

CONFERENCE ABSTRACTS


# Pharmacy Education Conference 2024

## Pharmacy Education – What does the future hold?

Manchester, United Kingdom

### Oral presentations

#### Developing a toolkit to support student learning about professionalism

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**Keywords:** Professionalism, toolkit

**Background:** Students can have difficulty understanding the requirements of professionalism (Health and Care Professions Council, 2011). Written guidance is available from many professional bodies and institutions, but this can be difficult for students to interpret. This project sought to test a series of images with final-year students and staff to explore whether they could be used to create a toolkit to help illustrate professionalism for first-year students.

**Method:** Generic, rather than clinical, images were selected to illustrate categories from the Faculty's Professionalism:

policy and guidance document. These images were then rated by final-year students and pharmacy staff as either “highly professional”, “somewhat professional”, “somewhat unprofessional”, or “highly unprofessional” in an online survey. Consensus was achieved when 75% of respondents rated an image as either professional or unprofessional (Hall & Ashcroft, 2011), and this was used to create a RAG (Red/Amber/Green) rating of images.

- GREEN when 75% rate either “highly professional” or “somewhat professional”
- RED when 75% rate either “somewhat unprofessional” or “highly unprofessional”
- AMBER all other images

Respondents had the opportunity to enter free text comments to support each of their judgements. Respondents were also asked whether they thought a toolkit with these images could support learning about professionalism.

**Results:** 34 students and 32 staff (clinical and academic) rated 45 images.

Type of image	Total	Number of images						Images rated differently by staff & student
		Staff rating			Student rating			
		Red	Amber	Green	Red	Amber	Green	
Shoes	11	2	4	5	3	2	6	2
Clothing	15	7	5	3	7	4	4	1
Tattoos	2	0	2	0	0	1	1	1
Hairstyle	10	1	8	1	0	10	0	2
Social media	9	7	1	1	7	1	1	0

90% of staff (27/30) and 79% of students (22/28) agreed a toolkit with these images could support learning about professionalism.

**Conclusion:** There was a high degree of consistency in the ratings between final-year students and staff, and most of both groups felt these could be used to create a toolkit for 1st-year students. Further work is required to ascertain whether the qualitative comments will help first-year students understand why images were rated amber or red.

### References

Hall, J., & Ashcroft, D. (2011). What characterizes professionalism in pharmacy students? A nominal group study. *Pharmacy Education*, **11**(1), 65–70

Health and Care Professions Council. (2011). *Professionalism in healthcare professionals*. <https://www.hcpc-uk.org/globalassets/resources/reports/professionalism-in-healthcare-professionals.pdf>

## Evaluation of acceptability of student-led campus-based Health Check clinics at Aston University

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**Keywords:** Clinic, education, experience, health check, pharmacy

**Background:** Providing pharmacy students with equitable experience of key clinical services is challenging at scale in traditional clinical settings (Clews, 2023). In the 2023-24 academic year, student-led campus-based Health Check clinics were developed in partnership with a local pharmacy chain to standardise the experience of this key service. Students received practical training on the service prior to a competency assessment, which was a gateway to service delivery.

**Aims:** This project sought to evaluate the acceptability of the student-led service to the campus population.

**Method:** Data was gained from clinic attendance records, a patient satisfaction questionnaire and service referral rates. The patient survey (paper based) was completed immediately after the appointment and consisted of 14 questions (10 Likert scale, 1 numerical response, 2 multiple choice and one

free text). This project was approved by the Pharmacy Ethics Sub Committee (PESC) and the pharmacy partner.

**Results:** All students passed the competency test. Students (attendance rate 83.9%, n = 115/137) worked in pairs over 6 days seeing 224 patients (99.6% appointment fill rate, n = 224/225). The patient survey completion rate was 82.6% (n = 185), and the experience of patients was positive, with 100% (n = 185) agreeing students behaved professionally, communicated respectfully and effectively, and would recommend the service to others. The average age of patients was 38 (range 19-66). Slightly more females accessed the service than males (female 56.8%, male 41.6%, no response 1.6%). Of those receiving the service, 63% (n = 142/224) were eligible for the service under NHS criteria, and referrals were only from this group: 11% (n = 15/142) blood pressure, 6% (n = 9/142) weight management, and 2% (n = 3/142) cholesterol management.


**Conclusion:** The student-led campus-based clinic was acceptable to patients. The lower age of patients attending may contribute to improved long-term health outcomes, as suggested by the Office for Health Improvement and Disparities (2021); delivering this intervention early may alter lifelong behaviour patterns.

### References

Clews, G. (2023). Can community pharmacy meet the demands of training more pharmacists? *The Pharmaceutical Journal*, **311**(7976), 311(7976). <https://doi.org/10.1211/PJ.2023.1.194824>

Office for Health Improvement and Disparities. (2021). *Preventing illness and improving health for all: A review of the NHS Health Check programme and recommendations*. <https://www.gov.uk/government/publications/nhs-health-check-programme-review/preventing-illness-and-improving-health-for-all-a-review-of-the-nhs-health-check-programme-and-recommendations>

## Establishing benchmarks: Comparing borderline regression and modified Angoff methodologies in pharmacy OSCE standard setting

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**Keywords:** Entrustable professional activity, borderline regression, modified Angoff method, OSCE, standard setting

**Background:** Objective Structured Clinical Examinations (OSCEs) are widely used to assess clinical skills in pharmacy schools. The use of traditional pass-fail cut-off yields wide variations in the results of different cohorts of students. This has led to a growing emphasis on the application of standard-setting procedures in OSCEs (Dwivedi, 2020).

**Aims:** This exploratory study aimed to determine the most effective standard-setting method to prevent incompetent students from passing and competent students from failing Pharmacy OSCE at Swansea University.

**Methods:** Eight stations were utilised to evaluate the performance of second and third-year pharmacy students in various Entrustable Professional Activities (EPAs). Two standard-setting methods were employed to determine the pass/fail standard: the modified Angoff and Borderline Regression methods. The reliability of the pass/fail standard of the two methods was measured using Cronbach's alpha.

**Results:** The study involved six pharmacy experts in academia or pharmacy practice who had previous knowledge of OSCE. The Modified Angoff method produced lower failure rates, usually less than 20% for each station. However, the experts' ratings varied across different stations, with a  $\pm 30\%$  difference in the cut score between the panel ratings. Furthermore, implementing the modified Angoff method can be resource-intensive and may lack defensibility in performance-based examination (Homer, 2020). On the other hand, failure rates for the Borderline methods ranged from 11% to 30% across different EPAs. The Borderline regression method has consistently been reliable and practical in providing acceptable cut-off scores across different stations (Hejri, 2013).

**Conclusion:** The Borderline Regression method generally provides defensible standards, assuming careful design of station-level scoring checklists. To reinforce the validity of combining multiple methods for standard setting, further studies in high-stakes clinical examinations utilising a larger number of judges and OSCE stations are recommended.

**References**

Dwivedi, N. R., Vijayashankar, N. P., Hansda, M., Dubey, A. K., Nwachukwu, F., Curran, V., & Jillwin, J. (2020). Comparing standard setting methods for objective structured clinical examinations in a Caribbean Medical School. *Journal of medical education and curricular development*, *7*, 2382120520981992.

Hejri, S. M., Jalili, M., Muijtjens, A. M., & Van Der Vleuten, C. P. (2013). Assessing the reliability of the borderline regression method as a standard setting procedure for objective structured clinical examination. *Journal of Research in Medical Sciences*, *18*(10), 887–891.

Homer, M., Fuller, R., Hallam, J., & Pell, G. (2020). Setting defensible standards in small cohort OSCEs: Understanding better when borderline regression can 'work'. *Medical Teacher*, *42*(3), 306–315

**Hospital-based practice supervisors identified barriers and enablers to extended experiential learning in the reformed MPharm**

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**Keywords:** *Anabler, barrier, experiential, placement*

**Background:** With the publication of the 2021 General Pharmaceutical Council Standards for the Initial Education and Training of Pharmacists, from 2026, UK pharmacists will be qualified as Pharmacist Independent Prescribers from the point of registration (General Pharmaceutical Council, 2021). In Northern Ireland (NI), students will complete 6 weeks of experiential learning in hospitals across their degree, increased from the current 2.5 weeks. A series of 'barriers and enablers' consultation events helped inform a programme of training and support for Practice Supervisors (PS).

**Aim:** To identify the barriers and enablers to new longitudinal placements as perceived by current and potential PS.

**Method:** Twenty-two consultation events were conducted across four of the five Health and Social Care Trusts. All Trust hospital pharmacists were invited to attend and data scribed. Inductive analysis was used to identify common themes. Ethical approval was not required.

**Results:** A total of 174 pharmacists attended the interviews. A number of barriers and enablers were identified. Workload and staff pressure was identified as the most commonly identified barrier. The perceived benefits of the placements were also highlighted, including future-proofing of the profession and producing more independent and capable students.

Barrier	Enabler
Facilities: computer access	Facilities: computer logins
Roles and Responsibilities: how much supervision needed	Roles and Responsibilities: clear definitions
Support: to deal with issues	Support: backfill
Workload and staff pressure: managing own workload	Training: e.g. clinical skills
Expectations: student expectations of placements	Change in mindset: seeing students as beneficial
Workbooks and tasks: how to trust their activities	Workplace: students assigned to teams rather than individuals

**Conclusion:** This study provided insights with regard to the concerns of PS and informed the design and delivery of appropriate resources for staff ahead of the introduction of

extended experiential learning. The study also provided PS with an opportunity to contribute to the development of enhanced experiential learning.

