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CONFERENCE ABSTRACTS

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Oral Presentation

Pharmacy students use guided reflection and entrustment (EPA) assessment tools to appraise 'secret' patient/pharmacist encounters in the self-care community workplace

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Keywords: *Active practice research, Competencies, Entrustable Professional Activities (EPAs), Guided reflection, Self-care minor ailment courses*

Background: Pharmacists are entrusted to help patients minimise risks and maximise benefits when self-selecting treatment for minor ailments. Patients often initially access the Internet for advice.

Aim: Undergraduates must understand and assimilate both patient and pharmacist perspectives on their path to self-regulated practice.

Method: Second year (pre-clinical) students (n=240) posed as patients seeking a pharmacist's advice in a community pharmacy after having reviewed Internet sources. Using structured, guided reflection, they analysed relevant aspects of the encounter, completed an EPA assessment of the observed pharmacist and proposed measures to personally optimise implementation of this responsibility when in practice. Perceptions were analysed from observations, reports, surveys, class discussions and interviews. EPA rankings (anchored to five levels of supervision) were tabulated (Ten Cate, 2017).

Results: Student reflections, as patients, highlighted themes of entrustment and confidence in the pharmacist as an authoritative resource. As prospective pharmacists, they evaluated the clinician in terms of best practice guidelines, competencies demonstrated, barriers observed during the consultation and feelings about their future professional role. EPA reports rated the majority of pharmacists able to practice independently/unsupervised and 20% as role-models/able to supervise others. Time constraints for communication, rather than content expertise, was the primary obstacle.

Discussion: Students valued this contextual opportunity to directly experience competencies required for patient care prior to their clinical year: subject expertise, communication, collaboration, professionalism, advocacy and scholarship. Assessing practitioners' level of entrustment was considered transformative in reinforcing the importance of expertly performing this professional role with appropriate time management once in practice.

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What factors can enhance pharmacists' participation in extended patient care practice?

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Keywords: *Factor analysis, Geometric coding, Pharmacy, Professional development, Professional practice*

Background: Pharmacy professional practice needs to improve by moving away from traditional dispensing roles, towards extended patient care activities (DHSSPS, Northern Ireland, 2016). Continuing Professional Development (CPD) is intended to improve professional practice (Cole, 2000). Pharmacists' attitudes may also impact on their professional practice (Power *et al.,* 2011). Both factors were examined.

Objective: To identify factors that can enhance pharmacists' participation in extended patient care practice.

Method: An online questionnaire was emailed to all pharmacists in Northern Ireland (n=2201). After two follow-ups, there were 419 responses (19%).

Results: Data were analysed using SPSS version 21. Two multiple response sets were created for responses relating to CPD activities and professional practices, respectively. Geometric coding was used to convert the multiple response data into categorical variables that were amenable to confirmatory statistical analysis. The proportion of pharmacists engaging in extended patient care activities was 32% for those who had undertaken either unstructured, self-directed CPD activities or a traditional theoretical structured course, and 48% for those who had undertaken structured work-based learning courses. Factor analysis was used to identify themes relating to pharmacists' attitudes, and multinomial logistic regression determined their impact on professional practice. Pharmacists that were supportive of improving the skill mix of the pharmacy team were more likely to participate in extended patient care activities, whereas those indicating that members of the pharmacy team should maintain their current roles were less likely.

Discussion: Undertaking structured work-based learning courses can enhance pharmacists' participation in extended patient care practice, as can being supportive of improving the skill mix of the pharmacy team.

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Using role analysis to create a foundation pharmacist framework

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Keywords*: Competency frameworks, Foundation pharmacist*

Background: As the demand for pharmacists with enhanced clinical skills has increased, there is a need to provide consistent and improved access to foundation training as an efficient and effective means of upskilling the workforce, particularly early career pharmacists.

Objectives: To analyse the current and future (five years) roles of foundation pharmacists in the United Kingdom. To develop a common framework that defines the attributes required of foundation pharmacists across all sectors of practice.

Method: A multi-method role analysis (Ash, R. A., 1988; King N, 1998; Kerrin M *et al*., 2018) was carried out to identify the attributes associated with successful performance of a foundation pharmacist. This consisted of a desk top review, interviews and focus groups with relevant stakeholders (n=46), and a validation questionnaire rating the importance of the attributes identified (n=850). Overall, approximately 900 individuals participated in the role analysis.

Results: Nine attributes were identified, each represented by a number of behavioural descriptors. These were: applying clinical knowledge & skills, professional accountability, evidenced-informed decision making, person-centred care, communication & consultation skills, collaborative working, leadership and management, education, research and evaluation and resilience and adaptability.

The framework has been designed to dovetail with the Advanced Pharmacy Framework; this supports seamless career development through foundation to advanced and consultant practice. Using common attribute headings but describing how these become increasingly complex at each stage will support pharmacists, their employers and

educators to plan appropriate roles and development activities

Discussion: The outputs of the role analysis and subsequent framework are intended to inform the development of a future UK foundation curriculum and assessment

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Introduction of peer review (SHPAClinCAT) at CDHB and BOPDHB pharmacy departments

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***Keywords**: Competency, Peer review, Staff development, Supervision*

Background: New Zealand currently does not have a structured process for reviewing and improving clinical skills and knowledge of pharmacists. Introduction of a formalised peer review would allow pharmacy departments to support development of core skills, knowledge and behaviours essential for practice utilising evidence-based methodology. (Coombes, 2012) The educators at Christchurch and Tauranga hospitals worked together to develop a plan for hospital based clinical pharmacists.

Objective: To investigate the impact of implementing a formalised peer review process to inform training and development opportunities with potential to improve pharmacy service delivery.

Method: A pre-implementation survey was used to gauge the level of experience, previous interaction with peer review, opinion of peer review and how knowledge gaps are identified within the department. Implementation was chosen to be trialled with hospital based clinical pharmacists working in a tertiary hospital (Christchurch hospital, CDHB) and a rural secondary hospital (Tauranga Hospital, BOPDHB). For the implementation pilot at Christchurch hospital the General Medical specialty team was chosen.

Pharmacists underwent the Society for Hospital Pharmacists' Clinical Competency Achievement Tool (SHPAClinCAT) process, which included completing a self-reflection, practice observation for 90 minutes, 60-90 minute feedback session and creation of a development plan (Keen, 2010).

A post-evaluation questionnaire was completed to measure the pharmacist's experience of the peer review process and impact on their practice.

Results

Pre-implementation survey results:

75% of staff had not undergone peer review in any form, of the cohort who had undergone peer review 90% reported improvement in their practice. 94% indicated that peer review would benefit the department.

Knowledge gaps are currently identified in a reactive manner with the main driver for reflection coming from either being asked questions (60%) or generated from peer discussion (33%).

Post-ClinCAT survey results:

66% found ClinCAT a fair representation of practice

83% found the ClinCAT helped them reflect on their practice

50% found that it identified previously unknown gaps in clinical practice

50% found the ClinCAT experience very useful with the other 50% finding it somewhat useful

100% recommended that peer review be part of continuing development plan

Discussion: Peer review is an area of recognised need for the individual and service delivery. Implementing ClinCAT has not only improved reflective practice, it has helped to inform further development of training packages and provided a platform to engage junior staff in meaningful professional development.

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Validation of a framework to organise, deliver and evaluate lifelong learning events

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***Keywords**: Framework, Pharmacy education, Validation*

Background: The 62-item PRACTICE framework was created as a novel approach to provide structure for organising, delivering and evaluating lifelong learning (LLL) interventions for pharmacists based on previous research and literature reviews (Micallef & Kayyali, 2018; Micallef & Kayyali, 2019).

Objective: To validate the PRACTICE framework.

Method: The framework was validated through face validation, content validation (Polit & Beck, 2013) and a think-aloud approach (Van Someron *et al.*, 1994) between June 2017 and February 2019. The finalised framework was piloted by organising, delivering and evaluating a LLL event for pharmacists, held in September 2019. This study received ethical approval.

Results: During face validation, 20 individuals involved in LLL for pharmacists found the framework usable in practice. Content validity by 12 different individuals involved in LLL resulted in an average congruency percentage of 92%. The think-aloud, completed iteratively (n=7), resulted in minor changes enhancing the understanding of items and removing duplications. For the pilot event, the finalised framework was applied in item order, with dates and comments added per item. Of the 16 pharmacists who attended the event, 15 (94%) were positively satisfied.

Discussion: The PRACTICE framework was successfully validated and used to support the organisation and delivery of a learning event for pharmacists presenting a novel approach to ensure learning events were organised based on needs and were properly evaluated to ensure intended learning outcomes were met. The framework is now ready for use by those responsible for organising learning events for pharmacists and other healthcare professionals globally.

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A peer-led approach to ePortfolio review

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***Keywords**: CPD review, Peer-led*

Background: The Irish Institute of Pharmacy (IIOP) was established by the Pharmaceutical Society of Ireland (PSI) to oversee the implementation of the new CPD system in Ireland (PSI, 2015). This includes undertaking an annual review of CPD cycles from pharmacists' IIOP ePortfolios in line with the legislation (PSI, 2010). A core principle of the Irish CPD system included "*involvement of peers in the shaping of the standards an assessment systems*" (IIOP, 2020).

Objective: To involve peer pharmacists in development of the ePortfolio Review process.

Method: In 2015, the IIOP recruited pharmacists to be involved in the pilot ePortfolio process through involvement in one of the following groups: Standards development; Submission of ePortfolio extracts; Review of ePortfolio extracts. The pilot process informed the development of the ePortfolio review process. Engagement levels with the process and responses to an evaluation survey were used to measure acceptability of standards and usability of system for the first two years of operation.

Results: One thousand four hundred and eighty-one pharmacists were selected by the PSI to participate in the 2016/17 and 2017/18 ePortfolio review processes. 97% (n=1,440) submitted an ePortfolio extract for review. An evaluation questionnaire was issued to all selected pharmacists, with a 48% (n=715) response rate. 80% agreed or strongly agreed that the ePortfolio Review Standards were reasonable and appropriate. 83% agreed or strongly agreed that they found the process of submitting cycles to be user friendly.

Discussion: Inclusion of peer pharmacists in the development of the ePortfolio Review process, although labour intense, provided the IIOP with confidence when implementing this new regulatory process. The peer-led approach has been maintained in subsequent years, but could be streamlined in the future.

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Development of RIPE-N (Reflective Interprofessional Education-Network) model: A project involving five health disciplines

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Background: Interprofessional education (IPE) and collaboration (IPC) are vital for optimal healthcare delivery and improved health outcomes. Collaborative learning models within university settings have positive results on increased student knowledge of IPC in healthcare (Lucas *et al.,* 2019; Lucas *et al.,* 2020a; Lucas *et al.,* 2020b). RIPE-N simulation model was developed as an adaptation of the original RIPE model of learning designed within the university setting (Lucas *et al.,* 2019; Lucas *et al.,* 2020a; Lucas *et al.,* 2020b). RIPE-N involves students collaborating with a range of health professional students and clinicians while progressing through an unfolding case scenario via 'bedside' stations in a hospital simulation laboratory.

Objective: To describe the processes involved in developing an innovative interprofessional simulation experience for students to enhance IPE and IPC in higher education.

Method: The RIPE-N: Reflective Interprofessional Education-Network model involving five health disciplines (pharmacy, nursing, orthoptics, physiotherapy and speech pathology) was utilised as a framework to build the simulation. Development required in-depth collaboration (case scenario writing, prompts, guides for facilitation in the simulation, and training of standardised patients) by academic representatives from each of the five health disciplines.

Evaluation of the simulation experience will be achieved through a pilot to include students from each of the five disciplines.

Results: Development processes provided insights and considerations into sustainability and future implementation of the model. Considerations included: (i) Institutional and faculty support; (ii) Appointment of academic representatives from each health discipline; (iii) Advanced scheduling/timetabling for simulation room allocations and collaborative meetings for case scenario development.

Discussion: Lessons learned, plans for sustainability and future directions for policy, practice, RIPE-N education and implementation, and curriculum training will be discussed.

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Learning therapeutic decision-making by reflection: Experience in a pharmacy curriculum

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***Keywords**: Real-time simulation, Reflective learning, Serious game, Therapeutic decision-making*

Background: Therapeutic decision-making is a cognitive based skill that is required by practitioners who are involved in medicine optimisation (Wright *et al.,* 2019). A difficulty in learning this skill is the requirement for the student to enact their decision with a patient but do so in a safe and effective way.

Objective: To describe the authors' experience at Otago in the use of a serious game for engaging students with a reflective approach to learning.

Method: The game is an autonomous, cloud-based real-time simulation in which each student gets to make therapeutic interventions to treat a simulated patient and experience the consequences of their actions. On completion of a case, students attend a debrief, which includes normalisation of experience, illness scripting, justification of decisions and reflection on goal attainment.

Results: The game was introduced at Otago in 2018. Since then, over 90,000 student-case hours have been logged. Students run the cases as a flipped classroom, with more than 98% of students completing the activity. Students openly reflect on their processes and outcomes during the debrief session.

Discussion: The authors are very early in their understanding of optimal pedagogical methods to teach therapeutic decision-making. Their current experiences strongly favour supporting student agency by putting them in the driver's seat in order to let them see and feel the consequences of their actions.

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Transition training programme for pharmacists working in GP settings

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***Keywords**: Competency-based frameworks, GP pharmacist, Primary care, Transition,Tutor support*

Background: The current health demands of an ageing population, increased complexity of treatment and chronic illness, coupled with a GP recruitment crisis, has resulted in general practice struggling to cope with the workload (Stone & Williams, 2015; Maskrey *et al.,* 2018). Integration of pharmacists into general practice has demonstrated a release of up to five hours of GP time (Torjesen, 2018) and was one approach that Wales adopted to relieve the pressures in primary care. Health Education and Improvement Wales devised a new training programme tailored to individual pharmacists transitioning to primary care from other sectors.

Objective: To ensure pharmacists were appropriately supported to work competently and confidently within a general practice setting.

Method: The transition programme, ran over one year, was centred around acompetence-based framework and 24 days of one-to-one tutor support, from an experienced GP-based pharmacist, was piloted in 2018/2019. Ten pharmacists and experienced tutors were recruited onto the programme and their experiences evaluated by telephone interviews and focus groups.

Results: The pharmacists on the programme, who differed greatly in terms of previous experience, confidence and existing skills, welcomed the flexible nature of the programme, as it could be tailored to their individual needs. Tutor support was the most valued element of the programme, with tutees particularly appreciative of their tutor visiting them in their own practice.

Discussion: The programme enabled the pharmacists to evidence their competence within this role and successfully supported their transition to the GP setting. The tutor-tutee relationship was central in supporting pharmacist development and achieving role competencies.

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Evaluating the impact of educational and practice supervisor training

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***Keywords**: Evaluation, Practice supervisor, Supervision*

Background: Educational Supervisors (ESs) and Practice Supervisors (PS) have a defined framework for supervising those in training (NHS Health Education England, 2020). Training of the supervisors themselves was developed to ensure a quality foundation of supervision, and the subsequent online course resulted in a three- or six-module programme mapped to the General Pharmaceutical guidance (GPhC, 2018a and 2018b; PTC, 2019).

Objective: The aim was to evaluate the impact of training on personal development and other pharmacy team members.

Method: A 15-question survey, including tick box and free text responses was uploaded onto survey monkey and a link sent to 450 course participants. The data were analysed using Microsoft Excel.

Results: From 102 responses received (a response rate of 23%), 77 (75%) had completed the ES course, with 46 completing the three-module course, compared to six modules. The majority (77/102, 75%) had impacted up to ten individuals after training. Nineteen individuals (19%) had changed roles after the course. As a result of the training, an increase in skills and confidence was acknowledged, with an increase in coaching, mentoring and individualised learning through more structured feedback and a more systematic approach to processes. A greater awareness of future roles was also identified.

Discussion: To date there has been little research on the impact of training (McSherry & Snowden, 2019), and this is the first report to demonstrate how the ES/PS courses have had a positive impact on growth and development on both individuals and other members of the pharmacy team. This demonstrates a compelling return on investment wider than just the supervisor.

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Development of an instrument to evaluate the effectiveness of educational supervision in postgraduate pharmacy education

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***Keywords**: Educational supervision, Supervision*

Background: The NHS Interim People Plan proposed changes to postgraduate pharmacy education in England, including advanced specialist training for experienced pharmacy professionals working in primary care (NHS England, 2019). Training is underpinned by educational supervision to facilitate learner progress through the programmes and provide support for role transition. As educational supervision is publicly funded, it is important to evaluate its effectiveness, but no suitable measuring instrument exists.

Objective: To develop and validate an instrument to evaluate the effectiveness of educational supervision.

Method: Development of a new measurement instrument involves the generation of potential items from a literature review followed by content validation by experts (Lynn,

1986). As there is little literature on educational supervision, the Manchester Clinical Supervision Scale (MCSS-26) (Winstanley & White, 2011) was adapted for educational supervision. A panel of experts was asked to rate the relevance of 30 potential items on a five-part Likert scale to identify irrelevant items and provide feedback on wording clarity. Twenty four experts (11 educational supervisors, seven educationalists and six learners) responded to an online survey.

Results: The item-level content validity index (I-CVI) for individual items and scale-level content validity index (S-CVI) for the entire scale were calculated (Polit & Beck, 2006). Of the 30 proposed items, 22 had an I-CVI of 0.8 or higher, and S-CVI was calculated as 0.85. Qualitative comments were used to guide judgement on item retention.

Discussion: The generally high ratings of the relevance of individual items by all expert groups and the high S-CVI score supports the content validity of this instrument.

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Improving Indigenous peoples' health outcomes: Developing a culturally safe workforce in Australia

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***Keywords**: Cultural safety, Curriculum, Decolonisation, Indigenous health, Pharmacy education*

Background: Across the globe, inequities in health status between Indigenous people and non-Indigenous peoples in colonised countries are well documented, with significant differences in mortality, morbidity, and disability experiences. In Australia, the inequities in health outcomes for First Nations peoples, the Aboriginal and Torres Strait Islander peoples, are considerable and not improving (Australian Government, 2019) Pharmacists are one of the most accessible health professionals and play a critical role in delivery of health services for Indigenous peoples. As Australia's accreditation authority for pharmacy education, developing a workforce that is culturally safe is a key deliverable for the Australian Pharmacy Council (APC)'s social accountability-based accreditation standards (Australian Pharmacy Council, 2020)

Objective: To describe how the development of a culturally safe pharmacy workforce can be achieved through partnership, leadership, and the embedding of cultural safety into pharmacy education programmes and transforming pharmacy curriculum.

Method: Under the governance of a wholly Indigenous Expert Strategy Group, the APC is enabling the transformation of pharmacy curriculum by embedding cultural safety. The programme includes a literature review, reflection on work in other professions (Health Professions Accreditation Collaborative Forum, 2020), consultation and collaboration with education providers and development of a resource hub for pharmacy education programmes. The resources will include a pharmacy-specific Aboriginal and Torres Strait Island Health Curriculum Framework (Australian Government Department of Health, 2018).

Results: The process of working under the leadership of the APC Indigenous Health Expert Strategy Group in partnership with education providers and the findings of the literature review will be shared. Lessons learned from the development and consultation process will be shared.

Discussion: Implementing and supporting a nationally consistent Indigenous curriculum framework will strengthen the capacity of pharmacy education providers to embed Indigenous health education and cultural safety in their programmes. This will assist the pharmacy profession to deliver culturally safe services to improve health outcomes for all within our community.

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What is your story? Student-initiated programme to support pharmacy students' professional identity formation

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***Keywords**: Professional identity formation, Storytelling, Student-initiated programmes, Qualitative description*

Background: Professional identify formation is an important educational outcome of pharmacy programmes (Nobel *et al.,* 2019). Student leaders at the Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Canada identified a need for information about professional roles and developed a programme in collaboration with faculty members.

Objectives: To explore students' experiences with the programme and their insights with respect to roles available after graduation and identify opportunities to engage with professional identity formation.

Methods: Data will be collected from focus group interviews with students and presentation content provided by faculty. Focus group interview data will be recorded and transcribed verbatim. The study design follows the Qualitative Description methodology (Sandelowski, 2000).

Results: The programme was implemented in January 2020. A total of 21, 30-minute presentations have been delivered by internal and external faculty representing diverse roles associated with pharmacy practice, management, industry, education, research, administration, and leadership. To date, five students participated in an online focus group interview via the Zoom platform in March 2021 and eight faculty submitted presentation content.

Discussion: Professional identity represents how individuals see themselves in relation to their professional roles (Ibarra, 1999; Pratt *et al.,* 2006). Engagement with faculty members, and their stories, contribute to students' ability to envision possibilities after graduation. Storytelling is an effective approach to explore professional role identity (Nobel *et al.,* 2019). This presentation will showcase students' experiences with a student-initiated programme to support their professional identity formation.

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An evaluation of the IPU Academy Spring Webinar Programme 2021 to assess its impact on pharmacists Continuing Professional Development

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***Keywords**: Application of knowledge, Continuing Professional Development, Documenting learning, Evaluation, Reflection*

Background: The IPU Academy is an educational service initiative developed by the Irish Pharmacy Union (IPU) to support pharmacists in their engagement with Continuing Professional Development (CPD). Due to COVID-19, the 2021 Spring Programme was delivered via webinar rather than the traditional presentation format, i.e. live learning over an eight-week period. The topic developer delivered each topic via live webinar on two dates. In addition, a recording of the webinar was made available.

Objective: To assess the impact of this educational initiative on pharmacists Continuing Professional Development.

Method: Webinar participants are invited to complete an online evaluation form.

Results: The evaluation will be completed by 25 May 2021.

Discussion: A learning outcome is a statement of what a participant can expect to know, understand, or be able to do on completion of an IPU Academy course. When developing IPU Academy courses, the authors are keen to ensure that participants can apply the knowledge and information acquired in their day-to-day practice. This application of knowledge, together with reflection, evaluation and documenting learning, are key components of CPD.

Ambulatory care clinical pharmacy training programme for pharmacists in the Qatar primary care corporation (PHCC)

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***Keywords**: Acquisition of specialisation, Advanced practice, Ambulatory care, Practitioner training*

Background: Primary Health Care Corporation (PHCC) is the Qatari government's primary care branch and one of the largest primary health care providers in Qatar. However, ambulatory clinical pharmacy services do not currently exist within PHCC. The University of Colorado Skaggs School of Pharmacy (CU) has over 100 years of experience educating pharmacists and is a leader in the advancement of ambulatory care clinical pharmacy services. CU faculty developed an ambulatory clinical pharmacy training programme specific for PHCC.

Aim: To develop and deliver a training programme that positions PHCC to be the leaders in ambulatory care pharmacy services in the region.

Method: The programme consisted of didactic (seven weeks; eight hours/week of remotely delivered primary care content and four APhA Certificate Training Programs delivered live in Qatar) and practical (two months; nine hours/week of clinical training in PHCC ambulatory care clinics precepted by PHCC physicians and CU faculty members (remotely)) training. Participants were assessed by weekly activities (graded quizzes & mock clinic visits with standardised patients), final verbal assessment, and preceptor evaluations, including a global assessment.

Results: Twenty pharmacists were selected for the programme. The average final score was 89.2%. The didactic average was 88.5% (weekly activities 89.3%; final assessment 87.7%). Practical training average was 90.7% (preceptor evaluation 84.9%; global assessment 94.4% far exceeded; 5.6% met expectations).

Discussion: The innovative ambulatory care clinical pharmacy training programme provided PHCC pharmacists with the training necessary to successfully implement ambulatory care clinical pharmacy services throughout PHCC. The second offering of the programme is planned for late 2020.

I'm a pharmacist … Get me out of here! New Zealand version

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***Keywords**: Career satisfaction, New Zealand, Pharmacy profession, Survey*

Background: Despite many extended pharmacist roles and services being proposed, younger pharmacists in Aotearoa, New Zealand, have been expressing dissatisfaction with the profession and seeking changes. Investigating why people enrol in a pharmacy degree and the source of their dissatisfaction with pharmacy as a career is important for pharmacy stakeholders.

Objective: To explore the characteristics, and perspectives of pharmacy as a career, of recent BPharm graduates who have left or are seriously considering leaving the New Zealand pharmacy profession in the near future.

Method: An anonymous online survey was conducted between December 2018 and February 2019. Recruitment occurred via University alumni databases, pharmacy professional organisations, pharmaceutical print media, social media and word-of-mouth. Descriptive statistics were generated from the quantitative data, and free-form text responses were thematically analysed using a general inductive approach (Thomas, 2006).

Results: Three hundred and twenty-eight analysable surveys were received. The reasons most frequently reported by respondents for studying pharmacy were having a keen interest in health and wanting to help and work with people. The most frequently reported reasons for leaving or wanting to leave were dissatisfaction with the professional environment, a lack of career pathways and promotion opportunities and underutilisation of their skills and knowledge. Free text responses provided additional insights into respondents' perceptions, frustrations and disappointment with the current pharmacy environment.

Discussion: Promoting career pathways and ensuring that proposed opportunities in pharmacy (Ministry of Health, 2016; Health and Disability System Review, 2020) eventuate swiftly will allow pharmacists to use their newly acquired skills and knowledge. This could help to retain more newly qualified pharmacists.

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Enabling undergraduate pharmacy students to develop patient-centred competencies for effective practice in New Zealand: A multi-lens exploration

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***Keywords**: Curriculum mapping, Focus groups, New Zealand, Patient-Centred Care, Pharmacy, Scoping review, Social support, Surveys and questionnaires, Undergraduate*

Background: Patient-centred practices empowering people to manage their own health and wellbeing are increasingly recognised as pivotal to providing high-quality healthcare (Ministry of Health, 2016; World Health Organization, 2016).

Objective: To explore student, intern and preceptor views on whether the undergraduate programme supports pharmacy students to develop patient-centred competencies for the New Zealand environment.

Method: This was a cross-sectional sequential mixed-methods exploratory study. A scoping literature review was completed to identify elements of patient-centred pharmacist practice and competencies development in undergraduate health professional programmes. This was followed by a thematic analysis of the BPharm curriculum (Thomas, 2016). These informed staff and student focus groups (discussed elsewhere); Anonymous online surveys of students and interns; and a preceptor survey. Qualitative data were themed and descriptive statistics were generated from the quantitative data using Excel.

Results: The review process identified 12 attributes of patient-centred pharmacists. These attributes, and their development across the curriculum, were further explored in questionnaires completed by 51 students, 18 interns and 51 preceptors. Preceptors validated all 12 attributes as important and reported that students' patient-centred skills improved throughout the programme. "Involving whānau/family and/or support-people where necessary/at patient request" was an attribute identified in all three surveys as challenging to address in-class learning, experiential placements and real-world pharmacy settings.

Discussion: Overall, there is a consensus the programme appears to support the development of patient-centred competencies. However, the existence of health inequities amongst cultural groups in New Zealand, often involving Māori (the indigenous people of New Zealand), means there are individual, professional and social responsibilities to better incorporate this critical element of patient support into the future curricula.

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Doing the heavy lifting: Support structures for successful pharmacist rotations

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***Keywords**: Development, Rotational pharmacist, Training*

Background: In February 2019, a new rotational pharmacist (RP) training programme was introduced at ADHB to develop junior staff with a broad range of skills, not just clinical knowledge. This encompassed 17 pharmacists undertaking a combination of three, six and 12-month rotations. Several important factors were identified to ensure the success and sustainability of this complex model.

Objective: Develop the infrastructure required to support the implementation of rotations for pharmacists in the first five years of their career.

Method: Rotation training plans were developed using a standard template that included learning objectives, available learning resources, and assessment methods. Mentoring roles, in the form of Rotation Supervisors (RS) and Development Advisors (DA) who support long term development, were established, with clearly defined responsibilities. An adapted Foundation Pharmacy Framework (RPS, 2014) and portfolios were introduced

alongside the ADHB performance development process. Focus groups were held in Oct 2019 to obtain feedback.

Results: Each rotation has a published training plan led by a named RS. Each RP and their allocated DA have agreed on development goals and annual objectives. Feedback was positive, with RP and RS liking the clear expectations provided by the new programme and felt it structured RP development. The main suggested change was to convert the three-month rotations to six months.

Discussion: Clearly defined training plans and regular supervisor feedback facilitated learning opportunities and ensured timely attention to practice concerns. The competency framework widened pharmacists' views of their development needs beyond purely clinical knowledge.

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A mixed methods evaluation of the cross-sector pharmacist vocational training foundation programme: Is the training programme fit for purpose?

