

## Supplementary Digital Content

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### Comprehensive Table of Pre-licensure Interprofessional Education and Healthcare Simulation Published Research Studies

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
Alinier et al., 2008	To develop an interprofessional simulation-based education for final year undergraduates  Th: not reported	quant  Randomized Control group filled questionnaire before sim (n=45) Experimental group filled questionnaire after sim (n=50)	Random sampling (no details on how but same gender/age/profession ratio) N = 95  46 Adult Nurs st 4 Ped Nurs st 7 Learning Dis Nurs st 8 Paramedic st 20 Radiography st 8 Physiotherapy st (all volunteers)  Team comp: 3-4 disciplines/team (6-8 learners per team) 3h/session	Mannequin-based with debriefing and ESP  Scenarios: total of 18 scenarios developed, 8 were used (2 for each team), content not reported	R/V: locally developed, R/V not reported  Questionnaire about knowledge of other professions + sim experience	Experimental group scored higher in knowledge of other professions and in the value of IP sim.
Alinier et al., 2014	To explore whether scenario-based simulation improved final year trainees' perception about multiprofessional working, IPE, and knowledge of other healthcare professionals' roles and skills  Th: not reported	quant  Quasi-randomized Control group filled questionnaire before sim and experimental group filled it after sim	Quasi-random sampling (by order of arrival and profession) N = 233  Nursing st Radiography st Radiotherapy st Physiotherapy st Midwifery st Paramedic Science st Social Work st Pharmacy st (all volunteers) <sup>a</sup>  Team comp: max 4 disciplines/team 4h/session	Mannequin-based with debriefing and SP  Scenarios: 2 for each team, content not reported	R/V: locally developed, validated by local colleagues  3 questionnaires about discipline-specific knowledge + sim experience	Experimental group had better scores at knowledge of other professions and felt better at teamwork. There is a perceived potential benefit of being an observer in sim.

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Atack et al., 2009	To examine change in disaster management (DM) competency and IP attitudes after students completed an online course and simulation  Th: D'amour and Oandasan's framework	QUANT→qual  Pre-post intervention surveys	Non-probability N = stated at different points of the article 74, 35, 36, and 33  8 Paramedic st 6 Nursing st 13 Social Serv st 2 Pharm tech st 1 Medicine st 1 Medical rad st 1 Resp tech st 1 Police st (all volunteers)  Team comp: all professions included  5h/session	SP No debriefing  Scenario: Live disaster management (DM) simulation w/hundreds of participants. Students played their role as assistants. Sim was part of an 8 weeks online course about DM	R/V: Previously validated  DM questionnaire (Cronbach's alpha 0.97) RIPLS (Cronbach's alpha 0.90)	Outcome assessed the 8 weeks online course, not just the DM simulation.  Huge drop-off rate and non-completed surveys.  Improved DM competency and in RIPLS scores.
Baker et al., 2008	To report preliminary evaluations of an IPE simulation through learner and teacher reactions  Th: Investigator developed (Competency framework merging multiple frameworks)	quant→QUAL  Action research, post experiment descriptive statistic comparison  3 groups: 1: sim module 1 2: sim module 2 (students coming back) 3: no sim	Non-probability N = 301  70 Medical st 77 Medical res 154 Nursing st (all volunteers)  Team comp: not reported (5 learners per team)  2h/session	Mannequin-based and task-model with debriefing  Scenarios: Module 1: resuscitation with focus on leadership and communication. Module 2: IV access	R/V: reference for validity testing provided  Post-experiment open-ended questions (perceptions and value of learning) IEPS (Interdisciplinary Education Perception Scale, Cronbach's alpha = 0.87)	Attitudinal scores and responses were consistently positive regarding evaluation of the course among all students.
Bandali et al., 2012	To assess the impact of a New Curriculum Model intervention on student preparedness for clinical practicum  Th: Investigator-developed (Michener New Curriculum Model, NCM)	QUANT→qual  Post-intervention surveys and focus groups	Non-probability N = 195 (118 students/77 educators)  Medical Lab Science st RT st Diagnostic Cytology and Genetics Technology st Med Radiation Sc st Clinical Educators	Task-trainers, mannequins, anthropomorphic phantoms, case scenarios, computer exercises, SPs and ESPs.  Scenarios: common technical, IP, and "core" skills (Simulation-based	R/V: not reported  Preparedness for clinical practicum assessment: 1. Clinical educator quant survey 2. Students' quant survey of preparedness 3. Focus groups and interviews (separate for students, clinical educators and faculty)	41% survey response rate, 66% of educators participated in focus groups; educators rated 61% NCM students as better than non-NCM; graduates reported significant ( $p<0.05$ ) preparation through simulation; technical skills the most significant improvement; core skills