### References

General Pharmaceutical Council. (2021). *Standards for the initial education and training of pharmacists*. <https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021.pdf>

### Sussex integrated trainee pharmacist programme: A collaboration between community and secondary care

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**Keywords:** Multisector programme, TCAM, trainee pharmacist

**Background:** NHS Interim People Plan (2019) emphasises cross-sector training for early careers pharmacists, meeting integrated care systems workforce needs. Secondary care within Sussex and parts of Surrey had an established Trainee Pharmacists (TP) programme optimising resources and expertise between neighbouring Trusts underpinned by an “Educational Agreement” (EA) outlining Trust responsibilities. This was extended from July 2022 to TPs undertaking cross-sector placements, including Primary care. Perceived benefits were promoting a multi-sectoral peer networking culture. Supporting safe transfer of care around medicines (TCAM) with emphasis on local medicines optimisations (MO) strategies, subsequently improving patient safety.

**Aims:** Design and evaluate a programme emphasising local MO strategies and transfer of medicines across sectors.

**Method:** TP secondary care and community Education Leads Stakeholder group was established, to programme plan, incorporating TCAM and MO strategies. EA was updated to include new community partners. Post sessions, TPs completed online evaluations to identify if learning outcomes were met, session highlights, and areas for improvement. The Sussex Training Hub website hosted programme details.

Facilitators supporting interactive training sessions were held. Ethics approval was not needed.

**Results:** The EA for the 10-day programme and 35 TPs showed transparency of programme governance. Facilitators from stakeholders’ organisations joined virtual training sessions. All commented that this provided resources for online teaching they had not been aware of before and that they now intend to use. TPs worked with their cross-sectoral peers during workshops, enabling networking opportunities. The evaluation identified high quality of session content and delivery, programme benefits acknowledged expert access from different sectors and peer networking opportunities. TPs requested increased use of virtual break-out rooms and moving to in-person events. Limitations include a small TP cohort.

**Conclusion:** This promotes multi-sectoral training, supports TCAM, and emphasises local MO strategies and peer networking. Additional facilitator guidance supported teaching technology use. Programme annual review enables future evolution.

### References

Interim NHS People Plan. (2019). *The future pharmacy workforce, policy and strategy*. <https://www.longtermplan.nhs.uk/publication/interim-nhs-people-plan/>

### Evaluating the knowledge and skills confidence level of Trainee Pharmacists and Designated Prescribing Practitioners on the Independent Prescribing pilot

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**Keywords:** Designated prescribing practitioner, independent prescribing, trainee pharmacist

**Background:** Foundation training for trainee pharmacists (TP) will include independent prescribing (IP) from July 2025

(GPhC, 2022). A national pilot programme has been commissioned by NHS England to develop and evaluate IP training implementation and assessment models during foundation training.

**Aim:** To evaluate the knowledge and skills confidence level of TPs, designated prescribing practitioners (DPPs), and designated supervisors (DSs) at the start of the IP pilot.

**Method:** An online survey (MS Forms) was developed, which consisted of fourteen 5-point Likert scales (from 'not confident at all' to 'completely confident') and four free-text questions. The survey aimed to self-assess TP, DPP and DS knowledge and skills with regard to the prescribing consultation and prescribing governance competencies outlined in the RPS Competency Framework for all Prescribers and supervision, if applicable. It was emailed to participating TPs (n = 22), DPPs (n = 23), and DSs (n = 10). Data was descriptively summarised using Excel.

**Result:** The survey response rate was 56% (n = 31; TPs n = 16; DPPs/DSs n = 15). Table I summarises the results related to confidence. 44% of TPs were strongly or quite confident in their ability to complete the pilot. Free-text comments highlighted it was due to the perceived burden of extra workload and time constraints from combining the pilot with their training.

**Table I: Percentage of DPPs/DSs and TPs that stated strongly and quite confident in the assessed competency**

	Consultation skills (%)	Prescribing governance (%)	Supervisory abilities (%)
DPPs/DSs	87 (n=13)	93 (n=14)	53 (n= 8)
TPs	44 (n=7)	25 (n=4)	NA

**Conclusion:** The results demonstrate that the DSs and DPPs felt confident in their knowledge and skills relating to prescribing consultation and prescribing governance but were less confident in their supervisory abilities. TPs were less confident in their ability to complete the IP portfolio. Future work will involve the evaluation of implemented IP training and assessment models.

### References

General Pharmaceutical Council. (2022). *Guidance to support the implementation of the standards for the education and training of pharmacist independent prescribers.* <https://www.pharmacyregulation.org/sites/default/files/document/guidance-to-support-the-implementation-of-the-standards-for-the-education-and-training-of-pharmacist-independent-prescribers-october-2022.pdf>

CONFERENCE ABSTRACTS

# Pharmacy education conference abstracts 2024

## Pharmacy Education – What does the future hold?

Manchester, United Kingdom

### Poster presentations

#### Moving from observational to experiential pharmacy undergraduate placements

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**Keywords:** *Entrustable professional activity, experiential learning, shadowing, simulation learning, supervision*

**Background:** Pharmacy student placements in a hospital setting have been dominated by observing tasks. The change to the initial education and training for pharmacists (GPhC, 2021) influenced placement providers to move from shadowing to simulation/experiential activities. Thus, the placement programme was redeveloped by the Trust's pharmacy team to change to simulation learning with practice in clinical areas.

**Aim:** Explore pharmacy students' and pharmacy team perspectives on the redeveloped provision of pharmacy undergraduate hospital placements at the Trust.

**Method:** Developed survey (27 questions) was distributed to 77 students from two Universities at the end of each placement (October 2023-January 2024). Students completed either 1-day (66 students) or 5-days (11 students) placements. Staff survey (16 questions) was distributed to 42 staff. Both surveys assessed perceptions and experiences of placement provision using free text and 5-point Likert scale questions. The free-text responses were thematically grouped and closed questions descriptively summarised

using Excel. The Trust's clinical audit team approved the project.

**Results:** The response rate was 84% (65/77) for students and 33% (17/42) for staff. Staff indicated that most had prior experience in facilitating placements with varied awareness of learning outcomes (LOs). Free-text comments indicated concerns about staff capacity, the impact on clinical service provision, and students' limited access to local systems. One-third of staff thought the experience was useful for their development. Students agreed that placement enabled them to achieve LOs. The level of supervision varied. The most frequent activity with reduced supervision was drug history taking. Direct supervision was mostly required for medication counselling. Students completing 5-day placements reported more reduced supervision activities.

**Discussion:** The redeveloped programme enabled students to complete experiential tasks with reduced supervision and was accepted overall. Highlighted barriers to increase experiential learning were staff capacity, impact on patient care, length of placements, and access to hospital systems.

#### References

General Pharmaceutical Council (GPhC). (2021). *Standards for the initial education and training of pharmacists – Interim learning outcomes*.  
[https://www.pharmacyregulation.org/sites/default/files/document/interim-learning-outcomes-foundation-training-year-march-2021\\_005.pdf](https://www.pharmacyregulation.org/sites/default/files/document/interim-learning-outcomes-foundation-training-year-march-2021_005.pdf)

## Equality, diversity and inclusivity: Evaluating the inclusivity of the Primary Care Pharmacy Education Pathway (PCPEP) assessment strategy

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**Keywords:** Equality diversity and inclusivity, inclusive assessment, quality assurance

**Background:** The Quality Assurance Agency for Higher Education (2018) recommends providers monitor inclusive assessment practices to ensure equitable opportunities with no group or individual unintentionally disadvantaged.

**Aims:** To measure the extent to which the Primary Care Pharmacy Education Pathway (PCPEP) assessment strategy facilitates inclusive assessment.

**Method:** The PCPEP assessment strategy includes Five multiple choice e-assessments, one video-based e-assessment, two reflective essays, two case-based discussions, two multisource feedback, a clinical assessment skills log, two consultation skills direct observations, one quality improvement project and an e-portfolio. Activities facilitating inclusive assessment were derived from the Quality Assurance Agency for Higher Education (2018) and the University of Manchester (2021) guidance. Two researchers independently reviewed the extent to which these activities were considered in the PCPEP assessment strategy. Red-Amber-Green ratings were used.

**Results:** Consensus was achieved between the two researchers. Five activities were rated green (fully achieved), three activities were rated amber (partly achieved), and no activities were rated red (not achieved).

**Table I: Performance of the PCPEP assessment strategy in facilitating inclusive assessment**

Adopting a range of assessment methods	Green
Engaging student voice in assessment design	Amber
Employing culturally inclusive assessment methods	Amber
Considering religious observances and school holidays when setting deadlines	Green
Considering students' previous educational background and assessment experiences	Green
Considering the needs of students with disabilities/neurodiversity	Amber
Ensuring students have variety in assessment and some individual choice	Amber
Ensuring feedback is timely, constructive and developmental	Green
Developing students' assessment literacy and alleviating assessment bias	Green

**Conclusion:** The results demonstrate that the PCPEP assessment strategy facilitates inclusive assessment. The biggest challenge is making assessments inclusive for learners with disabilities or neurodiversity. Planned improvements include: 1) Reviewing e-learning software to improve accessibility. 2) Developing guidance on computer accessibility functionality. 3) Reviewing wording of e-assessments to be more accessible to learners who use screen readers.