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***Keywords**: Experiential learning, Foundation training, Pharmaceutical care, Pharmacist, Vocational training*

Background: Pharmacists increasingly have portfolio careers, in different settings, including hospital, community and primary care. A cross-sector Pharmacist Foundation Training programme was introduced in Scotland from September 2017 to develop transferable skills and competencies for pharmacists working in these sectors.

Objective: The aim was to assess the effectiveness of the programme.

Method: The approach was underpinned by two theoretical frameworks (Miller, 1990; Lave & Wegner, 1991). Pharmacists and tutors were invited to take part in focus groups at baseline, mid, and end-of-training to explore their experiences. Proceedings were audio-recorded and transcribed. On-line baseline and end-of-training self-assessment questionnaires and routine assessment data were analysed. Data were managed in NVivo v11 and analysed thematically. Quantitative data from the questionnaires and assessments were analysed in SPSS and Excel.

Results: Of the 72 registered foundation pharmacists, 48 (67%) completed a baseline questionnaire. Twenty pharmacists (28%) and 16 tutors attended a focus group. Preliminary focus group themes include training/support needs, professional identity, patient safety, and barriers/facilitators. Tutors highlighted skill gaps and noted variation in competence, training and support needs. Questionnaire analyses suggest that pharmacists feel part of the team. They are confident communicating with patients/carers, meeting their needs, and managing pharmaceutical care issues but have less confidence dealing with supply chain issues or applying local formularies.

Discussion: Baseline data suggests pharmacists' high self-assessed competence is not matched by reflective focus group discussions or tutor feedback. Ongoing evaluation will confirm if the programme has enabled the development of the requisite competencies for future practice.

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Foundation pharmacist training pathway: Supporting newly qualified pharmacists working in independent community practice in England

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***Keywords**: Community practice, Education supervision, Foundation practice, Pharmacist.*

Background: The Royal Pharmaceutical Society developed a foundation practice framework (FPF) for early years pharmacists or foundation pharmacists (FP). In 2016 CPPE developed a programme to support those in independent community practice who had limited access to other resources.

Objective: To support FPs to develop and demonstrate competence mapped to the FPF (RPS, 2014), enabling learners to meet a range of competencies.

Method: The 12-month programme took a blended learning approach: education supervision; Learning resources; Site visits; Practice-based assessment and feedback.

Results: 78 FPs have completed the programme. Participants report the programme provided structure for their training and CPD, and afforded opportunities to reflect on both clinical and non-clinical skills. Initial concern over carrying out practice-based assessments changed to reports of how helpful and constructive they were to their practice. Education supervision provided by CPPE was a key benefit to the programme. Reasons for this included support and feedback from somebody with real experience of the role and independence from their employing organisation.

Discussion: An integrated programme of support and feedback provides opportunities for Foundation pharmacists to develop core skills and knowledge to transition effectively from pre-registration training to practice. Results have indicated an important role for this programme is the support offered by education supervisors through assessment and feedback.

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Entrustable professional activities for intern pharmacists: Paving the way towards independent practice

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***Keywords**: Early career development, Foundation training*

Background: Entrustable Professional Activities (EPAs) are key discipline-specific tasks designed to link and translate clinical practice to competency (Ten Cate, 2013; Haines *et al.* 2017). EPAs have been used in graduate medical and pharmacy education internationally and are a relatively novel introduction to pharmacy education in Australia. In 2018, Eastern Health Pharmacy identified an improvement need for the intern training programme and incorporated EPAs to provide a clear roadmap for interns transitioning towards independent practice.

Objective: To describe the development and implementation of EPAs in the intern training programme.

Method: An EPA report with descriptors for clinical pharmacy activities was designed with reference to existing frameworks and competency assessment tools (The Society of Hospital Pharmacists of Australia, 2010; Pittenger *et al*., 2016, Haines *et al.,* 2017; Monash University Experiential Placement Program, 2018). EPA levels for each activity correlate to degrees of entrustability in the learner's ability to perform professional tasks. Interns were instructed to use this tool as a 'passport' for each clinical rotation. Rotation supervisors had the opportunity to review previous reports to gauge an intern's level of independence and competency for a given task and guide supervision. The tool also outlines the expected intern milestones at week 13, 26 and 39 to benchmark progression.

Results: The use of EPAs commenced February 2019 with the first clinical rotations for five interns. Preliminary feedback from preceptors indicated good usability, and the tool was reflective of intern progress and skills. Interns found the tool mapped their progress and assisted with personal goal-setting. EPAs also improved transparency of intern progression, addressing an identified gap in structured assessment, documentation and communication between various supervisors and rotations.

Discussion: EPAs are easy to use and have been effective in tracking intern skill development and allowing for more individualised training support.

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Peer-assisted (2:1) learning and supervision: Supporting teamwork and cooperation in the clinical environment

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***Keywords**: Clinical placements, Cooperative learning, Peer relationship, Peer teaching, Supervision*

Background: Eastern Health pharmacy student placements were historically conducted with one to one student-to-pharmacist supervision. With increased clinical placement activity (31% increase from 944 to 1236 student placement days across 2017 to 2018), there was a need for supervision restructure to manage placement rostering challenges whilst maintaining a supported clinical learning environment.

Objective: To describe the development, implementation and evaluation of a peer-assisted (two to one student-to-pharmacist) learning (PAL) model for clinical placements from 2018 onwards.

Method: A literature search and review of resources on different placement models (O'Connor, Cahill & McKay 2012, ClinEdAus 2021, Faculty of Pharmaceutical Sciences, University of British Columbia and Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta 2016) was conducted and PAL was selected as a potential model. External clinical educators were approached to share their experiences. A PAL presentation was developed and delivered to staff and pharmacists involved in the first PAL placement received additional one-on-one education. A printout was developed for pharmacists and students, outlining expectations for students to foster a professional and non-competitive peer relationship, and for pharmacists and students to engage in providing and receiving effective feedback. Students and supervising pharmacists were asked for their feedback on PAL during each placement.

Results: PAL has since been utilised for placements with at least two students per hospital site (108 out of 120 students). It was well received by students and pharmacists, who reported positive improvements to the students' shared learning experience and more independent problem-solving and task completion.

Discussion: PAL provided flexibility in timetabling, reducing the number of pharmacists required to supervise students per placement. PAL proved to be a sustainable model to manage increased clinical placement activity within hospital pharmacy. Social distancing requirements of the COVID-19 pandemic in 2020 resulted in reversion to one to one student-to-pharmacist supervision, which presented rostering challenges in clinical areas and a need to utilise operational areas such as dispensary and procurement to support placements.

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The Global Advanced Development Framework: Driving transnational advancement of the pharmacy profession

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***Keywords**: Advanced practice, Competency framework, Global framework, Validation*

Background: Advanced practice is practice that is so significantly different from that achieved at initial registration that it warrants further professional recognition (PSA,2016). Countries such as Australia and UK have established frameworks to recognise advanced practice. Using data on record from 88 countries, the International Pharmaceutical Federation (FIP) has suggested that language and semantic understanding are challenges that limit workforce advancement worldwide**.**

Objective: To develop a translatable global framework to support career progression and advanced practice recognition**.**

Method: Using an adopt-adapt approach, a previously validated advanced level framework (CoDEG, 2009) was

adapted for transnational contextual, language and semantic relevance for (i) the generalised global workforce; (ii) A specific non-English speaking workforce. A translation process was conducted together with serial modified-Delphi international reference groups. Subsequent field testing provided further evidence of the generalisability of the framework as a mapping and development tool.

Results: Version Zero of the generalised Global Advanced Development Framework (GADF) (FIP, 2019) was released in 2019. Field testing of translated Indonesian and Arabic versions indicated some anglophone concepts attributed to 'advanced practice' do not translate readily; Healthcare semantics are important considerations in advanced practice competencies.

Discussion: As pharmacists' roles become more complex, with greater responsibilities and accountabilities for pharmaceutical care, recognition of practice advancement becomes a critical workforce factor. A "*continuously iterative*" open source advanced development framework is now available. Professional leadership bodies, including those in Jordan and Indonesia, are further developing this FIP framework with a range of initiatives via the Workforce Transformation Program, including using the GADF for national workforce mapping**.**

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Facilitating culturally safe practice for intern pharmacists in Australia

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***Keywords**: Aboriginal and torres strait islander peoples, Accreditation, Cultural safety, Intern pharmacist, Pharmacy intern training*

Background: The 2020 Accreditation Standards for Pharmacy Programs in Australia and New Zealand highlight a requirement for safe and socially accountable practice (APC, 2020). It is expected that education providers ensure that principles of cultural safety are evident in the outcomes of programmes, in particular, Aboriginal and Torres Strait Islander peoples' health outcomes in the Australian setting.

Objective: To promote the development of intern pharmacists' knowledge, skills, behaviours and attitudes congruent with a commitment to cultural safety.

Method: The National Alliance of Pharmacy Education Pharmacy Intern Training Program (NAPE ITP) (NAPE, 2021) has developed learning activities that promote appreciation of cultural differences and development of cultural safety, particularly in relation to Aboriginal and Torres Strait Islander peoples. Four Australian schools of pharmacy (Monash University, The University of Queensland, The University of Sydney, University of South Australia) have implemented learning activities and assessments to evaluate intern pharmacists' achievement of relevant performance outcomes.

Results: Intern pharmacists complete a self-assessment questionnaire covering aspects of awareness, knowledge, skills and reflection in regard to cultural competence. Intern pharmacists are formatively assessed on communicating effectively and demonstrating cultural sensitivity in simulated learning environments. Structured small group online discussions are facilitated by trained pharmacist moderators to promote and advocate cultural safety in the workplace.

Discussion: Education providers are expected that the content, delivery and assessment of material relating to Aboriginal and Torres Strait Islander cultures, cultural safety and improved health outcomes are culturally appropriate and fit-for-purpose. These learning activities and assessments will be systematically reviewed for quality improvement.

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High functioning teams: Strategies for success in pharmacy intern training

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***Keywords**: Collaboration, Intern pharmacist, Pharmacy intern training, Teamwork*

Background: Four Australian schools of pharmacy (Monash University, The University of Queensland, The University of Sydney, University of South Australia) formed the National Alliance for Pharmacy Education (NAPE) in 2010 to support the advancement of the pharmacy profession as a key contributor to the healthcare team.

Aim: To describe the strategies which underpin the collaboration between four Universities to deliver a consistent accredited pharmacy intern training programme (NAPE ITP).

Method: A memorandum of understanding between the universities was established. Advancing pharmacy intern training via the delivery of the NAPE ITP across the four universities was an initial focus. Staffing structure, provision of adequate resources and mechanisms for fostering collaboration to ensure the programme remained contemporary were agreed upon.

Results: The NAPE ITP is now in its tenth year of operation. Four experienced pharmacists with strong links to the profession serve as site managers for the programme and are supported by a pharmacist employed to work on curriculum development and programme mapping across the universities. Additional pharmacists and administration staff contribute locally to meet individual university needs. There is a focus on teamwork, regular communication, sharing of resources and engagement with key stakeholders. Intern pharmacist enrolments in the NAPE ITP have grown over the ten year period, 243 enrolments in 2010 to 418 by 2019.

Discussion: The strategies which underpin the NAPE ITP have been successful in ensuring programme longevity, consistency and quality. The programme continues to evolve to support contemporary practice and meet accreditation and university requirements.

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Resolving contradictions in transforming the National University of Singapore's professional pharmacy programme through using the change laboratory approach

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***Keywords**: Activity system, Change laboratory, Expansive learning, Systemic contradictions*

Background: The National University of Singapore Pharmacy Department has decided to transform its four-year entry-to-practice professional Pharmacy programme. Top-down approaches to make major curricular changes are poorly effective in higher education institutions (Maaz *et al.,* 2018); so, a participatory approach, namely the Change Laboratory, has been adopted. Activity theory and expansive learning underpin the discrete phases of a Change Laboratory (Virkkunen & Newnham, 2013). A key concept within Activity Theory is that of systemic contradictions. These contradictions manifest themselves as barriers to change (Bligh & Flood, 2013). Expansive learning is where individuals collectively embrace a radically wider horizon of possibilities for the understanding of the need to change.

Objective: To identify and resolve barriers of the curricular transformation.

Method: A mixed method involving a quantitative survey based on Lewin's force field analysis was administered; coupled with a qualitative content analysis of the transcribed discussion during the situation analysis phase of the Change Laboratory process were used.

Results: The four major contradictions (barriers) identified were: A lack of consensus on the graduate profile of a modern pharmacy professional programme; An integrated curriculum does not align within a department that is traditionally structured by disciplines; Likelihood for faculties to revert to

the old ways of doing things; Poor staff motivation to engage in such a major educational innovation when research is perceived to be more important for promotion.

Discussion: The presentation will share the negotiation undertaken to address these contradictions and the lessons learnt to date on the journey of transformation. Possible limitations of the Change Laboratory approach with particular reference to our socio-cultural context will be outlined.

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Video learning: The safe observer

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***Keywords**: Challenging perspectives, Compassion, Controversy, Culture, Diversity, Emotions and learning, Empathy, Person-centred care, Suicide awareness, Transgender, Video learning*

Background: Cultural barriers such as different views on gender may create obstacles in delivering compassionate care (Allinson & Chaar, 2019). As pharmacy professionals play an increasing role in person-centred care, they become more engaged with sensitive or controversial topics which they may choose to shy away from due to lack of understanding or confidence. Introducing the concept of empathy enables learners to perceive a person's world positively and with respect and therefore understand that person's perspective (CPPE, 2014; Jubrai *et al*., 2016). Understanding the range of perspectives in play may assist learners to reflect on their approach, see things from a wider viewpoint and develop skills in empathy.

Objective: To investigate the use of videoed structured conversations to engage learners in challenging their own perspectives and beliefs and encourage an empathetic approach to practice.

Method: The authors chose suicide awareness and transgender health as challenging and emotive topics for learners to engage with. Using a multi-agency, semi structured interview approach, a professional video for each topic was created and used as the foundation of a learning programme.

Results: The learning output was a powerful and personal insight to the struggles that people encounter as they try to access healthcare and the assumptions that are made by the public and care providers. Viewers were provoked to engage in deep, personal reflection.

Discussion: Learning through observing an interview offered an effective route to consider emotive and controversial topics. Learners felt safe to observe the conversation from a distance, but were able to engage in the real lived experiences of those participating.

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Developing General Practice (GP) experiential learning as a collaborative student-staff approach

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***Keywords**: Experiential-learning, General practice, Pharmacist, Placements*

Background: In 2015, NHS England launched the Clinical Pharmacist in General Practice Programme, creating a new career Pathway (NHS, 2016; NHS, 2019). It is crucial that undergraduate pharmacy students gain experiential experience of this role to support their professional development.

Objective: To evaluate the benefits of undertaking GP placements and the collaborative staff-student approach to designing/implementing placements.

Method: November 2018-March 2019: 22 MPharm part-three students and two staff members co-designed the GP placement: format, learning outcomes, workbook and feedback process. May-June 2019: 37 part-three students (36% of cohort) piloted a half to one-day placement in one of five GP practices. Ethical approval was obtained. Data was collected via pre and post-placement questionnaires.

Results: The pre-placement questionnaire response rate was 100% (n=37) and post-placement questionnaire response rate was 81% (n=30). Students displayed a significant improvement in understanding of GP pharmacist roles (pre-placement mean=4.36; Post-placement mean=8.33); and understanding of the structure/running of GP surgeries (pre-placement mean=4.64, post-placement mean=7.58). Student feedback on student-staff collaboration was overwhelmingly positive:

"*The biggest advantage of students working alongside staff is a better understanding of what we want out of the placement*"

"*The co-design element was great, I felt staff were really listening to us*"

Discussion: Undertaking GP placements has improved students' understanding of multidisciplinary working in primary care, how treatment decisions are made and has also expanded their career options. The student-staff collaborative design ensured the placements delivered an authentic and valuable experience, with high levels of student engagement. GP placements have now been embedded in the programme for all part-three students.

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Social accountability in action: The (r)evolution of pharmacy programme accreditation in Australia and New Zealand

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***Keywords**: Accreditation, Healthcare, Pharmacy education, Pharmacy workforce, Social accountability*

Background: The rapidly changing environment means health professional education must be both high quality and agile, resulting in practitioners capable of practising contemporaneously but also adapting to an evolving and uncertain future. In 2020 a new suite of Australian/New Zealand pharmacy education accreditation documents (APC, 2020a & 2020b) came into effect, focused on social accountability as a lens for contemporary quality education with a future focus. This presentation outlines the processes for developing the materials, describes their key features, and discusses their implications for enhancing pharmacy education and professional practice.

Objective: To design future-focused Accreditation Standards and supporting documents for pharmacy education, underpinned by social accountability

Method: An extensive literature review (APC, 2018) of international best accreditation practice and wide stakeholder consultation and feedback, led to the development of Accreditation Standards and supporting materials.

Results: The literature review identified key emerging trends in accreditation and formed the basis for a new approach to the Standards foregrounding processes and outcomes. Stakeholders engaged positively and collaboratively with the consultation process and strongly endorsed social accountability as the underpinning principle. A tailored Performance Outcome Framework and Evidence Guide complement the Standards and became effective on the 1st of January 2020.

Discussion: Accreditation is critical in shaping the nature and quality of professional education, and the 2020 suite of documents represent an enhanced focus on the positive impact of pharmacy on society in addition to prevention of harm. Building a workforce able to adapt to as-yet-unimagined practice contexts ensures that pharmacy remains an essential and valued part of the future healthcare milieu.

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Developing research capacity and capability in hospital pharmacy staff

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***Keywords**: Capability, Capacity, Codesign, Hospital pharmacy, Research*

Background: Recently, an Academic Practice Unit was established in Auckland with one of the stated goals being to develop the clinical research capability and capacity of pharmacy staff at Auckland district Health Board (DHB). While similar units exist internationally in pharmacy and other professions, this unit is a first for pharmacy in New Zealand.

Objectives: To identify the barriers and enablers, and staff motivation to building clinical research capacity and capability at Auckland DHB.

Method: A working group was convened of interested staff representing a range of experience and specialities. The group participated in four facilitated workshops. Field notes and workshop outputs were thematically analysed and taken back to participants for iterative review.

Results: Thirteen staff participated in four workshops lasting from one and a half to two hours. There was desire from these staff for a research career pathway, ranging from exposure to research to the development into a clinical researcher. Several barriers to building clinical research capability were identified including not knowing where to start, lack of research skills, and need for support and guidance on how to undertake research. Participants identified a need for infrastructure and resources to support capacity and capability building of staff.

Recommendations were made to develop a research pathway and a guide to navigating research with supporting resources and structures.

Discussion: There is a clear desire for pharmacy staff at Auckland DHB to develop their research capacity and capability. Several supporting factors were identified that need to be addressed to enable this. Work is underway to develop the recommended resources and structures.

Peer pharmacist involvement in the delivery of Practice Review, a statutory-required competence-based review

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***Keywords**: Continuing Professional Development, Peer-led, Pharmacy, Professional competence, Quality Assurance*

Background: The Pharmaceutical Society of Ireland (PSI) established the Irish Institute of Pharmacy (IIOP) in 2016 to oversee the management and operation of the CPD system for pharmacists in Ireland. The PSI (CPD) Rules 2015 (Pharmaceutical Society of Ireland, 2015) set out the quality assurance review processes of the CPD system, which includes Practice Review, and states that the standards applied in Practice Review shall be "*established in consultation with peer pharmacists practising in patient-facing roles*". In line with this legislation, the Practice Review Policy (The Irish Institute of Pharmacy, 2017) requires a peer-led approach to Practice Review.

Objectives: The involvement of peer pharmacists in the delivery of Practice Review.

Method: The IIOP invited expressions of interest from the profession to be involved in Practice Review. Pharmacists practising in patient-facing roles were recruited to participate in one or more of the following areas: (1) Case Development Workshops; (2) Quality Assurance Groups; (3) Practice Reviewers; (4) Standard Setting Workshops; and (5)Review Board.

Results: Over 100 peer pharmacists have been involved in Practice Review related activities to date; of varied age, gender and practice area. This has enabled the delivery of the Practice Review Pilot, and four Practice Review events (April & October 2018, April & October 2019).

Discussion: This presentation will describe the authors' experience working with their pharmacy colleagues in the quality assurance of their profession – sharing insights and learnings from real life challenges encountered. With the necessity for the ongoing involvement of peer pharmacists, topics to explore include the challenges and facilitators to pharmacist participation, as well as the potential ancillary benefits in terms of skill development.

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Development of a new workplace training model for foundation (intern) pharmacists using the design-based research approach

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***Keywords**: Designing interventions, Design-based research, Education research, Research methods*

Background: The Design-Based Research (DBR) approach provides a scaffold which education researchers can use to inform how they design, implement and evaluate education interventions (Wang & Hannafin, 2005; Van den Akker, 2013). DBR is informed by three core principles: (1) Analysis and exploration, (2) Design and construction, (3) Evaluation and reflection (McKenny & Reeves, 2012). This research used DBR to inform the design and implementation of a hospital ward placement for trainee pharmacists.

Objectives: Describe how DBR enabled the design and implementation of a hospital ward placement for trainee pharmacists.

Method: Three iterative studies were conducted. Study 1 explored the barriers and enablers to implementing a ward placement using focus groups/interviews with 37 participants, generating qualitative data that was analysed thematically (Braun & Clarke, 2006). Study 2 involved the design and construction of the 13-week ward placement using multi-stakeholder advisory panels (n=2) and a group of key stakeholders (n=8). Study 3 tested a prototype four-week placement, using focus group/interviews; qualitative data were analysed thematically and using a framework (Braun & Clarke, 2006; Gale *et al*., 2013).

Results: Study 1 identified the supervision of the trainee pharmacist by non-pharmacy healthcare professionals as a barrier to placement implementation. The positive learning culture on the ward was identified as an enabler. Study 2 defined the ward placements' design requirements, activities and concerns, which informed final placement design. Study 3 identified the placement design as feasible and acceptable to stakeholders.

Discussion: An innovative workplace training programme was explored, designed and tested successfully in practice. Using the DBR approach to develop educational interventions in pharmacy warrants further investigation.

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Interdisciplinary training for the future of humanity: Antimicrobial stewardship in primary care

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***Keywords**: Antimicrobial stewardship, Interdisciplinary, Instructional design, Multimedia, Online*

Background: Antimicrobial resistance, which can result in antibiotics no longer being effective for treating infections, is increasing worldwide and has stark implications for Canadians (Council of Canadian Academies, 2019).

Objectives: To optimise the use of antimicrobial agents by Canadian healthcare professionals and increase their knowledge of antimicrobial stewardship (AMS) principles, an interdisciplinary programme for primary care providers was

designed, including key areas of focus identified by the Public Health Agency of Canada (Government of Canada, 2018).

Method: Working with an interdisciplinary advisory committee and authors representing pharmacy, medicine, and dentistry, the key learning needs for this broad audience were identified. Implementing antimicrobial stewardship isn't difficult because of a lack of clinician knowledge but due to a variety of patient- and provider-specific barriers (Bal & Gould, 2011). Sound instructional design strategies were applied and these included custom-built tools, case-based problem solving, and animations to help address these unique challenges. To facilitate the application of new knowledge in practice, the authors developed video demonstrations and clinical insights from relevant practitioners highlighting how to address these barriers. The addition of patient-friendly handouts, modular design and links to existing resources makes the programme user-friendly for busy health care practitioners.

Results: Fully online, modular programme, accredited/ recognised by three professional agencies, was developed, with five hours of content.

Discussion: An interdisciplinary group of primary care practitioners, along with experts in infectious disease, public health, and online education, successfully created a practical, relevant online course for interdisciplinary continuing professional development (CPD) in AMS (University of Waterloo, 2020). The course has been well received, with strong uptake in rural and remote areas, highlighting the utility of fully online CPD.

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Cultivating collaborative patient care: An interprofessional learning experience for undergraduate pharmacy and dentistry students

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***Keywords**: Clinical pharmacy, Dentistry, Groupwork, Interprofessional education, Interprofessional learning, Patient safety, Safe prescribing, Simulation*

Background: Undergraduate Interprofessional Learning (IPL) enables students to "*learn from, with and about*" other healthcare professional students, preparing them for clinical practice and collaborative, safe patient care (World Health Organization, 2010).

Objectives: To develop a new IPL experience for third-year Pharmacy and fourth-year Dentistry students in University College Cork.

Method: The IPL classroom session was delivered in Semester 2 2018-19 and 2019-20. The IPL session was delivered across four two-hour workshops. Learning objectives, dental images and prescribing guidelines were provided with each case. Students worked in small mixed groups on a patient case to develop a collaborative management plan. Content included pain management, antimicrobial prescribing, controlled drug prescribing, and over the counter management of dental conditions. Students conducted a simulation exercise in prescription writing. Students presented their case at the session end as evidence of learning. Student feedback *via* a Google survey form, was requested after the session.

Results: As the first IPL session for Pharmacy and Dentistry students, this was a new entry point to learning for all of the students. The students engaged in the session with plenty of interaction and progressed through the cases independently with minimal intervention required from the facilitators. All students reported a positive learning experience.

Discussion: IPL addresses several of the competencies in the Pharmaceutical Society of Ireland Core Competency Framework for Pharmacists (Pharmaceutical Society of Ireland, 2013) and the Association for Dental Education in Europe (Association for Dental Education in Europe, 2009). The facilitators will continue this valuable IPL session, and develop the curriculum and pedagogical approaches, moving forward.

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Pharmacists' perceptions and experiences of participating in practice review as part of a continuing professional development quality assurance process

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***Keywords**: Competence, Competency, Continuing Professional Development, Irish Institute of Pharmacy, Pharmacy, Practice Review*

Background: The introduction of legislation relating to the completion and review of Continuing Professional Development (CPD) has ushered in an era of significant change for Irish pharmacists. All registered pharmacists with patient-facing roles are eligible to be randomly selected from the professional register to undertake Practice Review, a CPD quality assurance process (Irish Institute of Pharmacy, 2016). It is composed of two elements, Standardised Pharmacy Interactions (SPIs), and a Clinical Knowledge Review (CKR).

Objectives: To describe pharmacists' perceptions and experiences of Practice Review, a CPD quality assurance process for pharmacists in the Republic of Ireland.

Method: A qualitative method was used to gain an understanding of the experiences of pharmacists who had participated in Practice Review. Semi-structured telephone interviews were conducted, and the resultant transcripts analysed using NVivo.

Results: Eight telephone interviews were conducted with pharmacists who had completed Practice Review. The framework method of data analysis was used to manage interview data and inductively identify codes and themes emerging from the data.

Discussion: Global themes were mapped to the principles of assessment of acceptability, feasibility, reliability, validity, and educational impact (Van der Vleuten & Schuwirth, 2005). The category of educational impact was broadened to professional impact. The themes reflect discussions relating to the operationalisation of Practice Review as well as the structure and content of the CKRs and SPIs. Consideration was also given as to the meaning and impact of Practice Review in the context of developing pharmacist's skills and knowledge for professional practice.

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A new model for training foundation (intern) pharmacists: The 13-week longitudinal ward placement

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***Keywords**: Design-based research, Education research, Learning experience, Longitudinal placement*

Background: Trainee (foundation) pharmacist education in UK hospitals traditionally consists of a series of one to three-week placements in different technical and clinical areas. In medical education, longitudinal placements of 13 weeks in one area have demonstrated benefits, including better integration into multi-disciplinary teams and greater autonomy as they undertake increasingly complex tasks (Thistlethwaite, 2013). Prior studies as part of this research used the design-based research approach to develop a 13-week longitudinal ward placement for hospital trainee pharmacists (Barab & Squire, 2004).

Objectives: Describe the effect of a 13-week longitudinal ward placement on the learning experience of trainee pharmacists.

Method: Three trainee pharmacists were located on one Older Persons Medicine ward full-time (Mon-Fri; 9 am-5 pm) for 13 weeks and were interviewed at weeks; 0, 4, 8 and 14. Ward staff (n=24) were interviewed at week 14. Interviews were transcribed verbatim, and qualitative longitudinal analysis was undertaken using an abductive approach (Grossoehme & Lipstein, 2016; Neale, 2018).

Results: All trainee pharmacists reported an enhanced learning experience compared to short block rotations. Trainees described how becoming a member of the ward team enabled them to access more learning opportunities. The trainees' acquired more responsibilities over time as trust developed between themselves and the multi-disciplinary ward team. This improved the confidence and professionalism the trainees' displayed during their placement.