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			(mandatory for all) <sup>a</sup>  Team comp: not reported.  Summer semester long	clinical preparation semester)		also improved; IP collaboration decreased.
Berg et al., 2010	To assess the feasibility of conducting interprofessional Situation, Background, Assessment, and Recommendation (SBAR) tool training with nursing and medical students using remote technologies coupled with mannequin simulation and one remote faculty  Th: not reported	QUANT→qual  Post-intervention checklist and survey	Non-probability N = 12  4 Medical st 8 Nursing st (all volunteers)  Team comp = 3 nurses + 1 MD  Duration not reported	Mannequin-based with remote AV debriefing at different campus location. Students and activity at the MD school; nursing educator was at nursing school via internet-based (AV connection).  Scenarios: 3 mostly emphasizing communication using SBAR (chest pain, anaphylaxis, shortness of breath)	R/V: not reported  Checklist of observed communication strategies (one nurse rater).  Survey: attitudes towards IP communication and about having a remote facilitator + open ended comments + verbal comments	Medical students used SBAR infrequently; nursing used all components of SBAR. Positive thought about IP experience but anxious about working together. Suggests distance education technologies with remote facilitator have the potential to facilitate interprofessional education for students.
Bolesta et al., 2014	To describe the planning, implementation, and outcomes of an interprofessional education clinical laboratory facilitated through mannequin-based simulation.  Th : not reported	quant  Pre-post intervention questionnaire	Non-probability N = 120  51 Nursing st 69 Pharmacy st (mandatory for all)  Team comp: 2 nurses + 2-3 pharm  1h session	Mannequin-based with debriefing (as a group and as separate professions)  Scenarios: one acute care scenario (Symptomatic CHF patient w/rapid AF during morning handoff)	R/V: RIPLS mentioned as previously validated (ref given), R/V not reported on additional items  RIPLS + author-developed questions about impact of simulation	Outcome measures were only for Pharm st. RIPLS analysis shows students better prepared after education. More positive thinking about other professions, more willingness to work on IP projects. Improvement in teamwork skills. No effect on knowledge.
Brock et al., 2013	To describe and demonstrate the effectiveness of an innovative interprofessional training effort using simulation	quant→QUAL  Pre- and post-intervention questionnaires	Non-probability N=149  73 Medicine st 46 Nursing st 23 Pharm st 7 PA st	Mannequin and SP-based simulations and ESPs with debriefing  Scenarios: 3 medical management	R/V: TAQ (Cronbach alpha 0.93) AMUSE (Cronbach alpha 0.9) 4 locally developed and reviewed measure instruments (ref provided)	Only 50% of participants complete the post-intervention questionnaire. PA st excluded from analysis because small sample size.

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	Th: TeamSTEPPS framework		(PA st volunteers, mandatory for others)  Team comp: “balanced” (no details)  1h sim x3 (part of 4h IP program including didactics)	cases/team based on WHO’s IPE recommendations  Total 9 scenarios developed: Adult: asthma, CHF, SVT. OB: precipitous delivery, post-par hemorrhage, error Peds: asthma, seizure, sepsis	TeamSTEPPS Teamwork Attitudes Questionnaire (TAQ) AMUSE tool (Attitudes, Motivation, Utility and Self-Efficacy) Local questionnaires (attitudes towards team communication skills, self-reported knowledge, motivation to change)f	Training increased students’ positive attitudes towards working in teams; students were more motivated to work in teams, saw greater value to this type of training and practice and felt able to implement the skills they had learned (self- efficacy) (AMUSE).  Increase in most of the TAQ sub-scales.
Buckley et al., 2012	To describe the experience of developing and piloting half-day interprofessional simulation sessions for undergraduate students  Th: Reeves framework of IPE Intervention	QUANT→qual  Pre-post intervention questionnaire	Non-probability N = 191  85 Medical st 71 Nursing st 34 others (physiotx st, radiography st, operating department practice st) (all volunteers except for some MD students assigned to replace a missing student)  Team comp: not reported  Half-day sessions	Mostly low-technology (role-play and SP), mannequin for cardiac arrest scenario  Scenario: chest pain, COPD, peri-op care.	R/V: Tool developed and validated locally (no details, ref given)  Questionnaire about views/perceptions of IPE and of giving and receiving feedback in an IPE setting.	Increased confidence in interacting with other professions but mostly for nurses and other professions.
Cavanaugh & Konrad, 2012	To describe the implementation of a shared learning model designed to promote the development of person-centered healthcare communication skills	qual  Descriptive, narrative feedback	Non-probability N=73  39 MSW St 34 DPT St (mandatory for all)  Team comp: not reported.	Case-study, video-replay, simulated role-modeling (good and bad example), simulated family and patient; reflective learning, communication skill practice	R/V: reliability, validity, or triangulation not reported  Transcripts/notes	Students valued opportunities to learn directly from each other and from patients; model shows promise as an effective method for person-centered communication skills.

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	Th: Investigator developed (a shared learning model)		4h over 2 days	Scenarios: Person-centered communication scenarios		
Curran et al., 2005	To enhance students' ability and confidence in participating as an interprofessional team, while at the same time learning to develop an interprofessional care plan for simulated HIV/AIDS patients	QUANT→qual  Pre-post intervention checklist and questionnaire (time-series design)	Non-probability N = 133  62 Medical st 45 Nursing st 26 Pharm st (seems mandatory)  Team comp: "mix of professions" (no details)	SP-based simulation  Scenario: patient w/HIV	R/V: Reference given for Role Perception Checklist and Weekly Team Inventory, others locally developed and not validated  Role Perception Checklist Weekly Team Inventory (for teamwork attitudes/values)  Participant evaluation survey	Increased awareness of the roles of other professions in interprofessional HIV/AIDS care.  Improvement in attitudes towards interprofessional teamwork across the professions.  Students from each profession felt equally confident in their ability to participate as effective interprofessional team members.
	Th: not reported		1h sim (part of a 3h PBL program)		Team dynamics observation checklist	
Dagnone et al., 2008	To describe the development and implementation of a series of interprofessional resuscitation rounds promoting team roles	quant  Post-intervention questionnaire	Non-probability N = 222  101 Nursing st 42 Medical st 79 Medical res (mandatory for all)  Team comp: not reported (5 students/team)	Mannequin (no debrief)  Scenarios: ACLS simulations	R/V: not reported  Questionnaire about perception of learning	Encounter was valuable for understanding team roles, desire more IPE, positive attitude toward sim, and identified lack of similar educational initiatives.
	Th: not reported		2h session			
Dillon et al., 2009	To analyze student perceptions of collaboration following an interdisciplinary simulation exercise	QUANT→qual  Pre-post intervention questionnaire and open ended questions	Non-probability N = 82  68 Nursing st 14 Medical st (all volunteers)  Team comp: not reported (10 students/team)  Duration not reported	Mannequin-based with debriefing  Scenarios: 2 Mock code	R/V: Cronbach's alpha 0.70-0.96  Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration Open-ended questions (perceptions of learning)	Only 50% of participants complete the post-intervention questionnaire.  Nursing with higher pre-test scores, p<.05 seen in MD students post-test scores for collaboration and nursing autonomy.