### References

The Quality Assurance Agency for Higher Education. (2018). *UK quality code for higher education advice and guidance: Assessment*. [https://www.qaa.ac.uk/docs/qaa/quality-code/advice-and-guidance-assessment.pdf?sfvrsn=ca29c181\\_5](https://www.qaa.ac.uk/docs/qaa/quality-code/advice-and-guidance-assessment.pdf?sfvrsn=ca29c181_5)

The University of Manchester, Faculty of Biology, Medicine and Health. (2021). *Considerations for Inclusive Assessment*. (Access restricted to University of Manchester staff): <https://documents.manchester.ac.uk/protected/display.asp?DocID=60673>

## How pharmacists and pharmacy technicians can address patient information needs during medicine shortages

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**Keywords:** Health service, information needs, medicines information, medicine shortage, pharmacy training

**Background:** The recent global events have highlighted the significant impacts of medicine shortages on patient health outcomes (EAHP, 2023) and their ability to engage in shared decision-making, which limits support for management strategies (Tucker *et al.*, 2020). In the UK, despite national efforts to inform healthcare professionals (HCPs) (NHS England, 2019), there remains a lack of consistent strategy to effectively communicate such information to patients. There is limited research into the education and training needs of pharmacy teams in this context.

**Aims:** To identify patient communication preferences about medicine shortages and explore the barriers and facilitators for pharmacy teams to deliver this information effectively.

**Method:** A descriptive exploratory approach using semi-structured interviews was conducted with patients/representatives (n = 10) and HCP pharmacists and pharmacy technicians (n = 10). Participants were recruited through opportunistic and snowball sampling. Interviews, conducted from August to November 2021 via MS Teams, were transcribed verbatim and analysed using NVivo 12 for thematic analysis. Ethical approval was granted by The Imperial College Research Ethics Committee (reference 20IC6313).

**Results:** Patients expect personalised, timely, and trustworthy information on medicine shortages, preferably delivered digitally. They perceive a lack of consistent information and contextual and timely understanding among HCPs. Suboptimal communication threatens patient empowerment and satisfaction and may lead to patients taking unhelpful actions. HCPs express a willingness to share information with patients but face challenges in communicating risks effectively and dealing with inconsistencies in accessing national information and workload pressures.

**Conclusion:** Patients' expectations for medicine shortages communication are clear, well-characterised and supported by HCPs. There is a clear need for a national, standardised, patient-focused communication toolkit on medicine shortages. Training pharmacy staff and providing educational resources for patients are crucial to enhancing patient engagement in their healthcare management during medicine supply disruptions.

### References

- European Association of Hospital Pharmacists. (2023). *EAHP 2023 shortage survey report*. [https://www.eahp.eu/sites/default/files/shortages\\_survey\\_report\\_final.pdf](https://www.eahp.eu/sites/default/files/shortages_survey_report_final.pdf)
- NHS England. (2019). *A guide to managing medicines supply and Shortages*. <https://www.england.nhs.uk/wp-content/uploads/2019/11/a-guide-to-managing-medicines-supply-and-shortages-2.pdf>
- Tucker, E. L., Cao, Y., Fox, E. R., & Sweet, B. V. (2020). The drug shortage era: A scoping review of the literature 2001-2019. *Clinical Pharmacology & Therapeutics*, **108**(6), 1150–1155. <https://doi.org/10.1002/cpt.1934>

## Evaluating the impact of simulation on pharmacy students' perceived preparedness for placement and new prescribing standards

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**Keywords:** New standard, placement, prescribing, simulation

**Background:** From 2026, pharmacists joining the GPhC register will automatically be annotated as independent prescribers, provided students have been fully trained to the 2021 initial education and training of pharmacists standards (General Pharmaceutical Council, 2019). The standards introduce a number of important changes, particularly in the pharmacy undergraduate programme, to ensure future pharmacists are equipped for their roles. These changes include a greater focus on professional judgement, management of risk, and diagnostic and consultation skills. Simulation-based education has been increasingly adopted in pharmacy curricula to prepare students for real-world practice (Lloyd *et al.*, 2018). However, the effectiveness of simulation in preparing pharmacy students for placement is still unclear.

**Aims:** This study aims to evaluate the impact of simulation on pharmacy students' perceived preparedness for placement and new prescribing standards. 108 third-year pharmacy students were provided with face-to-face simulations delivered by clinical pharmacists and nurse practitioners, focusing on drug history and communication skills, clinical decision-making skills, physical assessments, and diagnostic skills.

**Methods:** 108 third-year pharmacy students at King's College London participated in 20 hours of simulation as described above. Immediately after the simulation, an electronic survey accessed via a QR code assessed outcomes using questions based on a Likert scale (strongly agree, agree, neutral, disagree and strongly disagree).

**Results:** A total of 74 responses were received, noting significant improvements in perceived knowledge, skills, and confidence among students who received simulated-based education. 74% agreed that simulation training increased their knowledge and ability for placement activities. 86% agreed that it enhanced skills for accurate drug history taking, a key skill required whilst on hospital placement. Regarding new prescribing standards, 82% agreed that simulation improved clinical decision-making skills, and 76% agreed it enhanced diagnostic skills.

**Conclusion:** This study provides evidence that simulation-based education may be helpful in preparing pharmacy students for placement and exposure to new prescribing standards, enhancing knowledge, skills, and confidence.

Further evaluation of student performance during placement is required.

**References**

General Pharmaceutical Council (2019). *Performance standards*. <https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-education-and-training-of-pharmacist-independent-prescribers-january-19.pdf>

Lloyd, M., Watmough, S., & Lloyd, N. B. author M. (2018). *Simulation-based training: Applications in clinical pharmacy*. The Pharmaceutical Journal. <https://pharmaceutical-journal.com/article/research/simulation-based-training-applications-in-clinical-pharmacy>

**Diversity of skin images in the GPhC registration assessment: An image analysis**

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**Keywords:** Registration assessment, skin diversity

**Background:** Pharmacists must recognise common dermatological conditions in a diverse range of skin tones. The under-representation of dark skin tone images in didactic material has introduced bias in healthcare education, contributing to disparities in patient care (Lester *et al.*, 2019; Perlman *et al.*, 2021). The new standards for the initial education of pharmacists (GPhC, 2021) place a greater emphasis on equality, diversity and inclusion (EDI) in helping combat health inequalities. The GPhC registration assessment (RA) has included colour resources such as skin images since 2016. Incorporating a diversity of skin tones forms part of the regulators' commitment to promoting inclusion.

**Aims:** A retrospective review of skin images utilised in the RA's to quantify the degree of diversity.

**Method:** RA papers between June 2016 and November 2023 were reviewed to identify questions with skin images. Skin tone of each image was categorised according to the Fitzpatrick scale (Fitzpatrick TB, 1988).

**Results:** Since 2016, the RA has included skin images 84 times: 76 light skin tones (90.4%), three medium skin tones (3.6%) and six dark skin tones (6%). Prior to July 2021, all images were light skin tones.

**Table I: Skin tone classifications in the RA**

Year	Number of images	Skin tone classification		
		Light	Medium	Dark
2016	7	7		
2017	7	7		
2018	7	7		
2019	9	9		
2020	6	6		
2021	25	22	2	1
2022	11	8	3	
2023	12	10	1	1
<b>Total</b>	<b>84</b>	<b>76</b>	<b>3</b>	<b>5</b>

**Conclusion:** This study indicates an improvement in representation in the RA paper over time. Reviewing image diversity is now incorporated into the RA development process. The findings highlight the importance of EDI checks on didactic material to provide assurances that content promotes inclusion.

**References**

Fitzpatrick, T. B. (1988). The validity and practicality of sun-reactive skin types I through VI. *Archives of Dermatology*, **124**(6), 869–871. <https://doi.org/10.1001/archderm.124.6.869>

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## An investigation to determine the accuracy of information provided by Artificial Intelligence (AI) technologies in relation to conditions that can be managed with over-the-counter medicines and self-care measures

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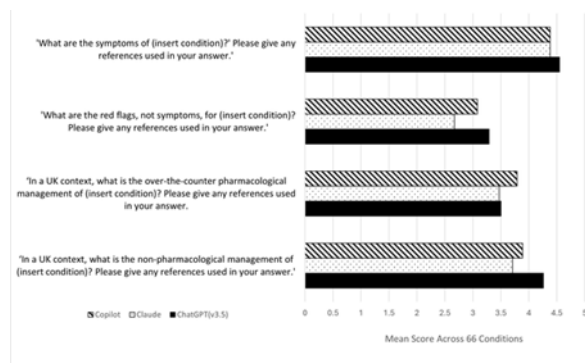
**Keywords:** Artificial intelligence, education, over-the-counter, self-care, United Kingdom

**Background:** One resource that the public may use for health education is Artificial Intelligence (AI) (Howard *et al.*, 2023) and therefore pharmacists need to learn about this too.

**Aims:** To determine whether information provided by AI technologies is accurate (UK context) for conditions that can be managed with over-the-counter medicines and self-care measures.

**Method:** Ethical approval was not required (this did not involve human subjects). Three AI platforms were selected, and each was asked four questions. The four verbatim questions are provided in Figure 1 and related to symptoms, red flags, and pharmacological and non-pharmacological management of conditions previously described (such as athlete's foot). The AI responses were compared to information from the National Institute for Health and Care Excellence (NICE) Clinical Knowledge Summaries (CKS), the National Health Service (NHS) website, and the product literature. AI responses (data) were collected in a spreadsheet and scored from 5-1 (5 was complete information with no omissions or errors, 1 being very limited information with numerous omissions and/or inaccuracies). Following a team discussion (all authors), one author scored the responses, and a second author with extensive expertise checked a sample. The analysis took the form of descriptive statistics.

