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TITLE: Interprofessional Learning About Medication Safety

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ABSTRACT:

Background: Safe medication management requires collaboration between health professionals.

Approach: A mixed academic and clinician team co-designed and co-facilitated a two-hour interprofessional medication safety workshop, covering medication history taking, perioperative medication management, discharge planning, incident review, and dosing and administration calculations. Three workshop sessions were delivered across three sites during September 2019 at a large metropolitan healthcare network. Senior nursing, medical and pharmacy students were invited to participate in the workshops and evaluation.

Evaluation: We evaluated satisfaction, learning experience and perceived clinical application for medical, pharmacy and nursing students. Surveys were conducted immediately after each workshop and at four weeks. Quantitative data was analysed descriptively and qualitative data analysed using thematic analysis. Forty-five students participated in the evaluative component of the workshops. Mean student response scores demonstrated a high level of satisfaction with

the workshop's relevance and utility to their learning. Students expressed strong agreement that the workshop promoted communication across professions for medication safety. Analysis of the qualitative data identified seven key themes, with consistently positive responses provided in each: interactions within the interprofessional team; recognising the importance of teams; learning the process of medication use; acknowledging and working with difference; role playing; thinking patient safety; and authenticity.

Implications: A two-hour interprofessional workshop about medication safety provided positive learning experiences with high satisfaction to medical, nursing and pharmacy students, and had strong perceived applicability to their future clinical practice.

BACKGROUND

Effective medication management is a complex process which requires collaboration between medical, nursing, and pharmacy professions, in partnership with patients and/or their carers. Clinical incident investigations suggest that adverse outcomes result from a series of events involving different professionals rather than from single acts or omissions by an individual (1). Accordingly, a patient safety-oriented approach to medication management should emphasise collaboration between professionals.

The safe use of medicines is a graduate competency required of medical, nursing and pharmacy students. Each professional group learns independently about their individual roles in medication management processes including prescribing, dispensing, administering and

monitoring. Some overlaps in curriculum exist, but students continue to be taught in silos without fully understanding the roles of their colleagues in practice (2). An interprofessional approach to medication safety education has the potential to minimise errors by establishing a shared understanding, confidence and competence in collaboration and communication between professions.

Systematic reviews investigating the impact of interprofessional education activities on patient care have found positive outcomes in the development of collaborative team behaviour, mortality rates, error rates, patient length of stay, emergency department culture, family violence management and mental health care (3, 4). At an undergraduate level, interprofessional education initiatives in the workplace have included dedicated training wards, case-based activities, patient-based activities and workshops (3). Undergraduate medication safety curricula combining medical, nursing and pharmacy students in hospital settings have been reported internationally, (5) but clinical education differs by context, so we sought to replicate this intervention in a large hospital setting in Australia.

A medication safety workshop for medical, nursing and pharmacy students was devised with the aim to educate students about the role of interprofessional collaboration in medication safety.

APPROACH

Workshop Design

The design of the case-based medication safety workshop was informed by the four-dimensional interprofessional curriculum framework described by Lee et al (6) and aligned to the Collaborative Care Curriculum framework at Monash University (7). The workshop structure was determined by the academic team, and clinical content developed by practising clinicians from medicine, nursing and pharmacy. Four activity stations were developed using clinical scenarios in surgical, medical and mental health, based on realistic clinical situations encountered by clinicians. Activities included best possible medication history taking, performing medication reconciliation, establishing peri-operative and discharge medication management plans, reviewing a medication incident, and calculating dosing and instructions for administration. Focus was given to high-risk medications, including intravenous potassium, insulin, opioids and anticoagulants. Workshops were scheduled during times of simultaneous student placements and were not directly linked to assessment. The learning outcomes for the workshop are presented in Table 1.

The two-hour workshop prioritised interaction, interprofessional discussion and reflection (8). It included a brief introduction, followed by four 20-minute facilitated stations completed in small interprofessional groups of three to six students (Figure 1A and 1B). The stations were followed by case presentations from each group and reflective discussion by the whole group. Further detail regarding the workshop content is available at https://tinyurl.com/medsafe2020.

