions on CPPE education supervisor wellbeing

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Keywords: Education supervisor, Peer supervision, Virtual peer supervision, Virtual peer support, Wellbeing

Background: Education supervision underpins the Centre for Pharmacy Postgraduate Education's (CPPE) training pathways for primary care pharmacy professionals (NHSE, 2016). Education supervisors' (ES) roles can be complex and demanding because of the need to balance achievement of educational progress with pastoral support for learners (Styles *et al.*, 2023), the cultivation of learner-supervisor relationships (Styles & Shaw, 2022) and the challenges of home-based working (RSPH, 2021). ES anecdotally reported that these factors may have an impact on well-being and would welcome support.

Aim: The aim of this study was to explore education supervisors' perceptions of peer support sessions.

Method: ES facilitated monthly online peer support sessions following a structure which established group trust to create a safe space for sharing and listening.

After six sessions, participants were invited, via an online survey, to rate ten statements relating to the impact of these support sessions using a Likert scale (1 was strongly disagree and 5 was strongly agreed) and to respond to four open questions.

Results: Fourteen (74%) participants responded. Statements relating to improved connectedness, reduced isolation and provision of a safe, non-judgmental space were rated highest.

When asked what they hoped to get out of the sessions, respondents identified connectedness, support, safe space, and well-being. 85.7 % of respondents agreed or strongly agreed with the statement, "I achieved what I wanted from ES support sessions."

When asked to describe how peer support sessions had changed how they work, respondents reported improved confidence and the ability to better manage time and workload.

Discussion: Monthly online peer support sessions were perceived as beneficial to ES, notably in the areas of team connectedness, reduced isolation, provision of a safe space

and the opportunity to give and receive support. ESs facilitate the sessions themselves, making them a self-sustaining and low-cost strategy for improving ES well-being.

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Teaching and assessment of clinical reasoning within pharmacy education – Can we do better?

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Keywords: *Clinical decision-making, Clinical reasoning, Education, Pharmacy*

Background: Recent changes to the Education and Training Standards for pharmacy education enable pharmacists to independently prescribe from the point of registration in 2026 (General Pharmaceutical Council, 2021). Clinical reasoning (CR) is considered central to the practice of professional autonomy and prescribing (Abuzour *et al.*, 2018). As such, the teaching, learning and assessment of CR is key to preparing them for their future practice.

Aim: The aim of the research was to explore staff and students' current views on their understanding, teaching and assessment of CR within the Masters of Pharmacy programme and potential future education provision.

Method: Semi-structured interviews with academic staff and third- and fourth-year pharmacy students took place in November 2022. The interview schedule was developed from the literature review. All interviews were held and recorded on Microsoft Teams, then transcribed and analysed using

NVivo. Ethical approval was obtained from Liverpool John Moores University, School of Pharmacy and Biomolecular Sciences, Research Ethics Committee (PBS 2022-23/02).

Results: Thematic analysis identified three key themes: understanding of CR, the importance of CR and the teaching and assessment of CR. Whilst staff had an increased understanding of CR compared to students, they were unable to describe practice models and influencing factors. Staff and students focussed on the clinical decision-making element of CR. However, its impact on patient care and its importance in pharmacy education was recognised by all. Both staff and students described how clinical decision-making was currently considered in workshops, OSCEs and coursework but felt it needed to be introduced earlier in the programme and further opportunities to develop CR provided.

Discussion: The teaching and assessment of CR needs to be further developed within pharmacy undergraduate education to ensure that future pharmacists are prepared for their future practice. Furthermore, staff need to have an increased knowledge and understanding of CR.

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Simulation supporting pharmacists independent prescribers physical assessment skills training

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Keywords: *Multisector pharmacist, Physical assessment skill, Simulation*

Background: A 2year Multisector Pharmacist (MSP) Foundation to Advanced programme (East Sussex Multisector Foundation to Advanced (MFTA) Vocational Training Scheme, 2020) was devised, providing structured supervised learning, progressing to clinically enhanced independent prescribing (CEPIP). MSPs identified additional physical assessment skills (PAS) training needed to support CEPIP achievement.