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Ellman et al., 2012	To describe the development, implementation, and evaluation of an innovative program that blends online learning with interactive simulation to teach medical, nursing, divinity, and social work students in the spiritual, cultural and interprofessional aspects of palliative care  Th : not reported	quant - qual  Post-intervention questionnaires	Non-probability N = not reported Analysis of 211 students' free text responses <sup>x</sup> and 309 questionnaire responses <sup>y</sup>  146 <sup>x</sup> , 205 <sup>y</sup> Medical st 50 <sup>x</sup> , 65 <sup>y</sup> Nursing st 15 <sup>x</sup> , 39 <sup>y</sup> Pastoral care/divinity st (mandatory for medical, nursing and PA st, others volunteers)  Team comp: not reported (6-8 students/team)  20 min sim	No technology  Scenarios: IP team meeting  (part of a longer palliative care program using other modalities, e.g., online, PBL, reflective essay)	R/V: locally developed and not validated  Reflective answers for the online part and post workshop questionnaire about views of the program.	A table lists qualitative reflective responses from the whole program by discipline. Benefits for each profession were identified as: addressing spiritual needs by chaplain, management and facilitation of care by nurse, and clarification of prognosis/diagnosis by doctor. Benefit of IP meeting identified by professions: medical appreciation concerns addressed at once, nurses appreciated patient vocalization, and divinity appreciated facilitation of information. Responses state that program was useful.
Garbee et al., 2013	To investigate acquisition and retention of team-based skills using an ER Code scenario for IP student teams  Th: not reported	quant  Behaviors rating during intervention  (Each team did 2 sessions six month-apart)	Non-probability N = 52 for session 1 (40 for session 2)  28 Nursing st (RN and nurse anesthetist) 13 RT st 11 Medical st (all volunteers)  Teams = 1-2 students from each profession  One full day program (not specified)	Mannequin-based with debriefing  Scenarios: cardiac arrest in the ER (unstable AF and tension pneumothorax)	R/V: CATS previously validated (Total R= 0,73, inter-rater R = 0,84 for 4 raters) Mayo previously validated (R = 0,77-0,96, Cronbach alpha = 0,85) TAS locally validated (ref given)  Communication and Teamwork Skills (CATS) Teamwork Assessment Scale (TAS) Mayo High Performance Teamwork Scale	Significant improvements in team collaboration. Participants and observers showed significant improvements in the teamwork assessment scale (TAS). Observers showed improvement in communication and teamwork skills (CATS). There were small losses in skill retention during the five months between simulations in fall and spring.
Giuliani et al., 2014	To evaluate the feasibility and educational outcomes of high-fidelity, interprofessional	quant  Pre-post intervention surveys	Non-probability N = 21  6 Radiation oncology residents	Low technology (using own clinical material), SP with debriefing	R/V: Some instruments locally developed, no validation reported; other tools validated in literature	Improved perception of importance of IP communication, more knowledge and clinical skills in radio-oncology

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	<p>team-based simulation training in radiation oncology using an outcomes-logic-model</p> <p>Th: outcomes-logic-model</p>		<p>6 Medical physic st 9 Radiation therapy st (seems voluntary)</p> <p>Teams comp: 1 RO, 1 MP, 2 RT</p> <p>Full day program (8h)</p>	<p>Scenarios: 5 sim radiotx scenarios - High dose brachytherapy - Electron scalp irradiation - Lung radioTx artifact - Pediatric emergency mark-up - Larynx CT mis-registration incident</p>	<p>Post-intervention survey (satisfaction, value of training on communication, knowledge and clinical skills)</p> <p>+Trainee Test of Team Dynamics (TTTD) +RIPLS + UWE Entry Level IP Questionnaire (UWEIQ) +Collaborative Behaviors Scale (CBS)</p>	
Jankouskas et al., 2011	<p>To detect relevant training effects after Crisis Resource Management training using simulation</p> <p>Th: Team Effectiveness Conceptual Model (Kozlowski and Ilgen, 2006)</p>	<p>quant</p> <p>Experimental post 1<sup>st</sup> sim vs post 2<sup>nd</sup> sim rating scale</p> <p>Control group: 1<sup>st</sup> sim/debrief +BLS review + 2<sup>nd</sup> sim/debrief</p> <p>Exp group: 1<sup>st</sup> sim/debrief + CRM training/ BLS review + 2<sup>nd</sup> sim/debrief</p>	<p>Random sampling (teams of 4 randomized, no details on how) N = 96</p> <p>50 Nursing st 46 Medical st (all volunteers)</p> <p>Team comp: 2 nurses + 2 MDs</p> <p>3h session</p>	<p>Mannequin followed by debriefing</p> <p>Scenarios: BLS and CRM scenarios</p>	<p>R/V: Cronbach's alpha 0.79-0.86; inter-rater reliability 0.83 for task management, 0.79 for teamwork, and 0.66 for situation awareness</p> <p>ANTS (teamwork, task management, situation awareness), response time, error rate</p>	<p>Experimental group demonstrated significant improvement in team process measures compared with control group; team effectiveness improved in both groups; nurses and MD students with same IP attitude.</p>
Joyal et al., 2014	<p>To investigate students' understanding of IPE, how the Nightmare Night Care (NMNC) Even affects their perceptions of other professions and how they work together</p> <p>Th : not reported</p>	<p>quant - qual</p> <p>Pre-post intervention questionnaire</p>	<p>Non-probability N=45</p> <p>12 Medical st 23 Nursing st 10 Pharm st (all volunteers)</p> <p>Team comp: no reported</p> <p>12h overnight simulation</p>	<p>Low technology using mostly SP and ESP with debriefing</p> <p>Scenarios: longitudinal simulation of a night shift on an hospital ward</p>	<p>R/V: locally developed, not validated (authors consensus for themes of open ended questions)</p> <p>Pre-intervention questionnaire about IPE perceptions/values</p> <p>Post-intervention questionnaire about change of perception of roles</p>	<p>Pre: Physicians are smart, but poor listeners and team-players; nurses as patient-centric and hard workers; and pharmacists are very knowledgeable, but less consulted.</p> <p>Post: Better understanding of IP interaction, more confidence for teamwork; changes to pre-survey perspectives not mentioned.</p>