Discussion: The evidence suggests that longitudinal placements as a part of pharmacy education warrants further investigation. The longitudinal placement model has consequently been adopted across several hospitals in England. A planned evaluation will determine the replicability of the placement in other settings.

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What differentiates exceptional new pharmacists? Findings and implications for educators

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***Keywords**: Curriculum, Employers, Professional development*

Background: Pharmacy educators are faced with many topics that could be covered in curricula. To strengthen the evidence base, need to transform curricula, more information is needed on the variables contributing to new graduate success.

Objectives: To determine pharmacy employers' perspectives on the variables differentiating exceptional new practitioners (ENPs).

Method: A modified Delphi process was conducted with employers in inpatient and outpatient pharmacy settings. Possible panellists were nominated by one of six partnering Midwest United States pharmacy schools, and interested individuals confirmed eligibility (i.e. Significant experience on the job; Observation of the new practitioner work; Involvement in the hiring process; Exposure to new practitioners from multiple schools). Panellists responded to open-ended questions on behaviours of ENPs (i.e. Round 1) followed by rating the themes derived from those responses (i.e. Round 2).

Results: Nine panellists participated in Round 1. Six panellists returned for Round 2, with five additional panellists joining to provide additional, new perspectives. One hundred sixteen codes were identified and nine themes were developed, including "*speaking up for quality improvement and patient safety*" and "*developing self through successes and failures*". All themes achieved consensus. Themes were clustered into three categories: change-Leader, self-Manager and relationship-Builder.

Discussion: The findings strengthen the evidence base for schools of pharmacy in making decisions about the contents of professional development curricula. In addition, the themes are strongly aligned with Costa's Habits of Mind (2019), which provides guidance for educators on refining educational activities to better ensure the development of skills valued by employers.

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Transitioning to the workforce: Building resilience in intern pharmacists

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***Keywords**: Intern pharmacist, Resilience, Self-management, Transition, Workforce*

Background: Transitioning from novice to professional in the workforce can be a challenging time, developing professional identity, confidence and competence. Pharmacy graduates may not feel prepared for the physical and emotional stress

that is involved. A need to assist intern pharmacists to develop relevant skills has been identified.

Aim: To develop and implement a workshop building resilience to aid the transition from university to the workforce for intern pharmacists as part of a pharmacy intern training programME in Australia.

Method: The University of Sydney library database was searched using the terms transition, workforce, and health professions, in January 2020. Two relevant articles identified issues confronting health professionals, including nursing, paramedics and pharmacy as novices' transition to the workforce, which informed the design of the workshop activities (Kennedy *et al*., 2015; Magola *et al.,* 2018). The workshop consisted of a combination of didactic whole group and interactive small group activities. Learning outcomes of the workshop included developing coping strategies for managing transition, applying reflective skills for self-management, utilising stress management tools to deal with change, and applying problem solving skills to workplace issues.

Results: The two-hour workshop was piloted in February 2020 at The University of Sydney NAPE Intern Training Program. The workshop was delivered by a primary trained facilitator, and 108 intern pharmacists participated. The workshop was repeated three times, with 36 interns per session.

Discussion: Verbal feedback post-workshop was positive, with participants feeling a sense of comradery and that they were not alone. Building resilience and self-management skills may assist pharmacy graduates with workplace preparedness and future professional practice.

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Development, implementation and preliminary evaluation of a module on leadership for pharmacy students

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***Keywords**: Leadership, Leadership skills, Learner satisfaction, Student engagement*

Background: Healthcare educationalists are challenged to prepare undergraduate students for collaborative healthcare practice. Leadership is a key attribute for successfully navigating increasingly complex and demanding practitioner roles and has been recognised as contributing to a safe and productive workplace. Undergraduate pharmacy curricula are appropriate for fomenting leadership skills yet, they are not often taught, or when taught it is not overtly visible to students. The school of pharmacy sought to develop a pedagogically robust module to introduce these social science/organisational behaviour concepts.

Objectives: To develop a leadership skills module for integration in a limited undergraduate curricular space.

Method: A theory enriched curricular design method was used. A literature review was conducted to identify relevant leadership theory, and cooperative learning underpinned the formation of engaging workshop activities (Gleeson *et al*., 2011).

Results: A one hour lecture and three hour workshop were designed and implemented with 198 final year Bachelor of Pharmacy students in 2018, at the University of Sydney, Australia. Tutors reported a high level of student engagement and enjoyment of the workshops. The feedback ratings for the Unit of Study improved from 3.79±0.85 in 2017 to 4.28±0.79 in 2018 (p = 0.001). The workshop is now integrated with the Unit of Study and the skills in the broader curriculum.

Discussion: A theoretically informed leadership module using cooperative/group-based learning increases student participation and learner satisfaction. Further research may measure leadership skills through mapping graduate surveys and future professional career roles.

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Utilising entrustable professional activities (EPAs) to ensure pharmacist competency for emerging roles in patient care protocols

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***Keywords**: Entrustable professional activities, Patient care, Protocols, Smoking cessation*

Background: Entrustable professional activities (EPAs) are defined as specific, assignable, and observable tasks or responsibilities that a professional must perform to demonstrate competence. In the United States, individual states, through their pharmacy practice acts define pharmacists' scope of practice. In Colorado, pharmacists may practice under state wide protocols (SWP) that allow for direct patient care. One core EPA for a pharmacist to demonstrate expertise in practising under a SWP is the establishment of patient-centred goals and creation of a patient care plan.

Objectives: To develop and deliver a training programme that utilises EPAs to ensure competency in practising under the Colorado tobacco-cessation SWP.

Method: University of Colorado Schools of Public Health and Pharmacy created a comprehensive programme to train pharmacists to practice under the tobacco-cessation SWP. The authors enrolled 16 pharmacists from rural Colorado who practice in ranching communities where there is a high tobacco burden and need for smoking cessation therapies in the training programme. Pharmacists were provided a pre- and post-training questionnaire regarding their confidence in providing a patient-centred care plan. Pharmacists were evaluated immediately after the trainings to assess competence, and again two weeks after the trainings to capture knowledge retention with an emphasis on information necessary to deploy the skills taught.

Results: Attendees reported high levels of comfort in their willingness to perform tasks prior to the training, and their competence in doing so underwent significant improvement following the trainings.

Discussion: Pharmacists who participated in the trainings demonstrated knowledge and competence in performing EPAs related to smoking cessation tasks.

Design and implementation of a workshop on problem-solving and decision-making for pharmacy students

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***Keywords**: Decision making, Innovative thinking, Problem solving, Psychology*

Background: Evolutions in healthcare require practitioners to be engaged in making real-time decisions or creative solutions around problems that are complex, unstructured, multifaceted and non-routine (Foty *et al*., 2018). Psychology based problem-solving frameworks such as heuristics, analogical reasoning and problem space theory point educators to specific affective and cognitive competencies (Anderson, 1993). While problem solving is a common teaching technique, developing pharmacy learners' self-awareness of their processes for unstructured problems is not so common (Ellis, 1978). Such skill building can guide pharmacy learners and develop key graduate qualities of critical thinking and problem-solving.

Objectives: To design and implement a workshop for fourth year pharmacy students to improve problem-solving and decision-making skills.

Method: In consultation with a clinical psychologist, learning objectives were devised and theory based, interactive activities developed. These explored the concepts of structured and un-structured problem-solving, intuition, a problem-solving framework, generating ideas and effective decision making. The workshop was piloted with 12 academics and refined.

Results: The four-hour workshop was delivered to fourth-year pharmacy students in March 2018. Students were engaged and provided anonymous positive feedback (feedback ratings for the Unit of Study improved from 3.79±0.85 in 2017 to 4.28±0.79 in 2018 (p = 0.001)). The workshop is now embedded in final year Bachelor and Master of Pharmacy degrees, and the related assignment forms the basis for graduate qualities assessment.

Discussion: A theoretically informed, interactive, group learning activity based on psychological theory was developed and implemented successfully into an under- and post-graduate pharmacy programme, improving student satisfaction ratings. Future research may look at effects on practitioner wellbeing.

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Building partnerships: Integrating hospital practitioners into the pharmacy classroom

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***Keywords**: Clinical-educator, Hospital pharmacy, Practitioner-educator, Teaching*

Background: The teaching engagement of Australian hospital pharmacy practitioners in tertiary pharmacy education is limited to preceptorship during experiential placements and ad-hoc invitations to deliver specific lectures.

Objectives: To describe a partnership with multiple hospital integrating hospital practitioners into a pharmacy undergraduate degree and its impact on practitioner professional development.

Method: In 2019, partnerships were formed between the Monash University Faculty of Pharmacy and the pharmacy departments of four tertiary referral hospitals to provide contracted time for practitioners to facilitate teaching activities. In January 2020, these practitioners were invited to complete an online survey about their experience. Five-point Likert scales were used to determine professional development in the following domains: clinical content knowledge, feedback skills, group facilitation and networking. Open-ended questions about barriers and benefits of the programme were thematically analysed independently by the investigators.

Results: Forty-two practitioners engaged in 166 student facing teaching activities including workshops, lectures, coaching sessions and assessments. Twenty practitioners responded to the survey. The ratings (mean, SD) were positively skewed to a perceived improvement in professional development (4.3±0.7), consolidation of clinical content (3.7±1.0), providing feedback (3.8±0.8), group facilitation (4±0.8) and networking (4.1±0.8). The most commonly reported barriers were additive clinical pressures and workload. Other perceived benefits were greater familiarity with the students and curriculum.

Discussion: Similar to other pharmacy schools that have developed successful partnerships with practitioners from single hospital sites (Vest *et al.,* 2019), the authors describe a successful multisite partnership, which practitioners perceived positively impacted their professional development.

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Accelerating early career pharmacist development through foundation residencies in Australia: Feedback from residents and programme staff

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***Keywords**: Foundation residency, Hospital pharmacy, Quality assurance*

Background: As part of the Society of Hospital Pharmacists of Australia (SHPA) Residency Program, Foundation Residencies provide a two-year development pathway for practitioners new to hospital pharmacy practice. SHPA accredits sites to deliver Foundation Residencies locally, and the first cohort of foundation residents have recently completed their programme.

Objectives: To identify opinions of recently completed foundation residents and their programme staff regarding the contribution of Foundation Residencies to professional development, to gauge their attitude to the programme and identify areas for programme improvement.

Method: In line with organisational quality assurance processes, an anonymous, branched, online survey was sent to practitioners who have completed a Foundation Residency and programme leads at their respective residency sites

Results: Fourteen programme staff and 25 residents completed the survey, representing an overall response rate of 46%. Both residents and programme staff reported that

the residents developed professionally across key domains, and that the residency accelerated this development. This acceleration was most strongly reported in the domains of Direct Patient Care and Research and Education, which are strong focus points for the programme. Residents are pleased to have taken part, and the majority agree the programme has improved their career prospects. Programme staff feel participation has improved their workplace. Some effort is required to implement and sustain the programme locally.

Discussion: Participants in SHPA Foundation Residencies report accelerated practitioner development, improvements to departmental culture and a willingness to recommend the programme to others.

The pen is mightier than the sword: Supporting junior doctor prescribing

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***Keywords**: Junior doctors, Prescribing*

Background: As junior doctors prescribe two-thirds of hospital prescriptions but make the most prescribing errors, a practical prescribing session is recommended to minimise these errors (Royal College of Physicians, 2017). In November 2019, based on these recommendations, ADHB introduced a pharmacist-led prescribing workshop into the postgraduate year 1 (PGY1) doctors' orientation.

Objectives: To evaluate the impact of a practical prescribing workshop on PGY1 prescribing accuracy.

Method: At the start of the workshop, the PGY1s were asked to prescribe medicines for a hypothetical case on the New Zealand National Medication Chart (NMC), to assess baseline prescribing. Education was delivered, and to measure changes in prescribing accuracy, the PGY1s were asked to prescribe for a second hypothetical case. The cases included prescribing concepts developed from local and national guidelines, e.g. legal requirements and safe prescribing practices (Auckland District Health Board, 2006; Health Quality and Safety Commission New Zealand, 2012). Follow-up evaluation of prescribing accuracy was undertaken, including an audit of in-practice prescribing. Participants self-rated their prescribing confidence (Newby *et al*., 2019) before and after the workshop and provided feedback.

Results: Fifty-seven PGY1s attended the workshop. Common errors in the first case included missing annotation requirements and lack of maximum doses for "*as required*" medicines. Immediately after education, improvements were seen across most prescribing concepts, but some improvements were not sustained at follow-up. Self-rated confidence scores increased significantly (p <0.0001) after the workshop. Participant feedback was positive.

Discussion: results show that a practical prescribing workshop has a positive impact on prescribing accuracy overall. However, certain aspects require ongoing education. PGY1s valued the opportunity to practice on the NMC in a safe environment before writing prescriptions in the workplace.

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Pharmacists' views on preceptor competency assessment: A qualitative study

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***Keywords**: Assessment, Competency, Pharmacist, Preceptor, Preceptorship*

Background: Preceptors play an integral role in experiential learning for pharmacy students and intern pharmacists. Education providers are held accountable for the quality of experiential learning by accreditation bodies but the requirements for preceptor appointment and evaluation of preceptor performance varies.

Objectives: To explore pharmacists' experience of preceptorship and views on assessment of preceptor

competencies to inform the development of a best practice model of preceptorship.

Method: A qualitative study design involving focus groups and interviews was employed. Pharmacy stakeholders were recruited using a purposive sampling strategy. Focus groups and interviews were conducted by a trained facilitator, using a semi-structured interview guide between July 2018 and January 2020, until data saturation was reached. Data were digitally recorded, transcribed verbatim, coded, and iteratively analysed by two independent researchers via inductive thematic analysis.

Results: Thirteen focus groups and three interviews were conducted with 56 participants across rural, regional and urban areas. Six main themes emerged: the purpose of preceptorship, becoming a preceptor, shared expectations, variety of experience, competing demands and assessment of preceptor competence.

Discussion: An assessment framework comprising multi-modal assessment measures and accompanying minimum performance criteria requires development and validation to assure the quality of pharmacy preceptorship. Appropriate recognition or accreditation may increase preceptor acceptance of assessment.

FIP's perspective on digital health in pharmacy education

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***Keywords**: Digital health, Pharmacy, Pharmacy education*

Background: The future of pharmacy and pharmaceutical sciences is digital and exciting. A digitally enabled and agile pharmaceutical workforce will capitalise on the benefits of digital health to serve the higher purpose of providing good health and well-being for all, leaving no one behind.

Objectives: To describe the readiness, adaptability, and responsiveness of pharmacy education programmes to train the current and future pharmaceutical workforce on digital health, as well as identify the knowledge and skill gaps of the existing pharmaceutical workforce on digital health.

Method: An online survey was distributed by FIP to the FIP network and collaborators to collect feedback from academics, pharmacy schools, pharmacists, and pharmacy students (August-October 2020). The questionnaire was based on themes found in the literature and included a combination of open-ended and multiple-choice questions. Findings were analysed separately for academia (combining institutions and faculty members), students and pharmacy practitioners. The methodology has been described in more detail in the FIP Digital Health in Pharmacy Education report (International Pharmaceutical Federation, 2021).

Results: A large proportion of pharmacy schools (148/260 respondents) do not offer any digital health education. Only one in four practitioners (n=526) reported receiving digital health education, either within pharmacy school or as continuous education. The skillset and knowledge of how to apply digital health technologies to solve existing clinical problems and improve care have been identified as a gap among both students (n=274) and practitioners.

Discussion: These findings call for addressing barriers on the implementation of digital health education and supporting the existing workforce. Pharmacy and pharmaceutical sciences education should act now to increase the adoption of digital health by the pharmaceutical workforce.

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The importance of a positive educational environment in postgraduate pharmacy education

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***Keywords**: Community pharmacy, Educational environment, Postgraduate education, Self-determination theory, Structural equation modelling*

Background: The quality of the educational environment, as perceived by trainees, significantly affects their performance and well-being in postgraduate healthcare education. The Self-determination Theory can clarify the underlying motivational pathway.

Objectives: To investigate the relationships between the perception of the educational environment, the satisfaction, and the frustration of the basic psychological needs (BPN), and the motivation of trainees in a Dutch postgraduate community pharmacy education programme.

Method: In a cross-sectional study, trainees in the educational programme were approached to complete a survey on the quality of the educational environment, the satisfaction and frustration of their BPN, and the quality of their motivation. Structural Equation Modelling (SEM) was used to analyse the relationships between the latent variables.

Results: Out of 232 trainees, 205 responded (88%). The resulting SEM-model displayed a moderate to a good fit. The perceived quality of the educational environment had a moderate positive association with BPN Satisfaction and a similar negative association with BPN frustration. BPN frustration had a low to moderate association with Controlled Motivation.

Discussion: These results suggest that the quality of the educational environment was directly associated with BPN satisfaction and frustration of trainees in this specialisation programme. BPN frustration was associated with an increase in the controlled motivation of trainees, which is a less desirable form of motivation. It is important for supervisors to create a positive educational environment that supports satisfaction of BPN of trainees in workplace-based education and reduces the risk of BPN frustration.

Emerging teaching and assessment of competence in an integrated pharmacy curriculum: A scoping review

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***Keywords**: Curricular integration, Emerging modes of learning and development, Harden's integration ladder, Kirkpatrick model, Scoping review*

Background: With the paradigm shift in a pharmacist's role from drug-focused to patient-focused, there is more emphasis on pharmacy practice when training pharmacists. Curricular integration is increasingly popular in pharmacy education as an approach to connect diverse disciplines, particularly between theory and practice.

Objectives: To explore how integrated curricula have been implemented and evaluated in pharmacy education.

Method: A scoping review was undertaken by searching eight electronic databases for original research articles published from January 1990 to January 2020. The inclusion criteria were English-language studies that had at least one integrated module that integrates science and practice within a pharmacy degree. The modified Kirkpatrick's model was used to assign levels of evaluation to the included studies based on the study measures.

Results: Nineteen studies met the inclusion and exclusion criteria. Most studies (n=17) undertook Kirkpatrick Level 1 evaluation with positive students and/or academics' perceptions on curricular integration, while one study received negative academics' perception. The most common methods of delivering integration included case-based activities, organ system/disease state-based courses, and team-based learning. Pharmacy schools that delivered integrated curricula utilised a mix of written and oral assessments, with the majority being summative. Students perceived that integration helped improve their learning. Four studies that undertook Kirkpatrick Level 3 evaluation had mixed results. No studies had undertaken Kirkpatrick Level 4 evaluation.

Discussion: The current evidence appears promising in that pharmacy students had high levels of satisfaction in integrated curricula. However, it is inconclusive whether an integrated curriculum is superior to a traditional discipline-based curriculum, due to the lack of a control group comparison.

Providing vaccines information to patients: What influences healthcare professionals?

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***Keywords**: Communication, Pharmacy practice, Qualitative research, Vaccines, Vaccines hesitancy*

Background: Pharmacists and other frontline healthcare professionals play an important role in providing vaccines information to patients. However, with recent changes to immunisation schedules (Health Service Executive, 2021) and increasing trends in vaccine hesitancy (World Health Organization, 2019), it is important to understand what influences how they provide this information.

Objectives: To explore the views of healthcare professionals on vaccines and providing vaccines information to patients.

Method: Semi-structured interviews were conducted with 14 healthcare professionals (HCPs) working in the primary care setting in the west of Ireland (five Pharmacists, five General practitioners (GPs) and four Practice Nurses). Interviews took place between April and August 2019. A topic guide composed of open-ended questions was designed to elicit the views of the participants. Thematic analysis was conducted.

Results: Findings are represented by five key themes: (i) Roles and responsibilities, (ii) perception of risk, (iii) perception of the public, (iv) building a relationship and (v) emotion. HCPs spoke of being motivated by a sense of duty to promote vaccines and that trust between HCPs and patients is crucial. They discussed the challenge of addressing vaccine hesitancy and ensuring that information from all HCPs is consistent. Missed opportunities for recommending vaccines was highlighted by several participants.

Discussion: This study has found that up to date and accessible vaccines information and education is important for frontline HCPs, including pharmacists. Further research to explore how to proactively discuss vaccines and hesitancy with patients using effective communication strategies is recommended.

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Teaching empathy: An investigation of the influence of simulated patient role play teaching activities on pharmacy students' empathy level

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***Keywords**: Educational intervention, Empathy, Pharmacy students, Simulated patients*

Background: Empathy is important in fostering patient trust, satisfaction and compliance (Allison & Chaar, 2016; Ratka, 2018). Pharmacy graduates are required to demonstrate evidence of competency in professional interaction with a diverse range of people in a socially accountable and empathetic manner (Australian Pharmacy Council, 2020).

Objectives: To examine the impact of simulated patient role play activities for teaching empathy in undergraduate pharmacy students.

Method: Empathy scores of second-year pharmacy students were measured using a validated survey instrument: Kiersma-Chen Empathy Scale (Kiersma *et al*., 2013), before and after a six-week teaching block. Students participated in a series of pharmacy scenario-based learning workshops involving role-play exercises involving history taking, problem solving and counselling skills.

Results: Ninety-six second year pharmacy students (68 females and 28 males) participated in both pre- and post-teaching empathy survey questionnaires. 70% of the study group was domestic *vs* 30% international students. Significant increase in the median empathy score was seen for all student groups, post- *vs* pre-empathy teaching block: males (78.5 *vs* 69.5); females (83.5 *vs* 73.5); domestic (80.8 *vs* 73) and international students (77.5 *vs* 67.5) respectively. No significant differences were seen between male and female groups. Domestic students had significantly higher empathy scores (t-test, $p < 0.05$) than international students when measured both pre- and post-teaching.

Discussion: Pharmacy student empathy levels were enhanced after participation in workshop activities involving empathy teaching. Simulated patient role play and reflective activities could be effectively used to enhance pharmacy student empathy. Socio-cultural factors may influence student empathy level and development and empathy teaching.

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Emerging modes of educating and assessing an integrated curriculum in pharmacy

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***Keywords**: Emerging modes of learning and development, Future of learning, Harden's integration ladder, Integrated curriculum*

Background: With the paradigm shift in a pharmacist's role from drug-focused to patient-focused, curricular integration is increasingly popular in pharmacy education as an approach to connect between theory and practice. Integrated curricula appear to be delivered in a variety of formats across pharmacy schools. However, little research has been conducted to explore this new way of curriculum design.

Objectives: To explore the implementation of integrated curricula in pharmacy schools, to better inform future pharmacy curriculum reviews.

Method: Invitation emails were sent to the Head of School and/or Deputy Head of Pharmacy Teaching of 17 pharmacy schools in Australia. Semi-structured interviews were conducted either in person, via telephone call, video call or email correspondence with one to two nominated academics per school. Interviews that were audio recorded, were transcribed verbatim. Interview transcripts were uploaded to QSR International's NVivo 12 software to assist thematic analysis using the framework approach. Subthemes relating to models of integration were mapped to and interpreted with Harden's Integration Ladder.

Results: Sixteen academics representing 14 pharmacy schools were interviewed. Themes emerged included: various models of integration, reasons behind integration, appraisal of effectiveness of integrated curricula, barriers to implementation, and recommendations for the future.

Discussion: Pharmacy curricula were found to be on a spectrum of various levels of integration. Most participants in this study appreciated the value of integration and aspired for further integration to support student learning. However, the design and implementation of an integrated curriculum was seen to be a complex process with numerous challenges, and staff should be well-trained, motivated and collaborative.

Employing H5P as an eLearning authoring tool to facilitate local programme updates

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***Keywords**: eLearning authoring, eLearning costs, H5P interactive content, HTML5, Local programme updates, Self-directed learning*

Background: The Royal College of Surgeons in Ireland's (RCSI) Affiliation for Pharmacy Practice Experiential Learning (APPEL) team required a five-module online Trainer Training Programme to train and support a large cohort of pharmacists in diverse geographical and practice settings.

Objectives: To develop an engaging/interactive online training programme that facilitated ease of annual and ad-hoc updates/maintenance by the APPEL team with minimum handover training.

Method: The open-source HTML5 technologically enhanced interactive learning tool, H5P, was used to author the training programme. The choice of H5P was based on its focus on interactivity and its promise of engaging students/learners. The tool also integrated well with APPEL's Moodle learner management system. Because of its responsiveness (as an HTML 5 JavaScript-based framework), and its browser-based authoring environment, it removed the need for specialist software or skills to update text-based content.

Results: The choice of H5P as an authoring tool has provided APPEL staff to easily update online training content themselves, based on change requests of multiple stakeholders driven by the schools-based process changes. Immediate updates and quality improvements can now be made in a timely manner without reliance/recourse to the original training provider.

Discussion: Given the ease of use of using H5P to update eLearning content by local authors, what training/skills are required for these educators to use the H5P toolkit to author their own content?

Learning together: The value of regional communities of practice for novice to experienced pharmacy learners

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***Keywords**: Community of practice, Pharmacy learners, Regional model*

Background: The move to a PharmD programme challenged the authors to create an experiential programme providing quality experiences for students as well as enhancing their pharmacist preceptors' practices. Feedback suggested a regional model where each student would provide care in one of 14 Ontario regions. Students would contribute to a local Community of Practice (CoP) (Cox, 2005) through projects and activities that met local education and practice needs.

Objectives: To determine if the regional CoP model had an impact on pharmacist and student learning.

Method: Rotations began in 2015 with 120 students completing three two-month/year placements in different settings. Feedback from students, preceptors and Regional Clinical Coordinators (RCCs) was collected for quality improvement and screened for comments regarding CoP.

Results: The CoP increased preceptor access to learning activities tailored to local needs and provided them with training on how to give feedback. Students reported professional growth including confidence building, an appreciation for community-based care and exposure to a new geographic area. Both students and preceptors felt their learning was supported by the RCCs. Unique placements in Indigenous communities, rural and remote areas pushed CoP members to consider their learning needs and requirements for making these new placements successful. Regions adopted the CoP model with different degrees of formality and, as a result, attained varying levels of shared learning experience. Several approaches have been identified to overcome this challenge.

Discussion: The Regional CoP model provided tailored learning for pharmacists and students through student delivery of education and projects, preceptor training and coaching by RCCs.

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Involvement and co-production within learning and teaching for health care professionals: Is it important, and how do we do it?

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***Keywords**: Co-production, Education, Healthcare professionals, Innovation, Patient Public Involvement*

Background: Patient Public Involvement (PPI) offers an opportunity to involve patients and public service users in education, research and services provided by Ulster University (UU), enabling PPI representatives to have an influence on research and education of healthcare professionals. PPI is used as a tool to develop skills in professionalism, communication and compassion for students, allowing for development of their empathetic skills, as well as providing real-life examples of disease and disease management, and how this can affect the lives of patients and their carers (Towle *et al.*, 2010; Regan de Bere & Nunn, 2015; Haya Al-Balbisi, 2018).

Aim: Evaluate the level of involvement and co-production within education of health care professionals in the faculty of life and health sciences at UU.

Method: Online questionnaires were developed and circulated to final-year students within the Faculty to obtain student experience of engagement in PPI.

Focus groups were utilised to obtain participant (person or public representative) experience of engagement in PPI. Participants answered open-style questions, which allowed for further verbal discussion.

Results: PPI is embedded in curricula of health care professional education and it is both extensive and diverse. There are pockets of innovation within the faculty with specific groups of learners. There is strong evidence that within the faculty there are immediate benefits for all involved in terms of skill development knowledge and behaviour. Within the Pharmacy programme this impact continues through the pre-registration year.

Discussion: Person/patient involvement in education and training of health care professionals needs to be explicitly outlined in curricula and the connection of this involvement to patient safety, patient experience, quality of care, person-centred care and shared decision making needs to be identified.

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Structured block placements of hospital trainee pharmacists in UK primary care medical practices: Lessons from a pilot scheme

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***Keywords**: Clinical supervision, Experiential learning, Medical practices, Pharmacy placements, Primary care*

Background: Almost 2,000 UK pharmacists are currently employed within primary care medical practice teams, providing clinical patient-centred care (Mann *et al*., 2018; National Health Service England, 2018). The NHS long-term plan to expand this number (National Health Service England, 2019), is a driver for embedding primary care-based training opportunities during the initial education of pharmacists. As this is a new learning environment, it is essential to develop effective ways for incorporating placements within current programmes.

Objectives: To identify the main enablers and barriers to wider roll-out of block placements for pharmacy trainees in primary care medical practices.