The workshop was piloted with 12 senior medicine, nursing, and pharmacy students. Based on this experience and feedback, the activities were refined, timings confirmed, and the revised workshop was implemented. The workshops were co-facilitated by at least three clinician facilitators, including at least one representative from each profession.

Setting

Three interprofessional medication safety workshops were delivered over six weeks during September 2019, at three acute hospital partner placement sites within Monash Health a large, metropolitan, teaching healthcare network. Ethical approval for evaluation was obtained through Monash University (Project ID: 20686).

Participants

Senior medical, nursing and pharmacy students who were completing clinical placements in September 2019 participated in the workshops. Most students were enrolled at Monash University, with some nursing students enrolled with other education providers; most had previously participated in interprofessional education. Not all medical and nursing students at each placement site participated due to a cap on workshop participant numbers and preference for even representation by each profession. Participation in the evaluative component was voluntary.

EVALUATION

We evaluated the satisfaction, learning experience and perceived clinical application of an interprofessional medication safety workshop for medical, nursing and pharmacy students.

Survey Design

Students who consented to participate in the study were surveyed twice: immediately after the workshop (initial survey, via paper for participants' convenience) and four weeks later (second survey, via email link as many participants were anticipated to have completed their clinical placements by this time). The initial survey included demographic questions, evaluation items related to the participant's satisfaction, learning experience and perceived value of the workshop with three prompts for free-text responses including 'most valuable learning', 'most enjoyable learning' and 'improvements' (See Supplementary Material), and the validated Student Perceptions of Interprofessional Clinical Education-Revised Instrument, Version 2 (SPICE-R2) instrument (9). This instrument was selected for its relevance to the study objectives, soundness (i.e., comparative fit, overall reliability, and factor reliability) and ease of use.

The second survey re-assessed the three relevant evaluation items from the initial survey and sought free-text response prompts regarding translation to practice.

Data Analysis

Descriptive statistics were used to analyse the quantitative data using Microsoft Excel (version 16). The free-text responses to the qualitative survey items were analysed through thematic

analysis (10) by two researchers, guided by two domains: learning experience and clinical applications. The data were independently coded by each researcher, and a final list of codes and themes was devised through discussion between the coding researchers and consultation with the senior author.

RESULTS

Forty-eight students participated in the interprofessional workshops. From this group, 45 (94%) students consented to participate and completed the survey on the day of the workshop. Forty-four out of 45 (98%) participants provided at least one free-text response.

At four weeks there was significant loss to follow up, with only eight (18%) responses. Seven participants provided at least one free-text response.

Demographics

Initial survey participants were medical: n=13 (29%); nursing: n=18 (40%); pharmacy: n=13 (29%). Thirty-three participants identified as female (79%). Thirty-seven participants were domestic students (82%) and 36 were native English speakers (80%).

Second survey participants included five medical, one nursing and two pharmacy students. Six identified as female. All eight participants were domestic students and five were native English speakers. The length of free-text responses ranged between one and four sentences.

Quantitative analysis

Responses from the initial survey indicated that students were satisfied with the workshop, found it relevant and useful to their learning, and that it promoted interprofessional communication (Supplementary Material Table 1). Mean student response scores demonstrated a high level of satisfaction with the workshop's relevance and utility to their learning. Students expressed strong agreement that the workshop promoted communication across professions for medication safety. However, there was an 82% loss to follow-up at the second survey, as nursing and medical students approached graduation.

Attitudes of participants, as measured by the SPICE-R2 tool, reflected strong agreement with key interprofessional outcome perceptions and attitudes. There was strong agreement that working with students from different professions enhances their education, and also their ability to work on an interprofessional team. Student responses demonstrated strong agreement that health professional students from different professions should be educated to establish collaborative relationships with one another, and be involved in teamwork during their education to understand their respective roles. Students expressed strong agreement that patient/client satisfaction is improved when care is delivered by an interprofessional team. Scores were modestly lower around understanding of other professionals' education and training and roles, but remained within the range consistent with agreement to strong agreement with the statements.