**Results:** The mean scores for the responses provided by the three platforms are provided in Figure 1.



**Figure 1:** Mean scores (maximum available score was 5) for the responses provided by Artificial Intelligence platforms to four questions across sixty-six conditions

There were 264 possible scores per platform (i.e. four questions x 66 conditions). ChatGPT (v3.5) obtained a score of  $\geq 4$  on 183 occasions, Copilot on 168 occasions, and Claude on 146 occasions.

**Conclusion:** The accuracy of information differs by platform and by the question asked. Collectively, the AI responses to certain questions are more accurate than others (symptoms had a higher mean score than red flags). These findings, while conducted at the one-time point and on three chosen platforms, could inform the development of pharmacy guidance on using AI.

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## Development of an interpersonal communication competency framework for student pharmacists: A UK modified-eDelphi study

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**Keywords:** Communication, Delphi technique, pharmacy education, student pharmacist

**Background:** The GPhC emphasises the importance of graduates being able to employ communication skills in various settings (General Pharmaceutical Council, 2017). However, agreement on the key communication

competencies in student pharmacist education is lacking, prompting the need for further research.

**Aim:** To achieve consensus on a framework of interpersonal communication skills for MPharm students.

**Methods:** After approval from Keele University REC, a draft interpersonal communication competency framework was developed from a literature review. Participants from across UK represented community, hospital, primary care, academia, industry, regulatory, and educational pharmacy sectors and took part in an online three-round modified eDelphi study. In Round 1, participants reviewed the draft framework, provided feedback on competency relevance/wording and suggested additional competencies. Round 2 evaluated an updated framework for competency importance. Competencies required 80% agreement to achieve consensus. Competencies without consensus underwent Round 3 review. Feedback was provided after each round.

**Results:** The draft framework included 123 competencies spanning four communication domains: Generic, Patient-Specific, Peer, and Other (e.g. written), further categorised into eleven Sub-Domains. Across three rounds, 56, 49, and 47 participants completed each round. Round 1 generated 500+ comments, prompting significant changes to the draft framework. In Round 2, 120 (95%) of 126 competencies received high (80%+) importance ratings. Six competencies lacking consensus were revisited in Round 3, where three competencies further reached agreement. A framework of 123 competencies was finalised.

**Conclusion:** This is the first competency framework developed for student pharmacist education. While most competencies achieved consensus, some competencies reinforced the challenge of aligning agreement. The framework, grounded in evidence-based development and stakeholder involvement, potentially serves as a flexible foundation for structuring pharmacy education curricula. Future research can focus on competency implementation and assessment of the practicalities of these competencies across diverse pharmacy settings in enhancing student learning and practice.

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## Evaluation of automatic progression pathways at University Hospitals of Derby and Burton for trainee pharmacists between AfC bands 5-6 and for newly qualified pharmacists between AfC bands 6-7

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**Keywords:** Automatic progression, early career, newly qualified, trainee pharmacist

**Background:** Progression pathways were introduced to provide real-time career development feedback. Providing enhanced support during the first year of work can improve the successful transition between student and hospital pharmacist roles (Mourh, Newby, 2019).

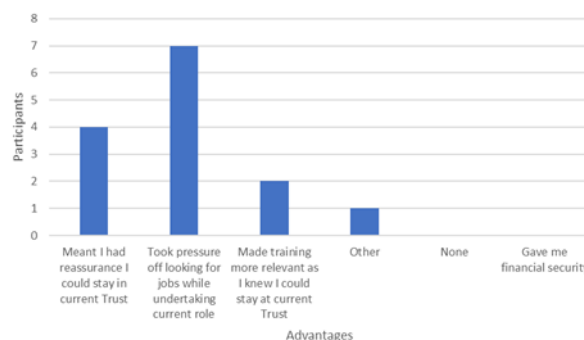
5-6 pathway, reviewed 13-weekly, progress at 12 months

6-7 pathway, reviewed 6-monthly, progress at 22 months (or fast-track option available)

**Aims:** To evaluate participants' and appraisers' experiences of undertaking automatic progression pathways.

**Method:** Microsoft Forms questionnaire was completed by 25 staff members, 8 of whom underwent 5-6 automatic progressions and 9 of whom underwent 6-7 automatic progressions. 7 appraisers completed a further questionnaire.

**Results:** "If you had taken part in one, what were the advantages (if any) of undergoing the automatic progression pathway?"



Participants rated the helpfulness of undergoing the process as 4.75/5.

Trainee needs met by the pathway included keeping participants on track, helping with goal-setting, and identifying and addressing learning gaps more proactively. Participants stated they could focus on learning and work rather than job applications. Job security/progression made roles more attractive. By providing future certainty for

hospital pharmacist staff, job satisfaction can be improved (Liu, 2011).

Transition benefits include staff having an increased awareness of what the next grade entails before starting the next role and that the pathway allowed them to take the initiative. Discussing anonymised feedback from other departmental colleagues added depth to the feedback given, enabling a coaching approach to identify development areas.

Disadvantages include a lack of interview experience for later career progression.

**Conclusion:** Participants appreciated achieving career objectives via internal promotion with improved job security. Senior pharmacist appraisers appreciated the opportunity to give staff their undivided attention with regular access to career coaching and planning during reviews. Further work could investigate job satisfaction scores for staff, which will further inform retention planning.

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## Using subject matter experts to maintain the validity of the GPhC's registration assessment question bank

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**Keywords:** Question bank, registration assessment, SMEs, subject matter expert, validity

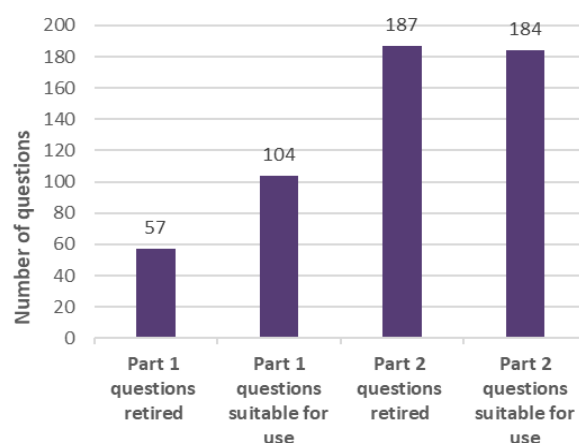
**Background:** The registration assessment (RA) is a pre-requisite for registration as a pharmacist in the UK. It is a high-stakes assessment that establishes the national standard, thereby necessitating high validity (American Educational Research Association, 2014). One component of validity is using relevant and contemporary questions drawn from a question bank with the capacity to populate RA papers. In 2020, a review process was established with subject matter experts (SMEs) from patient-facing pharmacy practices across the UK (Smith & Cross, 2022). In this evaluation, the prior successful model was extended to assess unused questions drafted between 2015 and 2019.

**Aims:** To use an established review process to identify and retire or update unsuitable questions in the RA question

bank, ensuring question readiness for selection and facilitating high-quality assessments.

**Methods:** The GPhC facilitator initially screened all the questions, retiring those necessitating a complete rewrite, e.g., where guideline changes invalidated the testing point. Questions requiring further discussion were reviewed via virtual 'validity panels' facilitated by the GPhC and comprised of three SMEs with expertise in community pharmacy, hospital pharmacy, and primary care. The panel determined the outcome for the remaining questions, recommending suitability, modification, or retirement.

**Results:** 532 questions were reviewed in total; 154 were retired during screening, and 378 were reviewed across 18 panels. Image 1 shows a breakdown of assessment question outcomes, categorised into RA Part 1 (calculations) and RA Part 2 (single-best-answer and extended-matching) questions.



**Conclusion:** The process effectively contributed to building question bank capacity, producing positive outcomes through the active engagement of SMEs. A robust set of questions is now available in the bank and ready for the RA. This work establishes a replicable model for enhancing content validity and offers a scalable framework for quality assurance across diverse contexts and professions.

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## Differential item functioning in the General Pharmaceutical Council's registration assessment questions

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**Keywords:** Assessment, bias, differential item functioning

**Background:** Passing the registration assessment (RA) is a pre-requisite for registration as a pharmacist in the UK. The RA comprises two time-limited papers and examines the contents of the RA framework (GPhC 2024). Part 1 has 40 calculations, and Part 2 has 120 selected-response questions.

Differential Item Functioning (DIF) is a statistical technique that determines if an assessment question functions differently for different groups of candidates, even if they have the same underlying ability being measured by the assessment. Detecting and addressing DIF helps ensure assessments are fair, unbiased, and reliable.

**Aims:** Establish if DIF exists in RA questions across the selected variables.

**Method:** DIF analysis (Alpha Plus 2023) performed on RA data from 2021–2023, including responses to 300 part 1 questions and 823 part 2 questions for 10,767 candidates. Six DIF variables were examined: age, country of foundation training, ethnicity, school of pharmacy, sector of foundation training and sex.

**Results:** 27 part 1 and 29 part 2 questions displayed medium–large effect size DIF. The DIF-affected items were predominantly clustered within the variables of the school of pharmacy for part 1 and the sector of foundation training for part 2.