Method: Ten hospital trainee pharmacists were allocated to eight medical practices (eight for four weeks and two for eight weeks). They all received placement guidance plus educational support materials. Two online questionnaires were designed (one for trainee pharmacists and one for hosting medical practices). Respondents had to rate statements and provide comments regarding: 'Induction', 'Clinical supervision', 'Experiential learning' and 'Educational support tools'.

Results: Feedback from eight of ten trainees (80%) indicated overall satisfaction with induction and clinical supervision arrangements but less so with opportunities to contribute to patient-facing activities. All trainees found the placement workbook useful for guiding experiential learning and emphasised the importance of having an onsite medical practice pharmacist. Feedback from six of eight practices (75%) indicated that trainees were well-prepared and fitted well into the teams, but there were barriers in terms of entrusting them to undertake patient-facing activities.

Discussion: Primary care practice placements provide a useful learning environment for trainee pharmacists. Meaningful engagement in patient-facing activities can only be achieved through longer placements.

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Quality assurance of the Affiliation for Pharmacy Practice Experiential Learning (APPEL) experiential learning placements in Ireland

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***Keywords**: Experiential learning, Pharmacy students, Practice educator, Practice placements, Quality, Work-based placements*

Background: The delivery of the undergraduate pharmacy professional degree programme in Ireland changed in 2014 from a four-year and one-year internship programme to a five-year integrated programme (Iris Oifigiúil, 2014). The new programme integrates experiential learning (EL) placements across the undergraduate programme (Pharmaceutical Society of Ireland, 2014). APPEL (Affiliation for Pharmacy Practice Experiential Learning) manages the EL placements of the integrated pharmacy programmes of the three Schools of Pharmacy in Ireland. APPEL is a unique collaboration between University College Cork (UCC), the Royal College of Surgeons in Ireland (RCSI), and Trinity College Dublin (Trinity). APPEL provides a single point of contact for Trainers, Training

Establishments, and students for all EL placement activities. This programme has been accredited by the regulatory body for Irish pharmacy, the Pharmaceutical Society of Ireland (PSI).

Objectives: The aim of this talk is to share the learnings and quality assurance processes of the APPEL EL placement programme.

Discussion: This talk links to sub-theme two of the conference, 'Things that help us in our journey', linking to the experiential entry point to learning and learning in partnership. The authors will discuss the policies, processes and review mechanisms used by APPEL to deliver a quality assured EL placement programme in a single unified manner across the three schools of pharmacy in the state. The role of practice educators, academics and students in the evolution and delivery of the programme. The ongoing improvement mechanisms and vision for the programme in its central role within the Irish undergraduate professional degree programme.

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Implementation of the iSIMPATHY medication review service in the Republic of Ireland

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***Keywords**: Medicines optimisation, Multi-morbidity, Polypharmacy*

Background: The care of patients with multiple medical conditions can result in polypharmacy that becomes inappropriate when medication risks begin to outweigh benefits (Scottish Government Polypharmacy Model of Care Group, 2018). iSIMPATHY is an EU funded project operating in Northern Ireland, Scotland and the border areas of the Republic of Ireland which aims to ensure the safe and effective use of medicines. iSIMPATHY project pharmacists deliver person-centred medicine reviews to agree on a medication regimen that is tailored to the individual patients' changing needs (iSIMPATHY, 2020).

Objective: To successfully implement the iSIMPATHY Medication Review service in primary care in the Republic of Ireland.

Method: The current medication management process was mapped (HSE, 2020). PDSA cycles (HSE, 2020) were employed to test various interventions, and changes were adapted according to feedback.

Results: Community pharmacists, General Practitioners (GPs), practice nurses and secretaries were engaged to co-design service delivery as 60 iSIMPATHY Medication Reviews were delivered across eight GP practices during the four-week period 1st of February to 28th of February. A new process map was agreed.

Discussion: iSIMPATHY Medication Reviews are an excellent strategic fit for the Sláintecare vision (DH, 2019). Process mapping is essential to understand the system into which a service is being introduced, to enable engagement of staff involved and to illustrate service gaps from the patients' perspective. PDSA cycles offer a mechanism for iterative testing of improvements in complex healthcare systems. Ongoing engagement with stakeholders will be necessary to successfully transition from project to fully commissioned service.

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Aiding transformation from student to practitioner by defining threshold concepts

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***Keywords**: Patient care, Practitioner, Student development, Threshold concepts*

Background: To further enhance curricula, it is necessary to understand the critical milestones in the development of a practitioner.

Objective: To explore the transition from student to practitioner by identifying the threshold concepts associated with learning the Pharmacists' Patient Care Process (PPCP).

Method: A threshold concept represents a transformed way of thinking about a topic or discipline. This study convened five focus groups to identify possible threshold concepts related to learning to become a patient care practitioner. The data were analysed by deductive content analysis and confirmed by an expert consensus panel using a modified nominal group technique.

Results: Deductive content analysis resulted in five Patient Care Threshold Concepts (PCTC), which were confirmed by the expert consensus panel. The identified threshold concepts were focused on the more intangible aspects of patient-centred care, such as a practitioner's priorities, attitude, and approach. As such, the data help to describe how practitioner's think, feel, and act (i.e. their identity).

Discussion: The five PCTCs provide pharmacy educators with an additional tool to use in teaching. The PCTCs can aid in the student-practitioner transformation by helping to make implicit aspects of patient care more explicit. They are supplements to patient care competencies that help explain the practitioner's priorities, attitude, and approach. They can also serve as guidance to pharmacy educators in evaluating curricular activities and assessments, as well as identity formation. This approach can be applied to the identification of threshold concepts in other areas of pharmacy education, such as leadership.

Using machine learning to assess performance and engagement on a computer-based education platform for pharmacy practice

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***Keywords**: Computer-based education, Continuing Professional Development, Online education, Pharmacy practice*

Background: Pharmacy5in5 is a computer-based educational platform for Canadian Pharmacists.

Objective: To identify factors that impact user performance and engagement with the platform.

Method: A de-identified dataset included response data for 21 unique modules, including quiz response and self-reflection question data. Outcome measures included user performance (mean quiz score) and engagement (completion rate for attempted modules). A machine learning cluster analysis was used to identify if there were clusters of users who interacted with the platform differently. The cluster analysis was also compared to traditional multivariate regression modelling.

Results: Of the 5,290 users, 68% were pharmacists, 11% were technicians, 13% were pharmacy students, and 8% were pharmacy technician students. Four clusters were identified separately for pharmacists and technicians. Clusters with higher performance and engagement tended to have more users practising in community pharmacies, while the lower performing clusters tended to have more internationally-trained users. In the regression modelling, pharmacists performed better than technicians and students, while students were more engaged (p<0.0001). Further, internationally-trained pharmacists had slightly lower scores but similar engagement compared to domestically-trained pharmacists (p<0.0001). Users demonstrated higher performance on modules related to the scope of practice than on clinical topics and were most engaged with topics directly impacting daily practice, such as influenza vaccinations and new and emerging subjects such as cannabis.

Discussion: The cluster analysis using performance and engagement allowed us to move beyond demographics to look at user performance regardless of who the users were. It is a promising strategy for evaluating computer-based education interventions on learning.

Navigating the challenge of change: How community pharmacists experience practice change

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***Keywords**: Community pharmacy, Interpretative phenomenological analysis, Organisational change, Practice change, Qualitative, Social science*

Background: Community pharmacy is experiencing a period of significant change. In England, the Community Pharmacy Contractual Framework (DHSC & PSNC, 2019) has expanded the pharmacists' role to include the provision of new services. However, community pharmacy has previously been criticised for implementing change slowly and inconsistently (Murray, 2016). Employing interpretative phenomenological analysis (IPA) (Smith *et al.*, 2009), this study provides a uniquely in-depth understanding of how community pharmacists experience, respond and react to practice change.

Objective: The overall aim of this study is to investigate how community pharmacists in England experience practice change. At this interim stage the objective is to explore the key factors that impact the implementation of change in practice.

Method: Employing an IPA approach, in-depth interviews were conducted with community pharmacists who were completing a leadership programme and attempting to implement change in their practice. Two interviews were conducted nine months apart. The data were recorded, transcribed and analysed using IPA thematic analysis.

Results: Ten pharmacists participated in initial interviews and eight in follow-up. Data analysis is ongoing, but current findings indicate that six key themes emerged from the experience of community pharmacists in enacting practice change. These themes are agency, competence, belonging, relationships, emotions and alignment. Although this study intended to explore self-directed practice change, an unexpected finding is the externally-driven and constant nature of change in community pharmacy, and how participants come to navigate unplanned change.

Discussion: The experience of using an innovative methodological approach contributes to improving the understanding of community pharmacy practice change and proposes a conceptual model for understanding practice change in community pharmacy.

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Designing simulations to improve trainee pharmacist's understanding of adherence: A scoping review with narrative synthesis

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***Keywords**: Medication adherence, Pharmacy education, Simulation*

Background: Pharmacists are seen as central to the medication adherence agenda. To prepare pharmacists to support patient medication adherence, simulations with students and trainees have been reported whereby they assume the role of the patient for a limited period of time and are expected to take medicines (in the form of candy) themselves for a period of time. How to effectively design such simulations and capture their effectiveness is unknown.

Aim: To perform a scoping review with narrative synthesis to inform the design of a future systematic review whereby all research of this nature is identified, and data are extracted to inform the design of a simulation with appropriate measures of effectiveness.

Method: A scoping review was performed using the following terms: population: (pharmacy or pharmacist) and (trainee or student or intern or undergraduate or postgraduate). Intervention: (adherence or compliance) and simulation or game or role-play or gamification or mockup). Only full papers in English with empirical data were included. Data regarding simulation design, e.g. duration, complexity, types of placebo and measurement of effectiveness, e.g. reflective essay, survey or observation were identified and extracted.

Results: Thirty-four titles were identified, nine abstracts screened, and data extracted from six papers. The reported measures of effectiveness were pill count (33%), online survey (66%), reflective report (33%), and small

group/classroom debrief (83%). Additional search terms identified from reviewing references were: curriculum and teaching practices, pharmacy education, simulation learning, medication adherence and polypharmacy

Discussion: Students reported that the simulations helped them identify the barriers to medication taking and allowed them to take an empathetic approach to patients on polypharmacy. Therefore, complex simulations (four or more medications) should be designed which employ surveys and group discussions as a measure of effectiveness.

Effective practice and educational supervision in diverse pharmacy practice settings: An innovative approach for upskilling the workforce

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***Keywords**: Clinical supervision, Core skills, Professional development, Training, Quality framework*

Background: Health Education England (HEE) have recognised the need to standardise the quality of training across all pharmacy learner groups in order to meet government targets for expanding clinical pharmacy roles (NHS, 2017; HEE, 2019a). All healthcare professions acknowledge that well- supported learners, achieve skills and behaviours that lead to improved patient outcomes (HEE, 2019b). Preliminary work with pharmacy stakeholders across the Midlands and East of England (M&EoE), highlighted disparities in the quality of practice and educational supervision in pharmacy settings. Main factors included: lack of recognition of the role, lack of access to training, gaps in training programmes and variations in learner experiences.

Objective: To develop a standardised curriculum and module content for upskilling pharmacy practice and educational supervisors with different roles in diverse practice settings.

Method: A multi-sector working group was convened to develop a curriculum and content for different tiers of learning. The group met four times, and all work was guided by recommendations from two expert advisory panel discussions, a consultation with pharmacy stakeholders and interviews with medical education experts.

Results: A structured, holistic approach for developing and supporting pharmacy practice and educational supervisors is outlined in Figure 1. The curriculum content for each tier has been agreed upon, and an online 'Core skills' training package has been launched with the next enhanced skills level in preparation.

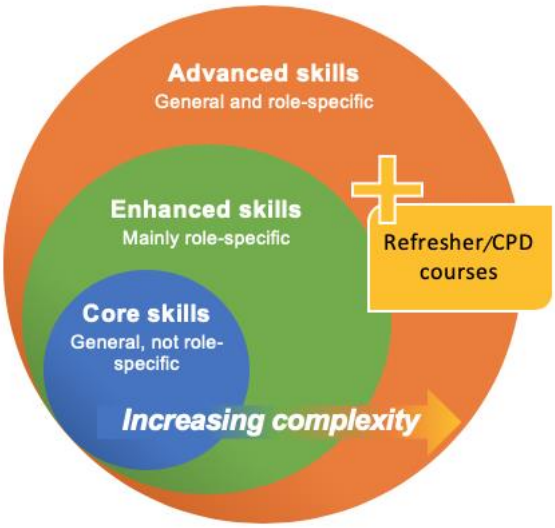

Figure 1: Structured approach for educational supervisors

Discussion: This standardised approach, informed by practice, supports the HEE M&EoE vision for high-quality supervision in pharmacy. Small scale evaluation of the 'Core skills' module informed iterative development of a beta version with good uptake and positive feedback from learners. The next steps include the dissemination of an 'Enhanced skills' module in the same format.

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Core prerequisites for entry on to the East Sussex Multisector Foundation to Advanced Vocational Training Scheme (MFtA)

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[4]*Sussex Community NHS Foundation Trust (Medicines Optimisation in Care Homes Service)*

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***Keywords**: APEL, Core clinical competence, Foundation pharmacist training, Foundation to Advanced, Gap analysis, HEEKSS Induction, Multisector, RPS Framework*

Background: Pharmacists commencing the MFtA programme have initial rotations in one of many sectors. Cohort one evaluation highlighted the need for a robust gap analysis against core clinical competencies, common to all rotations, and other sector specific prerequisites due to the participants wide variation of prior experience.

Objective: Gap analysis tool (GAT) development with core requirements set for achievement by multisector pharmacists, during the induction phase, prior to entering the MftA.

Method: All sectors joined a task and finish group to refine programme curriculum and identify the minimum common optimum skills for the GAT to enable autonomous contribution to patient care and service delivery at the earliest opportunity. The broader curriculum was underpinned by the Royal Pharmaceutical Society Foundation frameworks and clinical aspects of the Health Education England Kent Surrey and Sussex Foundation stage one.

Results: Current induction processes across sectors were reviewed. A new comprehensive approach was developed, applicable to pharmacists commencing the programme, with a time range for completion depending on prior experience. The GAT commences during the recruitment process utilising established supervised learning events, valuing prior learning and signposting pharmacists to appropriate self-directed learning resources.

Core Clinical Competencies includes medicines reconciliation, managing transfers of care, interpreting biochemical data, providing medicines advice, identifying and solving problems, making every contact count.

Discussion: GAT enabled acknowledgement of prior learning, focussed clinical upskilling of experienced community pharmacists, rapid progression to MFtA, service delivery and achieving programme outcomes. Further development of GAT for other multi-sector programmes planned.

Educational performance management of work-placed learning for foundation pharmacists Trainees Requiring Additional Support (TRAS) within multisector vocational training schemes (VTS)

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Background: Within Foundation Pharmacist (FP) VTS, educational and practice supervisors may uncover concerns outside their educational remit, including patient safety, professionalism or probity problems that are detrimental to FP progression.

Objective: Provide a standardised approach to progression monitoring, applicable to any VTS where there may not be clear educational infrastructure linked to the learning.

Method: A bespoke TRAS matrix was adapted from existing guidance[1] defining triggers for concerns with respective progressive escalation thresholds based on severity and expected actions at each stage. Significant concerns were highlighted for urgent action with referral to wider support guidance, including action plans and HEE reporting processes where applicable. Matrix review was by East Sussex Multisector Foundation to Advanced VTS stakeholders prior to wider implementation.

Results: The matrix has: supported differentiate and manage expectations within the scope of the developmental journey versus the job role; Encouraged transparency within the FP supervisor relationship, supporting the identification of TRAS and embracing sensitivities around challenges of performance, progression or specific needs; Encouraged FP reflective practice to identify triggers for seeking further help; Developed capability the following support with perceived weaker performance areas; Been underpinned by NHS constitutional values and professional standards and empowered staff to appropriately escalate urgent problems.

Discussion: The TRAS matrix and supporting guidance is an essential process. There is transparency, consistency and empowerment showing that training aligns to the ethos of

the NHS constitutional values whilst ensuring the wellbeing of both patients and FPs. This matrix is to be incorporated into other educational training programmes.

International partnership on experiential education: A Toronto experience

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***Keywords**: Experiential education, International exchange*

Background: The University of Toronto Advanced Pharmacy Practice Experience (APPE) international elective rotations expose students to various health systems that shape pharmacy practice around the world. These rotations provide a unique perspective on how pharmacists are well-positioned to contribute globally to patient care through research, project management, teaching and learning, policy development, and the delivery of drug/medical information (Browne *et al.*, 2015; Browne & Fetherston, 2018; Gosse & Katic-Duffy, 2020)

Objective: To share the authors' experience in international partnership on experiential education, from planning, facilitating, and supporting their APPE students in international elective rotations, to hosting incoming exchange students for having their experiential learning at the Leslie Dan Faculty of Pharmacy (LDFP).

Method: The authors will share their guiding principles for arranging And monitoring APPE international rotations and discuss how they leverage their existing exchange agreements with international partners and facilitate the hosting of their incoming pharmacy students at the LDFP.

Results: In 2021/2022, despite the pandemic, the authors have 12 international partners with eight remote rotations offered to their students. They will share their insights and illustrations of how global health education and initiatives can be delivered in experiential learning and cross-cultural settings. The authors' experience in developing these international partnerships, in achieving a mutually beneficial experiential exchange programme for their students and students from other institutions, may encourage others to consider applying these strategies and expand their experiential programmes internationally.

Discussion: The reciprocal nature of international exchange experiential programme facilitates the development of cultural competence, global health literacy, and global citizenship of pharmacy students.

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Non-direct patient care advanced pharmacy practice experience: An essential component of experiential learning

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***Keywords**: Experiential education, Experiential learning, Non-direct patient care, Placement, Rotation*

Background: The University of Toronto Leslie Dan Faculty of Pharmacy Advanced Pharmacy Practice Experience (APPE) programme has been offering students with non-direct patient care (NDPC) elective rotations since 2015. These rotations provide a unique perspective on how pharmacists are positioned to contribute to patient care through Administration/Management/Leadership, Clinical Trials/ Investigational Pharmacy Services, Drug/Medical Information, Drug Use Evaluation/Review, Education, International/Global Health Initiatives, Projects, and Research. (Yardley *et al.,* 2012a; Yardley *et al.,* 2012b)

Objective: To share the authors' experience in recruitment and engagement of APPE NDPC experiential sites and preceptors, as well as supporting and monitoring their students in these rotations.

Method: The authors will share their guiding principles for recruiting, scheduling, and providing academic support to students and preceptors who are engaged in APPE NDPC rotations. The authors will also discuss how they expanded their APPE programme with a 22% increase in NDPC rotations from 292 rotations in 2015/2016 to 356 rotations in the 2019/2020 academic year.

Results: Between 2015 and 2020, a total of 1113 students and 337 preceptors were engaged in 1720 APPE NDPC rotations, of which 95% took place in Ontario, 2% in other provinces of Canada, and 3% internationally. Most of these rotations offer students with the opportunity to lead and manage projects,

research, educational initiatives, and pharmacy administration.

Discussion: Experiential learning makes up more than 25% of four-year Doctor of Pharmacy curriculum. The authors' experience in developing and expanding their APPE NDPC rotations may encourage others to consider applying these principles and expand their APPE programme beyond the traditional institutional and community practice settings.

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Determining key quality assurance indicators for advanced pharmacy practice experiences placement site visits

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***Keywords**: Advanced pharmacy practice experiences, Experiential education, Experiential learning, Placement, Quality assurance indicators*

Background: To perform effective experiential education placement site visits, there should be a standard set of key indicators to assess quality assurance (QA). There has been very limited published literature or consensus, specifically in key indicators for considerations during Advanced Pharmacy Practice Experience (APPE) site visits for QA purposes in pharmacy institutions across Canada (Burgett *et al.,* 2012; Yardley *et al.,* 2012).

Objective: The objective of this session is to inform pharmacy educators of a list of key QA indicators for APPE placement site visits that the authors identified.

Method: The authors will share their findings identified from the literature and through consultation with members of the Pharmacy Experiential Programs of Canada (PEP-C) via the use of a two-round Delphi online questionnaire. The authors will discuss the four main categories for key QA indicators that include: (1) Indicators that contribute to a learning-centred environment; (2) Preceptor-related indicators; (3) Student-related indicators; and (4) Indicators that demonstrate placement/rotation organisation. Through consensus generation among PEP-C members, the top three critical and most appropriate indicators in each of these four categories can be identified.

Results: A checklist of key QA indicators in assessing APPE sites for the Doctor of Pharmacy curriculum in Canadian institutions was implemented. The checklist is of high priority as the experiential education programmes grow.

Discussion: This project strives to generate a consensus among experiential education faculty of Canadian pharmacy schools for the most important key indicators to be considered during APPE site visits.

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Utilising best practices in online learning: Focus on patient /medication safety for healthcare professionals

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***Keywords**: e-Learning, Online learning, Patient/medication safety*

Background: Developing a culture of patient safety in practice begins with education. Enhancing the current teaching and learning strategy for patient/medication safety would make the materials more engaging and increase learners' appreciation for the subject (Swan, 2001; Foster *et al.*, 2014; Hamilton *et al.*, 2016)

Objective: To showcase the best practices in online learning and how these practices were applied through designing and storyboarding of a series of patient/medication safety online modules for healthcare professionals and students.

Method: The authors will share their findings and common themes identified from the literature and through consultation with subject matter experts in online learning development. The overarching best practices in online training module development will be discussed. These include: (1) Make it easy to learn; (2) Engagement is key; (3) Equal learning opportunity for everyone; and (4) Content matters.

Results: These best practices are vital in ensuring the learner optimises the learning potential and generates a positive

attitude towards the learning experience. How to utilise and adopt them in the storyboarding of the various patient/medication safety online modules will be explained. With the increased uptake of e-learning platforms, this presentation will explain how to optimise learning with technological shifts in teaching.

Discussion: Evidence has shown that utilising best practices in online learning will enhance learner engagement, satisfaction, and knowledge acquisition. The authors hope that their insights and illustrations of how patient/medication education can be delivered utilising the best practices in online learning may encourage others to consider applying these strategies to other subjects in the pharmacy curriculum.

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Drilling down: Development and evaluation of clinical reasoning in pharmacy undergraduate students

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***Keywords**: Clinical decision making, Clinical reasoning, SOAP writing, 'Think Aloud'*

Background: COVID-19 pandemic has affected educational systems worldwide. The lockdown to curb the pandemic and suspension of on-campus activities in the universities in Saudi Arabia forced all teaching and assessment to move online (Daniel, 2019).

Objective: To explore the impact of the suspension of on-campus activities and the lockdown on learning and assessment in pharmacy education in Saudi Arabia from the student perspective

Method: This study adopted qualitative methodology and involved gathering participants' views and responses via Twitter chat. A one-hour Twitter chat was organised on three consecutive days after the final exams, inviting all pharmacy students in Saudi Arabia to participate. Day one chat included 11 questions regarding 'learning and assessment', day two chat included six questions about online exams and six questions about technology use, day three chat included six questions related to lessons learnt from the experience. The questions were validated by faculty members and piloted with some students prior to the chat. After the day three chat, the responses were downloaded, reviewed to remove any confidential information, and thematically analysed using the inductive method by two teams of research students independently.

Results: During the three-day chat, 790 responses were received. Thematic analysis generated 944 codes which were categorised into 43 subthemes. These subthemes were further broadly categorised into six main themes: 'facilitators for online education', 'barriers for online education', 'online versus on-site education', 'role of technology in online education', 'suggestions for improving online education' and 'long-term impact of online education during lockdown'.

Discussion: Participants highlighted several facilitators and barriers which affected their online education during lockdown and pros and cons of technology involved. They provided suggestions for improving online education based on their experience during lockdown. The lessons learnt from online/onsite education will help shape future pharmacy education.

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Developing a competent and adaptive pharmacy workforce

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Background: In Singapore, pharmacy workforce development is led by the Chief Pharmacist Office (CPO) at the Ministry of Health in collaboration with key stakeholders from the Singapore Pharmacy Council, Pharmaceutical Society of Singapore and ministry-appointed committees, which consists of practitioners and leaders from healthcare training institutions and schools. These initiatives envision a progressive and confident pharmacy workforce that is effective and adaptive in the evolving healthcare environment. The pharmacy workforce development is aligned with the National Pharmacy Strategy and guided by the Pharmaceutical Workforce Development Goals of the International Pharmaceutical Federation.

Objectives: The authors sought to review pharmacy workforce development initiatives for pharmacists and pharmacy technicians through a series of visiting expert programmes.

Method: Guidance from international experts was sought through a series of visiting expert programmes for reviewing key initiatives for the pharmacy workforce. Three separate week-long visiting expert programmes were hosted by the CPO in partnership with public healthcare institutions across healthcare settings from October 2018 to October 2019. Recommendations from visiting experts' reports were reviewed with key stakeholders, and action plans were formulated for further progress.

Results: The visiting experts reported key strengths, challenges faced and provided recommendations to improve the practice and delivery of pharmacy training and workforce development in Singapore. Recommendations for improvements were adopted for subsequent strategic and action planning to strengthen various initiatives in collaboration with key stakeholders and visiting experts.

Discussion: Visiting experts from various countries have shed insight into the strategies of workforce development initiatives for pharmacists and pharmacy technicians. Engagements with participants of the visiting expert programmes have led to the co-creation of solutions to overcome challenges faced. Lessons drawn from various visiting expert programmes for pharmacy workforce development will be discussed.

'What just happened?' Pharmacy students' perspective on the impact of COVID-19 lockdown on their learning

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***Keywords**: COVID-19, Lockdown, Online education, Twitter chat, Qualitative*

Background: COVID-19 pandemic has affected educational systems worldwide. The lockdown to curb the pandemic and suspension of on-campus activities in the universities in Saudi Arabia forced all teaching and assessment to move online (Reuters World News, 2020).

Objective: To explore the impact of the suspension of on-campus activities and the lockdown on learning and assessment in pharmacy education in Saudi Arabia from the student perspective.

Method: This study adopted qualitative methodology and involved gathering participants' views and responses via Twitter chat. A one-hour Twitter chat was organised on three consecutive days after the final exams, inviting all pharmacy students in Saudi Arabia to participate. Day one chat included 11 questions regarding 'learning and assessment', day two chat included six questions about online exams and six questions about technology use, day three chat included six questions related to lessons learnt from the experience. The questions were validated by faculty members and piloted with some students prior to the chat. After the day three chat, the responses were downloaded, reviewed to remove any confidential information, and thematically analysed using the inductive method by two teams of research students independently.

Results: During the three-day chat, a total of 790 responses were received. Thematic analysis generated 944 codes which were categorised into 43 subthemes. These subthemes were further broadly categorised into six main themes: 'facilitators for online education', 'barriers for online education', 'online versus on-site education', 'role of technology in online education', 'suggestions for improving online education' and 'long-term impact of online education during lockdown'.

Discussion: Participants highlighted several facilitators and barriers which affected their online education during lockdown and the pros and cons of technology involved. They provided suggestions for improving online education based on their experience during lockdown. The authors expect that lessons learnt from the experience during lockdown will help shape pharmacy education in future.

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When we return, how do we do it? Students' perspective on returning in 'new normal': A content analysis of Twitter chat

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***Keywords**: COVID-19, Hybrid campus, New normal, Online education, Twitter chat*

Background: COVID-19 pandemic has affected all walks of life including the education sector (Ali *et al.,* 2021). It is imperative to investigate how pharmacy students perceive their education in the new academic year, the impact of on-campus suspension on learning and the potential long-term effects on their career.

Objective: To qualitatively explore pharmacy students' views and concerns related to the return of educational activities with 'new normal' in the new academic year.

Method: This study adopted qualitative methodology and involved gathering participants' views and responses via Twitter chat. A one-hour Twitter chat was scheduled on the 1st of July 2020, inviting all pharmacy students in Saudi Arabia to participate. Six questions, related to the pros and cons of online education, suggestions for online education, student support, socially distanced campus, hybrid campus, and long-term impact of online education in 'new normal' were posted during the chat. The responding participants were probed appropriately if required by the moderators during the chat. Following the chat, the responses were transcribed and anonymised and thematically analysed by two teams using the inductive method.

Results: Thematic analysis of the 162 responses generated 260 codes which were categorised into 13 subthemes. These could be categorised into two main themes: 'online education in new normal' and 'hybrid campus in new normal'. The participants provided numerous suggestions about improving teaching techniques, restructuring the courses, and overall learning experience to facilitate better learning and understanding of the content for online education in 'new normal'. Participants also envisaged a hybrid campus with all the precautionary measures for the new academic year in 'new normal'.