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
Kenaskchuk et al., 2011	To analyze the effect of an IPE workshop on student attitudes toward IPC  Th: not reported	quant  Pre-post intervention self-report survey  2 groups : control (no workshop n = 62) and exp group (with workshop n = 105).	Non-probability N = 167  Nursing st, Paramedic st OT assist st PT assist st Pharm tech st Personal support worker st Funeral service st Childhood education st Social service st (mix of voluntary and mandatory, not detailed) <sup>a</sup>  Team comp: 3-5 professions (8-9 students)  Duration not reported (part of a 3h IPE workshop using different modalities (case-study, lectures, simulated patient encounter, large group discussion, etc)	SP-based simulation with large group debriefing  Scenarios: traumatic fall in an elderly woman	R/V: Cronbach alpha provided for all previously validated instruments  Subscales of IEPS: (competency/autonomy, need for cooperation, perception of actual cooperation)  University of West England (UWE) questionnaire: communication/teamwork, attitude toward IPL, IP interactions, IP relationships  Subscale from Attitudes Toward Health Care Team Scale (ATHCTS): shared leadership/physician centrality  + general survey about workshop	Total sample was 900 but authors conveniently sampled the students who filled the surveys (N=167, 30% in exp group, 11% in control group)  Better post-scores on 4/8 scales: competency/autonomy, need for cooperation, comm/teamwork, attitudes toward IPL.
Ker et al., 2003	To describe simulated ward for junior medical and nursing students  Th: not reported	qual  Semi-structured evaluation questionnaire	Non-probability N = 151  92 Medical St 59 Nursing St (all volunteers)  Team comp: not reported (20 students/session)  2h session	SP-based simulation  Scenarios: acute medical condition scenarios	R/V: reliability, validity, or triangulation not reported  Investigator-developed assessment reflecting learning objectives	94% survey return rate, 4 themes found: 1. Educational environment (positive comments—realism and equipment), 2. Organizational issues identified (good level of activity, need for clearer guidance), 3. IP issues (most positive theme; valued sharing workloads), 4. Communication (valued and felt that they worked well together)



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King et al., 2013	To examine whether a simulated activity involving students from respiratory therapy, medicine and nursing could increase attitudes toward interprofessional education and practice and value for learning in interprofessional teams  Th : not reported	quant - qual  Post-intervention survey	Non-probability N =34  20 Medical st 6 Nursing st 8 RT st (seems voluntary)  Team comp: not reported (4-6 students/team)  15-20 sim	Mannequin-based simulation with debriefing  Scenarios: Respiratory distress	R/V: locally developed and validated (no details)  Questionnaire mostly about the simulation experience (1 item about transfer of knowledge).	Results found that IPE is valuable, sim supported learning, obj were met, there was reflective learning in debriefing sessions, communication is important, and there is a need to improve communication.
Kowitlawakul et al., 2014	To report reception of new IPE program to foster collaborative partnership between internal medicine residents and APNs students in simulated ward settings  Th: not reported	quant - qual  Pre-post intervention questionnaires	Non-probability N=36  21 Medical res 15 Adv Pract Nurses st (mandatory for APN, unclear for MDs)  Team comp: 5 APN + 1-2 res  Duration not reported (4 sims over a full semester)	Sim modality not specified (“simulated patients”) No mention of debriefing  Scenarios: 4 IPE clinical management cases (MI, AF, CHF, Asthma)	R/V: not reported  RIPLS (pre-post)  SSES (Satisfaction with Simulation Experience Scale, post-only)  Open ended questions	Strong positive baseline Readiness for Interprofessional Learning Scale (RIPLS) scores that improved after IPE.
Kyrkjebø et al., 2006	To test and evaluate a program using interprofessional simulations to improve patient safety.  Th: BEST principles	qual  Focus group	Random sampling of teams (cluster sampling) N = 12  4 Medical st 4 Nursing st 4 postgrad nurs st (all volunteers)  Team comp: 1 MD + 2 nurses  Duration not reported	Mannequin followed by debriefing with/without video playback (workshop also included didactics, videos, discussions)  Scenarios: 2 total/team (topics included: blood transfusion, BLS, management of CVC and drug admin).	R/V: triangulation and validity reported  Uniprofessional structured focus group (video playback, coding, categorizing)	Students didn’t consciously use Crisis Resource Management during sim exercises; videos not helpful and nursing-focused—although video review and discussions were very helpful.