**Conclusion:** Encouragingly, the occurrence of DIF is minimal, indicating a lack of bias. Results suggest that the knowledge required to answer these questions may depend on the school of pharmacy or the sector of foundation training a candidate belongs to. All questions with medium-large effect DIF will be reviewed by the Board of Assessors, and where appropriate further focus groups will be convened to determine plausible explanations for the differences. Questions may be modified or removed from the GPhC question bank accordingly. Learning from the process will feed into future item development.

Phase 2 will investigate DIF against other variables (e.g. disability, religion/belief).

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## Assessing pharmacy student understanding of menopause and hormone replacement therapy: A survey study

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**Keywords:** Hormone, knowledge, menopause, pharmacy, replacement therapy, student

**Background:** The Women's Health Strategy highlights the need for healthcare professionals to be better educated on menopause (Department of Health & Social Care, 2022). Community pharmacists are well-placed to support and advise women with menopausal symptoms (The Pharmaceutical Journal, 2023). To support these future ambitions, high-quality teaching on the Masters of Pharmacy (MPharm) degree in menopause and hormone replacement therapy (HRT) is paramount.

**Aim:** To find out the current confidence and knowledge of UK pharmacy students on menopause and HRT.

**Method:** Following ethical approval, pharmacy students at 8 UK universities in years 1-4 were invited by email to complete an online survey on menopause and HRT. Students were asked to self-report their confidence on each topic (0=not confident at all, 10=very confident), answer subject-specific questions and specify how they would like to learn more about menopause/HRT in their MPharm studies.

**Results:** A total of 178 students (158 [88.8%] aged 18-24 years, 147 [82.6%] female) in years 1 (59, 33.1%), 2 (35, 19.7%), 3 (28, 15.7%) and 4 (56, 31.5%) completed the survey. Only one student self-reported being menopausal, but 114 (64.0%) reported having had conversations with friends or family who had gone through or were going through menopause. Median [interquartile range] self-reported confidence in knowledge on menopause and HRT was 5.0 [4-6] (178 respondents) and 4.0 [2-5] (177 respondents), respectively. From 176 students, lectures (133, 75.6%) were most commonly chosen as the preferred teaching method to improve subject knowledge, followed by workshops (126,

71.6%) and real-life discussions of personal experiences (78, 44.3%).

**Conclusion:** Pharmacy students lack confidence in their own knowledge of menopause and HRT. Knowledge gaps identified from this study can inform discussions about how these topics are taught in the MPharm degree. Targeted educational tools could be developed to support teaching in lectures and workshops.

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## Year 1 T-levels pharmacy placements at East Sussex NHS Healthcare Trust

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**Keywords:** Consultation, drug administration, patient pharmaceutical career, pharmacy, T Levels

**Background:** T-level programmes are aimed at 16-19 year olds comprising a 2-year vocational qualification split with 80% classroom learning and 20% industry placement (Department for Education, 2023). The NHS Long Term Plan, NHS England and NHS Improvement recognise the need to strengthen the image and reputation of pharmacy teams to a wider pool of people, promoting the future pharmacy workforce (Beswick & Cattell, 2019). Supporting these views, our Trust has successfully offered year-one T-level placement since 2022.

**Aims:** Provide opportunities for T-level students and enable practical experience in pharmacy (NHS Pharmacy, 2022). Increase awareness of pharmacy roles, duties and required skills (Care Quality Commission, 2023).

**Methods:** Placement clearance was completed centrally through the Trust's Integrated Education Team. Four 7.5-hour sessions scheduled in June 2023 accommodated 27 students. Planned activities included presentations, quizzes,

workshops, role-play, visiting wards and speaking to multi-professionals. Students completed written evaluations which enquired about what they learnt, enjoyed, and want in future. Ethics approval was not required. Data was quantitatively and thematically analysed using Microsoft Excel.

**Results:** Total responses received 25/27. Only one student had previous pharmacy work experience, which was in the community. All learnt something new about pharmacy 25/25(100%). 14/25 (56%) wanted more time shadowing different roles. Overall, they enjoyed the various activities and appreciated the immense contribution of pharmacy during the patient's medical journey. T-level students fed back an increased awareness of career pathways for different pharmacy roles.

**Conclusion:** There is an increased appetite for T-Levels to explore pharmacy careers after being involved in this placement. The feedback enabled targeting the needs of Year 2 students and placement structure development to increase observations and shadowing opportunities. T-level student placements can add value towards reducing gaps in the future workforce. Other course placement provisions should be explored to promote pharmacy careers, e.g. BTEC Applied Sciences placements.

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## Master of Pharmacy (MPharm) students' views & experiences of assessment and feedback

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**Keywords:** Assessment, assessment experience questionnaire, feedback, pharmacy

**Background:** The QAA's UK Quality Code for Higher Education (2018) states that "assessment is a fundamental aspect of the student learning experience". Feedback is an integral part of the assessment process and provides students with an insight into how they performed. Transforming the Experience of Students through Assessment (TESTA) is a joint National Teaching Fellowship Project (2019) aiming to improve the quality of student learning through addressing programme-level assessment. The TESTA consortium has developed a range of resources to support universities in evaluating assessment and feedback approaches, including a student questionnaire called the Assessment Experience Questionnaire (AEQ) (Batten *et al.*, 2018).

**Aim:** To evaluate pharmacy students' views and experiences of assessment and feedback on the MPharm programme.

**Methods:** Following ethical approval, an online questionnaire was distributed to Year 2 and Year 4 pharmacy students (n = 193). The questionnaire was developed by the research team and is based on the AEQ developed by TESTA. The AEQ quantitative responses were analysed following the TESTA protocol. A content analysis was undertaken on the free text responses.

**Results:** A total of 80 students responded to the questionnaire, providing a response rate of 42%. Quantitative results are presented in Table I. No significant differences ( $p > 0.05$ ) were observed between genders, year of study, and academic achievement in the previous year. Themes identified within the free text responses include "motivators", "good practice" and "modifying assessment".

**Table I: Quantitative results**

Scale	Mean score / 5
Influence on student effort	3.93
How students learn	3.86
Quality of feedback	3.57
Formative feedback	3.30
Integrated assessment design	3.21
Internalisation of standards	2.98

**Conclusion:** Findings from this study show that students understand the importance of assessment and applying effort to succeed, but this effort is primarily focused on summative assessments. Results will be used to further enhance the provision of assessment at feedback on the MPharm programme.

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## Exploring pharmacy students' views and knowledge on pharmacogenomics

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**Keywords:** Awareness, curriculum, knowledge, pharmacy student, pharmacogenomics

**Background:** Pharmacogenomics (PG) is key in the advancement of personalised medication where a genome variation can potentially alter drug responses or cause an adverse reaction. Therefore, detecting these variations can determine treatment suitability<sup>1</sup>. Pharmacists need to have the right training and education at the undergraduate level and beyond to enable them to provide PG services.

**Aims:** This study explored pharmacy students' perceptions, their expectation of PG and their knowledge of the topic.

**Methods:** Following ethical approval, an online questionnaire comprised of 32 mixed-type questions on PG awareness and knowledge, learning experience, PG testing, and demographics was distributed to final-year pharmacy students at a London University. PG teaching here has been integrated into the curriculum but not explicitly labelled, and final-year students also received two PG-specific sessions. Using Raosoft, the sample size was calculated as 92 (95% confidence level) from a cohort of 120 students.

**Results:** Response rate was 77.5% (n = 93/120). Concerning PG awareness, over half the respondents (51.6%, n = 48/93) indicated they were unfamiliar with PG and 52.7% (n = 49/93) either "agreed or strongly agreed" with their inability to recognise medications appropriate for PG testing. Only 23.7% (n = 22/93) correctly identified the enzyme responsible for warfarin metabolism. A better proportion, at 50.5% (n = 47/93) and 43% (n = 40/93) correctly recognised that abacavir and fluorouracil are suitable for PG testing, respectively. Regarding their learning experience, 12.9% (n = 12/93) rated PG teaching as adequate, and 69.9% (n = 65/93) wanted more PG incorporated into their learning. When considering future PG testing, 80.6% (n = 75/93) anticipated conducting PG tests either regularly or sporadically and 88.2% (n = 82/93) welcomed PG testing services implementation.

**Conclusion:** The current incomprehensive teaching of PG is likely to be attributable to the lack of awareness and

knowledge. Respondents were receptive towards more PG being incorporated into the curriculum, which would ensure they are well-equipped to provide future PG services.

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## Evaluating the impact of a year 3 pharmacy student-led health screening clinic

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**Keywords:** *Experiential learning, health clinic, pharmacy undergraduate, service-learning*

**Background:** The authors' service-learning initiative established credit-bearing pharmacy student-led campus clinics for staff/students. These clinics offer accessible health-checks, raise awareness about cardiovascular disease (a leading cause of regional health inequalities), and identify/support those at higher risk. This experiential learning model benefits both learners and service-users, allowing learners to enhance their understanding of concepts in practice (Salam *et al.*, 2019).

**Aims:** Evaluate (i) perceptions of Year 3 pharmacy students on the impact on learning, self-perceived confidence and future practice and (ii) perception of user-experience of clinic use.

**Method:** University ethics approval was obtained. Year 3 students were invited to participate in an audio-recorded semi-structured interview conducted in-person post-clinic. Interviews were transcribed verbatim, anonymised and analysed using reflexive thematic analysis (Braun & Clark, 2020). An anonymous online questionnaire on clinic user-experience (staff/students attending clinic) was distributed to clinic users via the Qualtrics® platform and included open-ended questions analysed using reflexive thematic analysis (Braun and Clark 2020). Questions addressed reasons for attending the student-led clinic and comments highlighting students' performance (commendable areas).