Discussion: The authors have developed recommendations which will be presented and that they hope will be helpful for the pharmacy colleges to restructure online education and implement a hybrid campus in the 'new normal'.

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Determination of the pharmacy and pharmacy technician students' lifelong learning tendencies

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***Keywords**: Lifelong learning, Pharmacy students, Pharmacy technician students, Undergraduate education*

Background: Identifying the needs and structuring the process properly is a necessity to maintain lifelong learning as a crucial part of qualified healthcare services (Rouse, 2004; Greveson & Spencer, 2005; Bath & Smith, 2006). In this context, the members of the pharmacy services team, pharmacists and pharmacy technicians should be able to move forward together.

Objective: In this study, the authors aimed to determine the pharmacy and pharmacy technician students' lifelong learning tendencies and offer solutions to overcome the deficiencies from the beginning of their professional careers.

Method: A questionnaire that has eight lifelong learning-related questions and a lifelong learning scale was conducted between the 30th of December 2019 and the 20th of March 2020. The scale was developed by Wielkiewicz and Meuwissen in 2014 and its Turkish validity were determined by Engin and authors in 2017. Within the scope of this study, scale scores were calculated and t-tests, ANOVA and Tukey tests were performed.

Results: In the light of scale scores, 847 pharmacy and 28 pharmacy technician students' scores are statistically different (p<0,05). Accordingly, pharmacy technician students' scale scores are higher than pharmacy students. Furthermore, there is a statistically significant difference between the scale scores of the students who find university education encouraging and those who do not (p < 0,05).

Discussion: At every stage of healthcare services, all members of the team are required to fulfil their duties in line with scientific developments. In terms of the sample in which the study was conducted, it is thought that multidisciplinary programmes should be organised in the early period of undergraduate education to increase and maintain awareness about lifelong learning.

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Designing and implementing a national programmatic assessment programme to credential pharmacists as eligible to practise at consultant level

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***Keywords**: Assessment, Consultant pharmacist, Programmatic assessment*

Background: Since the role of the consultant pharmacist was initially defined in England (Department of Health, 2005), there has been no consistent and robust assessment process for individuals, relying instead on individual appointment panels to apply consistency. In 2020, NHS guidance (Health Education England, 2020) recommended the introduction of a credentialing mechanism for consultant pharmacists and the RPS was tasked with operationalising this.

Objective: To develop a robust, valid credentialing process acceptable to the profession and employers.

Method: A collaborative approach was used to develop an outcomes-based curriculum aligned to the Consultant Pharmacist Guidance (Health Education England, 2020). A programmatic assessment philosophy (van der Vleuten, 2015) was employed with the development of a range of supervised learning event tools to allow candidates to effectively evidence learning and demonstrate achievement of the outcomes. Evidence requirements for individual outcomes are proportional to their potential risk to patients based on expert stakes rating.

Results: A national curriculum has been published articulating the entry-level standard to consultant pharmacist practice across all patient-focused roles, ensuring outcomes meet the needs of patients, the public and the profession. A credentialing assessment supported by a novel e-portfolio solution has been launched. Over 200 pharmacists registered to develop and submit their portfolios in the first two months.

Discussion: Developing the curriculum collaboratively supported the development of a nationally accepted standard. Balancing specificity in curriculum outcomes to ensure an unambiguous standard with inclusivity to pharmacists practising across varying clinical practice settings was challenging. This signals a culturechanges in the profession in how individuals are assessed and high-stakes decisions around senior level career progression are made.

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Competency-based assessment in experiential learning in undergraduate pharmacy programmes: Qualitative exploration of facilitators views and needs

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***Keywords**: Competency-based assessment, Experiential learning, Facilitators, Pharmacy, Student pharmacist*

Background: Building on previous work, the current focus is to explore the feasibility of placement facilitators assessing students during their experiential learning (EL).

Objective: To explore the perceptions of the MPharm placement facilitators concerning involvement in the assessment of student pharmacists during EL.

Method: Semi-structured interviews were conducted involving pharmacists working in hospital, community, and primary care who were EL facilitators.

Results: Fifteen participants were interviewed: five from each placement setting. The majority had been facilitators for less than five years (80%). There was general support for the assessment of students during EL, but some anxiety was due to lack of familiarity with the assessment process. Benefits noted included increased self-development for facilitators, reduction in academic staff workload, and real-time feedback from practitioners. Barriers and challenges included lack of time, added workload, lack of consistency in marking, limited placement duration, and lack of awareness of students' knowledge. No consensus was found about the most suitable tools, methods, or grading to be used. However, all participants agreed that communication, professional skills, and clinical skills could be assessed. The need for training on the assessment process and tools was highlighted.

Discussion: Obtaining facilitators' input on design and structure of assessments during EL will increase the likelihood they are comfortable undertaking the tasks using tools and methods with which they are familiar. This is a basis for further work that will help ensure that resources and training, for carrying out assessment, is tailored to the needs of the facilitators.

Chills, pills and clinical skills

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***Keywords**: Clinical pharmacy skills, Experiential practice, Pre-prescribing, Virtual asynchronous teaching, Virtual synchronous teaching*

Background: The COVID-19 pandemic transformed lives in 2020 – affecting how the population live, work and support the next generation to learn. This has been particularly challenging in relation to the teaching of clinical pharmacy skills (GPhC, 2021).

Objective: To evaluate the teaching of clinical pharmacy skills to fourth year MPharm students in Northern Ireland (NI) during the COVID-19 pandemic.

Method: Teaching of clinical pharmacy skills in the MPharm in NI traditionally occurs during experiential placements in the second, third and fourth year – contextualising the clinical therapeutics, consultation skills as well as examination skills taught at university. The Teacher Practitioner Team adapted their teaching to include asynchronous virtual teaching to prepare students for their lives one to one teaching at the hospital sites, as well as virtual synchronous tutorials with small student groups (n=7) after their live experience. Teaching and learning were evaluated using a short questionnaire.

Results: The questionnaire was administered via survey monkey. A total of 54/134 students (40.3%) responded. Sixty-four percent of students felt adequately prepared for the placement despite 58% admitting concerns of exposure to COVID whilst on hospital site. Only 52% of students believed the asynchronous teaching on prescribing skills prepared them for writing a discharge prescription for a patient; however, 77% believed that this task increased their confidence for prescribing on graduation.

Discussion: Despite the pandemic, students were able to engage with a blended learning approach of live, virtual synchronous and asynchronous teaching to support their ongoing contextualisation of their university taught therapeutics into practical clinical pharmacy skills, including prescribing.

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Assessing the impact of innovative blended learning approaches on skills development in the Pharmacy Management Simulation during the Covid-19 pandemic

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***Keywords**: Competency-based education, Gamification, Pharmacy education, Simulation-based education*

Background: The Pharmacy Management Simulation is a final year unit undertaken by students at the University of Bath. It uses a gamification model to support the application of academic skills and knowledge in which students run a pharmacy in real time (Fens, Dantuma-Wering & Taxis, 2020).

In the 2020/21 academic year, new delivery methods were introduced to allow for remote study, social distancing and group collaboration during the COVID-19 pandemic. Students worked on campus or remotely each day to deliver team-based objectives.

Objective: To explore the blended learning approach and perceived impact on application of skills and knowledge.

Method: Students were asked about development of skills, knowledge and the learning environments in an online questionnaire.

Results: Ninety-five percent (n=247) of total responses indicated that the students felt that they partially or fully achieved the unit learning outcomes. Ninety-three percent (n=267) of total responses showed the unit supported studentsto achieve behavioural indicators from the Professional Attributes Framework (Health Education England, 2016). Eighty-nine percent (n=23) of students were satisfied or extremely satisfied with Microsoft Teams and 92% (n=24) with OneNote to support their learning and group collaboration. Students preferred this gamification style of learning to lectures, workshops and practical classes, but less than learning in practice given the alternative methods of delivery.

Discussion: Students perceived that they could meet the intended learning outcomes and professional framework indicators finding the use of technology acceptable to support their learning when studying remotely. Simulation-based education remains a preferred method of delivery for students and innovative approaches to supporting collaboration have been shown to be effective (Motola *et al*., 2013).

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Experiences around replacing a residential with virtual teaching and assessment on a pharmacist independent prescribing (PIP) programme during Covid-19

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Keywords*: e-Learning, Observed Structured Clinical Examination, Pharmacist independent prescribing, Virtual teaching and assessment*

Background: The School of Pharmacy at QUB runs a PIP programme, with six e-learning modules and a five-day residential where students are taught clinical and professional skills. The February 2021 'residential' was virtual due to Covid-19 restrictions.

Objective: To share the practical aspects of teaching and assessing virtually.

Method: The PIP programme team planned what teaching/assessment could be virtual whilst still fulfilling education standards (GPhC, 2019). Recommendations on supporting students in the virtual environment were followed (Hopwood *et al*., 2020).

Results: Twenty-two students completed the virtual 'residential'. Subjects taught/assessed included NEWS, prescription-writing (both assessed via written OSCE stations) history-taking, patient counselling and interacting with a healthcare professional (assessed via verbal OSCE stations). Physical examination skills teaching/assessment was postponed pending easing of restrictions.

Students had two days of lectures and practising OSCE stations via six Microsoft Teams (one general Team and five for each station). Students rotated around the Teams and practised four scenarios on each topic using breakout rooms. All students and tutors attended debrief sessions where questions could be addressed. On the third day, the two written OSCE stations were conducted on the QUB virtual learning environment Canvas and the three verbal stations on Microsoft Teams. Students used the Microsoft Lens app to scan and upload handwritten documents for OSCEs.

Discussion: Pharmacy education during Covid-19 has been challenging worldwide (Lyons, *et al.,* 2020). Running virtual training and OSCEs was achievable. Important enablers included preparing students and tutors in advance and using online platforms that both were familiar with.

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Development of online formative Objective Structured Clinical Examinations (OSCE) for pre-registration trainee pharmacists in the UK

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***Keywords**: Assessment, Formative, Online, OSCE, Pre-registration*

Background: In person, formative OSCEs are a feature of pharmacist training and used to demonstrate competency and direct further learning (Haughey & O'Hare, 2017). The coronavirus pandemic has demanded training adapts, including online delivery, thus ensuring educational opportunities remain and are safe.

Objective: Develop online formative OSCEs for 130 pre-registration trainee pharmacists undertaking the HEE South (UK) programme

Method: After a successful pilot, online OSCEs were run over three days in January 2021 live on MS Teams. The OSCEs comprised of five clinical scenario stations; medication error, potassium supply, antibiotic stewardship, dyspepsia and threadworm consultation. Trainees rotated through all five stations. Assessment time for each station was ten minutes. Three circuits were run concurrently. Trainees had an individualised timetable and helped room access for wellbeing and IT concerns. Assessment grids were held on HEE Sharepoint servers.

Results: Pass rates for each station ranged from 24% to 86%. Excellent communication and competency were identified by assessors, as well detecting clinical and consultation skills requiring improvement. Trainee, actor and assessor feedback on the online process was positive "*All went very smoothly... easier than in person!"* Tutor; "*A good experience*" Trainee. Many cited the lack of travel as beneficial "*Saved time for everyone and more environmentally friendly*" Trainee; "*Travelling somewhere unfamiliar... would add stress and cost*" Trainee. Over 60% of trainees said they would like OSCEs online again.

Discussion: Online OSCEs were a successful formative assessment. Feedback suggests value in continuing with the online delivery post-pandemic.

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Survey of the barriers and needs of the deaf and hard of hearing when seeking pharmaceutical care (HEARD Project)

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***Keywords**: Cultural competency, Deaf, Hard of hearing, Pharmaceutical care, Pharmacist*

Background: The Deaf and Hard of Hearing (DHoH) face challenges when trying to navigate the healthcare system due to communication barriers, deterring them from seeking treatment. (Harmer 1999; Steinberg *et al*., 2006; Kuenberg *et al*., 2016) Furthermore, healthcare professionals, such as pharmacists, are generally unprepared to understand or serve the needs of Deaf patients. They lack the training to provide linguistically and culturally competent care for these patients (Ferguson *et al*., 2016).

Objective: To determine the barriers and needs of the DHoH when seeking pharmaceutical care.

Method: Cross-sectional surveys were distributed to 1) community pharmacists (Phase 1) and 2) the DHoH in Malaysia (Phase 2). Phase 1 utilised a 20–item survey, while Phase 2 utilised a 40–item survey. The surveys were available in English and Bahasa Malaysia (Phase 2).

Results: Phase 1: 279 community pharmacists responded (female (62.6%), mean age 35.2±12.4). More than 70% agreed that there is a communication barrier between pharmacists and the DHoH, while only 26.6% believed care provided at retail pharmacies are disabled-friendly. Less than

50% were satisfied with the services they provided to the DHoH, with 65% agreeing it is time-consuming. Phase 2: 214 DHoH responded (male (51.4%), mean age 32.9±10.7). Less than 50% were satisfied with the quality of services provided at community pharmacies, while 40% agreed that pharmacists discriminated against them. There was poor satisfaction (<50%) with the information provided on medication, and 86.4% agreed that pharmacists should be trained in deaf culture.

Discussion: There is a need for the design of an education component about deaf culture and their unique needs to be embedded within the undergraduate curriculum as well as continuous education programmes for pharmacists to ensure the DHoH have equal and unhindered access to healthcare.

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Understanding the mentoring needs of hospital and community pharmacists at different career stages

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***Keywords**: Career development, Community, Hospital, Mentees, Mentoring, Mentoring needs, Pharmacists*

Background: Mentoring is a process in which a skilled or experienced person supports a less skilled or less experienced person. It has been shown to have a positive impact on personal and professional development. The Royal Pharmaceutical Society (RPS) implemented a new national mentoring programme in 2019 to support the professional development of pharmacists across all career stages and all pharmacy settings.

Objective: To identify and compare the mentoring needs of community and hospital pharmacists at different career stages.

Method: Demographic data (practice setting and stage of practice) and development needs of pharmacist mentees registered on the RPS mentoring platform between the 1st of September 2019 and the 28th of February 2021 was collated. Descriptive analysis of the data was performed to identify areas of commonality.

Results: Community pharmacists (n=302) were primarily seeking support in the areas of careers, revalidation, and education, training, and development. Hospital pharmacists were also seeking support with careers and revalidation; however, they were additionally seeking support with management and leadership skills.

Early career pharmacists (zero to five years, n=222), and experienced pharmacists (six to ten years, n=105) across both sectors were mostly seeking support with their careers. Pharmacists with substantial experience (ten or more years, n=194) were seeking support with management and leadership skills.

Discussion: This study suggests that community and hospital pharmacists share similar mentoring needs. Hospital pharmacists additionally require support in management and leadership. Pharmacists appear to have different developmental needs at specific career stages, which evolves over time. Future research should explore factors influencing mentoring needs.

Live acting in team-based learning to teach professionalism and ethics to pharmacy students at the National University of Singapore (NUS)

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***Keywords**: Application cases, Ethics, Live acting, Pharmacy education, Professionalism, Team-based learning*

Background: The Department of Pharmacy at NUS adopts team-based learning to teach professionalism and ethics. Application cases illustrating healthcare scenarios were presented as written storylines. To make the case presentation more engaging, the authors introduced live acting by instructor and students as an innovative method of application case delivery (MACD) (Lanier, 2019; Al-Khalifa, 2020).

Objective: To evaluate students' preferences and experiences with live acting.

Method: Two anonymous surveys were administered to 151 first-year students in the B.Pharm. (Hons) programme. The pre-intervention survey assessed baseline preferences for MACD. The post-intervention survey evaluated preferences after live acting (intervention (n=74)) or written storyline (control (n=77)).

Results: A total of 103 students (response rate: 68%) responded to the pre-intervention survey. While most preferred written storyline (58%), they were receptive to live acting (59%). Eighty-eight students (response rate: 58%) responded to the post-intervention survey. Students who experienced live acting reported more memorable experiences in class than those who received written storyline (88% versus 71%, p = 0.045). Students found two MACDs comparable for ease of understanding (81% versus 84%, p = 0.704) and motivating them to learn professionalism and ethics (77% versus 82%, p = 0.524). Qualitative feedback suggested that students found live acting engaging and deepening their understanding but also preferred a script to recall details of the scenario.

Discussion: Live acting is an engaging MACD that offers students a more memorable learning experience through better visualisation of application cases in real time (Christopher, 2020). Live acting may be further optimised to motivate students to learn professionalism and ethics.

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Remote delivery of advanced introductory pharmacy practice experiences (aIPPE) and a professional skills development course (PSDC) to mid-career international-trained PharmD (ITPD) candidates

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***Keywords**: Experiential education, Online education, Pharmacy education*

Background: The University of Colorado's online ITPD programme is designed for practising pharmacists to advance local practice toward patient-centred care. The PSDC and aIPPE courses strengthen clinical skill-sets through patient experiences. Due to COVID-19, the aIPPE and the PSDC were delivered remotely in 2020.

Objective: To assess student performance and evaluate perceptions of the remote aIPPE and PSDC, and compare academic performance between live and remote PSDC.

Method: Course design: For the aIPPE, students were assigned health system preceptors. Students were given access to medical records to compose assessment and plans and discussed patient care with preceptors and healthcare team via teleconference. For PSDC, activities included student presentations and journal clubs with faculty feedback. Descriptive statistics were used to evaluate perceptions (three and five-point Likert scales). Grades between the live and remote versions of PSDC were compared using the Wilcoxon rank-sum test.

Results: Preceptors rated students (n=8) a median of 3/3 on practitioner skills, 4.9/5 on professionalism, and 5/5 on communication. Students agreed with the role of their remote aIPPE for professional development (median 3.5/5), ability to collect/compose an assessment/plan (median 4/5), and engage in health promotion (median 4/5). Students also strongly agreed (4.8/5) the PSDC was relevant to pharmacy practice. Student grades were significantly higher in the remote PSDC (median 95%) versus the previous live iterations (median 89%).

Discussion: Remote delivery of an aIPPE and PSDC to ITPD students emphasising professional development and lifelong learning performed well, leading to similar academic performance when compared with live versions.

Charting the journey: A bespoke e-portfolio for a pharmacist independent prescribing course

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***Keywords**: Competency development, e-Portfolio, Independent prescribing, WordPress*

Background: Independent prescribing lecturers at the University College London (UCL) School of Pharmacy, worked with a learning technologist to develop a bespoke e-portfolio. Unable to find an appropriate commercial solution, a design was developed utilising a multi-site version of WordPress.

Objectives: (1) Develop an e-portfolio system that tracked competency development. (2) Identify and develop functionalities that facilitated deeper reflection, integral to the experiential learning cycle (Kolb, 1984). (3) Support a move away from a "*best-work*" portfolio type, to "*a growth and development style*" (Oermann, 2002).

Method: The study follows a design-based research approach (Barab and Squire, 2004), working in iterations to design and test prototypes. Methods include tracking of student queries and the development of themes to inform user interface developments; critical reflections from teaching staff, informed by experiential learning theory and the development and testing of new learning design, supported by new digital functionalities.

Results: The study has been able to improve students and staff general experience and relationship to an e-portfolio. It has also been able to identify and develop functionalities within the e-portfolio that facilitate deeper reflections.

Discussion: Results suggest that WordPress can successfully be used as an e-portfolio platform for competency-based courses. There are barriers that restrict movement away from a "*best-work*" portfolio towards "*a growth development style"* portfolio due to the focus on summative assessment. More research is needed to fully identify these barriers within Pharmacy Education and to better support student growth and sense of ownership (Lucas *et al.,* 2019).

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Learning lessons from how pharmacists in the United Kingdom coped during COVID-19: Role of individual and organisational factors

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***Keywords**: Burn out, Coping mechanisms, Mental health and wellbeing, Pharmacist support, Resilience*

Background: Pharmacists in the UK have been at high risk of burnout due to COVID-19 and over half of participants in a professional body annual survey have reported worsening mental health (Royal Pharmaceutical Society, 2020).

Aim: To explore individual and organisational factors that supported pharmacists to cope with the first wave of COVID-19, as part of a wider project exploring pharmacists' wellbeing and resilience.

Method: A nationwide, online, pre-piloted survey was distributed via professional networks and social media. It employed convenience sampling and was addressed to any pharmacist in a patient-facing role working in the UK. The survey contained validated measures of wellbeing and resilience, as well as free text open questions. Deductive thematic analysis of the free text comments was undertaken to identify what supported pharmacists to cope with the working conditions during the pandemic.

Results: A total of 192 free text responses were analysed, out of 202 completed surveys received. Many participants perceived that the extremely challenging conditions have acted as a catalyst for professional and personal growth. Improved working relationships within and outside of the team, in an interprofessional setting, has impacted participants in a positive way. Other facilitators included redesigned working environments with systems for managing patient flow and prioritising tasks, increased use of technology, remote consultations, and virtual meetings. Organisational flexibility and leading with empathy were reported as helpful. Reduced commute and working from home allowed some participants to improve their work-life balance.

Discussion: Lessons learned from this study can be used to support individual and organisational change beyond the pandemic.

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Out of the frying pan and into the fire ... pivoting examinations in the pandemic

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***Keywords**: Communication, Engagement, Evaluation, Examinations, Pandemic, Pivo*

Background: To register as a pharmacist in Australia, a graduate of an Australian university must complete an internship compromising, amongst other requirements, a period of supervised practice compromising 1824 hours. After they have completed at least 40 percent of the internship hours they are eligible for the first of two registration examinations: the Intern Written Examination. Each year approximately 1600 candidates sit in a test centre mostly in state capitals around Australia. As usual, the first of the 2020 sessions was a three-hour multiple choice computer based examination delivered successfully in February. In March 2020, Australian States began to close their borders and severe restrictions were placed on travel and gatherings. In response APC was obliged to cancel all examinations and investigated possible ways to offer examinations online.

Objective: This paper will present an evaluation of the revised development and delivery of the Intern Written Examination in 2020.

Results: The paper will present evaluative evidence related to: an online offering for up to 1500 candidates in October 2020 using the Pearson VUE tool OnVUE; Reducing the duration of the paper to two hours; Creating a revised specification; Increasing the number of forms to extend the delivery window; Adopting a Rasch modelling approach to ensure fairness across forms and engaging in a communication strategy with stakeholders and candidates.

Discussion: As restrictions were reduced, it was possible to offer the candidates a choice of event based or online offering, thus the authors were able to compare and contrast candidate preferences experience. This presentation will provide insight into (i) implementation of on-line examinations, (ii) addressing security concerns, (iii) foreseen and unforeseen consequences of online examinations, (iv) critical communication strategies and (v) candidate concerns and preferences.

Reflecting on the first five years of a new CPD system for pharmacists in Ireland

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***Keywords**: Continuing Professional Development, Pharmacy, Quality assurance, Reflective practice*

Background: A new system of quality assurance of Continuing Professional Development (CPD) for Irish pharmacists was introduced in 2015 (The Pharmaceutical Society of Ireland, 2010). The legislation states that the CPD undertaken shall be captured in an online ePortfolio and should be systematic, self-directed, needs-based and outcomes-focussed, based on a process of continual learning and development with application in his or her professional practice as a pharmacist (The Pharmaceutical Society of Ireland, 2015). The ePortfolio Review is the process by which pharmacists are required to submit an extract from their ePortfolio, which demonstrates that they are appropriately engaging in CPD (The Irish Institute of Pharmacy, 2020). The standards for the review are mapped to the requirements of the legislation. Pharmacists can expect to be called by the Pharmacy Regulator to participate in an ePortfolio Review once in every five year period. In May 2021, the first cycle of assessment will be completed. This presentation will provide an overview of the outputs from the first cycle.

Aim: Review outcomes from the first cycle of CPD review for pharmacists in Ireland.

Method: The following metrics were collated from each of the five years. The number (a) Selected for review; (b) That engaged; (c) That met standards; (d) That did not meet standards; (e) Referred to the regulator.

Results: 5,457 portfolios were reviewed over a five year period. There were consistently high levels of engagement each year (>95%) and consistently high percentages of pharmacists reaching the required standard (>96%). The percentage of pharmacists, who did not meet the Standards and were referred to the regulator each year, decreased over the five year period. An annual breakdown of results will be provided in this presentation.

Discussion: High levels of engagement have been consistent over the first five-year cycle and indicate that pharmacists are engaging with CPD as required by the regulations. Some areas

require further review, such as insights into the reasons for non-engagement. The learnings from the first five-year cycle will inform the next cycle of assessment.

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Development of a training programme for brief interventions: A human-centred design approach

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***Keywords**: Brief interventions, Human-centred design, Training, User research*

Background: As new professional service innovations are introduced, pharmacists require targeted educational interventions to support delivery. It is vital to ensure this training reflects pharmacists' needs in an accessible format. However, training utility is not usually established until after implementation when summative feedback is collected (Bajorek *et al*., 2015). This study uses human-centred design approaches (Giacomin, 2014) to co-design a training intervention to support the introduction of HealthEir, a pilot model for brief intervention delivery in Ireland.

Objective: To describe the co-design of a new training programme using an innovative human-centred design approach.

Method: Training materials were developed with cycles of user research to identify stakeholder priorities, prototype development, and iteration based on formative feedback. Low-cost paper-based versions were developed and tested before final digital and print content was developed.

Results: Training material content and format was developed to reflect to training needs identified by pharmacists. This included principles of brief intervention delivery, 'how to' guides for the digital interface, and supporting materials for specific health behaviour advice. Initial user feedback resulted in refinement of the training materials and development of additional materials to specifically support the role of non-pharmacist staff in delivering the service.

Discussion: Using a human-centred design approach enabled the development of training materials that reflected pharmacists' needs in the most accessible and engaging format. This allowed resources to be allocated to development of a final version that reflected user requirements.

Funding: This project has received funding from the Government of Ireland's Sláintecare Integration Fund 2019 under Grant Agreement Number 252.

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Shared learning event evaluation within East Sussex multisector pharmacist programme

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***Keywords**: Curriculum, Evaluation*

Background: Multi-sector Pharmacist Foundation to Advanced programme provides structured work-based training, incorporating clinical governance, research, education and leadership skills. The curriculum is validated against the Royal Pharmaceutical Society (RPS) professional development frameworks. It was proposed shared learning events (SLE) fosters peer development, ensuring curriculum coverage.

Objectives: To create an SLE programme, identify priority clinical areas for delivery complicit with the Network Contract Directed Enhanced Service (DES), share sector resources by extending SLE invitations to partner sectors and evaluate participant satisfaction.

Method: A Task and Finish Group (TFG) was assembled with sector educational leads. RPS frameworks, the DES and several postgraduate syllabi identified key themes. Participants completed an online satisfaction questionnaire after sessions with a five-point Likert scale (zero being not useful, five being very useful). Participants identified what they had learnt and how to apply learning. Qualitative comments were thematically analysed.

Results: TFG agreed SLE content, format and structure, scheduled for a full day, four weekly intervals, clinical themes subdivided into specific topics with flipped learning and Case Based Discussions (CbD). Participant numbers ranged from eight to 16. Virtual delivery increased attendance. Overwhelming positive session evaluation; four common themes identified were: session relevance to practice, appreciation of attendance opportunity, networking development sharing of practice, benefit of focus on solutions to enhance patient transfer of medication from one sector to another and appreciation of working in different sectors and benefit of pharmaceutical problem solving through CbD.

Discussion: Themes agreed support alignment with DES requirements. SLE has strengthened networking and collaboration between sectors and virtual delivery continuing.

Online cannabis science and medicine post-graduate education programmes for pharmacy practitioners

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***Keywords**: Continuing education, Medical cannabis, Medical marijuana*

Background: The medical use of cannabis and associated products is expanding in the United States, but often without engagement with the pharmacist or other health care providers as 35 states now offer retail cannabis sales to adults. Consequently, pharmacists and other HCPs feel unprepared to discuss cannabis use with patients, especially interactions with other prescribed pharmacotherapy.

Objective: The authors sought to bridge the gap of this knowledge deficit by introducing three medical cannabis education programmes that could be taken online for continuing education or academic credits

Method: The design of the programmes built upon the clinical expertise faculty in a manner that attempted to minimise faculty workload while maximising practitioner choice. First, an eight week, 20-contact hour online continuing education programme was launched to quickly serve practising professionals and provide an entré into a "*stackable*" academic credit-bearing Cannabis Science & Medicine Graduate Certificate (nine credit hours) and specialty track within an existing MSc programme in Pharmaceutical Sciences (30 credit hours). Coursework taken in the CSM Graduate Certificate can count as progress toward the MSc degree.