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Lewis, 2011	To evaluate a pre-registration IPE acute care program  Th: SMART program, national competencies and guidelines	QUANT→qual  Pre-post intervention survey + open text analysis	Non-probability <i>N</i> = 88  16 Medical st 72 Nursing st (all volunteers)  Team comp: not reported  Duration not reported	CD-ROM and mannequins with workshops  Scenarios: acute illness scenarios  (sim part of a bigger program using readings, lectures, online, workshops)	R/V: not reported (questionnaire modified from a previously validated questionnaire, ref given)  Questionnaire for ALERT program (knowledge, confidence, perceptions of IPP)  Free text answers	Levels of knowledge, confidence, and comfort with IPP increased after the program (comfort: 3.5 to 6.6 mean; confidence 3.1 to 5.6 mean; knowledge 5.5 MDs and 2.4 RNs).
Liaw et al., 2014	To examine the effects of an interprofessional simulation-based communication education program on medical and nursing students' perceptions on each profession and their attitudes toward nurse-physician collaboration  Th : TeamSTEPPS framework	quant  Pre-post intervention questionnaire	Non-probability <i>N</i> = 96  23 Medical st 73 Nursing st (mandatory for nursing st, MD st volunteers)  Team comp: 3 nurses + 1-2 MDs  15 min sim	Technology not reported Use of debriefing  Scenarios: ward round scenario of early sepsis patient and life threatening septic shock	R/V: SSRQ: Chronbach 0,76-0,88 JSATPNC: Chronbach 0,85-0,87  Student Stereotypes Rating Scale (SSRQ) +Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (JSATPNC)	General improvement on post-test scores for perceptions of other professions and for attitudes toward nurse-physician relationship.
Luctkar-Flude et al., 2013	To evaluate an interprofessional pediatric educational module using simulation  Th: not reported	QUANT→qual  Quasi-experimental, Action research  2 groups: IP Sim (experimental <i>N</i> =43) Uniprofessional Sim (control <i>N</i> =53 nurses)	Non-probability (2 groups but no details on randomization) <i>N</i> = 96  79 Nursing st 17 Medical st (seems mandatory)  Team comp: not reported  30 min sim	Mannequins and ESP-family with debriefing  2 scenarios: asthma exacerbation and sepsis	R/V: Cronbach's alpha 0.79 for Communication and Teamwork scale; 0.83 for asthma; 0.87 for sepsis; (peer review validation) Locally developed confidence survey, not validated.  Communication and Teamwork Scale of the University of W. England, Bristol Entry Level IP Questionnaire Confidence survey	Team skills improved significantly for the IP groups, but not for non-IP groups; pediatric skills lower than team scores for all; lower confidence after sim; assessments better in IP groups; documentation was better in non-IP group.
MacRae et al., 2012	To refine professional parameters, learn to	qual	Non-probability <i>N</i> = not reported	SPs, OSCE, feedback followed by debriefing (more	R/V: reliability, validity, or triangulation not reported	Perceptions of other professions became clearer and generated

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	collaborate, and design community interventions  Th: Investigator-developed (Interprofessional Geriatric Education Program (IGEP) based on Rudenberg's (2004) Turf, Team and Town)	Descriptive, qualitative reflective feedback	10 PA st 2 OT st 2 DDS st 5 PT st (mandatory for all) Team comp: not reported ("Team visit")  4hr twice/wk during fall and spring semesters	patient visits than sim)  Scenarios: Interprofessional Geriatric Education Program (IGEP) scenarios	Qualitative reflective feedback  Formative: faculty observation, student written plan of care; Summative: paper and OSCE	more respect; exposure better prepared them for challenges and advocating collaboration and holistic patient care.
Marken et al., 2010	To design an IP project to teach IP teams how to recognize and engage in difficult conversations with patients  Th: Conscious Competence Learning Model and Matrix	quant - qual  Post-intervention survey, behavioral assessment, text analysis; compared statements with performance	Non-probability N = 12  4 Nursing st 1 Pharm st 6 Medical res 1 Medical fellow (all volunteers)  Team comp: not reported  4h sim (part of an 8h program w/didactic and discussions)	Hybrid sim with standardized mom and mannequin child with debriefing  Scenarios: Sick child visit with mother indicating intimate partner violence and suicidal thinking	R/V: reliability not tested and was not used for reporting; rubric was not validated  IP Teams in Difficult Conversations Self-Assessment  Sim assessment rubric by faculty  Satisfaction survey	Positive participant satisfaction. Participants demonstrated knowledge and skill enhancement and were satisfied with the program.
McIlwaine et al., 2007	To explore personal, uniprofessional, and interprofessional roles in the dying and death process; program evaluation  Th: Social Constructivism	quant  Post-intervention survey (right after and 8 weeks after workshop)	Non-probability N = 25  14 Medical st 11 Social Work st (all volunteers)  Team comp: not reported  2.5h	Mannequin with simulated MD and RN (for documentation and findings reporting), case studies, document review, followed by debriefing  Scenarios: no details	R/V: not reported  Reflective questionnaire on personal, uniprofessional, and interprofessional experience in death and dying; open-ended questions on knowledge gained and perception of training	All students felt workshop was worthwhile. Social work students attended workshop because they were most interested in grief process. MD students attended to further their knowledge. Sim rated most useful element. (No outcome about IPE and/or SBE)
Miller et al., 2013	To: seek evidence of improved attitudes to IPL following an interprofessional simulation	quant  Pre-post intervention survey	Non-probability N = 46  16 Medical st 30 Nursing st	Low technology (no details) with debriefing	R/V: locally developed questionnaire, not validated RIPLS validated (no details)	There was improvement of many attitudinal subscales toward IPL after IPL.

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	Th: not reported		(seems voluntary, "invited")  Team comp: not reported ("mixed teams")  Duration not reported	Scenarios: 1 acute care scenario	Students feedback questionnaire  RIPLS	
Miller et al., 2014	To test the effectiveness of specific immersive simulations, to create reliable assessment tools for emergency response and team communication skills, and to assess participants' retention and transfer of skills over time  Th: not reported	quant - qual  Pre-post intervention questionnaires (during training and at 6-12 months)	Non-probability N=312 total  16 Medical st 111 Nursing st 69 Pharm st 99 Dentistry st 3 Vet Med st 14 Public health st (unclear if voluntary or mandatory)  Team = minimum 2 professions/team (6-12 students/team)  Duration not reported	Mannequin-based and SP simulations (debriefing not mentioned)  Scenarios: bomb blast and structure collapse (part of a 10h disaster response program)	R/V: locally developed instruments, not validated  6-12 month longitudinal performance checklists  confidence surveys	31% improvement of knowledge post program. Decay at 6 month and increased decay at 12 months but still better than baseline.  Improvement in team + emergency resp skills.  Better scores after deliberate practice.  Improvement in many areas of confidence.
Mohaupt et al., 2012	To examine changes in undergraduate healthcare students' perceptions and attitudes toward IPC following their participation in an interprofessional simulation Program  Th: Intergroup Contact theory	quant  Pre-post intervention questionnaire	Non-probability N = 84  11 Pharmacy tech st 15 Occ/PT Assistant st 42 Nursing st 16 Paramedic st (all volunteers)  Team comp: not reported ("small IP groups")  90 min sim x 3 (part of a full day program)	Low technology simulations Debriefing not mentioned  Scenarios: Fall in an elderly, simulated IP meeting, role play in an IP working group (based on IP learning objectives)	R/V: IEPS previously validated (Cronbach alpha 0.87)  Interdisciplinary Education Perception Scale (IEPS)	Improvement in IEPS scores (modest improvement but initial scores were already high), ¾ subscales were significant (competency and autonomy, perception of actual collaboration and perceived need for collaboration). No difference between professions.
Murphy et al., 2014	To explore how interprofessional simulations affect nursing and social	QUANT→qual  Pre-post	Non-probability N = 88  43 Nursing st	Mannequin-based simulation + ESP with debriefing	R/V: not reported  Readiness for Interprofessional Learning	Significant improvement of RIPLS scores post-experiment in all sub-scales.