Utilisation of East Sussex Healthcare Trust's (ESHT) established simulation suite could support CEPIP learners in improving patient safety through gaining vital skills and demonstrating Health Education England's vision that simulation improves the quality of health and care by providing equity of opportunities for learners. (Health Education England, 2020).

Aim: Design and evaluate simulation scenarios supporting MSPs' PAS, identify key learning points and make future session recommendations.

Method: MSP trainee representative, pharmacy education leads, and simulation practitioners working group scoped suitable scenarios. Simulation practitioners delivered the scenarios on two days in 2022. The target audience was MSPs and pharmacists from other sectors undertaking a prescribing course.

Data was collected through a short answer learner evaluation form completed straight after each session. This encompassed relevance for the individuals' learning needs, key learning points gained and future session recommendations. Comments were thematically analysed.

Ethical approval was not required.

Results: Seven learners attended the PAS.

100 % response rate (n=7). All agreed sessions are relevant to individual learning needs and appropriately pitched.

Key themes identified were:

Benefits of practising PAS in a safe environment

Structured PAS feedback by simulation facilitator supported individual development

Future recommendations included more cases and simulation sessions

Discussion: Collaboration with the simulation suite team and pharmacy has demonstrated the value of simulation to support and prepare CEPIP PAS within a safe and structured environment. Future events supporting PAS will be scheduled with the aim for these to become multi-professional. A study limitation was a small number of learners; however, key themes could still be identified.

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Current pharmacist independent prescribers' views on the knowledge and skills required at undergraduate level for pharmacy students to become safe and effective future prescribers

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Keywords: IET, Independent prescriber, Pharmacist, Pharmacy student, Prescribing attribute

Background: The General Pharmaceutical Council (GPhC) standards for the initial education and training of pharmacists (IETs) allow pharmacy students to be registered as pharmacists with independent prescriber annotation from 2026 onwards (GPhC, 2021). A survey was undertaken to determine the views of current independent prescribers on the required undergraduate training.

Aim: To determine pharmacist-independent prescribers' views on the knowledge and skills required at the undergraduate level for pharmacy students to become safe and effective future prescribers.

Method: Ethical approval was granted by Kingston University (1213/045). Pharmacist independent prescribers in the UK were surveyed through social media platforms, Twitter and LinkedIn, and 47 responses were obtained using Microsoft Forms (February 2022).

Results: The modal experience of respondents as an independent prescriber was 6-8 years (n=13). Most participants agreed or strongly agreed (n=33, 70.2%) that the GPhC's changes would have a positive impact, and some felt it would lead to better patient access, reduced health inequalities and greater job satisfaction and career opportunities.

There was hesitancy, with 93% (n=44) believing experience as a pharmacist makes a better prescriber and 60% (n=28) believing that prescribing errors would be a problem.

Prescribing laws (n=34, 72.3%), drug interactions (n=37, 78.7%), and medicine regimens (n=34, 72.3%) were ranked as important knowledge required by pharmacy students. The importance of cost-effective prescribing and managing polypharmacy were also highlighted.

Consultation (n=43, 91.5%) and decision-making (n=39, 83%) skills were deemed as the most important skills. Physical assessment, critical appraisal, empathy and awareness of personal limitations were also important.

Discussion: Key knowledge identified included prescribing laws, drug interactions and medicine regimens. Key skills highlighted by participants were consultation and decision-making skills. Participants recommended earlier clinical

placements covering the duration of the pharmacy degree, with increased hours of contact with pharmacy prescribers. The pharmacy curriculum is critical (Barnett *et al.*, 2021).