Results: While the Graduate Certificate and MSc programme have yet to graduate students, the continuing education programme is in its third cycle, with pre- and post-test results available from the first two cohorts of 63 and 55 students, respectively. Scores of programme entrants (57±13%, 53±0.8%) improved considerably upon completion of the programme (91±7.6%, 90±0.4%). Programme evaluations reveal that the majority of participants gained confidence and found the material highly applicable in helping their patients navigate their use of medical cannabis.

Discussion: The minimal treatment of medical cannabis in the BSc and Doctor of Pharmacy curricula justified the development of three medical cannabis education programmes for working professionals. Preliminary data indicate a high level of programme effectiveness and participant satisfaction.

CONFERENCE ABSTRACTS

Life Long Learning in Pharmacy

Virtual Conference Proceedings 2021

Poster Presentation

Exploring stakeholder perceptions and experiences regarding education and training requirements to support the delivery of minor ailment services

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***Keywords**: Assessment, Community pharmacy staff, Education, Minor ailments service, Training*

Background: Minor ailment services (MASs) are structured pharmacy-based services that manage minor ailments. They involve the provision of self-care, treatment and/or referral (Aly *et al*., 2018). They enable individuals to access minor ailment care in a convenient, cost-effective manner (Paudyal *et al.,* 2013). MASs are delivered by pharmacists and non-professional pharmacy staff (Aly *et al.,* 2018). Limited education and training exist to support pharmacy staff to offer MASs (Aly *et al.*, 2018).

Objective: To investigate the perspectives of relevant stakeholders, including community pharmacists, medicines counter assistants (MCAs), intern pharmacists and general medical practitioners (GPs), regarding the requirements for MAS training and assessment processes.

Method: Semi-structured interviews were conducted to collect data. Purposeful and snowball sampling was utilised to recruit participants nationally. Interviews were audio-recorded, transcribed verbatim and thematically analysed using NVivo 12.

Results: Twenty-eight participants were interviewed, including community pharmacists (n=12), MCAs (n=4), intern pharmacists (n=9) and GPs (n=3). Interviews lasted approximately 30 minutes in duration. Thematic analysis generated the following themes: (1) scope of MAS delivery, (2) training requirements and competencies, (3) acceptability of additional training and (4) learning delivery strategies.

Discussion: There was consensus that consumer-facing pharmacy staff have role-specific contributions in MAS delivery. However, there were divergent opinions on the scope of non-professional staff. Training is beneficial to enable staff to deliver MASs and include service delivery and operational aspects. Stakeholders presented mixed views regarding learning strategies with preferences for online and face-to-face training. Stakeholders indicated that for training to be effective it needed to offer diverse interactive learning opportunities; including discussion and feedback.

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Human rights: One pharmacist's learning journey

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***Keywords**: Conscientious objection, Dignity, Equality, Human rights, Personhood*

Background: The protection and respect of all human rights is a prerequisite for the full enjoyment of human dignity. Any human rights violation would lead to a denial of the dignity that is inherent in every human being. Pharmacists have the same human rights as all other human beings.

Aim: To provoke scholarly dialogue and raise awareness of human rights among the pharmacy profession.

Method: Narrative web-based commentary literature review, reflecting one pharmacist's learning journey.

Results: All human rights are universal, indivisible and interdependent and interrelated. It is the duty of States, regardless of their political, economic and cultural systems, to promote and protect all human rights and fundamental freedoms (UNHR, 1963). The state cannot apply human rights selectively: all human rights are equal, and all citizens enjoy the same human rights (Klein, 2008). Pharmacists' right to freedom of conscience is not protected in Irish legislation (ISB, 2018).

Discussion: This commentary on human rights is short and narrowly focused on the pharmacist's right to 'conscientious objection' as a topic of contemporary interest. 'Conscientious objection' is derived from the right to freedom of conscience. Pharmacists and pharmacy students should learn about their human rights as they can only claim their rights if they are aware of them. Patients and pharmacists are unique individuals with their own sets of experiences, values, and perspectives. As a human participant, the pharmacist behaves more genuinely if her humanity is valued. The human rights discourse is one of the most important discourses of our times (Higgins, 2012).

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The practice of pharmacy in Ireland has been enhanced through the development of the IPU Academy Learning Management System (LMS)

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***Keywords**: Continuing Professional Development, Engagement, Learning resource, Network, Share information*

Background: The IPU Academy is an educational service initiative developed by the Irish Pharmacy Union (IPU) to support pharmacists in their engagement with Continuing Professional Development (CPD). In August 2013, IPU Academy was launched as an online Learning Management System (LMS).

Objective: The aim was to create an LMS with the following key features: deliver Continuing Education (CE) in all three formats (Live, Distance and eLearning), provide access to supplemental material to support CE, create an online question and answer noticeboard and support engagement with Continuing Professional Development.

Method: IPU Academy delivers two Continuing Education (CE) programmes in Spring and Autumn. Programmes deliver CE in traditional presentation format, i.e. a two-hour live learning course at venues nationwide. Since 2013, more than 33,800 attendances have been recorded at these courses. An opportunity to discuss issues relevant to the topic is provided at all CE courses. In order to maximise learning opportunities, answers to queries raised are now published on the IPU Academy LMS for the benefit of the 2,600 plus IPU Academy members.

Results: Examples of queries raised to which answers have been published on the LMS include:

A patient who received a liver transplant two years ago presents at the pharmacy enquiring about the pneumonia vaccine. What advice should they be given? Is it appropriate to use NSAIDs long term in the management of chronic pain? What are the key counselling points for transdermal opioid patches?

Discussion: An opportunity to discuss issues relevant to the topic is provided at all CE courses. In addition, members can submit queries post CE course via email. In order to maximise

learning opportunities, answers to queries raised are now published on the IPU Academy LMS for the benefit of the 2,600 plus IPU Academy members. A key feature of live learning is the opportunity to network with colleagues and share information in an informal setting.

How IPU Academy supports engagement with Continuing Professional Development (CPD) and facilitates recording CPD in personal ePortfolio

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***Keywords**: Continuing Professional Development, Engagement, Support, Tools*

Background: The IPU Academy is an educational service initiative developed by the Irish Pharmacy Union (IPU) to support pharmacists in their engagement with Continuing Professional Development (CPD). In April 2015, the Irish Institute of Pharmacy (IIoP) launched an e-Portfolio, an online tool designed to allow pharmacists to plan, record and reflect on all aspects of their CPD.

Objective: The aim was to create tools to support pharmacists in engaging with CPD and facilitating recording CPD in their IIoP ePortfolio.

Method: The following resources are developed for each live learning topic delivered as part of the IPU Academy Programme:

- Learning Outcomes
- Topic Hand-out
- CPD Template
- Topic Quiz – pre and post
- Supplemental Material
- CPD integration video

Results: Seventy-four percent of respondents accessed the topic quiz, and 100% of those found the topic quiz useful. Forty-seven percent of respondents always accessed the supplemental material, while 42% accessed it occasionally. The IPU Academy topic hand-outs were rated highly, i.e. "*excellent*" or "*very good*", both in terms of content (79%) and usefulness post-event (68%). The majority (79%) of those who replied to the survey had used the CPD template, and a large majority (100%) of those who did use the CPD template found it useful.

Discussion: The tools developed by IPU Academy facilitate engagement with CPD and recording CPD in the IIoP ePortfolio. This ensures that appropriate and effective support is provided to pharmacists in their engagement with CPD.

Student and staff perspectives on key B.Pharm. curriculum components for developing graduates' patient-centred competencies

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***Keywords**: Competencies, Focus groups, Patient-centred care, Pharmacy, Thematic analysis, Undergraduate curricula*

Background: Patient-centred practices empowering people to manage their own health and wellbeing are increasingly recognised as pivotal to providing high-quality healthcare (Ministry of Health, 2016; World Health Organization, 2016).

Aim: To explore student and staff perspectives of components of the B.Pharm. curriculum that support undergraduate pharmacy students to develop their patient-centred professional practices and competencies.

Method: This was part three of a four-part cross-sectional sequential mixed-methods exploratory study. A scoping literature review identified elements of patient-centred practice and what enables patient-centred practice in undergraduate health professional programmes. This informed the topic guide for one staff and three student focus groups. All the data were analysed thematically in NVivo (v12), taking a general inductive approach (Thomas, 2006).

Results: Eight staff and 20 students participated in the focus groups. The spiralled B.Pharm. curriculum scaffolded experiential learning placements and external work experiences were reported to holistically contribute to safe and effective ways to learn about providing patient-centred care. Varied early learning opportunities enabled students to gain confidence prior to summative OSCE assessments and patient interaction in placements and/or part-time jobs.

Students frequently mentioned the powerful influence of people as facilitators of their patient-centred care development, i.e. patients, peers, and supportive preceptors and tutors. Challenges identified included diverse placement experiences and the plethora of cultural groups in New Zealand.

Discussion: Although comments often reflected different experiences and perspectives, staff and students agreed the structured yet varied curriculum, harnessing knowledge, ideas and mentoring from many people, effectively teaches

patient centred-care. However, the need for regular review was noted to ensure the patient-centred components support pharmacists' evolving roles.

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Clinical skills education for pharmacists: Are we meeting learners' needs?

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***Keywords**: Clinical skills education, General Practice, Pharmacist, Primary care*

Background: Routine use of clinical skills is a new practice area for primary care pharmacists (NHS England, 2014). Evidence is lacking on pharmacists' use of clinical skills and their educational needs (Butterworth *et al.,* 2017, Girvin & Wilson, 2018). The CPPE Clinical Pharmacists in General Practice Education pathway (CPGPE) includes clinical skills training.

Objective: To evaluate the experiences of pharmacists completing the CPGPE to identify what clinical skills they were using in daily practice and how they evaluated the modules in terms of relevance to their practice.

Method: A pilot-tested online questionnaire was provided to all pharmacists undertaking the CPGPE clinical skills modules between May–December 2019 (n=205). Two online reminders were sent. Statistical analysis of anonymised data was undertaken. Ethics committee approval was not required.

Results: Ninety-eight pharmacists responded (48% response rate) (Table I). The results can be seen in Figure 1, Table II and Table III.

Suggested future topics included diabetic foot checks, spirometry, ECG and use of the ophthalmoscope.

Table I: Characteristics of participants

Characteristic	Findings	Number of responses
Years qualified as a pharmacist	Range: < two years – 35 years 16 (17%) were qualified < five years 33 (34%) qualified five to ten years 47 (49%) were qualified for more than ten years	96
Independent prescribing qualification	57 (58%) were qualified independent prescribers	98
Experience in general practice	76 (78%) had up to two years' experience of working in GP 21 (22%) more than two years' experience of working in GP	97

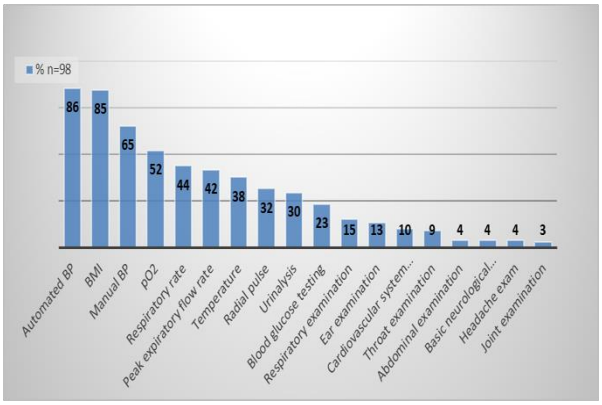

Figure 1: Percentage of pharmacists currently utilising clinical skills in daily practice

Table II: Module study day ratings

Module day	Content overview	Rating
Day 1	General examination, infection and skin conditions	28% rated as most relevant
Day 2	Respiratory examination	35% rated as most relevant
Day 3	Cardiovascular examination	35% rated as most relevant
Day 4	Headache-focused neurological examination and abdominal examination	1% rated as most relevant
Day 5	Musculoskeletal examination and Ear, nose and throat	1% rated as most relevant

Table III: Overall module ratings

Question	Rating
On a scale of one to ten, where one = not likely and ten = very likely, how relevant to your practice did you find the module?	86% of participants gave a score of five or above 60% gave a score of eight or above
On a scale of one to ten, where one = not likely and ten = very likely, how likely are you to use the learning from the module in your day to day practice?	82% of participants gave a score of five or above 46% gave a score of eight or above

Participants were positive about the use of GP tutors, practical teaching methods and the structured approach to clinical history taking. Suggested changes included more time between study days and greater depth of a limited range of skills.

Discussion: Participants were at an early stage of their general practice career. An initial insight was gained into clinical skills used and learning needs. The modules were rated highly for relevance and application to practice. Research is needed to explore content and appropriate timing of clinical skills education for pharmacists in primary care.

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Embedding graduate attributes within a pharmacy curriculum

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***Keywords**: Competency framework, Curriculum development, Curriculum mapping, Graduate attributes, Infographic posters*

Background: Universities are increasingly conscious of their responsibilities to develop students' graduate attributes (GAs), equipping them for employment and as members of society that transcend disciplinary expertise (Bowden, 2000). In September 2019, University College Cork (UCC) introduced its GAs Programme, comprising five core values and five core attributes (University College Cork, 2021). Campus campaigns are underway to embed GAs into curricula and highlight their post-graduation relevance to students.

Objective: Introduce UCC GAs locally to pharmacy undergraduates and within the UCC B.Pharm./M.Pharm. curriculum.

Method: Ten infographic-style posters (one poster per GA) and supporting information documents were created, publicly illustrating and describing how GA competence could be developed, nurtured and exhibited by undergraduate pharmacy students through their engagement with UCC's B.Pharm./M.Pharm. programmes. An additional summary poster was also produced, mapping the GAs to both the UCC B.Pharm./M.Pharm. curriculum and Pharmaceutical Society of Ireland (PSI) Core Competency Framework for Pharmacists (CCF) (Pharmaceutical Society of Ireland, 2013).

Results: GA tools developed in this work have been well received by stakeholders. The School of Pharmacy was one of the first in UCC to undertake a GA-curriculum review, producing evidence to further develop GA-related programme activities for pharmacy students.

Discussion: Curriculum mapping revealed many opportunities are already in situ for pharmacy undergraduates to nurture and develop competence in UCCs GAs. However, areas for improvement also exist. Synergy between the CCF and GAs facilitate both frameworks to create pharmacists with generic skills as lifelong learners, from disciplinary, experiential, and societal perspectives. The mapping exercise stimulated faculty discussions to explore methods for student's self-discovery of their own GA developmental needs through, for example, reflective practice (Dunne, 2019).

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Clinical partners' recommendations: Building a toolkit to support students' to work respectfully with Indigenous communities

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***Keywords**: Cultural learning, Cultural safety, Indigenous environments, Pharmacy education*

Background: Indigenous health care models are tailored to the needs of individual communities (Harfield *et al*., 2018). These models are intergenerational, holistic, culturally appropriate and community-controlled (Harfield *et al*., 2018). To ensure that students working in Indigenous communities are capable of engaging appropriately, they may require additional cultural learning (Power *et al*., 2018).

Objective: To explore the recommendations of Clinical Partners (preceptors, supervisors, clinical placement coordinators, clinical managers) regarding the inclusion criteria and resources for the development of a Toolkit designed to support students to work respectfully with Australian Indigenous communities while on clinical placement.

Method: A 45-minute focus group (n=5) was conducted, and an online survey (n=9) was administered to external clinical partners across a range of health disciplines. Data were analysed thematically.

Results: Items that partners considered useful for inclusion in the toolkit included: (i) Visual resources such as exemplar videos of culturally appropriate behaviour; (ii) Guidance regarding relationship building; (iv) Guidance regarding appropriate family history taking; (v) Reflective practice thinking modules to prepare students prior, during and on completion of placement.

Discussion: Exploring the recommendations of clinical partners, who currently work with students attending placement in Indigenous communities provided valuable insights into what additional support students may require. Further work will involve reaching a consensus on Toolkit inclusions in consultation with Indigenous Elders.

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Building skills: Using portfolios to support rotational pharmacist development

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***Keywords**: Development, Evidence, Portfolios, Rotational pharmacist, Skills, Training*

Background: In February 2019, Auckland DHB introduced a structured Rotational Pharmacist Programme (RPP) intended to support the holistic development of rotational pharmacists (RP) who are in their first three to five years of hospital practice in a large tertiary teaching hospital.

Aim: To introduce portfolios to support the self-directed development of a wide range of skills of RP.

Method: Portfolios were introduced with an accompanying evidence template and portfolio tracking spread sheet to support reflection and organise evidence. The Foundation Pharmacy Framework (RPS, 2014) was used to clearly articulate the need to develop skills, and provide direction on how this could be achieved.

Results: Initially, RP were introduced to the concept of portfolios and encouraged to collect evidence. Review after one year indicated variable understanding and uptake by RP and their development advisers (DA). Further training and written guidance for RP and DA was provided to clarify the expectations and process of compiling portfolios. Particular attention was paid to categorising and organising evidence, reflecting upon their learning and linking their evidence to RPP goals.

Seven professional skills guides in areas such as leadership, quality improvement, research and training were published and provided visibility of the wider skills needed and guidance on the opportunities to develop these in the workplace.

Engagement by RP and DA has improved since this clarification of processes and expectations, and portfolios have been used in annual performance reviews and assessment of progress against the FPF.

Discussion: The authors have begun to use portfolios for their RP and as a department they are learning how to use them effectively. There is an increased awareness of wider skills needed for hospital practice and recognition of work-based activities that could demonstrate these. The tracking of evidence allows visual indication of areas of strength and gaps to focus development activities. RP are becoming more proactive in looking for and documenting their learning from these opportunities.

Further work is needed to develop processes for the moderation and monitoring of the quality of portfolios. Transition to an electronic platform is also being explored.

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University practice partnerships to support a research culture in practice settings

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***Keywords**: Inquiry, Partnership, Research, Scaffolding*

Background: Recent strategic documents released by Australian pharmacy professional bodies have highlighted the importance of developing and maintaining a research culture within the profession (Pharmaceutical Society of Australia, 2019, Society of Hospital Pharmacists Australia, 2019). Universities have an important role to play in supporting the research endeavours of practitioners. Workplace advancement criteria often include research requirements.

Aim: To describe how university-practice partnerships are supporting practice research.

Method: In designing the new undergraduate pharmacy curriculum, the development of inquiry skills was a core principle. These skills were scaffolded to projects undertaken during the intern year, within the Master of Clinical Pharmacy, and in higher degrees by research. Engagement with practice partners was identified as crucial to the success of this endeavour, and various strategies such as research workshops were implemented to support this initiative.

Results: A scaffolded approach was developed to support research across the learning continuum from undergraduate students through to PhD. Fourth-year students undertake a group inquiry project, interns complete an individual project and present a poster, Master of Clinical Pharmacy students undertake an 18-month independent practice-based research project, and PhD projects are now embedded in practice sites. Development of research ideas and student supervision is shared between practitioners and academics, strengthening the research culture in practice settings.

Discussion: The National Competency Standards Framework for Pharmacists in Australia (Pharmaceutical Society of Australia, 2017) encourages pharmacists to be able to "*identify and respond to gaps in the evidence-base by conducting research, share research findings and apply evidence in practice*". The authors have demonstrated how partnership with a university can assist practitioners to embed research into practice settings.

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Perceptions of hospital pharmacists about using entrustable professional activities to support student learning and development in the workplace

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***Keywords**: Entrustable Professional Activities, Supervision, Workplace-based Assessment*

Background: Entrustable Professional Activities (EPAs) are competency-based tasks of professional practice, which can be used to facilitate the development of practice-ready pharmacy graduates (Pittenger *et al*., 2016). The Monash University Master of Pharmacy course has introduced EPAs as a feedback tool for experiential placements.

Aim: To explore the perceptions of pharmacists towards the use of EPAs for student experiential hospital placements.

Method: During a three-week student placement at a tertiary hospital, pharmacist supervisors were asked to complete an anonymous online questionnaire about the perceived benefits and challenges of using EPAs routinely.

Results: Eighteen of 56 pharmacists (32.1%) responded to the survey. Sixteen (89%) pharmacists agreed or strongly agreed EPA tools were easy to understand. The same number agreed or strongly agreed EPAs were a useful tool for pharmacy undergraduate student learning and that EPAs were beneficial in supporting supervision. Ten (56%) pharmacists agreed or strongly agreed using EPAs increased their daily workload, with time constraints and already busy workloads identified as the main barriers to effectively using EPAs with students. The pharmacists indicated allocating dedicated student supervision time and having students aware of their own learning needs would support the use of EPAs.

Discussion: Pharmacists' perceptions that EPAs are of benefit to student development are consistent with previously published literature (El-Haddad *et al.*, 2016; Pittenger *et al.*, 2016; Jarrett *et al.,* 2018). Despite this, the pharmacists experienced challenges of balancing patient-facing roles with student development opportunities. The continuation of university partnership and implementation of specific strategies, such as revised workload allocation within clinical teams and discussing student self-reflection, will ensure that EPAs are optimally utilised on student placements.

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Reducing inter-reviewer variability in peer review during 2019/20 IIOP ePortfolio review

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***Keywords**: CPD review, Peer-led*

Background: The Irish Institute of Pharmacy (IIOP) undertakes an annual review of CPD cycles from pharmacists' IIOP ePortfolios. A core principle of the Irish CPD system includes 'involvement of peers in the shaping of the standards and assessment systems (PSI, 2010; PSI, 2015; IIOP, 2020).

Objective: This presentation will describe the measures used by the IIOP to reduce inter-reviewer variability during the 2019/20 ePortfolio Review (IIOP, 2020).

Method: Four measures were used to ensure consistency of approach of peer reviewers throughout the 2019/20 ePortfolio peer-review process: before the review process, all peer reviewers (experienced (n=17) and new (n=4) attended training. Achievement of learning outcomes was assessed in two ways; a 20 question MCQ. Allocation of two ePortfolio extracts for review. During the portfolio review process, peer reviewers had the opportunity to seek consensus from the group on specific issues through an online forum, or request an independent review of the ePortfolio extract through L2 referral. Following peer review a randomly selected proportion of peer-reviewed submissions are were independently reviewed to confirm appropriate outcomes allocated by the peer reviewer.

Results: All peer reviewers; Participated in training; Passed the assessments; Achieved 80% or higher in MCQ; Assigned the same outcome to allocated ePortfolio extracts. Independent review of randomly selected peer-reviewed submissions (n=13) validated the appropriate outcome was assigned by the peer reviewer.

Discussion: The measures in place through the ePortfolio peer review were successful in ensuring consistency of approach. Inter-reviewer variability in the interpretation of the peer review standards did occur; this was to be expected as it is a qualitative measure; however, this variability did not impact the outcome assigned to extracts.

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A continuing professional development programme for pharmacists on adolescent and adult vaccines in Ireland

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***Keywords**: Blended learning, Continuing Professional Development, Education, Pharmacy practice, Vaccines*

Background: There have been an increasing number of vaccines recommended by the national immunisation guidelines over recent years (e.g. human papillomavirus (HPV), pertussis in pregnancy, meningitis ACWY). Pharmacists, as front line healthcare professionals, are well-positioned to provide reliable, evidence-based information on vaccines to the public.

Aim: The purpose of this continuing professional development (CPD) educational programme was to provide up to date and evidence-based information to Irish pharmacists.

Method: The CPD programme was developed collaboratively by the School of Pharmacy University College Cork and the Irish Pharmacy Union Academy. It consisted of a live learning presentation delivered by pharmacist tutors nationwide from September to November 2019, an online recording of the presentation and supplemental resources, a CPD template, and topic queries submitted by email were answered. The content was evidence-based and addressed vaccines recommended on the national immunisation guidelines for adolescents and adults (HSE, 2021) (e.g. HPV, meningitis ACWY, influenza).

Results: The live learning presentation was delivered at 14 locations nationally to 265 pharmacists. The feedback from those attending was that they gained knowledge on the vaccines covered and that the programme would support them to make changes to their practice.

Discussion: The majority of attendees reported a positive learning experience. In the context of vaccine hesitancy for certain vaccines (e.g. MMR vaccine, HPV vaccine), and some European countries losing their measles free status, pharmacists have been supported by this CPD programme to provide reliable, evidence-based vaccines information to the public.

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How to develop and deliver funded quality assured experiential learning for student pharmacists

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***Keywords**: Research methods courses, Social science methodology, Social science, Supervision*

Background: In Great Britain, the new General Pharmaceutical Council (GPhC) Standards for Initial Education and Training of Pharmacists state that "*Student pharmacists must be exposed to an appropriate breadth of patients and people in a range of environments to enable them to develop the skills and the level of competency to achieve the relevant learning outcomes*" (General Pharmaceutical Council, 2021). In 2018, the Scottish Government made Pharmacy Additional Cost of Teaching (ACTp) funding available to support the development and delivery of experiential learning (EL) for students studying the MPharm in Scotland. These developments took place across community, hospital and primary care settings. This is the first government funding secured for EL in the pharmacy profession in Europe. Prior to this funding, EL relied on the goodwill of employers to allow student pharmacists to undertake experiential learning.

Aim: To identify themes involved in developing funded quality assured EL for student pharmacists within the MPharm curriculum across three pharmacy sectors in Scotland.

Method: All activities that occurred in the development and delivery of funded quality assured EL for student pharmacists at the University of Strathclyde and Robert Gordon University were listed and themed.

Results: Three main themes were identified; collaboration, educational governance and financial governance. Each theme was further analysed into activities undertaken, stakeholder involvement, procedure development, challenges and successes.

Discussion: This project documents for the development and delivery of funded quality assured experiential learning for student pharmacists in Scotland with two schools of pharmacy and could act as a 'blueprint' should other countries manage to secure similar EL funding.

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Evaluation of Interprofessional Education (IPE) with medical, nursing and pharmacy students through a simulated IPL Educational Intervention

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***Keywords**: Initial education and training, Interprofessional education, Medical students, Nursing students, Pre-registration pharmacists, Simulation*

Background: "*Evening on-call*" is a ward-based IPE simulation session incorporating dummy and actor patients. Medical and nursing students and preregistration pharmacists test their clinical, prioritisation and communication skills under observation. This study evaluated participants perceptions of this. Achieving Excellence in Pharmaceutical care (Scottish Government, 2017) and the newly updated GPhC initial education and training standards (General Pharmaceutical Council, 2021) state that interprofessional education should be incorporated into the initial training of pharmacists to improve collaborative working throughout healthcare and the NHS.

Aim: To evaluate this programme and assess the perceived outcomes of the programme, providing feedback for further development.

Method: Participants completed a questionnaire to capture their views regarding event organisation, briefing/feedback received and relevance of this training event to their future career. Free text sections collected additional comments, and a follow-up questionnaire was sent six months later.

Results: Initial questionnaire and the follow-up questionnaire findings were overwhelmingly positive for each professional group. The majority felt it had given them a greater understanding of other professionals' roles, enhanced their professional confidence and would help them prioritise workload once qualified. The follow-up questionnaire highlighted that participants felt the session helped them work more effectively with other healthcare professionals, communicate more effectively and better prioritise their workload.

Some participants comments highlighted the need for more of these sessions, extended time within these sessions and the one to one feedback concluding the session was of real benefit to their development and articulating their learning needs.

Discussion: The research informed the perceived benefits of 'Evening On-Call' supporting the development of skills required by a modern healthcare workforce.

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Back to base days: Keeping students on extended placement engaged with the faculty

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***Keywords**: Employability, Experiential, Internship, Skills*

Background: The pharmacy curriculum at Monash University generally requires students to attend synchronous interactive learning activities at least four days per week. In the final (fourth) undergraduate year, there is an extended semester where students undertake a combination of experiential placements and inquiry projects. Between November and

August, there are no scheduled synchronous activities, and therefore limited opportunities for interaction between students and academic staff. There was a desire to implement a mechanism for synchronous engagement with the students during this time.

Aim: To describe the development and implementation of a synchronous pharmacy student engagement programme during a period of prolonged off-campus learning.

Method: The education leadership team identified risks associated with students learning off-campus for a prolonged period, and potential solutions. A period of consultation resulted in a series of objectives which could be met by instigating a programme of regular contact days.

Results: Four "*Back to Base*" days were planned at regular intervals during the extended first semester. Each day included activities such as: Briefing and debriefing for students on experiential or inquiry project rotations; Interactive sessions regarding the postgraduate year five (internship) programme; TED style talks from inspirational pharmacy leaders; Skills-based workshops (e.g. developing resilience); Facilitated case-based discussions; Careers fair; and skills coaching.