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	work students' readiness for interprofessional learning and their perception of interprofessional strengths and challenges  Th: not reported	intervention questionnaires	45 Social Work st (all volunteers)  Team comp: not reported  Full-day sim program (not specified)	4 scenarios: - UTI in dementia w/medical error discovered by a family member -Asthmatic w/same sex partner -A witnessed arrest with a family member at bedside -pulseless homeless man with drug addict friend	Scale (RIPLS)  Open-ended questions about strengths/challenges of the IPL	Both groups significantly changed their attitudes positively after the simulations. Themes from open-ended question survey: communication, ability to work as a team, attitudes, listening skills and leadership skills. Patient-centered care seen as a strength of IPE. Identified new strengths of reflective listening and open-mindedness for SW role.
Paige et al., 2014	To investigate the feasibility and effectiveness of mannequin-based simulation on interprofessional student OR team training  Th: not reported	QUANT→qual  Pre-post intervention comparison questionnaires and behavioral rating scales (matched data)	Non-probability N = 66  28 Medical st 18 Nursing st 20 Anesthesia junior nursing st (mandatory for MDs and nurses, unclear for nurse anesthetists)  Team comp: 2 MD + 2 nurses + 2 anesth nurses  2h session	Mannequin-based + torso procedural training model with debriefing  2 scenarios: Life-threatening trauma bleeding and local anesthetic toxicity	R/V: study done for assessment of generalization, variance and reliability.  Questionnaire about perceived self-efficacy for targeted team-based competencies + Operating Room Teamwork Assessment Scales (ORTAS) + individual performance scale focusing on Team-Based Behaviors (TBB) + Adaptive Communication and Response (ACR) subscale (behavioral anchors)	Increase in self-efficacy in team-based competency, better teamwork performance in second scenario when compared with performance of first scenario.
Paul et al, 2014	To seek perceptions of undergraduate nursing and pharmacy students on how interprofessional simulation learning facilitates the development of disciplinary learning as well as interprofessional skills  Th: Mezirow's transformative	qual  Descriptive qualitative study	Non-probability N = 9  5 Nursing st 4 Pharm st (all volunteers)  Team comp: not reported  6h session	Mannequin-based simulation and SP with debriefing  Scenarios: 3 (no details)	R/V: reliability, validity, or triangulation not reported  Interviews, content analysis, coding, categorizing, themes generation	Positive general impression of interprofessional simulation experience, better understanding of their own professional roles and the roles of colleagues from other professions, reported learning about collaboration.

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
	learning theory (after thematic analysis)					
Posmontier et al., 2012	To bridge educational silos and facilitate positive team attitudes based on these effective team competencies among a variety of women's health care students  Th: TeamSTEPPS framework	quant  Pre-post intervention questionnaire	Non-probability N = 35  Medical st OB/GYN Med res Nursing st 12 NP st 11 PA st Nurse anesthetist st (mandatory)  Team comp: Duration not reported	SP-based simulation using anatomic model and ESP (mother) with debriefing  Scenarios: OB emergency with mother in the room (shoulder dystocia w/PPH)	R/V: Cronbach alpha provided for each sub-scales (pre-post): TS 0.71-0.85 L 0.83-0.93 SM 0.81-0.93 MS 0.72-0.71 C 0.52-0.63  Team Attitudes Questionnaire (TAQ)	Increase in attitudes for 2/5 subscales (i.e., mutual support and communication).
Reese et al., 2010	To investigate the use of sim to support collaboration between nursing and medical students  Th: Nursing Education Simulation Framework (NESF)	QUANT→qual  Pre-post intervention factor analysis	Non-probability N = 28  15 Medical st 13 Nursing st (unclear if voluntary or mandatory)  Team comp: not reported (4 students/team, 2 active and 2 observers)  20 minutes	Mannequin-based simulations with debriefing  Scenarios: surgical patient with dysrhythmias	R/V: SDS: Cronbach's alpha 0.92 Collaboration scale: Cronbach's alpha 0.95 Satisfaction and self-confidence scale Cronbach's alpha 0.87  Simulation Design Scale (SDS) Collaboration scale 12 item Satisfaction and self-confidence scale Open-ended questions	Positive responses on collaboration scale, no significant differences between nursing and medical student groups in perceptions of educational practices of the sim. Increased self-confidence in caring for patient with complications. Increased satisfaction with collaborative aspects with better patient care as an outcome.
Reising et al., 2011	To understand interprofessional communication (between nursing and medical students) within the context of traditional versus simulated educational environment  Th: Jeffries Sim Model	QUANT→qual  Post-intervention survey  2 groups: case-study vs simulation	Non-probability N = 60  41 Nursing st 19 Medical st (all volunteers)  Team comp: 2 MD + 2-4 nurses  Duration not reported	Mannequin-based and case study (no debriefing)  Scenarios: ACLS algorithms	R/V: locally developed, not validated  Survey	The simulation group had a better sense of clinical role and the experience changed view of the role of the team. The descriptive survey suggested trust and respect as a result. Most students expected medical student to be leader. The difference between RN and MD St: MD students used term, "leader," RN students often used,