**Results:** Analysis of student interviews (n = 7) revealed themes of; "*better preparedness for practice*", "*opportunity for person-centred care*", "*sensitivity to risk outcomes*", and "*discussing worrying news*". Feedback from clinic users (n = 117) highlighted that clinic attendance was related to not having a health check previously and wanting to learn about individual health/risk factors. Clinics were described as

convenient, accessible and 'a great initiative to learn more about my health'. Users felt they were treated with dignity; "*They were patient and thoughtful, offering advice I can implement straight away*".

**Conclusion:** This initiative shows the potential of service-learning in pharmacy education to provide real-life experiences to prepare students for future practice and enhance confidence and communication skills, whilst also providing beneficial service to the local community.

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## Medical students' understanding of learning from podcasts: A phenomenographic study

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**Keywords:** *Education, phenomenography, podcasts*

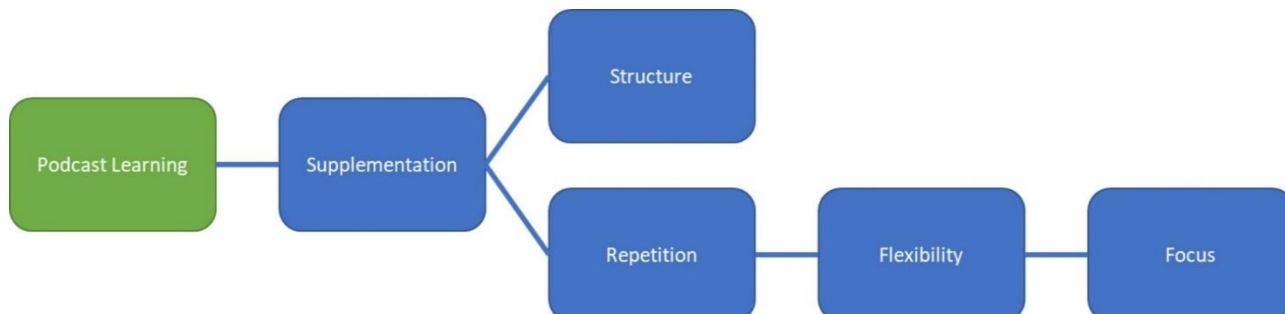
**Background:** There has been a global rise in the number of people listening to podcasts in recent years (Sang, 2020). Healthcare students who use educational podcasts are generally positive about their use in learning. Students may access podcasts to learn new material or refresh their memory of previously taught material. When a student is listening to a podcast an academic loses some control over extrinsic and germane load. If working memory becomes overloaded, then there is an increased risk that information is not fully understood.

**Aims:** The aim of this study is to better understand how students learn from educational podcasts.

**Methods:** Phenomenography was selected to investigate the different ways in which phenomena are experienced by participants. Medical School students at Swansea University were invited to participate. Two interviews were successfully arranged. One semi-structured interview was conducted for each participant. The interviews were audio-recorded and transcribed verbatim. Data analysis followed the phenomenographical process (Akerlind, 2005).

**Results:** An outcome space with 2 branches and five categories of description emerged, which shows students view podcast learning in two different ways. Category one, “Supplementation”, has an overarching position within the outcome space. The first branch contains only one category

“Structure”, whilst branch two contains three hierarchical categories. The relationship between the three categories is shown as a continuum in branch two. The most simplistic of these categories is “Repetition”. Moving along the continuum the categories demonstrate more complex ways of learning, with “Focus” being the most sophisticated.



**Conclusion:** The key finding was that the two branches of the outcome space broadly align with the ideas of external and internal factors influencing learning; the categories in the second branch offer a complex view of learner interaction with podcasts. The phenomenographic approach used for this study has allowed further understanding of podcast learning to emerge.

**Aims:** To understand current trends and attitudes and identify knowledge gaps in the public’s perception of heartburn & indigestion symptoms (NHS, 2023).

**References**

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Akerlind, G. (2005). Learning about phenomenography: Interviewing, data analysis and the qualitative research paradigm. In *Doing developmental phenomenography* (p. 63–73).

**Methods:** An online survey was carried out in November 2023 which included members of the British polling council with a nationally representative sample of 2,008 UK adults aged 18+. Results were analysed using descriptive analysis for each question, outlining the proportions of the sample.

**Results:** Survey results show that almost 1 in 2 adults across the UK experience heartburn and indigestion more than once a month. 40% of sufferers reported they were not aware they were experiencing heartburn and indigestion. Results also showed that only 4% of respondents were aware of 7 key symptoms of heartburn and indigestion. Acid reflux, chest burning and stomach discomfort were selected by just over half of the respondents. However, other vital symptoms, including stomach burning, sour taste, and bad breath associated with acid reflux and throat burning, were not symptoms many people would associate with heartburn and indigestion. 30% of respondents reported that heartburn and indigestion prevent them from doing things they wish to do at least once a week. Another new trend is that over a third of the people surveyed reported they have experienced heartburn and indigestion more as they have grown older (Reckitt, 2023).

**Trends, attitudes and behaviours of UK adults towards heartburn & indigestion**

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**Keywords:** Attitudes, heartburn, indigestion, self-care, trend





**Conclusions:** Heartburn and Indigestion are among the most common gastrointestinal conditions and can be easily misdiagnosed. Research from the consumer healthcare association, revealed that 53% of patients seen by a GP were told to use over-the-counter medicines (PAGB, 2023). With more responsibilities for pharmacists such as Pharmacy First, educating students will increase awareness and confidence in self-treatable illnesses.

**Background:** Heartburn and Indigestion are among the most common gastrointestinal conditions. (Guts UK, 2024). Incorporating the latest trends into pharmacy education will enable students to stay abreast of real-world evidence in gastroenterology.

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## Pharmacy students' perceptions of the MPharm selection interview

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**Keywords:** Admission, interview, MMI, professionalism, selection

**Background:** The General Pharmaceutical Council's 2021 Standards for the initial education and training of pharmacists mandate the use of an interactive component to assess undergraduate applicants' "values and overall suitability for the entry into the profession of pharmacy" (General Pharmaceutical Council, 2021). However, concerns surround using such approaches to assess professional attributes (Benbassat, 2019). Further, pharmacy students' opinions on their use are underrepresented.

**Aims:** To ascertain students' opinions on the use of selection interviews to assess applicants' professional suitability for MPharm entry.

**Method:** Following ethical approval, anonymous data were collected from consenting QUB MPharm students in years 1-4 via a pre-piloted online questionnaire (January 2024). Coded data were summarised using descriptive statistics. 7-point Likert scales were used to enhance response sensitivity (a score of 7 represented the highest level of agreement). Mann-Whitney U and Chi-square tests identified significant differences ( $p < 0.05$ ) between relevant year groups.

**Results:** The overall response rate was 24.4% ( $n = 128$ ). 18.4% ( $n = 26$ ) of current Year 1 students (the first cohort to undertake a QUB selection interview) responded. Year 1 students agreed more than those in other years that interviews could evaluate MPharm applicants' professional suitability [6.1 vs. 5.4, respectively ( $p = 0.009$ )] and that they

are more effective than approaches such as written applications [5.8 vs. 4.8, respectively ( $p = 0.002$ )]. Year 1 students more strongly agreed that online interviews are a suitable instrument [5.35 vs. 4.00 respectively ( $p < 0.001$ )]. All respondents agreed that interviews may encourage exaggeration by applicants and that pharmacy regulators should be responsible for specifying interactive selection process formats (means: 5.6 and 5.7, respectively).

**Conclusion:** QUB selection interview experience appears to influence the perceived value of interviews in assessing an applicant's suitability for pharmacy. Regulators must go further to make selection standardised and equitable. Moreover, it is crucial that outcomes from these processes are weighted appropriately, given their potential for exploitation.

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## Exploring pharmacy students' experience on the Objective Structured Clinical Examinations (OSCEs)

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**Keywords:** Learning strategies, Objective Structured Clinical Examination (OSCE), OSCE experience, peer role-playing

**Background:** The Objective Structured Clinical Examination (OSCE) assesses healthcare students' competencies in a range of skills. OSCEs can be stressful, and students prepare in different ways, including practising with peers, placements, simulations or working part-time in the healthcare sector.

**Aims:** This study explored student experience on OSCE, with a particular focus on those not passing at the first attempt.

**Methods:** Following ethical approval, an online questionnaire of 25 mixed-type questions (demographics, experience and views of past OSCEs) was sent to pharmacy students at a London university. Descriptive statistics were used for analysis.

**Results:** Forty-four responses were received (Table I).

**Table I: Demographics and pass rates**

Demographics	Group A (passed first time) 61.4% (n=27/44)	Group B (more than one attempt to pass) 38.6% (n=17/44)
Arab	22.2% (n=6/27)	35.3% (n=6/17)
Asian	44.4% (n=12/27)	41.2% (n=7/17)
Black	14.8% (n=4/27)	23.5% (n=4/17)
White	11.1% (n=3/27)	-
Mixed	7.4% (n=2/27)	-


Both groups found the revision involving role-play with peers as most useful (63%, n = 17/27 and 52.9%, n = 9/17) for A and B, respectively. Similarly, both groups spent more time focusing on module revision (40.7%, n = 11/27 and 52.9%, n = 9/17 for A and B, respectively. Approximately 30% of both reported dedicating equal revision time for OSCEs and module exams. Group A indicated they felt prepared (70.3%, n = 19/27) with 66.7% (n = 18/27) rating their OSCE experience positively (scoring above six on a scale of 10). In contrast, Group B scored their preparedness even higher at 82.4% (n = 14/17), yet only 29.4% (n = 5/17) were satisfied with their OSCE experience. Many respondents cited simple mistakes, nervousness, running out of time and rushing into scenarios as barriers affecting performance.