Discussion: Challenges associated with implementing this programme have included: student travel logistics from sites located long distances from campus, scheduling "*Back to Base*" days around conflicting requirements on and off-campus, and building in flexibility for students on international rotations. COVID related adjustments have also been significant.

Evaluation of a novel hospital pharmacist locum training and assessment programme, and impact on locum activity

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***Keywords**: Education, Hospital pharmacist, Locum, Recruitment Training programme*

Background: Within Australian public hospitals, limited locum arrangements exist for hospital-trained pharmacists to fill temporary absences. Available pharmacists often require considerable pre-employment training.

Objective: To evaluate a) Participant perceptions about educational content and preparedness for hospital employment after attending a novel hospital pharmacist training and assessment programme; b) Percentage of active participation in the locum programme.

Method: A face-to-face interactive programme was developed. A total of 40 pharmacists were trained on core hospital pharmacy services and assessed on knowledge and skills in dispensing and clinical services. Participants completed surveys exploring demographics, programme perceptions and preparedness for employment after training (survey one) and assessment (survey two). From May 2019 to January 2020, the percentage of locum participation was measured and barriers to participation were explored.

Results: A total of 28 (70%) and 35 (88%) participants responded to survey one and two respectively. Previous hospital experience was reported by 13 (37%) participants in survey two. All respondents indicated that the educational content was of high quality and that the programme helped them understand a hospital pharmacist's role. After assessment, 34 (97%) respondents felt adequately prepared to perform dispensary and clinical activities. Of all shifts available, 325 (54%) were able to be filled by programme participants. The most common barrier to shift uptake was other employment commitments.

Discussion: A hospital pharmacist locum training programme can identify and upskill applicants for locum pharmacist positions. Future studies should investigate methods to improve locum engagement and feasibility of implementing a state-wide pharmacist locum programme.

Developing and implementing a new experiential programme incorporating Entrustable Professional Activities and a bespoke eportfolio

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***Keywords**: Experiential learning, Placements , Portfolio*

Background: Australian pharmacy degree programmes are required to incorporate experiential learning (Australian Pharmacy Council Ltd., 2020a) and to demonstrate graduates meet relevant performance outcomes (Australian Pharmacy Council Ltd., 2020b). Entrustable Professional Activities (EPAs) are a set of discrete, specific tasks which students are expected to undertake in a work integrated learning setting with the goal of being able to perform these tasks without supervision once reaching a specific level of competence (ten

Cate *et al.,* 2015). Monash University is developing and implementing a new pharmacy curriculum, which includes an increased focus on experiential learning.

Aim: To describe the EPA based experiential programme in a new pharmacy curriculum, including the use of a bespoke eportfolio to document student EPA progression.

Design: In the design of a new undergraduate pharmacy curriculum, early and enhanced experiential placements were included as a core principle. EPAs were used as the framework for the experiential programme. EPA documentation was added to the student eportfolio; preceptor access was enabled.

Results: The new Student Experiential Program (StEPs) commences in year one and culminates with a total of 11 weeks of placement in the final year of the undergraduate degree. Thirty EPAs have been developed and are implemented sequentially as activities are taught and practiced in the didactic curriculum. Seven-hundred and ninety preceptors have registered and been given access to relevant student's eportfolio for the purpose of EPA feedback.

Discussion: EPAs have been successfully implemented and are allowing students to meaningfully contribute to patient care activities on the placement. Feedback mechanisms enable the university to monitor student progress towards meeting performance outcomes.

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Enhancing a positive workplace culture through fostering informal feedback

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***Keywords**: Informal feedback, Performance development, Workplace culture*

Background: Informal feedback is an unplanned process of ongoing, in-the-moment development advice provided outside a formal feedback process. Pharmacy staff participated in the Victorian public sector employee opinion survey. In response to the question "*I have received informal feedback on individual performance*", the pharmacy received 80% (benchmark 77%). Focus groups identified informal feedback as an area of strength to leverage and enhance.

Methods: Multi-modal education sessions were delivered, which included survey result discussion, didactic and interactive learning and completion of self-assessment forms.

Results: Thirty-seven staff attended, revealing informal feedback was received more than perceived, reserved not only for constructive feedback and promotes a positive environment. The follow-up survey found that 76% of respondents felt comfortable providing informal feedback.

Discussion: Improving understanding of informal feedback increased staff insight and engagement to embed a positive feedback culture.

Evaluation of pharmacists' self-assessment of competency in Qatar: National experience

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***Keywords**: Competency framework, Pharmacy competency, Self-assessment tool*

Background: Hamad Medical Corporation (HMC) is the main governmental healthcare provider in the state of Qatar. With the continuing advances of pharmacy standards of practice and public demand, there is a growing need for reliable tools to assess pharmacists' competency. Thus, understanding the competencies and skills is crucial for ensuring that pharmacists recognise their learning needs to maintain a high-quality level of pharmacy services and patient care (Bruno *et al.,* 2010; Meštrović *et al.,* 2012).

Objective: The purpose of this study is to utilise a national framework for evaluating the professional competencies of Qatar pharmacists.

Method: The study was conducted in three phases: a pre-workshop meeting with experienced pharmacists to seek advice on and develop a competency framework; the second phase was the workshop with a group of pharmacists as a pilot to introduce the concept of competency and describe how to self-assess their competency: and the last phase was sending out the competency assessment tool to pharmacists through a web link to self- assess their competency levels.

Results: Out of 144 pharmacists who attended the workshop, 71 completed the self-assessment tool using the competency framework, which consisted of five domains with 14 competencies. The responses were based on a four-point Likert scale (five = no improvement needed; three = minimal improvement needed; one = substantial improvement needed; zero = competence in this area not developed). The average scale for all the domains was three. Pharmacists self-assessment of their competencies reported the highest scores for legal practice and the lowest for research participation.

Discussion: This study lead to the development and implementation of research related workshops covering different research methodologies that in turn resulted in submission and conduct of several research studies. Further studies are needed to overcome the key barriers attend CPD activities and ensure that ongoing learning opportunities are of high quality to have a positive impact on competencies at HMC.

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Virtual learning experience enhances student assessment performance in Objective Structured Clinical Examinations (OSCEs)

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***Keywords**: Objective Structured Clinical Examination, Online learning, Pharmacy, Virtual patient*

Background: Objective Structured Clinical Examinations (OSCEs) in pharmacy typically assess medication-related problem-solving and communication skills in a simulated environment. The balance between managing teaching resources for OSCEs and providing sufficient opportunities for learning has been a challenge. Virtual patients and online learning resources have been used successfully as training and assessment tools for healthcare students (Olivern *et al*., 2011; Taglieri *et al*., 2017).

Objective: To examine the effect of a virtual learning module on OSCE performance of final year pharmacy students

Method: The online module consists of 20 case scenarios set in community and hospital pharmacy settings. In each case, student can role play with a virtual patient by using a standardised patient interview question guide to identify and solve the problem within a set time limit. Student's OSCE grades were compared with the online module case attempts before the exam.

Results: An increase in the average OSCE mark was seen when the online module was first released (2017) compared with the previous year results. High scoring students completed more virtual practice attempts than the low scorers. Students perceived the online module to be a useful study aid, however, face-to-face learning was preferred. Further improvement in students' OSCE performance was seen in the following year (2018) with the introduction of online module in a face to face session.

Discussion: Virtual patients and online learning modules could be used to prepare students for OSCE and enhance clinical problem solving and communication skills. A combination of online and face to face learning opportunities should be provided to optimise student learning experience and assessment outcomes.

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Making the most of Patient Public Involvement (PPI)

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***Keywords**: Involving patients, Learning, Patient and Public Involvement, Patients, Pharmacy, PPI, Pre-registration, Students, Undergraduate*

Background: Effective communication between patient and pharmacist enables building of a strong, supportive and trusting relationship (Beardsley 2012) which is central in the provision of patient-centred care (Grimes *et al.* 2013; Becket *et al.* 2014). Patient Public Involvement (PPI) within Ulster University (UU) involves patients in delivery of the MPharm curriculum, which promotes active participation and active learning. During PPI workshops, students converse with patients and develop effective communication skills, treating them with respect and empathy enabling students to consolidate their clinical knowledge with practice.

Objective: Evaluate MPharm students experience of active engagement in PPI within UU.

Method: Students on levels five, six and seven of the MPharm (2019-20) and graduates from class of 2019 were included in the study. Questionnaires which included a range of qualitative and quantitative questions, were distributed to 129 students. One hundred and six students participated in the study. Statistical Package for the Social Sciences (SPSS) was used to carry out statistical analysis on quantitative data collected in this study. Qualitative data were grouped together to determine specific themes and provide recommendations.

Results: Progression through the MPharm curriculum deepens student understanding of PPI. PPI workshops enable students to demonstrate empathy, understand the needs of the patient and develop communication skills. The enjoyment of PPI had a positive association with how much participants learn from PPI, their understanding of PPI and if they benefit from PPI. Active participation had a positive association with participants benefitting from PPI, participants learning from PPI and development of communication skills.

Discussion: Patient Public Involvement is integral to the contribution of professional education for undergraduate pharmacy students and continues to have a positive impact on attitudes and behaviours of pre-registration pharmacists.

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Empathy an essential element of pharmacy practice

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***Keywords**: Creative Art, Curriculum, Empathy, Pharmacy, Undergraduate,*

Background: Empathy is the ability to understand the experience of others and to reflect that understanding back to them. Demonstrating empathy is a characteristic that is difficult to define, often meaning that explicit teaching and assessment of empathy is not always incorporated within curricula for medical and healthcare professionals (HCP's) training. Good communication skills, building rapport with patients and showing empathy build and maintain trust with patients (Allinson & Chaar 2016). Safe and effective care is provided when pharmacy professionals are polite, considerate, demonstrate empathy and compassion. (General Pharmaceutical Council 2018).

Objective: To determine the effectiveness of a Patient Public Involvement (PPI) workshop to enhance empathy in undergraduate pharmacy education.

Method: A PPI interactive workshop was conducted with a patient representative from Parkinson's UK. The workshop involved students viewing art, listening to a recital of a poem and listening to a song. These creative pieces were produced written and performed by the patient representative. The study used a non-validated scale based on the empathy quotient tool (Baron-Cohen & Wheelwright, 2004), which is a self-reported measure of students attitude towards empathy. Qualitative and quantitative data was collected, recorded and compared to pre and post PPI workshop using SPSS Statistics.

Results: There was a statistically significant increase in overall levels of empathy post the PPI interactive workshop.

Discussion: The PPI workshop helped to increased empathy amongst students in the second year of their MPharm

studies. Students who participate in creative arts display more empathic traits than those that do not participate in creative arts.

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Pharmacist learns: Everyone gains information provision by a pharmacist in residential care for people with intellectual disabilities

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***Keywords**: Communication, Healthcare, Intellectual disabilities, Medication, Pharmacist*

Background: The limited evidence available in the literature suggests that pharmacists can make positive interventions in relation to the quality of the medication use process in collaboration with other healthcare professionals, carers and people with intellectual disabilities (ID) (O'Dwyer, Meštrović, & Henman, 2015).

Aim: Baseline audit of medication and public health information provided by a pharmacist in a residential centre for people with ID in Ireland.

Method: Collation of electronic and paper information records. Survey – electronic and paper based.

Results: Pharmacists' reactive communication about health and medicines is perceived important. Proactive information is given without a query because some information needs to be disseminated in advance for the benefit of staff and patients.

Discussion: All types of health and care provider should consider how to include pharmacy staffing into the overall skill mix for their service (CQC,2019). Pharmacists have a role in promoting health, preventing and delaying disease, and ensuring continuity of care. Specialist pharmacists can engage people with ID and their carers with targeted communication (Flood, 2016).

With the right communication, health systems can reduce the likelihood of certain conditions or improve the quality of life for people with ID who already have these conditions.

The pharmacist's role has expanded beyond the traditional product-oriented functions of dispensing. The public health role of the pharmacist is yet to be clearly defined, broadly recognised and sufficiently promoted by public health agencies, pharmacy educators or other health care professionals (APHA,2006).

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Using professional discussion to embed professionalism at the centre of the accuracy checking pharmacy technician journey

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***Keywords**: Discussion, Education, Pharmacy technician, Professionalism, Reflection*

Background: Maximising the skillset of pharmacy technicians is critical to pharmacy workforce development and delivery of the NHS Long Term plan (NHS England (a), NHS England (b)). The Centre for Pharmacy Postgraduate Education (CPPE) accuracy checking pharmacy technician (ACPT) programme develops the knowledge and skills to be a safe and competent ACPT. Embedding professionalism is integral to the delivery of safe, effective, quality care (General Pharmaceutical Council).

Objective: To introduce a structured professional discussion as a tool to encourage reflection on professionalism in practice as described in the General Pharmaceutical Council (GPhC) standards for pharmacy professionals 3.

Method: A nine-question framework for the 45-minute discussion was developed and mapped to the GPhC standards 3 and the national occupational standards for accuracy checking (Skills for Health). Open questions are designed to stimulate discussion, encourage reflection on professionalism in practice and elicit responses that demonstrate competence and best practice. A safe and supportive environment is fostered for the one-to-one conversation, which occurs at the mid-point of the programme. The formative process enables the learner to identify personal learning needs and set developmental objectives focusing on professionalism.

Results: One hundred and eighty-five learners have completed a professional discussion and submitted evidence of completed objectives. In a qualitative survey, 95% (35/37) of learners stated that the professional discussion experience was either good or excellent. One hundred percent (26) of educational supervisors stated that the programme develops trainees professional awareness.

Discussion: The professional discussion enables reflection on practice in a safe environment. Learners are encouraged to take ownership of their development to embed professionalism in their new role. There is potential to explore application of this approach in other learning pathways.

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APPEL Matching System: Developing an online matching system to pair students with placement providers

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***Keywords**: APPEL, Experiential learning placements, IT, Matching, Online system, Pharmacy, Practice, Student*

Background: Pharmacy students in the Republic of Ireland undertake a five-year integrated programme with experiential learning practice placements of two weeks, four and eight months duration, dispersed throughout the programme. APPEL is an affiliation between the three Schools of Pharmacy in Ireland set up to streamline and centralise the coordination of approximately 600 practice placements annually. The need for an IT system to facilitate the matching of students with placement providers was identified (Wilson & Langley, 2010; Pharmaceutical Society of Ireland, 2014).

Objectives: Develop a model for an IT system to facilitate APPEL in supporting students detail their placement preferences incorporating location and practice setting. Match students with these placement providers. Identify the matching preferences of students, placement providers, key stakeholders; Review and collate all legal requirements (S.I. No. 377/2014); Outline APPEL's expectations for how the IT system would incorporate these into a workable IT system.

Method: A review of the legislative requirements was performed and relevant information collated. Data on the matching preferences of stakeholders was obtained through focus groups, surveys and interviews. This data collection process informed APPEL's expectations of how the IT system would facilitate the matching process. These expectations were documented, reviewed and updated.

Results: Conflicting preferences of stakeholders, legal constraints and limitations of the IT system restricted the extent to which all preferences could be satisfied.

Discussion: A model for an IT-based system matching students to placement providers was developed and implemented. Feedback is continuously gathered from stakeholders to continue to meet their preferences and develop the system while upholding legislative requirements for practice placements.

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Ready for practice: How APPEL experiential learning placements help develop graduates who meet the demands of a dynamic pharmacy profession

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***Keywords**: APPEL, Emerging practice, Experiential learning, Experiential placement, Pharmacy placements, Pharmacy profession, Students*

Background: The structure of the new pharmacy integrated programme, with experiential learning practice placements interspersed throughout the five years, provides educators with the opportunity to equip students with 'real-life' experiences that complement and enhance the academic learning they acquire in lectures and labs. As well as the traditional sectors of community and hospital, 21st century Irish pharmacists are taking up roles in increasing numbers within the pharmaceutical industry and in role emerging practice areas such as regulation, consultancy and national clinical programmes. The profession demands graduate attributes that include but go beyond the disciplinary expertise which traditionally formed the core of most university courses (Pharmaceutical Society of Ireland, 2014, S.I. No. 377/2014).

Objectives: This presentation outlines how APPEL experiential learning placements aim to develop graduates equipped for and meeting the needs of a changing professional landscape, i.e. graduates who are ready to practice.

Discussion: Exploring the graduate attribute expectations of the pharmacy profession through organisation of stakeholder focus groups, continuous and systematic evaluation of placement provider feedback and ad hoc stakeholder interactions. Incorporating frameworks, standards, goal setting and reflective practice into the placement structure, preparing students for an evolving profession. Continuing to increase the breadth of practice exposure through recruitment of diverse placement opportunities. Developing an experiential learning-focused research strategy to facilitate evidence-based progress of the programme. Through evidence-based development of the placement programme and effective engagement with key stakeholders including placement providers, academics, pharmacy regulator, leaders and innovators across the profession, APPEL placements will contribute to development of graduates who meet the demands of a dynamic pharmacy profession.

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An exploration of pharmacy students' resilience and factors affecting it: A questionnaire study

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***Keywords**: Burnout, Education, Pharmacy, Resilience, Student*

Background: A high risk of burnout syndrome exists among practising healthcare professionals (HCPs) with recent studies focusing on the risk and prevalence of burnout among students studying in the healthcare disciplines (Skodova & Lajciakova, 2013). Studies show development of personal and professional resilience can be a mechanism of avoiding burnout both in student and practising HCPs (Fertleman & Carroll, 2013; Robertson *et al*., 2016). HCP burnout also shows consistent negative relationships with quality and safety of patient care (Dewa *et al.,* 2017). The serious ramifications of burnout and its inverse correlation with resilience would suggest that resilience is a highly desirable if not essential trait for students embarking on an undergraduate degree in a healthcare profession such as pharmacy.

Objectives: Determine pharmacy students' resilience. Investigate factors affecting it (i.e. Social competence; Social

support; Reflective ability; Anxiety, stress, depression; Socio-demographic factors, well-being).

Method: An online survey was distributed to all registered students on the pharmacy programme in Trinity College Dublin (n=272). Statistical analysis was undertaken using SPSS 25.

Results: Overall, 49% responded (n=132). Students across all years of the programme were determined to have a moderate level of resilience. There was no statistically significant difference found in resilience levels between year groups or genders. Factors such as stress, anxiety and depression were inversely correlated with resilience. Overall well-being, reflective ability and social support were positively correlated with resilience.

Conclusion: There is potential for resilience levels of pharmacy students to be enhanced. Factors identified as having a positive impact on resilience should be targeted for development and implementation of resilience enhancing interventions.

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Undergraduate students' perceptions of experiential learning in the M.Pharm. programme: A quantitative study

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***Keywords**: Experiential learning, Pharmacy, Pharmacy students, Placements, Practice placements, Work-based learning*

Background: The delivery of the undergraduate pharmacy degree programme changed nationally in 2014 from a four+one-year internship programme, to a five-year integrated degree, which includes experiential learning (EL) placements (Iris Oifigiúil, 2014, The Pharmaceutical Society of Ireland, 2014). No research has been conducted to date to assess the perceptions of pharmacy students regarding EL placements in this new integrated programme.

Objective: The objective of this study was to investigate pharmacy students' perceptions of EL in the new integrated five-year MPharm at University College Cork (UCC), which should inform the development of the EL placement programme.

Method: An online anonymous survey was used to collect the data. All students on the UCC MPharm programme who had been on EL placement were invited to consent and complete the survey. Data was then analysed using SPSS

Results: Students agreed that they had developed a number of key skills and experiences on EL placement, for example: Patient counselling skills, 86%; Formulation and care plan skills, 50%; Patient health factor skills, 80% and interprofessional team experience, 89%.

Discussion: The majority of respondents indicated that their EL placement supported them in developing their essential clinical, technical, communication and professional skills and had prepared them for their future in professional practice. Overall students enjoyed the EL placement experience and benefited from this entry point to learning. Students experienced a breadth of practice settings from community, hospital, industry and role emerging practice (REP) in which they developed the required skills and competencies.

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Does a cardiology in clinical pharmacy practice module equip pharmacists with the knowledge and skills to optimise patient care

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***Keywords**: Cardiology, Continuing Professional Development*

Background: Cardiovascular disease is the leading cause of mortality and morbidity in Ireland (Health Service Executive). A Continuing Professional Development module was developed in collaboration with pharmacists and doctors from hospital and community backgrounds.

Objective: To equip community and hospital pharmacists with the knowledge and skills to optimise cardiovascular patients' management, thereby improving patient safety and pharmaceutical care.

Method: The module is delivered via a virtual learning environment (Blackboard 9.1), with face-to-face evening workshops at the start and end. Eight cardiology topics are followed by two 'practice dilemma' sessions, enabling students to apply key principles to complex patients in their practice. Each topic has a podcast lecture, directed reading, online activities and practice guidance. Assessment is through online assignments (e.g. multiple-choice questions, workplace tool development), casework (including online discussion) and a reflective eportfolio. A SurveyMonkey questionnaire, with 13 open and closed questions for anonymous completion, was emailed to 211 pharmacists, who undertook the module from 2013-2018.

Results: Response rate was 26%. 67% were from community pharmacy. 100% agreed/strongly agreed that the course helped them to (a) identify/assess relevant factors for the management of cardiovascular patients, and (b) provide appropriate drug therapy advice to patients, carers and healthcare professionals. 95% felt it helped them to optimise drug therapy in cardiovascular patients. 98% rated the podcasts and reference materials as useful/very useful. Around 95% found the assessments useful/very useful. 67% rated discussion fora and the eportfolio as useful/very useful. The opening and closing workshops were considered useful/very useful by 87% and 80% respectively. 94% were quite likely/extremely likely to recommend this module.

Discussion: The module's flexibility, opportunities to interact with community/hospital practitioner colleagues, staff support and the practical applicability of course content were identified as key advantages. Based on self-reports, this module has supported pharmacists in gaining the knowledge and skills to optimise cardiovascular patients' management.

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Experiential learning in undergraduate pharmacy curriculum: A case study of the co-operative experience of pharmacy students

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***Keywords**: Co-operative experience, Experiential learning, Kolb's experiential learning cycle*

Background: Experiential learning is a mandatory and significant component of healthcare professional training (Cox, 2012; Yardley *et al.*, 2012).

Objective: To explore the co-operative (co-op) experience of undergraduate pharmacy students at the University of Waterloo School of Pharmacy with a focus on its influence on the students' professional and personal development.

Method: A qualitative research methodology using semi-structured interviews and focus groups was conducted over a four-month period. The authors applied Kolb's four-stage (Kolbe, 1984) experiential learning cycle as the theoretical framework for this study. Thematic analysis was performed on the interview and focus group data.

Results: The authors conducted semi-structured interviews with 19 pharmacy students from the first graduating class in the co-op programme and 12 co-op employers, as well as two focus groups with 12 faculty members. The impact of experiential learning on the professional and personal development of undergraduate pharmacy students during their co-op experiences was multi-dimensional. While students believed that they gained self-confidence and achieved self-discovery and career-related discovery after their co-op placements, their professional and personal development could be driven by their own motivation and personality. Co-op employers and co-op sites played a vital

role in influencing students' individual development. Despite the unstructured nature of co-op, it was evident that co-op offered students the opportunity to explore the diversity of the pharmacy profession.

Discussion: The findings suggested that students should take ownership of their learning, and faculty should support students' learning by facilitating teaching moments at school to reinforce and re-align the knowledge and skills acquired in class and those gained through real-world practice.

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Assessment of Ontario pharmacist's knowledge, attitudes and behaviours towards medication safety and adverse drug reaction reporting

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***Keywords**: Adverse drug reaction reporting, Medication safety*

Background: Pharmacists play an important role in identifying, reporting, and preventing adverse drug reactions (ADRs).

Objective/Aim: The objective of this study is to provide insight into the knowledge, attitudes, and behaviours of Ontario (Canada) pharmacists towards medication safety and ADR reporting (Baker *et al*., 2004; ISMP, 2008)

Method: The questionnaire was sent to 6277 pharmacists, of which 703 responses were collected with a response rate of 11.2%. Participants were mostly full-time, non-management community pharmacists with over 20 years of experience.

Results: Participants generally felt confident in the Canadian drug safety system, in how pharmacists stay informed about drug safety, and in their own ability to find new drug safety information. Participants knew how to report an ADR and perceived that it was a professional responsibility to do so. The most perceived barriers to ADR reporting were when the reaction was already well known; there was an unclear association between the drug and the reaction, and a lack of time. Participants would be more likely to report an ADR if the reaction was serious, the drug was new, or the reaction had not been described in the product monograph. Strategies to improve reporting emphasised a simplified reporting system, and greater awareness for pharmacists. Pharmacists preferred integration of reporting into pharmacy systems, and greater interprofessional collaboration.

Discussion: Ontario pharmacists were knowledgeable and supportive of ADR reporting. Recommendations to improve ADR reporting should focus on simplifying and integrating reporting systems, further education of when to report and its value, and giving feedback or acknowledgement for reporting.

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Evaluating online learning: Focus on patient/medication safety for healthcare professionals

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***Keywords**: Evaluation, Online learning, Patient/medication safety*

Background: To increase engagement with patient/medication safety education, a series of online modules were storyboarded utilising best practices in online learning (Swan, 2001; Foster *et al*., 2014; Hamilton *et al*., 2016)

Objective: To design an effective strategy to evaluate online training modules with respect to learner engagement, satisfaction, and knowledge acquisition.

Method: Utilising best practices in online learning, an introductory online module on patient/medication safety for healthcare professionals and students was developed using Adobe Articulate Storyline 3. The module was pilot tested among pharmacy students, pharmacists, and subject matter experts in online education. The online evaluation strategy aligned with the first three levels of the Kirkpatrick's Model for Training Evaluation: Learners' reaction or satisfaction; (2) Learners' knowledge acquisition; and (3) Learners' potential

behavioural changes, by using a series of multiple-choice, Likert-scales, and open-ended questions to assess learners' engagement, satisfaction, knowledge acquisition, as well as their perception of the module's strengths, areas of improvement, and suggested revisions for future online modules.

Results: The knowledge acquisition level was fair, with a 78% average on the multiple-choice quiz component of the online evaluation form. The learners' satisfaction and engagement were negatively impacted by a lack of visual aids and on-screen player's controls. Clear learning objectives, organised content, and substantial utilisation of interactive activities increased learner satisfaction.

Discussion: With increasing uptake of online education, the application of best practices in online learning, design of effective evaluation strategies, and learners' preferences in module revisions are transferable to the development of online content beyond patient/medication safety in pharmacy curricula.

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Engaging students in assessment and feedback process: A pendulum approach

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***Keywords**: Assessment, Feedback, Feedforward, Student engagement*

Background: Engaging students in assessment and feedback has been a challenge for the educators (Sambell *et al*., 2013). Giving students ownership of their learning and involving them in to-and-fro feedback process can help address the issue.

Objective: To design an assessment which employs higher level of cognitive learning ('evaluating' and 'creating') as per Bloom's Taxonomy, while engaging the students in feedback and feedforward process.

Method: A novel assessment approach has been adopted this year in Therapeutics course in fifth year PharmD based on the 'feedforward, feedback, feedforward, feedback' concept. In this assessment students are required to write two OSCE stations as a group on given clinical topic. Detailed instructions, marking criteria and example stations for this assignment are provided. Students are also required to complete a longitudinal assessment form throughout the assessment process. In part I of this form, students are required to write challenges they face and feedback they want from peers and the tutor on first draft of their stations. Students submit this part of the assessment form with first draft of their stations. Students then receive peer and tutor feedback as requested and more. They work on their stations based on the feedback provided and simultaneously complete part II of the assessment form in which they rate the usefulness of the feedback received and write how they have used the given feedback while submitting the final version of their stations for grading and final feedback by the tutor.

Results: All the students found this assessment approach highly engaging. The majority of the students rated the first feedback from the tutor very useful and explicitly mentioned how they used the feedback to improve their work. However, students mentioned that the peer feedback could be improved. Students agreed that they learned from this approach more than other types of assessments as they were able to reflect and show how they used the given feedback. They also perceived learning from this method to last longer in their career. Students' suggestions were noted for further improvement of the assessment process.

Discussion: OSCE station writing gives students an opportunity to read the clinical information thoroughly and create a scenario in which some of this information can be applied practically. This assessment approach can be considered as model approach to enhance student engagement.