Participant responses to the second survey demonstrated student agreement with the workshop's relevance and utility to their learning, and promotion of communication between professions.

Qualitative analysis

Participants' free-text responses demonstrated their learning outcomes from the workshop. Seven themes were determined in response to the two key domains of learning experience and clinical applications Supplementary Material Table 2, supported by quotations from student responses. Students expressed that the workshop provided them with insight about other professionals' knowledge and skills; an understanding of other professionals' responsibilities and tasks; that collaboration adds value to patient care; that simulated tasks in the workshop reflected real future tasks they will complete as professionals; and a greater appreciation about risk in medication management.

IMPLICATIONS

The interprofessional medication safety workshop provided an opportunity for medical, nursing and pharmacy students co-located on clinical placement to learn about the complexities of medication management, and the role of each profession in optimising medicines use and reducing the risk of patient harm. Students found the workshop highly useful, relevant to their learning, and applicable to their future clinical practice. Medication safety requires collective competence, which is the distributed capacity of a system beyond the individual (7). Clinical

settings provide opportunities for collaborative learning that are not present in usual classroom settings where health professions do not interact. While clinical settings bring logistical challenges to interprofessional learning (5), practice-based interprofessional education offers a convenient opportunity to consider the complexity of medication safety in context.

The evaluation of the workshop elicited a number of strengths of the educational design. In the qualitative analysis, students described learning outcomes that would be difficult to achieve if each profession was taught medication safety uni-professionally: experiential knowledge about other professions' knowledge, skills and limitations, and perspectives about medication safety that they had not yet acquired from their clinical placements. The interprofessional medication safety workshop conducted in the UK similarly reported an increase in understanding of one another's roles and responsibilities as a key educational outcome (5). Graduates not knowing what other professionals do limits the use of their skills, and accordingly the described workshop design demonstrates promise as a model for addressing this challenge (2). The quantitative data obtained using the SPICE-R2 questionnaire demonstrated positive attitudes towards interprofessional learning and high participant satisfaction; while this does not provide conclusive evidence of learning, it may also reflect pre-existing attitudes.

The identification, prevention and management of adverse events and near-misses was addressed through the content of the workshop and the interprofessional learning method. The focus on dialogue and reflection prompted students to experience the shared responsibility

between professionals in preventing errors and minimising risk. The notion of 'vigilance' to prevent patient harm, including over tasks performed by other professions within a team, was also apparent (12). Discussion of strategies to prevent medication errors were also included, and students were able to provide recommendations at a systems level to optimise medication management and patient safety, demonstrating the foundations of a safety culture.

The workshop promoted the practice of interprofessional communication skills, a key domain of interprofessional curricula (13). Team factors were also apparent including the recognition of the importance of group work. Acknowledging and working with difference in skills, experience and perspectives was described in student qualitative responses. Interactivity and dialogue have previously been identified as important education design features to maximise interprofessional communication opportunities (8, 14). Noting that a substantial proportion of participants were non-native English speakers, this workshop format may be a safe environment for students learning in their second language to practise their communication skills.

The plan was to expand the workshops for more medical, nursing and pharmacy students across the university's clinical sites in 2020. However, the COVID-19 pandemic significantly impacted upon teaching methods, with some students attending a modified face-to-face session early in 2020, while others participated in a restructured online version to maintain social distancing. We plan to resume the face-to-face clinical workshops, to maintain the emphasis on student dialogue and interaction which is somewhat limited in online learning.

Key learnings in the education design and delivery process included: the importance of iterative feedback by practicing clinicians from all professions during the design stage, to ensure that the workshop would be relevant to all students; and the need for flexibility in the delivery of workshops for students with different schedules within a large healthcare network.

In summary, a two-hour interprofessional workshop about medication safety provided positive learning experiences with high satisfaction to medical, nursing and pharmacy students, and had strong perceived applicability to their future clinical practice. The workshop co-designed and co-facilitated by medical, nursing and pharmacy clinicians was an effective method to facilitate the learning of key medication safety concepts and to prepare students for the complex process of medication management in the workplace. The educational design elements and processes of the workshop described in this paper exemplify successful implementation of work integrated interprofessional education with a focus on patient safety.