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Evaluation of a local trust multi-professional leadership education programme workshop

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Keywords: Leadership, Multi-professional

Background: East Sussex Healthcare Trust (ESHT) Leadership Faculty delivers Leadership Education Programme (LEAP) half-day in-person interactive workshops inspiring non-exclusive application of clinical leadership amongst multi-professionals outside delegated leadership roles (East Sussex HealthCare NHS Trust, 2023). Sessions explore leadership concepts and promote widening participation, collaboration and quality improvement. Accessible via Trust online communications to all staff, LEAP aligns with leadership elements of professional curricula, including Royal Pharmaceutical Society (RPS) Foundation (RPS, 2023a) and Advanced frameworks (RPS, 2023b).

Aim: Evaluate LEAP workshops, identify learning points, and make recommendations for future sessions.

Method: Data was collected through a short answer learner evaluation form completed following a LEAP workshop delivered in February 2023, encompassing key learning points, the impact of LEAP on clinical practice, and future session recommendations. Comments were thematically analysed. Ethical approval was not required.

Results: 28 participants attended, including medics, nurses and pharmacists of varied grades representing specialities,

including frailty, orthodontics, paediatrics, stroke, theatres and urgent community response.

27/28 evaluation form responses (98%), of which 26/27 would recommend LEAP to others.

Overall participants were very positive about the programme's delivery and content, specifically highlighting the value of interactive workshop methodology and recommendations for longer sessions and access to session resources.

Key participant learning points

- Benefits of leadership recognised to improve patient care
- Recognition of the need to apply leadership skills to support teamwork and project work in one's own clinical settings.
- Recognition of the need to continue own leadership training

Discussion: The evaluation found leadership training is highly valued by healthcare professionals and can be successfully developed within a multi-professional learning environment. These findings could inform future local leadership programmes with a recommendation that all staff be encouraged to attend.

Participants can be signposted to Trust Quality Improvement Project resources for leadership project support. A study limitation was it included a small number of learners; however, key themes could still be identified.


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Using an action learning set approach to build confidence in pharmacy technicians: Interim results

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Keywords: Action learning, Impact on practice, Leadership, Pharmacy technician, Professionalism

Background: In 2017, the General Pharmaceutical Council (GPhC) published new standards for the initial education and training (IET) of pharmacy technicians (PT) (GPhC, 2018). The Centre for Pharmacy Postgraduate Education (CPPE) developed a series of resources, including an action learning set approach (CPPE, 2022), to upskill PTs who qualified under previous IET standards.

PTs participate in six online small group sessions over a 12-month period, supported by facilitators trained in delivering action learning (Edmonstone, 2017). Sessions are framed around the domains in the GPhC 2017 IET standards. Action learning focuses on implementing solutions to practice-based problems.

Aim: To explore how PTs perceive the effectiveness of an action learning set approach in increasing their confidence in professionalism and leadership, identified from an evaluation conducted midway through the programme.

Method: Quantitative feedback was obtained via an online JISC survey, which used Likert-type statements to rate perceived confidence in six areas associated with leadership and professionalism. Participants completed the survey at the start of the programme (baseline) and at mid-point. The JISC survey tool was used to analyse the data. Scores for agree and strongly agree were combined.

A letter of ethical exemption was received for this evaluation.

Results: To date, 24 participants have completed the survey (response rate 63%) at the mid-point of the programme. There are 38 PTs participating in total.

The JISC survey data evaluation shows a positive change in PTs agreement with the statements identified as those associated with professionalism and leadership (Figure 1). This suggests that the action learning approach used in the programme has enabled PTs to develop their perceived confidence.

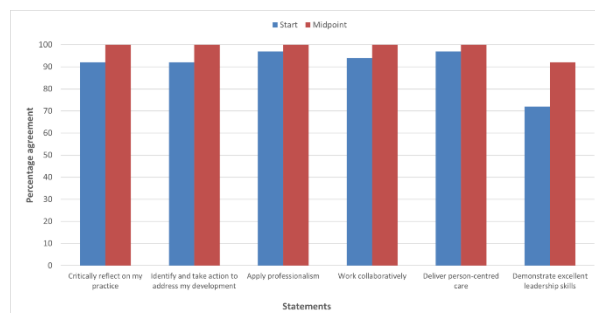


Figure 1: Self-perceived confidence

Discussion: The interim data suggests that an action learning set approach can result in a positive change in pharmacy technicians' self-perceived confidence in professionalism and leadership.