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Utility of a web-based CPD platform to support pharmacist lifelong learning in the United States

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***Keywords**: Competency, Continuing Professional Development, Lifelong learning, Portfolio*

Background: As a collaborative service of the Accreditation Council for Pharmacy Education (ACPE) and the National Association of Boards of Pharmacy (NABP), an online CE tracking service (CPE Monitor) has been enhanced to include a CPD platform, which accounts for accredited CE and other CPD activities undertaken to maintain and enhance competencies relevant to professional responsibilities. The CPD platform allows users to build and evaluate personal development plans, document learning activities, and upload supporting evidence of learning and its impact in practice. (Accreditation Council for Pharmacy Education, 2015; Wadelin *et al*., 2017; Rouse *et al*., 2018).

Objective: Following release of the enhanced CE/CPD service (CPE Monitor Plus) in late 2018, ACPE aimed to solicit feedback on user perceptions of the CPD platform to inform potential modifications and advancements.

Method: Designed to obtain feedback on accessibility, functionality, frequency of use, and desired improvements, a survey was sent to early users of the CPD platform in November 2019.

Results: Two hundred and eighty-four respondents completed the survey. The majority (56%) indicate the platform did very to extremely well in meeting professional development needs. While the majority also reported being very to extremely satisfied with accessibility, ease of use, and navigation, users were somewhat less satisfied with the ability to upload documents and export CPD cycles. Sixty-three percent of respondents report using the platform to meet regulatory requirements.

Discussion: As an approach as well as a tool to support lifelong learning, enhancements to the CPD platform will address learner reflection functionality, reporting capabilities, and availability of CE resources based on professional competencies.

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How does Covid-19 affect pharmacy students' perceptions of on-campus learning?

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***Keywords**: Covid-19, Perceptions, Pharmacy students, Risk*

Background: The United Kingdom government has recognised pharmacy students as essential future frontline workers (Department of Education, 2020). During the Covid-19 pandemic, they were expected to participate in on-campus practical sessions and engage in practice placements in order to achieve required learning outcomes.

Objective: To obtain pharmacy students' perceptions of risk from Covid-19 and how this relates to their on-campus learning experience.

Method: A 24-question questionnaire, including multiple choice and open-ended questions was administered online via SurveyMonkey to 540 pharmacy students in October 2020. The questionnaire also included a ten-item short-version of the Big Five Inventory-10, measuring personality (Rammstedt & John, 2007). Data were analysed using Microsoft Excel and SPSS.

Results: From 84 responses received, (82; 98%) believed Covid-19 to be a dangerous virus, with 62/81 being afraid of getting Covid-19. Almost all (91%; 62/68) believed pharmacists would face more risks because of working with Covid-19 patients. Nearly all (73/81, 90%) believed their studies would be affected. Some stated that, even with Personal Protective Equipment and social distancing, they were uncomfortable teaching in the laboratory/classroom (31%; 22/70), although they recognised the need for these learning experiences. Personality traits identified included being reserved and nervous but doing a thorough job.

Discussion: Pharmacy students understand the risks associated with Covid-19. Known personality traits of pharmacists include lack of confidence and risk aversion (Rosenthal *et al*., 2011) but also social responsibility and being performance-orientated (Rosenthal *et al*., 2014), which was confirmed in this study. Students need support to

achieve the required skills and knowledge for their patient-facing profession whilst acknowledging their feelings and mitigate their concerns.

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Setting standards for assessment of pharmacist independent prescribing trainees

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***Keywords**: Independent prescribing, Modified-Angoff, Objective Structured Clinical Examination, Standard-setting*

Background: Upon completion of an independent and supplementary prescribing programme, pharmacists, nurses, midwives, physiotherapists, and paramedics can become registered as prescribers with their respective professional regulators. Prescribing is recognised as an advanced skill with career advancement often dependent on becoming annotated as an Independent Prescriber; assessments are therefore considered to be high-stakes for trainees. An Objective Structured Clinical Examination (OSCE) is one of the assessments for the course at the University of Leeds. The OSCE stations focus on safe and effective prescribing (medicines stations). Pharmacists complete three additional stations which are focused on clinical skills, including measurement of blood pressure, pulse and respiration and a general physical assessment.

Objective: To describe a setting process for OSCEs for independent prescribing trainees.

Method: The modified Angoff-method of standard setting was identified as the most robust method to put in place due to the small numbers of trainees within each cohort and the high stakes nature of the assessment (Boulet *et al*., 2003). Firstly, individuals who are subject experts must independently adjudicate how a minimally competent trainee prescriber would perform in each aspect of the marking scheme for the station. These individuals then meet to discuss differences between these marks until a consensus is reached.

Results: The programme team have standard set 35 OSCE stations using the process described above. The average passmark for each OSCE station is 67%.

Discussion: Standard setting is commonplace within medical training programmes (McKinley & Norcini, 2014); however, its application to OSCEs for independent prescribing trainees is not widely described in the literature. This process is a robust and valid method of judging the performance of trainee prescribers in this assessment.

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Equality, diversity and inclusion in online pharmacy education

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***Keywords**: Education, Equality, Disability, Diversity, Inclusion*

Background: CPPE is funded by Health Education England to support pharmacy professionals providing NHS services across England. During the COVID-19 pandemic, CPPE was challenged with transferring all face-to-face learning to online formats. While this afforded the opportunity to redesign content for online delivery, it also required a review of online learning methods to ensure that materials were inclusive and accessible by the pharmacy workforce.

Objective: This work aimed to improve equality, diversity and inclusion in online learning.

Method: The CPPE portfolio and online learning platforms were reviewed to ensure that they were accessible by learners with individual learning needs such as sensory disabilities, dyslexia and processing disorders.

Results: A number of adaptations needed to be made. For learners with hearing impairment or who prefer to read written information, videos and live presentations now use closed captions, speakers are 'spotlighted' and written transcripts are provided. Learners are encouraged to keep cameras on to improve engagement and to assist with lip-reading. Written material is sent in advance for those who have dyslexia or require visual aids. For those unable to process several information streams simultaneously (Chun-Ying, Pedersen & Murphy, 2011), chat box comments are read aloud, and links are sent by email after the event for those who use assistive technologies (Sekovani, Vukovac & Podbojec, 2012).

Discussion: Learning in an online format presents unique challenges to learners and those who develop and present learning online. Care needs to be taken to ensure that while learners' individual needs and preferences are met, these do not disadvantage other learners.

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Learner engagement with synchronous online team-based learning in the integrated B.Pharm. (Hons) curriculum at the National University of Singapore (NUS)

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***Keywords**: Digital education, Interdisciplinarity, Student engagement, Team-based learning (TBL)*

Background: Team-based learning (TBL) is grounded in the Constructivism Learning Theory and promotes active learning (Reimschisel *et al*., 2017). It is employed in the B.Pharm. (Hons) curriculum at NUS to develop communication skills required of pharmacists. In the academic year 2020/2021, TBL has to be delivered online to ensure safety during the COVID-19 pandemic. However, there is limited evidence on the comparative effectiveness of online TBL in engaging learners versus face-to-face (F2F).

Objective: This study aims to describe evidence-based design of synchronous online TBL.

Method: To design synchronous online TBL, the Michaelsen's framework (Michaelson *et al*., 2008) was used and a learning community, consisting of faculty and undergraduate students, was established.

Results: Teacher decisions were made by contextualising best practice recommendations (Clark *et al*., 2018) and covered four aspects of TBL: 1) orientation, 2) readiness assurance test, 3) application, 4) peer evaluation. Key decisions included faculty-assigned teams ensuring diversity, TBL orientation sessions, team charter activity for bonding, application cases that integrate biomedical, clinical and system sciences to promote inter-disciplinary thinking (Gonzalo *et al*., 2017), and formative peer evaluation.

Discussion: This design of synchronous online TBL is evidence-based and supported by a learning community. In the next academic year, the authors aim to evaluate learner engagement and experiences between online versus F2F TBL through a mixed methods study. Focus group interviews will be conducted with learners and faculty to determine their experiences and perceptions on learner engagement. A systematic review is being conducted to identify the appropriate instrument for assessing learner engagement.

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Clinical reasoning: Where are the resources for pharmacists?

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***Keywords**: Clinical decision making, Clinical reasoning, Pharmacy practice*

Background: In 2021, the General Pharmaceutical Council (GPhC) published new standards for the initial education and training of pharmacists (GPhC, 2021) with a greater focus on professional judgement and management of risk, and an aspiration of pharmacists being annotated as prescribers at the point of initial registration. In addition, pharmacists' roles are developing such that they are responsible for primary diagnoses and working clinical hypotheses. Clinical reasoning describes the thinking and decision-making processes associated with clinical practice (Cooper & Frain, 2017) and is an essential skill to expanding pharmacy practice (Rutter & Harrison, 2020). Pharmacy educators need to revise their curriculums to incorporate clinical reasoning skills from day one of initial training. The workforce also needs upskilling to take on new roles and to supervise and train the new generation of pharmacists.

Objective: To identify Open Educational Resources (OER) designed specifically for pharmacists to support clinical reasoning.

Method: The following methods were used to identify relevant OER: social media to engage practitioners, share practice, stimulate debate and identify resources; OER databases such as MERLOT and OASIS; Internet searching; Professional networks; Literature search; Targeted networking as a result of the above searches.

The identified resources were curated using a free curation tool and distributed through social media and professional networks.

Results: Seventeen resources were included in the final curation. No resources were found that were developed specifically for pharmacists

Discussion: There is a lack of open resources aimed specifically at pharmacists, with pharmacist examples that can support pharmacists to develop their skills in clinical reasoning.

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Interprofessional digital health learning through simulated surgical ward rounds

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***Keywords**: Collaboration, Digital learning, Interprofessional, Patient-centred care, Simulation, Telemedicine*

Background: Remote consultation has become the new normal during Covid-19 for many healthcare professionals (HCPs). Formal training in interdisciplinary teamwork is beneficial for HCPs (Powell *et al*., 2015). Simulation in virtual environments enables HCPs to engage in patient-centred interprofessional learning.

Objective: A hybrid simulated surgical ward round was designed to explore the impact of interprofessional teleconsultations on pharmacy (PS) and Masters in Surgical Science and Practice (MSSP) students' (SS) abilities to communicate and collaboratively deliver patient-centred care. The underpinning theories included experiential learning (Kolb, 1984) and social constructivism (Vygotsky, 1978).

Method: Pharmacy (PS: virtual) and MSSP (SS: on-site) students were brought together during simulated surgical ward rounds in a virtual hospital environment. PS and SS students participated in a joint introductory session and discussed their own and other HCP roles. PS performed a remote patient consultation under peer observation. PS observed SS do a live patient consultation and participated where relevant. Both students collaborated to address patient queries and agree a shared management plan. Students presented the patient to a consultant and communicated the plan to the patient. Students and faculty joined virtually for a debrief session. Students received 360-feedback from peers, simulated patients and faculty. Each student completed a 500-word refection.

Results: All interactions were recorded and provided students to facilitate reflection. Debrief sessions provided insight into student perspectives of their experiences. SS students reflected that they had no awareness of the educational role

that pharmacists have regarding lifestyle changes. PS students observed the degree of responsibility of junior doctors and their public exposure on a ward round.

Discussion: Despite the short duration of the interaction, and working remotely, students demonstrated effective communication and teamwork. This was facilitated by creating a psychologically safe learning environment during the remote interactions and virtual de-briefings (Cheng *et al*., 2020).

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Patient/medication training: An opportunity for virtual interactive case system innovation

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***Keywords**: Effects analysis, Failure mode, Incident disclosure, Patient safety, Root cause analysis, Virtual cases*

Background: Current literature on virtual cases illustrates increased student self-directed learning and satisfaction. Yet, the use of virtual cases has not been explored in the context of patient/medication safety. The Virtual Interactive Case (VIC) System (VIC, 2013) allows educators to create online clinical reasoning scenarios with a bridge between theory and practice (Douglass *et al.,* 2013; Barnett *et al.,* 2016).

Objective: To share the authors' experience in the development and evaluation of three VIC teaching modules (VIC, 2020) on patient/medication safety.

Method: VIC training modules on medication incident disclosure, root cause analysis (RCA), and failure mode and effects analysis (FMEA) were created. The authors piloted tested them during the COVID-19 pandemic. They also administered a 16-item online questionnaire from 22 May 2020 to 8 June 2020 and obtained feedback from pharmacy students and practitioners in Ontario, Canada.

Results: Most of the 18 respondents had one to five years of practice experience. Their practice settings ranged from associations, academia, to community pharmacies and hospitals. Respondents found the VIC platform easy to navigate. They perceived the content to be relevant and easy to implement in patient care settings. The majority of them indicated that they were confident in carrying out incident disclosure, RCA, and FMEA at their practice settings.

Discussion: The VIC System can be used to educate students and practitioners on patient/medication safety. It is a safe and user-friendly platform to support patient safety in virtual pharmacy care.

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Colorado COVID vaccination campaign, competition, and celebration!

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***Keywords**: Co-curriculum, COVID vaccinations, Pharmacy students*

Background: All students are trained to provide immunisations in the P1 or P2 year. It is critically important for students to practice these skills and contribute to a public health crisis (Prescott & Bernhardi, 2019). A programme was created when Colorado providers began to receive vaccine and requested student support to aid their efforts.

Objective: 1) Motivate student participation in these efforts; 2) Collect data on these efforts to assess impact.

Method: A programme was created with these features: Tracking mechanism to capture self-reported COVID vaccination-related tasks; Real-time leaderboard to show #s of tasks reported; Prizes for weekly and end-of-semester awards; Recognition mechanisms to celebrate progress and winners

Results: Since December 2020, students have reported: 4023 patients recruited to receive a COVID vaccine; 11932 patients screened to receive a COVID vaccine; 36707 vaccine doses prepared; 34545 doses administered; 19067 patients educated post-vaccination; 79 weekly winners (based on tasks reported and volunteer efforts). Weekly status is also celebrated when certain milestones are reached; There are currently 63 COVID Heroes (more than 500 COVID-related tasks documented); 40 COVID Conquerors (more than 200); 27 COVID Champions (more than 100); 14 COVID Crusaders (more than 50); 19 COVID Warriors (more than 20).

Discussion: This process has allowed student involvement to be tracked, and the authors feel that their processes have motivated students to document and celebrate their achievements. These numbers are likely lower than students' actual involvement, as reporting is not mandatory.

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Setting out on the right road: What do pharmacy practice educators believe are the ideal professional attributes of M.Pharm. graduates?

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***Keywords**: Pharmacy educators, Pharmacy students, Professionalism*

Background: United Kingdom (UK) M.Pharm. programmes seek to develop the professional attributes of students as stipulated by the regulator, the GPhC. Professional attribute formation appears largely to form through the 'hidden curriculum' (Roth and Zlatic, 2009) and role modelling of pharmacy practice staff, especially those who are actively practising (Schafheutle *et al*., 2012).

Objective: To identify and validate a set of professional attributes pharmacy practice staff feel are desirable in M.Pharm. graduates.

Method: A modified Delphi technique was used (Keeney, Hasson and McKenna, 2011), with the first round comprising focus group discussion with ten participants. Braun and Clarke's method (Braun and Clarke, 2006) was employed to identify key themes, which were used to develop attribute statements for subsequent rounds. Modal responses and a consensus level of 60% on a five-point scale were used to identify statements for inclusion in the final list of accepted attributes, following the collation of second-round questionnaire data.

Results: Of the original 22 statements identified by round one, 15 reached consensus, with "*exhibiting professionally ethical behaviour*" and "*putting patients at the centre of all they do"* being the individual statements valued most highly by participants. Across all the accepted statements, patient-centeredness and effective communication were prevalent themes.

Discussion: Staff have clear expectations of the attributes that graduates should possess. They value patient-centeredness and effective communication above other attributes. Ensuring that MPharm students are afforded opportunities to develop these attributes should be a key part of the educator's role.

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Self-regulated learning and its impact on academic achievement: A scoping review

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***Keywords**: Emotion regulation, Learning strategies, Metacognition, Motivation regulation, Self-regulated learning, Self-regulation*

Background: Academic success is an indicator of success in student learning. Self-regulation is a critical skill for students at all levels, particularly in university students. Self-regulated

learning (SRL), is an 'active, constructive process', whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour (Pintrich *et al*., 2000; Zimmerman, 2002). SRL in health professions has been shown to be important in improving academic and learning performance in health science education (Panadero, 2017).

Objective: To conduct a scoping review to explore the relationship between SRL and academic achievement in STEM disciplines and how this can be measured.

Method: Using Arksey and O'Malley's five-stage framework, three medical and educational databases were used to scope literature on SRL and academic achievement and tools to measure SRL published between 2010 and 2021 (Arksey & O'Malley, 2005). Results were screened and relevant studies were identified.

Results: The search resulted in 117 articles, with eight articles included in the scoping review after the inclusion criteria was applied. Three major findings emerged: 1) There is a positive association between the use of SRL strategies and academic achievement; 2) Other factors such as motivation, emotion, cognition impact, influence SRL and academic achievement; 3) Maladaptive studying habits such as failing to utilise SRL opportunities provided by instructors contribute to poor academic achievement.

Discussion: There is an emerging trend to suggest that high-achieving students use higher-quality forethought and self-reflective strategies than poor-achieving students as SRL may increase students' awareness of their own learning and improve student learning outcomes.

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The development of an adaptation framework to implement professional pharmacy services

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***Keywords**: Implementation, Minor ailments services, Professional pharmacy services*

Background: Multiple frameworks exist to facilitate the implementation of services and innovations, including adaptation frameworks. Adaptation frameworks enable a service to be contextualised to meet stakeholder requirements, and considers the delivery context, infrastructure and cultural setting. Appropriate adaptation of a service may enhance service outcomes and effectiveness. Minor ailments services (MASs) have been used as an exemplar as they are an established professional pharmacy based service (PPS) in the United Kingdom (UK) but have currently not been implemented in Australia (Aly *et al*., 2018).

Objective: To develop an adaptation framework to support the implementation of a PPS from an established environment (UK) to a new setting (Australia).

Method: Design of the sequential phased adaptation framework comprised of six steps: (1) Systematic review to explore MAS adaptation requirements (Aly *et al*., 2018); (2) Qualitative study to explore adaptation requirements (Aly *et al*., 2019); (3) Scoping review to explore one setting-specific element; namely the education and training practises of community pharmacy staff to deliver MASs (Aly *et al*., 2020b); (4) Qualitative study to explore Australian MAS education and training practices (Aly *et al*., 2020a) and; (5) Delphi study to determine stakeholder consensus regarding education and training practises for community pharmacy staff (Aly *et al*., 2021).

Results: Application of the adaptation framework identifying adaptation elements suggests feasibility of the framework to adapting to a systems (macro) level PPS from the UK to Australia.

Discussion: Further work is required to test the utility of the proposed adaptation framework as the scope for PPS continues to evolve. Utilising this proposed framework for future systems (macro) level PPSs may be considered.

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Learning support in blended online learning: To never stop learning in the Covid-19 pandemic

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***Keywords**: Competency, Evaluating medical articles, Instructional design, Lifelong learning, Moodle, Online-Learning, Pharmacotherapy*

Background: Many workshops have been postponed due to the outbreak of the 2020 Covid-19 pandemic. Then, it was decided to hold an online workshop. Participants are required to learn in advance. Most of them are practitioners and the workload has increased in the pandemic. This has made it difficult to implement pre-learning. Therefore, to make it easier to learn, it was provided as an Online Learning Course. However, that is not enough to encourage learning, motivation is needed (Reigeluth, Beatty, & Myers, 2016).

Objective: The goal of the workshop is for practitioners to acquire skills. So, competency-based education were thought to be suitable. If participants understand the competencies, they will have clearer learning objectives and will be more motivated to learn. This study investigates the relationship between competency and learning behaviour.

Method: Two online courses were developped, pharmacotherapy and evaluating medical articles, and competencies and rubrics for evaluation were also set up. First, participants check the competencies. Then, after answering the self-assessment and comprehension questions, they will do their pre-learning, watch lectures and complete worksheets. Relevance is assessed from learning logs and questionnaires.

Results: This is an interim report. The worksheets submission rate exceeded 80%. Self-assessment of competency was higher after the workshop in almost all categories. And, participants gave a positive evaluation, saying that it made the learning process easier.

Discussion: The results show that online pre-learning courses have the potential to encourage learning behaviour. The limitation of this study is that it cannot mention the tendency of all pharmacists because relatively motivated pharmacists participated.

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A scoping review of resilience strategies to promote academic resilience in international pharmacy students

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***Keywords**: Academic resilience, Evidence-based resilience strategies, International pharmacy students*

Background: The international student cohort has been especially impacted due to COVID-19 restrictions - travel bans, transition to online classes, self-isolation and job losses have caused disruptions to academic progress, social lives and economic stability (Van de Velde *et al.*, 2021). Kim and Cronley (2020) found that international students under high stress and with low resilience are at higher risk of binge drinking and mental health issues. Alongside alleviating stress and preventing burnout, academic resilience may prevent health risk behaviours.

Objective: To identify strategies to promote academic resilience in an international pharmacy student cohort

Method: Three medical databases were used to scope literature to identify and measure resilience strategies in

international students, published between 2011 and 2021. Results were screened and relevant studies were identified.

Results: The search resulted in 20 articles, with 13 articles included in the scoping review after the inclusion criteria were applied. Several evidence-based strategies were identified to promote academic resilience, including the Stress Management and Resiliency Training (SMART) programme (Sood *et al*., 2014), which focuses on supporting wellbeing, and practising mindfulness (Heath *et al.,* 2020). In addition, the scoping review revealed that a holistic approach to promote academic resilience is necessary, where personal and faculty-based activities are implemented (Kang *et al.,* 2019).

Discussion: Recognising the need for a holistic approach to develop academic resilience, programmes identified from the scoping review will be piloted alongside current offerings from academic and student support groups. Their contribution to the well-being of international students will be evaluated in 2021.

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Supporting teams and learners during CPPE's transformation to a digital organisation as a result of the COVID-19 pandemic

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***Keywords**: COVID response, Synchronous online learning, Thematic analysis*

Background: CPPE provides educational solutions for England's NHS pharmacy workforce to maximise its contribution to improving patient care. During the COVID-19 pandemic, CPPE transformed into a digital learning organisation with online workshop delivery.

Objective: To explore how CPPE supported regional teams and learners during its transformation to a digital organisation because of COVID-19.

Method: An email survey was sent to CPPE regional teams inviting responses to open-ended questions about perceptions of challenges experienced and positive outcomes. Thirty-six responses were received (69% response rate) and analysed thematically.

Results: Respondents identified transition from face-to-face to synchronous online delivery as a challenge but were supported by an in-house 'Zoom 101' e-course and online workshop to develop technical and online facilitation skills (Gold, 2001).

Most respondents identified that repurposed online workshops retained the practical, interactive and networking aspects characteristic of CPPE events with innovative use of polls, quizzes, breakout rooms, whiteboards and chatbox facilities. Learners were encouraged to log on early to practise using Zoom functionality and to network. Online workshops afforded learners the opportunity to learn with others in different geographical locations and facilitated access for those living rurally or working long hours.

Discussion: Covid-19 required CPPE to respond rapidly to synchronous online delivery. This session will explore what this means for future delivery models and preparing learners for engaging fully in online workshops. Synchronous online delivery of learning has been shown to be effective (Francescucci *et al*., 2019), benefits include efficient use of time and increased accessibility, a blended approach will be considered for future delivery.

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Teaching through a pandemic: Life lessons learnt

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***Keywords**: Auto-phenomenological, Emergency remote teaching, Narratives*

Background: The 2020 pandemic and having to resort to emergency remote teaching was a shared phenomenon for many; however, the experience was unique for each of us. Telling one's story can contribute to making sense of one's experience and sharing it, thereby providing opportunities for transformation.

Objective: Through the telling of their stories, this study aimed to provide five pharmacy practice lecturers, all teaching in the same department, an opportunity to tell their story, identify and make sense of their learnings and share them.

Method: An auto-phenomenological narrative approach was adopted. Narratives were written or spoken and transcribed. An inductive thematic analysis approach described by Braun and Clark in 2006 was used by each participant to analyse and identify key themes in their narrative. Participants were also asked to read or listen to each other's narratives and identify what they learnt about the person and about themselves through the story.

Results: Although still a study in progress, the key themes emerging from the narratives were innovation, connection, collaboration and support, patience, flexibility, self-exposure, wellbeing, and self-compassion.

Discussion: Even though the five participants all shared the same phenomenon, their personal circumstances and life experiences were varied, and so their stories were unique. Telling one's own story and reflecting on one's narrative helped identify lessons to be learnt and more so to be carried forward into the future. Listening to or hearing each other's stories and providing feedback in a non-judgemental fashion deepened the lessons learnt.

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Power, position and policy. Journalistic and stakeholder engagement to tackle racism as a pharmacy student: A critical reflection-on-action

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***Keywords**: Equality, Pharmacy, Power, Racism, Reflection*

Background: The murder of George Floyd induced a global Black Lives Matter movement (Safi, 2020). As a final year pharmacy student and an international student of an Asian background, the author reported on racism faced by ethnic minority pharmacy students in an Irish university newspaper in June 2020 (Koay, 2020). The article garnered significant traction.

Objective: To reflect on the experience one year on as a qualified pharmacist and first year PhD student.

Method: A critical social reconstructionist reflection-on-action (Hatton & Smith, 1995).

Results: Drawing on power, position and policy, the author retrospectively constructed the experience:

1) Power barrier. The author's endeavour was situated in a critical paradigm as they perceived it as against institutional power constructs. Furthermore, the author was challenged by their intersectional vulnerability as an international and ethnic minority student, internalised impression of 'professionalism' and culture of defensive practice (Frye *et al.*, 2020).
2) Power building: The author shared social identity as an ethnic minority with the interviewees facilitated alliance, trust and empowerment, fuelled by the Black Lives Matter movement.
3) Power opportunity: rapid and public online newspaper dissemination was conducive to seizing the policy window as the politics, policy and problem coincided (Cairney & Jones, 2016).
4) Power sharing: the support and commendation garnered by the publication platformed the author with power to engage with high-level stakeholders in the university and the profession to advocate for change.

Discussion: This reflection-on-action revealed dynamic and complex interactions between self and socio-cultural-political contexts, as the author experienced them, that may empower or disempower anti-racism advocacy by ethnic minority pharmacy students.

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Evaluating candidate experience of virtual online OSCEs during the COVID-19 pandemic

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***Keywords**: Formative assessments, Virtual OSCEs*

Background: Health Education England London Kent Surrey and Sussex (HEELKSS) provide Preregistration Trainee Pharmacists (PRPs) formative OSCE resources. During COVID-19 pandemic, three trusts ran virtual OSCEs collaboratively (Lucas, 2020). East Sussex Multisector Pharmacists Foundation to Advanced (MSPFtA) were included, since many had no prior OSCE experience, but expected to undertake Independent Prescriber Course OSCEs.

Objectives: Train assessors; Develop simulated patient/health care professionals and candidate guidance; Prepare candidates; Evaluate their experience.

Method: Pharmacy education leads devised necessary guidance. Assessors undertook HEELKSS OSCE assessor training. Recruitment of an external examiner supported assessment reliability. Candidates attended MSTeams OSCE structure briefing sessions and undertook five manned stations alternating with rest stations using MSTeams. Candidate evaluation form comprised of statements with a five-point Likert scale anchored by extreme descriptors (one = definitely agree and five = definitely disagree) on technology familiarity, OSCE preparation and the assessment.

Results: All assessors (five) completed training. 22 candidates undertook OSCEs (18 PRPs, four MSPFtA. 91% (20) attended OSCE preparation session. Candidate evaluation response was 68% (15). IT literacy, experience of MSTeams OSCE preparation session, level of comfort recording own performance, and OSCE experience were ranked highly Comments identified assessor introduction to task variation. Nine (60%) stated OSCE face to face preference over virtual, ten (67%) stated virtual assessment preference over assessment delay. MSPFtA candidates recognised benefits undertaking virtual OSCEs despite being PRP level. External examiner concluded OSCEs were well organised.

Discussion: Whilst acknowledging significant organisation, virtual OSCEs worked well offering a viable alternative to face to face OSCEs. Candidates' preference for face to face OSCEs is recognised

References

Lucas C, Forrest G. Virtual OSCEs – Challenges and Considerations for Pharmacy Education? Pulses Currents in Pharmacy Teaching and Learning June 2020. https://cptlpulses.com/2020/06/18/virtual-osces/. Accessed 4 December 2020