REFERENCES

1. Taylor-Adams S, Vincent C. Systems analysis of clinical incidents: the London protocol. Clinical Risk. 2016;10(6):211-20.

2. Wilson AJ, Palmer L, Levett-Jones T, Gilligan C, Outram S. Interprofessional collaborative practice for medication safety: Nursing, pharmacy, and medical graduates' experiences and perspectives. Journal of interprofessional care. 2016;30(5):649-54.

3. Reeves S, Perrier L, Goldman J, Freeth D, Zwarenstein M. Interprofessional education: effects on professional practice and healthcare outcomes (update). The Cochrane database of systematic reviews. 2013(3):Cd002213.

4. Reeves S, Fletcher S, Barr H, Birch I, Boet S, Davies N, et al. A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. Medical teacher. 2016;38(7):656-68.

5. Hardisty J, Scott L, Chandler S, Pearson P, Powell S. Interprofessional learning for medication safety. The clinical teacher. 2014;11(4):290-6.

6. Lee A, Steketee C, Rogers G, Moran M. Towards a theoretical framework for curriculum development in health professional education. Focus on Health Professional Education: A Multi-disciplinary Journal. 2013;14(3):70.

7. Maddock B, Kumar A, Kent F. Creating a Collaborative Care Curriculum Framework. The clinical teacher. 2019;16(2):120-4.

8. Kent F, Hayes J, Glass S, Rees CE. Pre-registration interprofessional clinical education in the workplace: a realist review. Medical education. 2017;51(9):903-17.

9. Zorek JA, Fike DS, Eickhoff JC, Engle JA, MacLaughlin EJ, Dominguez DG, et al. Refinement and Validation of the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education Instrument. American journal of pharmaceutical education. 2016;80(3):47.

10. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3(2):77-101.

11. Zorek JA, MacLaughlin EJ, Fike DS, MacLaughlin AA, Samiuddin M, Young RB. Measuring changes in perception using the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education (SPICE) instrument. BMC medical education. 2014;14:101.

12. Rowland P, Kitto S. Patient safety and professional discourses: implications for interprofessionalism. Journal of interprofessional care. 2014;28(4):331-8.

13. Thistlethwaite J, Moran M. Learning outcomes for interprofessional education (IPE): Literature review and synthesis. Journal of interprofessional care. 2010;24(5):503-13.

14. Hammick M, Olckers L, Campion-Smith C. Learning in interprofessional teams: AMEE Guide no 38. Medical teacher. 2009;31(1):1-12.

Figure 1A: Education structure

Introduction (12-24 students)	Welcome, ground rules, staff introductions				5 mins
Rotate through 4 stations (3-6 students per group)	Station 1: Simulated patient history	Station 2: Bag of meds	Station 3: Pop quiz	Station 4A or 4B or 4C or 4D: Case Studies	4 x 20 mins
Case presentations (12-24 students)	Students present findings from 4A, 4B, 4C, 4D to larger group				15 mins
Closure (12-24 students)	Reflection on learning points and strategies moving forward				15 mins
Evaluation (12-24 students)	Students complete evaluation survey				5 mins

Figure 1B: Student stations

Station:	Description:	Clinical context:
Station 1: Simulated patient history	Role play activity which involved students taking a medical history (including medications). Each participant played an allocated role: patient, patient's neighbour/friend, medical intern, graduate nurse or graduate pharmacist.	A 76 year male admitted to an orthopaedic ward following a mechanical fall at home who was awaiting surgery for a fractured neck of femur.
Station 2: Bag of meds	Students worked together as a team of doctors, pharmacists and nurses working in the Emergency Department on a busy Friday evening, to sort through a sample bag of medications to obtain and document a best possible medication history for a patient. The medication history was then reconciled by identifying medications that should	A 92-year-old man presented to the Emergency Department on a busy Friday evening with severe community acquired pneumonia.