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Evaluating perceptions of confidence and comfort from clinical skills teaching and learning in second-year pharmacy students

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Keywords: Clinical skill, Confidence perception, Teaching strategy

Background: New standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2021) introduce an outcome on demonstrating effective diagnostic skills. A new clinical skills teaching, learning and assessment strategy was delivered to second-year pharmacy students using a blended approach of interactive lectures (underpinning principles of the clinical skill), self-directed learning (including video demonstration of skills) and hands-on simulation skills workshops, which include supervised learning events on key clinical skills; based on Peyton's four-step approach to skills teaching (Walker & Peyton, 1998).

Aim: Evaluate the impact of the new clinical skills teaching strategy on perceived confidence and comfort of preparing to carry out clinical skills in second-year pharmacy students.

Method: University ethics was not required; teaching evaluation requirements were met. A 9-item questionnaire was designed on perceived confidence and comfort in carrying out skills (physical examination term used as familiar to students) and perceptions about self-directed work using a 5-point Likert scale (1=strongly agree; 5=strongly disagree) and distributed to all second-year pharmacy students. Statement responses were analysed using means and Spearman's rank-order correlation to explore relationships between responses.

Results: The response rate was 63% (n=112/177). Students agreed the simulated workshops improved their perceived ability to accurately carry out basic observations and identify abnormal/normal values, made them feel more comfortable performing a physical examination, increased confidence in conducting physical examination and made them feel more prepared to conduct physical examinations (M=4.21±0.57; 4.05±0.64; 4.19±0.62; 4.21±0.60).

Strong positive correlations (Spearman's rank-order correlation coefficient (rs) > 0.4, p <0.001) were found in statement responses relating to engagement with workshops and comfort and confidence in executing skills.


Discussion: Students felt these workshops increased confidence and comfort in executing clinical skills; such an approach could support pharmacy students' clinical skills, which are essential for future practice.

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How can we make it better? Supporting assessors in the new MPharm

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Keywords: Assessment, Assessors, Assessor support, OSCE

Background: In healthcare education, both academic and clinical assessors are key partners in student assessment in the university setting and clinical practice. As the MPharm evolves to meet new Standards (GPhC, 2021), it is crucial that the authors develop appropriate assessor support mechanisms across academic and clinical settings. This project builds on previous work by a cross-faculty group that co-designed assessment support tools for academic and clinical assessors (Wong *et al.*, 2021).

Aim: To train new assessors and examine their assessment performance during OSCEs in the last academic year. This performance analysis will be used to prepare constructive feedback for individual assessor development.

Method: The OSCE marking results from 11 new assessors at various OSCE stations were anonymised and analysed against 11 experienced assessors at the same OSCE station in a separate circuit. A statistical analysis, including assessor pass rates and referral rates, was conducted to compare performance with student cohort variables taken into account. Both quantitative and qualitative assessor feedback was then developed for each individual.

Results: Four of the new assessors exhibited more "hawk-like" behaviour during assessment compared to more experienced assessors. Six assessors exhibited more "dove-like" behaviour during the assessment. New assessors were also more likely to refer students to the OSCE scrutiny committee when unsure about the assessment outcome. Experienced assessors were consistently less likely to refer students. From the analysis, quantitative performance results were developed for each assessor alongside a narrative explaining performance with possible variable influence and suggestions for improvements.

Discussion: The use of OSCE assessment results and analysis can form a helpful basis for assessor feedback and support using both quantitative results and a supporting narrative. The necessity for assessor feedback to enhance future performance is clear. This feedback could be delivered on a one-to-one basis to help improve future performance.

