

Letter to the Editor

Implementation of a pilot program of interprofessional education in infection prevention

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Interprofessional education (IPE) is foundational to safe, modern healthcare and occurs when students from two or more professions learn about, from and with each other.¹ IPE underpins future collaborative clinical practice and promotes appropriate interprofessional awareness of different roles and responsibilities of healthcare professionals, including identifying overlapping roles and understanding their individual contributions.²

Infection Prevention and Control (IPC) is a critical aspect of training for persons who work in healthcare settings to maintain a safe environment for both patients and healthcare workers. Nursing students have reported dissatisfaction with the content of their infection prevention courses, and evaluation of nursing students' knowledge of IPC note knowledge is frequently less than the required levels.³ Similarly, medical students self-report good general knowledge, but when questions were asked regarding details of IPC practices, the level of knowledge was lower than self-reported; other students report they value the effectiveness of hand hygiene for reducing the spread of infection, yet they consider IPC learning compromised by other clinical topics in the curriculum.^{4–6}

The University of South Carolina has a strong commitment to IPE, and with funding from the Centers for Disease Control and Prevention (CDC) through Project Firstline, we developed an IPE IPC elective rotation. Interactive seminars paired with practical demonstrations, small group discussions, and simulation activities blended the classroom with real-life clinical situations to assist students with application of IPC principles. The didactic presentations and interactive learning activities progressed in complexity to more advanced topics throughout the rotation. We recruited nursing, medical, pharmacy, and physician associate students to help improve their knowledge of IPC prior to beginning their careers in healthcare, empowering them to apply appropriate IPC principles early in clinical practice (Table 1).

To evaluate the effectiveness of the rotation, students completed three assessments on the first and last day of the rotation, with an additional open-ended qualitative feedback opportunity on the last day. The first assessment asked students to rate their perceptions of the quality of interprofessional healthcare teams and teamwork

using a previously validated metric, the 14 item Attitudes Toward Health Care Teams Scale.⁷ Second, knowledge of IPC principles was assessed with a 10-question “quiz” created by the faculty members and clinical experts. The third pre-post assessment was a five item self-assessment of their familiarity and confidence regarding five specific IPC principles: hand hygiene, donning/doffing personal protective equipment (PPE), reporting of hospital metrics such as hospital acquired infections, required vaccines for healthcare workers, and Occupational Safety and Health Administration or infection prevention protocols. Students' scores remained anonymous but pre and post assessment responses were linked by a randomly assigned letter and number combination for data analysis. Paired responses were analyzed using matched *t* tests or chi square as appropriate.

Among the 31 students who participated in the pilot program between 2023–2024, scores on the Attitudes Toward Health Care Teams Scale indicated that pre-existing attitudes toward interprofessional healthcare teams were generally high, but significant improvement was seen on two items post-rotation: “Having to report observations to the team helps team members better understand the work of other health professionals” ($p = 0.048$) and “The team approach makes the delivery of health care more efficient” ($p = 0.019$). Their overall knowledge scores did not change (pretest average 7.13, posttest average 7.6). Finally, on the self-assessment of IPC principles and skills, students' confidence increased significantly on all five items (all $p < 0.001$).

Specifically addressed throughout IPE education is the importance of simulation-based training, which is underutilized in infection prevention. It can be used to improve learners' sense of competence and confidence and increase patient safety through improved compliance with infection prevention measures, improve healthcare-associated infection rates, and reduce healthcare costs.⁸ Qualitative comments from students indicated that time in the simulation lab was a favorite session of the students for the ability to see sterile central line and Foley catheter insertions in a non-sterile setting so they could get close to the field. The use of GloGerm for hand hygiene, PPE practice, and also pressing their clean hands onto blood agar plates and retrieving after three days of growth were all mentioned by students as helping them understand IPC skills. We believe that incorporation of simulation activities may have influenced skills and understanding as demonstrated in their confidence scores on IPC principles.

We modeled this curriculum on prior IPE studies that demonstrated success with a combination of lecture-based sessions

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Table 1. Recruitment of health science students in the infection prevention and control (IPC) interprofessional education (IPE) elective course and students' feedback

	Nursing	Medical	Pharmacy	Physician associates
Overall schedule format	Traditional semesters	4- or 8-week blocks	Calendar month blocks	4-week blocks
Integration of IPC IPE elective in schedule	Offered as "leadership opportunity" for credit	Included in internal medicine rotation	Including in antimicrobial stewardship rotation	Included in infectious diseases rotation
Number of students in each elective (range)	2–3	1–2	1–2	0–1
Number of preceptors from discipline in each elective (range)	2–3*	3–4	1–2	0
Conflicts with IPC IPE elective	Examinations for other courses occurred during Tuesday morning sessions	Other lectures occurred during Friday afternoon sessions	None	None
Concerns regarding IPC IPE elective schedule	None	Felt it was too much time away from clinical rotations+	None	Felt it was too much time away from clinical rotations+

* Including nurse practitioners.

+ Duration of IPC IPE elective course was shortened from 2 weeks to 1 week based on students' feedback.

and small group workshops.⁹ Small groups were preferred in a nursing survey, as it promoted interaction and allowed less confident students to speak up.¹⁰ However, this was also a limitation regardless as there were significant challenges coordinating schedules for the different disciplines and limited the ability to reach more health science students and dissemination of the educational material more widely.

Our model of didactic sessions in combination with skills activities was successful in improving students' confidence in correctly performing IPC related tasks. IPE on infection prevention topics helps with students' understanding of why IPC is so critical to delivering safe healthcare. Incorporating skills sessions, particularly simulation activities, significantly improved their familiarity and confidence with these skills.

Supplementary material. To view supplementary material for this article, please visit <https://doi.org/10.1017/ice.2025.10331>

Author contributions. All authors conceived of project idea together and outlined paper. PB drafted manuscript. MA contributed statistical analysis and review/editing manuscript. JL, SW, SD, CD, SC all assisted in major edits and review of manuscript. All authors reviewed manuscript after edits.

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Competing interests. None of the authors has competing interests.

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