	be withheld, dose adjusted or ceased at admission. Students were asked to identify suggestions to help the patient safely manage their medications on discharge (including the role of the different professions in achieving this aim).	
Station 3: Pop quiz	Each student group worked through 12 quiz questions to provide an answer (including calculations and/or rationale).	Not applicable
Station 4A and 4B: Case studies	Students worked together to propose the factors that led to a medication error and propose three systems/checks/processes that could help to prevent the incident from happening again.	4A Anticoagulant Incident: A 73 year old female patient admitted for treatment of cellulitis (with a history of AF) whose medication chart was not signed following administration of dabigatran leading to an extra dose being administered. Their medication history was not confirmed with a second source leading to prescription of a higher than recommended dose of dabigatran. This contributed to an increased risk of gastrointestinal bleeding. 4B Insulin Selection Error: A 61 year old male patient, admitted to hospital for management of a diabetic foot ulcer (history of type 2 diabetes), who received a dose of Novorapid instead of NovoMix 30, whilst fasting, leading to hypoglycaemia.
Station 4C and 4D: Case studies	Students worked together to develop a pain management plan (4C) or safe discharge plan (4D).	4C Pain Management: A 64 year old female presented to hospital for management of an acute exacerbation of lower back pain. 4D Discharge and Transitions: A 32 year old male patient with

		schizophrenia and T2DM being discharged from an acute inpatient mental health unit under a community temporary treatment order, who will be attending a local community service for administration of his fortnightly antipsychotic depot.

Table 1: Learning Outcomes for the Workshop

Propose strategies to minimise risk and error through collaborative practice
Prioritise key issues in collaboration with the patient and other health professionals
Formulate goals, objectives and plans in collaboration with the patient and other members of the team
Analyse similarities and differences between professional roles
Communicate with other professions in a respectful, responsive and responsible manner
Demonstrate the ability to speak up with questions or concerns
Present clinical cases clearly, effectively and appropriately Reflect critically on own contribution to teamwork and the impact on patient care

Supplementary Material - Table 1: Student Satisfaction and SPICE_R2 Evaluation

Evaluation Items	**Mean Score* (SD)**

	Initial Survey (n=45)	Second Survey (n=8)
The workshop was relevant to my learning	4.7 (0.4)	4.3 (0.8)
The workshop was useful for my learning	4.6 (0.5)	4.0 (0.5)
The length of the workshop was sufficient for my learning	4.4 (0.7)	
The use of different scenarios/ stations was effective	4.6 (0.6)	
The workshop promoted communication across professions for medication safety	4.6 (0.5)	4.0 (0.5)
SPICE-R2 Tool		
Working with students from different disciplines enhances my education	4.8 (0.4)	
My role within an interprofessional team is clearly defined	4.6 (0.5)	
Patient/client satisfaction is improved when care is delivered by an interprofessional team	4.9 (0.3)	

Participating in educational experiences with students from different disciplines enhances my ability to work on an interprofessional team	4.8 (0.5)	
I have an understanding of the courses taken by, and training requirements of, other health professionals	4.3 (0.8)	
Healthcare costs are reduced when patients/clients are treated by an interprofessional team	4.5(0.7)	
Health professional students from different disciplines should be educated to establish collaborative relationships with one another	4.8 (0.4)	
I understand the roles of other health professionals within an interprofessional team	4.5 (0.6)	
Patient/client centredness increases when care is delivered by an interprofessional team	4.8 (0.4)	
During their education, health professional students should be involved in teamwork with students from different professions to understand their respective roles	4.8 (0.4)	

*Mean score out of 5, where Strongly Disagree = 1 to Strongly Agree = 5

Supplementary Material - Table 2: Summary of themes from qualitative thematic analysis of student text responses. MS = medical student; PS = pharmacy student, NS = nursing student. Students were numbered according to the order of receipt of their survey data.