**Conclusion:** Students found revision through peer role-playing the most helpful. Those who did not pass the first time cited nervousness and time constraints as hindrances to their performance despite similar learning strategies.

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## Designing and evaluating the use of role play videos in the undergraduate teaching of prescribing in common minor illnesses for pharmacy students by means of simulations

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**Keywords:** Consultation skill, diagnostic skills, minor illness, pharmacy student, role play video

**Background:** The General Pharmaceutical Council (GPhC) emphasises the need for increased experiential learning in pharmacy education to better prepare students as future prescribers (GPhC, 2021). To enhance readiness for supporting common minor illness management, additional simulated learning opportunities have been incorporated into Kingston University's MPharm programme.

Literature highlights the efficacy of videos in supporting healthcare curriculums, making them an ideal tool for simulation experiences (Brame, 2016). This study aims to design role-play videos focusing on common minor illnesses for undergraduate pharmacy teaching, evaluating students' perceptions of these videos for consultation skills and knowledge.

**Methods:** A mixed-methods study was conducted. Ethical approval was obtained. Four videos depicting exemplary and improvable consultations for chosen topics were created by MPharm students. A pre-piloted 26-question survey was distributed to 132 second-year MPharm students using MS Forms. This survey evaluated participants' confidence, knowledge and consultation skills after watching the videos, and explored what they found helpful or disliked. Quantitative data were analysed using descriptive statistical analysis. Post-workshop interviews with seven participants explored their views on the video content. Qualitative data were thematically analysed.

**Results:** The response rate for the survey was 38.6% (n = 51/132) Survey results indicated that 74.5% (n = 38/51) felt the new videos could assist with minor illness revision, with a suggested optimal video length of five minutes (31.3%, n = 16/51). Interview responses emphasised the value of visual representation in understanding consultation skills. Students enjoyed videos showing differences in quality. Students appreciated seeing peers in the videos, fostering identification and achievability compared to scenarios demonstrated by qualified pharmacist tutors.

**Conclusion:** Integrating videos into MPharm teaching before simulations was found beneficial in perceptions of assisting with minor illness learning in the small cohort surveyed. Future work will expand topics and explore aspects of diagnostic and prescribing skills while evaluating the impact on student experience while on community pharmacy placements.

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## Evaluation of an Intercultural Competency (ICC) lecture at Reading School of Pharmacy

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**Keywords:** Cultural competence, curriculum, feedback, pharmacy education, pharmacy student

**Background:** Cultural competence in healthcare is a continuous process aimed at providing effective service tailored to diverse cultural backgrounds. In a multicultural healthcare setting such as the NHS, healthcare professionals need to understand and respect diverse cultural contexts when delivering healthcare services. Research indicates that culturally competent care improves satisfaction and health outcomes. Recognising the gap in Intercultural Competence (ICC) education within the MPharm programme at Reading School of Pharmacy (RSOP), an innovative lecture was delivered to bridge the gap. This idea is a step towards embedding ICC education in curricula to help future pharmacists navigate cultural challenges effectively.

**Aims:** To evaluate an innovative ICC lecture delivered to students in years 1 and 2 at RSOP, using direct feedback from students to assess the impact and identify further areas for improvement.

**Methods:** A feedback survey was conducted from Sept-Dec 2023, administered via Online Surveys®. 226 students were invited to rate their agreement on a 5-point Likert scale where 5 = strong agreement while 1 = strong disagreement. This was done across various dimensions of the lecture's delivery and content to gauge the overall impact and areas for improvement. The most frequently occurring values from the Likert scale are reported. The study was granted ethical clearance.

**Results:** 70/226 students (31%) participated, providing insights into the lecture's clarity, achievement of learning outcomes, novelty, organization of information, and relevance to practice, all scoring 4/5. However, the item that stimulated interest in the topic had a score of 3/5, indicating an area for improvement. Areas identified for further learning were racial bias, disparities, beliefs, women's health, and disabilities.

**Conclusion:** This positive feedback highlights the successful introduction of ICC education. Further improvement of the lecture was suggested. This feedback will aid in the refinement of the lecture's content and underline the need for the expansion of ICC education.

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## Evaluation of a communication workshop using real patients within the first six weeks of the MPharm course

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**Keywords:** Communication, empathy, health impact, patient, pharmacy student

**Background:** Introducing real patients early in the course enables students to gain an appreciation of the impact of health on patients, enhancing their empathetic skills, and promoting communication skills and self-confidence (Moudatsou *et al.*, 2020; Sowter *et al.*, 2021). As a two-way process, patients are empowered to share their stories, teaching the emotional rather than medical aspect of illness and promoting person-centred care (Shah *et al.*, 2005).

**Aims:** To explore patients' and first-year pharmacy students' perceptions of their communication and empathetic skills following patient interviews.

**Methods:** Communication workshops comprising groups of three to six first-year pharmacy students occurred within the first six weeks of the MPharm course. Students interviewed a real patient with at least one chronic condition. Learning outcomes included taking a medical history, appreciating the impact of illness on individuals, and practising communication skills. Students completed paper surveys post-workshop, evaluating perceived gains based on learning outcomes. Patients completed post-workshop surveys to gauge their perceptions of the workshop. Ethical approval was not required as the requirements of teaching evaluation were met.

**Results:** Student response rate was 89% (n = 140/157). 97% (n = 136/140) of students agreed they gained practice taking a medical history, with 98% (n = 137/140) gaining an appreciation of the impact of health on a person's life. 97% (n = 136/140) gained insight about adjusting their communication based on individual patients. 94% (n = 131/140) found their self-confidence improved.

Qualitative feedback indicated students enjoyed hearing patient stories and practising communication with patients. Eight patient responses established that 100% (n = 8) of patients felt empowered to share their stories.

**Conclusion:** This workshop improved students' self-confidence, providing a safe space to practise communication with real patients. Simulation cannot replicate patient journeys with illness; therefore, we must integrate real patients throughout the course to develop students' empathetic skills. Patients enjoyed participating and wanted further sessions to observe student development (Shah *et al.*, 2005).

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## First year pharmacy students experience of simulation training with a focus on communication

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**Keywords:** Communication, pharmacy, simulation

**Background:** In January 2021, the General Pharmaceutical Council (GPhC) introduced new standards for pharmacist education and training incorporating prescribing (GPhC, 2021), with an emphasis on experiential learning to prepare for practice. While simulation is regularly used in pharmacy education, intensive communication-focused simulation in first-year is not widely undertaken (Kerr *et al.*, 2021).

**Aim:** This study aims to explore first-year students' understanding of the clinical pharmacist role and their perceptions of the impact of communication-focused simulation on their communication skills and confidence.

**Method:** During their first semester, first-year students engaged in a total of 9 hours of small group simulation sessions. These involved students role-playing pharmacists and patients as well as sessions with simulated patients. All sessions placed emphasis on communication skills. A teaching evaluation questionnaire was sent to first-year students (n = 140). Data underwent a mixed-method analysis.


**Results:** Thirty-six students responded to the 21-question questionnaire (25.7% response rate). Results showed that 97% of students felt they had good awareness of the role of a clinical pharmacist and 84.4% of students noticed an improvement in their communication skills. Students felt that the simulation had prepared them for speaking to patients, and 78.2% of students would be happy to independently speak to a patient on placement. In free-text responses, students commented that sessions allowed them to "learn how to structure their communications", and many commented on improving their professionalism and professional communication; one student commented that simulation allowed them to "fully immerse into character".

**Conclusion:** First-year students being exposed to experiential learning early on in training builds confidence in speaking with patients. Simulation training has allowed students to think about and practice communication in a professional manner. Finally, working in simulated hospital wards and with patient educators was particularly helpful as students felt this made the scenarios feel more realistic to be a trainee pharmacist in practice.

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## Understanding student professionalism concerns

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**Keywords:** Interprofessional, professionalism

**Background:** Students in professional programmes need to have an understanding of professionalism, but evidence

suggests this isn't always the case (Health and Care Professions Council, 2011). In addition, professional standards are not fixed but evolve over time. The standards of professional clothing have changed due to increased awareness of managing the spread of infection, changes in fashion and increased acceptance of maintaining cultural identity. Social media usage has increased dramatically over the years, and inappropriate use could have far-reaching consequences for the student and the University.

**Aims:** This project aimed to explore student concerns around professionalism and to seek to identify potential ways to address any concerns.

**Method:** Ants were invited to join a focus group. The online meetings (Zoom) were facilitated by a staff member (JH), transcribed verbatim and analysed thematically. The University Ethical Review Toolkit was used and formal ethical review was not required.

**Results:** Nine students attended one of two focus groups.

There were no major differences in responses between different professional groups. Four themes emerged from these focus groups:

1. Fear – students were scared, particularly at the start of their programmes because they didn't know what they could and couldn't do.
2. Diversity – professionalism was frequently raised by white staff and many students from different ethnic backgrounds felt that diversity wasn't taken into account.
3. Uncertainty – There was uncertainty due to vague wording such as, 'smart casual' and also due to different messages being given by staff in the University compared to placement staff.
4. Solutions – Students suggested peer support and an interactive toolkit.