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Transition to item response theory-based standards maintenance in the General Pharmaceutical Council's registration assessment

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Keywords: *Item response theory, Modified Angoff, Standard setting, Standards maintenance, Registration assessment*

Background: Passing the registration assessment (RA) is a prerequisite for registration as a pharmacist in the UK. The standard required to pass each assessment 2016 – 2019 was set by subject matter experts (SMEs) using modified Angoff (Cizek, 2007). This methodology is widely used in high-stakes healthcare assessments (Ricker, 2006). In 2021, the GPhC transitioned to standards maintenance using Item Response Theory (IRT) to apply the same standard consistently to future diets. IRT measurement is independent of both the candidate performance and question difficulty, thereby overcoming a major problem, that is, the confounding of examinee ability with item characteristics (Downing, 2003).

Aim: To transition to an IRT standards maintenance model.

Method: Guidance from assessment specialists AlphaPlus Consultancy Ltd was used, alongside scrutiny from the Board of Assessors, to develop the method. All diets were reviewed from 2016 to 2019 to create an IRT question bank of used questions with assigned IRT-based difficulty and discrimination scores. One standard error of measurement was incorporated into the standard. Rules were established to deal with rounding and for handling occurrences of Differential Item Functioning (DIF). Logit values were derived

for the 2019 pass marks (part 1 -0.723 and part 2 -0.570), and these were approved by the board of assessors as the future target passing standards.

Results: The target passing standard was applied consistently to the 2021 and 2022 diets. Sufficient reuse of questions has ensured a robust IRT model was balanced with the need to incorporate new questions to guard against question exposure and the need to test contemporary practice.


Discussion: Standards maintenance using IRT has been successfully implemented in the RA. At appropriate intervals, SMEs will recalibrate the standard required to pass the RA before moving back to a standard maintenance phase using IRT.

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A multi-sector simulated experiential practice event for year 1 MPharm students in Northern Ireland (NI)

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Keywords: *Clinical examination skill, Consultation skill, Prescribing, Professional identity, Simulation*

Background: Simulation-based education complements traditional teaching, improving students' knowledge and understanding, and supports the development of student teamwork, decision-making, and consultation skills (McMillan & Barrickman, 2017; Korayem, 2022) as well as supporting professional identity formation (Quinn *et al.*, 2020). Year 1 students across both Schools of Pharmacy in Northern Ireland (NI) participated in a pre-placement workshop and a simulated multi-sector experiential event.

Aim: To evaluate Year 1 MPharm students' and participating staff experiences of a simulated multi-sector Experiential Event designed to develop clinical and consultation skills.

Method: The Experiential Event was delivered in March 2022. Staff and students completed a post-event evaluation on Microsoft Forms to inform the ongoing improvement of the Event. Ethical approval was not required as this formed part of the review of the module.

Results: Seventy-five percent of staff responded (12/16), with 42% (n=5) respondents believing that students were competent in conducting medication history, counselling and simple prescribing decisions. Seventy-seven percent of students (171/222) responded; 85% (n=145) and 81% (n=139) respectively believed that the medication history and consultation checklists developed in the pre-placement workshop prepared them for "real" patient consultations. Students were confident in conducting BP and peak flow examinations (73%, n=125) and in prescribing medication (83%, n=142). Eighty-six percent (n=147) of respondents believed that the event had made them feel more like a pharmacist.

Discussion: Year 1 respondents showed an appreciation for the experiential event, believing that it improved their clinical and consultation skills. The majority of student respondents believed that the event supported the formation of their professional identities. Staff respondents agreed that students developed core clinical skills but to a lesser extent than student participants, believing curriculum redesign will facilitate enhanced student engagement with the event. This event provides students with a first glimpse of their future clinical roles, which they will continue to evolve during the MPharm.