Theme	Description	Quotations
Interactions within the interprofessional team	Socialisation with other health professional students facilitated exchange of knowledge and ideas Students identified the knowledge and expertise that their colleagues had to offer	"[the workshop] allows me to better understand the thought processes and approach of those I'll be working with. I'll be working within an interprofessional team in the future." - MS 5
Recognising the importance of teams	Students recognised the importance of teams and collaboration in patient care.	"How important it is to work & think as a TEAM! Understanding each profession's role in treating the patient" - PS 11
Learning the process of medication use	Sharing of knowledge about pharmacological concepts; consideration of the processes of mediation use in hospital that students are not usually closely involved in (from prescription to administration)	"I learnt how to take a thorough medical history as well as see when doses should be decreased or when medications should be ceased or withheld depending on a patient's presenting diagnosis" - NS 13

Acknowledging and working with difference	Challenging of preconceived ideas about their own, and others' knowledge base, clinical approach and professional identity	"Actually utilising both nursing and pharmacy colleagues helps reduce the burden, get more ideas and feedback" - MS 15
Role playing	Strong face-validity of the interactions they had with students during the workshop to the interactions they observed between professionals in their clinical placements	"I can easily see myself in near future consulting a pharmacist regarding dosing or drug interactions for patients regular medications" – MS 3
Thinking patient safety	Heightened appreciation of the importance of thoroughness when managing medications Eagerness to learn error-minimisation strategies	"These scenarios happen on a daily basis. This session has made me more cautious and ensure double checking of medication is important." – NS 7
Authenticity	Case-based format of workshop highlighted as a strength Strong face-validity of case scenarios to real life cases Appreciation for simulation of real-life tasks	"Case based learning was good. Sorting out the medications from the bag was a fun challenge. Small groups were good- you really had to test your knowledge" – MS 13

Supplementary Material: Survey Questionnaires

Medication safety workshop
Survey no. 1

What course are you studying?

☐Medicine

☐Nursing

☐Pharmacy

Are you?

☐Female

☐Male

☐Non-binary/gender diverse

☐_____

Are you?

☐Domestic Student

☐International Student

Is English your first language?

☐Yes

☐No

If no, please specify what language is_____

How would you rate the medication safety workshop with regards to…

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
This workshop was relevant to my learning	1	2	3	4	5
This workshop was useful for my learning	1	2	3	4	5

The length of the workshop was sufficient for my learning	1	2	3	4	5
The use of different scenarios/ stations was effective	1	2	3	4	5
The workshop promoted communication across professions for medication safety	1	2	3	4	5

Briefly describe (approx. 2-4 sentences), your most valuable **learnings** from the session today.

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Do you see a clinical application of the session in regards to your future practice as a clinician?

☐Yes

☐No

☐Unsure

Please explain your response

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What were the most enjoyable parts of the workshop, and if indicated,

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How may the workshop be improved?

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The final questions ask you specifically about the merit of learning this content interprofessionally

[INSERT SPICE R2 Tool as described by Zorek JA, Fike DS, Eickhoff JC, Engle JA, MacLaughlin EJ, Dominguez DG, et al. Refinement and Validation of the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education Instrument. American journal of pharmaceutical education. 2016;80(3):47.]

If you are happy to receive a brief follow up survey in four weeks, please provide your email address:
_____

Medication safety workshop
Survey no. 2

What course are you studying?

☐Medicine

☐Nursing

☐Pharmacy

Are you?

☐Female

☐Male

☐Non-binary/gender diverse

☐_____

Are you?

☐Domestic Student

☐International Student

Is English your first language?

☐Yes

☐No

If no, please specify what language is_____

Four weeks ago, you attended a medication safety workshop.

Thinking back now, how would you rate the medication safety workshop with regards to…

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
This workshop was relevant to my learning	1	2	3	4	5
This workshop was useful for my learning	1	2	3	4	5
The workshop promoted communication across professions for medication safety	1	2	3	4	5

Have you initiated any conversations with students/ clinicians from other professions regarding medicines since attending the interprofessional workshop? If so please explain. If not, why do you think not?

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Do you see a clinical application of the session in regards to your future practice as a clinician?

☐Yes

☐No

☐Unsure

Please explain your response

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How prepared do you feel for meaningful and collaborative working with different professions when you graduate?