**Conclusion:** There was evidence of anxiety amongst students about meeting professional standards due to vagueness in guidance wording. Further work is required to establish if peer support from senior students might address this anxiety and take student diversity into account

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## Enhancing asthma management: A collaborative approach between primary care, academia, and patients

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**Keywords:** *Asthma, environmental sustainability, interprofessional education, patient education, patient empowerment*

**Background:** In the UK, asthma has been diagnosed in over 8 million individuals (CKS, 2023). The inhaler technique is vital for the optimal management of this condition (AL-awaited *et al.*, 2023), especially when switching devices to reduce carbon footprint (Panigone *et al.*, 2020). Mehuys *et al.* (2008) suggest that education is proven to improve asthma control. Pharmacy students at De Montfort University are taught and assessed on the inhaler technique, but they currently do not develop or demonstrate this knowledge with patients.

**Aims:** The aims of this project were to provide patient education and improve patient knowledge regarding asthma and inhaler techniques; delivered by pharmacy students.

**Method:** A targeted report of asthmatic patients was generated from SystmOne, to whom event information was sent via AccuRx. The student-led event consisted of an educational presentation and interactive session focused on asthma management, inhaler technique, patient choice, and environmental issues. A survey, using a 10-point Likert scale, was completed by patients to identify changes in self-reported confidence in these areas. Student feedback was gathered after the event. Placebo devices were provided by pharmaceutical companies, and patient resources were obtained from Asthma and Lung, UK.

**Results:** All patients (n = 22) reported finding the event useful and reported that they would attend a similar event in future. Students commented that they "enjoyed seeing how beneficial [their] advice was" and that "it was great to put into practice what [they had] learned through the course".

**Conclusion:** This collaborative event was a success, as the results indicate that students can improve patients' understanding and management of asthma. This may result in changing patient behaviours towards their condition management. The project is being expanded to focus on multidisciplinary teamwork and to target more deprived areas of Leicestershire. Future work will consider the possibility of incorporating Entrustable Professional Activities.

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## The practical cost of practicals

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**Keywords:** Costing, laboratory practical, pharmaceuticals, sterile manufacturing

**Background:** Pharmaceutical laboratory sessions are integral to Swansea University's MPharm programme. The sterile manufacturing practical sessions were delivered for the first time in the 2023/24 academic year, over four sessions, with a focus on preparing students for future laboratory-based research or pharmacy technical service roles. As a new programme and from past literature, the pragmatic cost of these sessions has not been determined.

**Aims:** To cost the sterile manufacturing practical sessions and to explore sustainability strategies to reduce costs.

**Method:** Full invoices for laboratory equipment and consumables were reviewed and calculated. Equipment depreciation was estimated using the straight-line method with an assumed zero residual value. Staff preparation and delivery time were costed according to the university's salary scales. The initial laboratory fit-out and utility costs were excluded from cost calculations as the space is utilised by other programmes within the faculty. To improve sustainability, individual items were evaluated for reusability and their service life duration; staff rotation was considered;

alternative supplier quotations for consumables were compared.

**Results:** Expenditure was divided into three categories: consumables, equipment and staff time. For a cohort of 46 students, the practical sessions cost £183 per student. This apparent high cost was due to the cost of equipment (notably, the biological safety cabinets) and the small cohort. The estimated cost of the practical sessions for a projected cohort of 100 students, combined with sustainability measures, is £93 per student. In both scenarios, equipment cost accounted for more than 60%.

**Conclusion:** Comprising approximately 1% of the annual tuition fee, sterile manufacturing practical sessions appear economical to be delivered. To ensure sustainable resources and capacity (Standard 3; GPhC, 2021) in the training of future pharmacists, further cost-saving measures could be implemented by maximising technology use and reducing staff delivery time (Croker *et al.*, 2010; Heslop *et al.*, 2022).

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## Eye inter-professional education—Use of the direct ophthalmoscope to examine the anterior eye: Student perceptions of an inter-professional peer-assisted teaching session

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**Keywords:** Interprofessional education, peer-assisted learning

**Background:** Students in one institution have taken part in interprofessional case-based learning sessions since 2016. It is well noted in the literature that peer-assisted clinical

teaching can enhance clinical knowledge and ability (Patel, 2016). For 2023, the authors introduced a novel peer-assisted teaching session; 3rd-year pharmacy students were taught by final-year optometry students to use a direct ophthalmoscope to examine the anterior eye.

**Methods:** 130 pharmacy students attended in 4 groups for a 1.5-hour session. Optometry students volunteered as tutors. One staff member (CP) recorded a 15-minute anterior eye anatomy lecture for the pharmacy students to watch prior to the session, devised a handout for the students to work through, and supplied this to the optometry students in advance. The session was supported by four staff (2 optometrists and two pharmacists). The instructors only intervened if they asked for help. At the end of the session, the students were asked to complete a short voluntary evaluation.

**Results:** Initially, only six optometry students volunteered for the 1st session. This increased to 10 in the 2nd session because of their enthusiasm for the teaching task. Four optometry students attended all sessions. The responses to the questions are shown in Table I.

**Table I: Percentage of students who agreed or strongly agreed with the statements**

	Pharmacy students (n= 59)	Optometry students (n= 8)
The IPE session has increased my ability to examine the anterior eye	90%	50%
The IPE session has increased my confidence in examining the external eye	86%	80%
The IPE session has increased my ability to talk to patients about external eye structures	81%	100%
The IPE session has increased my confidence in talking to patients about the external eye structures	83%	88%

**Conclusion:** Peer-assisted learning increases student confidence in both examination of the anterior eye and their communication skills.

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**Evaluation of Situational Judgement Test (SJT) preparation workshop**

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**Keywords:** Career, foundation training, pharmacy, recruitment, support

**Background:** National Health Service England uses Situational Judgement Tests (SJTs) in the National Pharmacy Foundation recruitment scheme to rank students against the Professional Attributes Framework (PAF) to determine their offer. An SJT workshop attempted to demonstrate SJTs and align students' experience with the PAF.

**Aims:** This project sought to evaluate the workshop and whether students could create a quality SJT for peers to reflect on.

**Method:** The SJTs created and submitted in the workshop were analysed for appropriateness of scenario, PAF criteria and the suitability of answer schemes by a registered pharmacist who had written SJTs for NHSE and excel used for themes and descriptive statistics. The Pharmacy Ethics Sub Committee (PESC) approved the project.

**Results:** Year 3 MPharm students (80%, n = 110/137) worked in groups during the 2 hours workshop (3-4 students), creating SJTs (39), with 33 suitable for review (6 = blanks or duplicates). SJT formats submitted were equal (16 ranking:17 choose 3), but more were set in the community (58%, n = 19/33) compared to the hospital (42%, n = 14/33). The scenarios were mostly appropriate for the foundation level (82%, n = 27/33). The remainder varied in terms of likelihood and level of competency. Students struggled with creating answer options, and only 18% (n = 6/33) did not require amendment. A lack of focus on the PAF descriptors could be responsible, as only 27% (n = 9/33) detailed what was to be tested in full. Dealing with a person who was rude/angry was a more common theme (30%, n = 10/33). The most common PAF areas included were person-centred care and communication/consultation skills (63%, n = 21/33). 100% (n = 110/110) voted the workshop was useful via a show of hands.

**Conclusion:** Students could translate their experience to create a suitable SJT scenario and find the process useful. However, difficulties in crafting answers may stem from their relative inexperience and lack of focus on attributes.

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## Preceptor medicines management training evaluation

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**Keywords:** Medicines management training

**Background:** Medicines management technicians and specialist education pharmacists delivered three face-to-face training sessions between March and April 2023 to nurse preceptors within induction. They offered a valuable introduction to the ward-based pharmacy team, signposted to relevant guidance and resources and highlighted Medicines Optimisation Principles guidance (National Institute of Clinical Excellence, 2015). Real-life case studies, didactic teaching, film and photographic examples demonstrated the transfer of care between healthcare professionals and drug error prevention at each stage of the medicines journey.

**Aims:** Demonstrate the effectiveness of medicine management training in raising awareness amongst nurse preceptors of risks associated with medicine management, concepts of medicine optimisation, and transfer of medicines throughout the patient's journey.

**Method:** Participants rated the usefulness of specific aspects of the session using a 5-point Likert Scale ranging from strongly disagree to strongly agree with additional free text comments. Responses were qualitatively and quantitatively analysed using Microsoft Excel to determine session effectiveness. Ethics approval was not required.

**Results:** 70/75 (93%) response rate. 66/70 (94%) either agreed or strongly agreed on the usefulness of the session across all categories. 1/70 (1%) was an outlier who strongly disagreed in all categories, whereas supporting comments implied a misunderstanding of the Likert Scale. The highest-rated "strongly agreed" category, 56/70 (80%), was the governance of handling-controlled drugs. Main themes highlighted as key learning via free text comments included roles of the pharmacy team, ordering processes, checking drugs and preventing errors. No additional learning needs were identified for inclusion.

**Conclusion:** Sessions offered a valuable introduction to ward-based pharmacy team roles, signposting to relevant guidance and resources; with an aim to enhance effective

transfer of care and drug error prevention due to increased awareness of multi-professional input at the different stages of the medicines journey. Face-to-face training provision will continue, and alternative options will be scoped to develop recorded sessions for future delivery.

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