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Pre-sessional online peer-mentoring support to enhance international students' experience – A pioneering project on students of a dual-degree articulated programme

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Keywords: Articulated pharmacy curriculum, Chinese student, International student experience, Peer-mentoring, Transition

Background: The University of Manchester (UoM) launched a dual-degree articulated (Zhong, 2020) B.Sc. Clinical Pharmacy (BScCP) programme in September 2021, and the first cohort recruited 58 students at the China Pharmaceutical University (CPU). B.Sc. students will study for two years at CPU, two years at UoM and clinical placement at CPU-affiliated hospitals in China, facing three transition phases.

Aim: To facilitate students' transition, an online peer-mentoring scheme, the International Student Experience Programme (ISEP), was implemented in Year 1 of BScCP from October 2021 to May 2022.

Method: ISEP included student-led and staff-assisted activities, i.e. six online peer meetings and four webinars. Student mentors were recruited from UoM pharmacy students and paired with 5-6 BScCP students in 10 groups. The topics of peer meetings were derived from co-designed workshops with student mentors. A 38-question transition and 21-question end-of-programme (in-house, non-validated) online survey with a five-level Likert scale was conducted on 58 students in February and May 2022 (students in China). Descriptive statistics were used to present results and compare the proportion of agreed and strongly agreed questions before and after the ISEP.


Results: From the transition survey, students (n=58) agreed or strongly agreed they cope with university life well (61-86%), but only 56% felt they have learned to study in English. Most (79%) felt a big jump in academic volume, and 72% felt needing additional academic support. Comparing the end-of-programme with the transition survey, students felt the ISEP helps improve their academic orientation (90-95% vs. 75-84%), study skills (90-95% vs. 79-86%), and building connections with student mentors (90-95% vs. 70-86%).

Discussion: The ISEP enhanced students' experiences by incorporating cultural awareness, essential study skills and students' voices. Future work is needed to evaluate the sense of belonging, maintain sustainability, and transfer ISEP to other degree programmes.

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Developing students' leadership and communication skills from peer-mentorship – A pioneering pre-sessional online peer-mentoring scheme

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Keywords: Articulated pharmacy curriculum, Chinese student, International student experience, Peer-mentoring, Undergraduate pharmacy education

Background: A pioneering online peer-mentoring scheme, the International Student Experience Programme (ISEP), was implemented in Year 1 of B.Sc. Clinical Pharmacy (BScCP) students from October 2021 to May 2022. BScCP is a dual-degree, articulated programme, and the first cohort recruited 58 students.

Aim: This project explored the impacts of ISEP on student mentors.

Method: The ISEP recruited 13 UoM pharmacy students (Year 2 to 4) volunteering as peer mentors and paired each mentor with 5-6 BScCP students in 10 groups. The online, student-led and staff-assisted activities included six online peer meetings and four webinars to facilitate BScCP students' transition. The topics of peer meetings were derived from co-designed workshops with student mentors. At the end of the programme, mentors completed a 21-question (five-level Likert scale) survey, and the result was presented in descriptive statistics. Besides, mentors were invited to participate in a focus group in March 2022 to explore their perceptions and views on the training and organisation of ISEP, and results were analysed by thematic analysis. This course evaluation did not require ethical approval.

Results: Student mentors (n=13) agreed that ISEP supported students' transition (100%) but did not relieve academic stress (54%). Support and training provided to mentors were considered beneficial (77%), but mentors were less confident

in naming mentees (62%); only 54% felt that they had built good friendships with mentees. All mentors appreciate that ISEP can improve their teamwork, leadership and confidence (77-85%). These results aligned with the qualitative analysis of a focus group with four mentors.

Discussion: Despite growing evidence of effective practice in supporting and enhancing international students' experiences (Cino Pagliarello, 2023), this project recognised that peer mentorship also mutually benefited student mentors' confidence, leadership, communication skills, learning motivation, and study experience. These results inspired the extension of peer mentoring to all MPharm international students.

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