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
						“autonomous” and “independence.” Simulation was more stressful.
Riesen et al., 2012	To assess whether a blended learning environment that includes virtual, traditional face-to-face and online experiences is a useful method for improving students' interprofessional competencies  Th: Canadian Interprofessional Competency Framework	quant  Pre-post and post-intervention questionnaires and behavioral rating scale	Non-probability N = 60  19 Nursing st 12 Child/youth workers st 14 Basic care paramedic st 15 Police st (all volunteers)  Team comp: at least 1 from each profession  Duration not reported Sims part of a full day workshop using blended learning modalities (IP interaction, real-life sims, real-life debriefing, virtual sims, virtual debriefing, didactic)	Mannequin-based simulation, SP, virtual simulation (Web Alive) with debriefing  Scenarios: 3 domestic violence sims (2 real time + 1 virtual)	R/V: IEPS previously validated ICCAS in validation TOSCE: not reported  IEPS (Interdisciplinary Education Perception Scale)  ICCAS (Interprofessional attitudes and self-perceived competence)  TOSCE (Team Objective Structured Clinical Examination)	The ICCAS analysis showed improvement in all sub-scales. The IEPS analysis showed improvement for competence and autonomy. The TOSCEs showed improvement from sim 1 to 2 to 3.
Robertson et al., 2010	To describe an adaptation of TeamSTEPPS for med/nurs students  Th: Investigator-developed (educational framework )	QUANT→qual (results about quant part in this article)  Pre-post intervention questionnaires and video rating	Non-probability N = 213  88 Nursing st 104 MD st (mandatory for all)  Team comp: not reported (10 students/team)  Duration not reported (sim part of a 4h team training using different modalities, ex: online modules, lectures, clinical vignettes)	Mannequin-based video review with debriefing  Scenarios: STEMI after femur fracture	R/V: Cronbach's alpha = .587 and .674 for video rating, .86 for survey  Questionnaire about knowledge CHIRP attitudes assessment recognition of team skills through video review and rating	Significant change in knowledge and attitude around team skills. Nursing significant increase in teamwork perceptions, however, nurses had higher pre scores. Significant increase in attitudes for those who did sim first.

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
Salam et al., 2014	To describe a pilot program incorporating simulation-based interprofessional education that simultaneously engages both medicine and nursing and to assess their attitudes towards interprofessional education and practice  Th: not reported	quant  Pre-post intervention survey	Non-probability N= 68  17 Medical res 17 Nurse res 12 Medical st 12 Nursing st (unclear if voluntary or mandatory)  Team comp: dyad of either 1 MD res + 1 nurse res or 1 MD st + 1 nurse st  10 min sim	No mention of technology Debriefing  Scenario: adult w/chronic pain sustaining a MVA	R/V: not reported  Questions from the Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (JSATPNC)  Confidence survey	Improvement in confidence, increased value of MD-nurse collaboration/relationship, and positive attitudes toward IPP.
Shoemaker et al., 2011	To describe the design, planning, cost, and support staff time required for interprofessional sim for 64 PT and OT students  Th: not reported	qual  Qualitative analysis of student experiences	Non-probability N = 64  PT st OT st (mandatory for all) <sup>a</sup>  Team comp: 2-3 PTs + 1 OT  4h session	SP, video playback, with debriefing  Scenarios: clinical status recognition, range of motion and safe mobilization scenarios	R/V: reliability, validity, or triangulation not reported  Observations	Sim is highly valued and well-liked, required substantial staff and financial resources and coordination (actual costs not quantified). Thematic analysis of debriefing identified role delineation and teamwork (patient perspective of seamless teamwork; discomfort in student perspectives and contagion in confidence) and simulation logistics (unfamiliarity and delayed monitor responses was difficult) as themes.
Shrader et al., 2011	To describe a sim IP rounding with mannequins for Pharm, MD, and PA students; determine effect on attitudes toward IP collaboration  Th: not reported	quant  Pre-post intervention survey	Non-probability N = 99  72 Pharm st 27 Medical and PA st (all volunteers)  Team comp: 3 pharm + 2 others (MD or PA)	Mannequin-based with debriefing  Scenarios: Interprofessional Rounding Scenarios	R/V: not reported  Survey (university grading tool for clinical performance)	Better appreciation of value of interprofessional collaboration, increased knowledge about other professions, increased knowledge about role, and self-perceived improvement in teamwork skills.



Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
			20 min sim (part of a 75 min program)			
Shrader et al., 2014	To determine whether the incorporation of multiple IPE activities, delivered as part of a longitudinal curriculum in a required course, changed pharmacy students' perceptions regarding interprofessional collaboration  Th: not reported	quant  Pre-post intervention survey	Non-probability N = 71  71 Pharm st Others (Nursing and PA st) (mandatory for pharm st, others volunteers)  Team comp: 3 professions/team  Duration not reported (sim part of an IPE curriculum using different modalities)	Mannequin-based simulation, SP, ESP with debriefing (program also used communication using SBAR, TeamSTEPPS principles application, hybrid simulation, home visit w/real patient)  Scenarios: Built on IPE objectives	R/V: previously validated (Interdisciplinary Education Perception Scale) IEPS	Outcome measure of Pharm students only.  IEPS scores significantly improved on 16/18 subscales, particularly competence and autonomy, positive perception that pharmacists are respected and positivity within individual profession about goals and objectives.
Sigalet et al., 2015	To measure the impact of a simulation-based team training curriculum and to further understand the competence level of an undergraduate IP team with respect to leadership, roles and responsibilities, communication, situation awareness and resource utilization  Th: CanMEDs role of communicator	quant  Performance rating after first and second sim scenario  2 groups: Experimental group = 30 min of team training didactic before sim Control group = no prior didactic	Randomized sample (no details on how) N = 196  25 Medical st 127 Nursing st 34 RT st (mandatory for all)  Team = (1 MD, 3-4 nurses, 1RT)  2 x 20 min simulation	Mannequin-based simulation with debriefing  Scenarios: 2 pediatric scenarios with IPE learning objectives (infant sepsis or seizure, child asthma or anaphylaxis)	R/V: Cronbach alpha = 0.89  KidSIM Team Performance Scale	Improvement in performance from sim 1 to sim 2 for the control group (larger effect) and intervention group (smaller effect).  For sim 1, better results for intervention group.  Intervention group had better score after sim 1 than the control group after sim 2.
Smithburger et al., 2013	To determine if high technology simulation is an effective and accepted approach to improving IP communication and teamwork for	QUANT→qual  Pre-post intervention performance scale + post-intervention survey	Non-probability N = 8  1 Medical st 2 Nursing st 2 Pharm st 2 PA st 1 Social Work st	Mannequin-based simulation, ESP with debriefing  Scenarios: 4 total (longitudinal, same patient in the outpatient dialysis	R/V: CATS inter-rater reliability = 0.85  Communication and Teamwork Skills (CATS) Assessment Tool (2 raters)  Survey about	Improvement from CATS score from sim 1 to 2, 2 to 3 and 1 to 4.

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
	pharmacy students with other health sciences students  Th: not reported		(all volunteers)  Team comp: one of each profession  3h (weekly for 4 weeks, sim was part of an IP elective)	center, the ED, the ICU and the medicine ward)	acceptance/impression/benefit of using simulation for IPE	
Stewart et al., 2010	To develop, implement and evaluate an interprofessional undergraduate program using high-fidelity pediatric simulation to learn clinical competencies, communication and teamwork skills  Th: not reported	quant - qual  Pre-post intervention questionnaire	Non-probability N = 95  46 Medical st 49 Nursing st (mandatory for all)  Team comp: not reported (3-4 students/team)  20 min/scenario x 6	Mannequin-based simulation, ESP  Scenarios: 6 total (bronchiolitis, croup, asthma, meningitis, gastroenteritis, heart failure)	R/V: Previously published questionnaire. In this study, Cronbach's alpha: 0.69-0.89  Questionnaire mostly about perceptions in 4 domains: knowledge/skills, Communication/teamwork, prof identity/role awareness, attitude to shared learning	High scores for both professions from the start. Nurses scored higher in communication/teamwork and prof identity/role awareness (pre/post results as source not identified). Using simulation for IPE is valuable.
Titzer et al., 2012	To describe an IP simulation for four professional programs  Th: Benner's Novice to Expert	quant - qual  Post-intervention questionnaires	Non-probability N = 131  79 Nursing st 15 Rad tech st 10 RT st 27 OT st (seems mandatory)  Team comp: 2 nurses, 2 rad tech, 2 OTs, 1 RT (all other were observers)  Duration not reported	Mannequin-based with debriefing  Scenario: COPD	R/V: EPSS: not reported but ref given HPPS Cronbach's alpha: 0.86 for simulation practice and 0.91 for the importance of the items  Educational Practices in Simulation Scale (EPSS) (NLN and Laerdal).  Healthcare Provider Priority Survey (HPPS, perceptions of importance of sim for collaboration and of each other)	Sim provided relevant experience, increased understanding of OT role, discussed differences in terminology and procedures. Higher education level felt the program was more important than those at a lower level.
Tofil et al., 2014	To see if simulation training would improve both nursing students' and	QUANT→qual  Pre-post	Non-probability N = 108  78 Medical st	Mannequin-based simulations	R/V: Locally validated survey (pre-post Cronbach's alpha: 0.68-0.82)	Improved knowledge (10%) found. Improvement in self efficacy perception with

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
	medical students' clinical knowledge, communication skills, and understanding of each profession's role in patient care  Th: TeamSTEPPS framework	intervention questionnaires	30 Nursing st (mandatory for all)  Team comp: 3 nurses + 5-6 MDs (+ 5-6 MDs observers)  20 min/sim (4 sim total during an 8 week internal medicine clerkship rotation)	Scenarios: focused on teamwork, communication, and differential diagnosis	MCQs for medical knowledge Survey about self-efficacy, professional role and team communication attitude	the greatest change in confidence to correct another healthcare provider at bedside in a collaborative manner.
Van Soeren et al., 2011	To provide insight into the nature of IPE in sim, particularly the teaching and learning processes  Th: not specifically reported, mentioned role-play theory in literature review (van Ments, 1983)	qual  Collective case study (Stake, 1994): used cross-case commonalities and differences	Non-probability N = 253  152 clinicians (RN, SW, PT, Pharm, MD, RT, OT) 101 students (Pharm tech, paramedics, nursing assistants, OT and PT assistants) (voluntary for all)  Team comp: not reported (5-8 "learners"/team)  10 min sims (multiple sims part of a full-day program)	SPs, video-recorded role play followed by debriefing  Scenarios: simulated meetings	R/V: Validity established, triangulation for reliability  Video coding structure and focus groups	5 key themes: 1. <u>Enthusiasm and motivation</u> —students more enthusiastic, 2. <u>Professional role assignment</u> —clinicians had disconnection from role they were playing 3. <u>Scenario realism</u> —could not engage at times when it wasn't real 4. <u>Facilitator style and background</u> —2 types: facilitator role and teacher role 5. <u>Team facilitation</u> —two or more debriefers provided balance
Vyas et al., 2012	To describe the development and initial experiences of mannequin-based simulation to promote interprofessional teamwork and collaboration while providing novice learners an opportunity to recognize and react to select Joint Commission	quant  Pre-post intervention questionnaire	Non-probability N = "around" 210  46% Medical st 26% Nursing st 11% Pharm st (mandatory for all)  Team comp: "mix" of professions (5-6 students/team)  20 min sim (part of a bigger program including lectures and	Mannequin-based simulations, SP, ESP with debriefing  Scenarios: built mostly around teamwork and patient safety (Emergency mass casualty, asthma, ped head trauma, wrist pain, chest pain and pregnancy)	R/V: not reported but ref given for tools used  Questionnaire about knowledge, skills and attitudes (KSA) for teamwork and quality improvement.  Survey about team building, IP communication and course assessment	Outcome measures about Pharm students only.  Improvement in KSA survey, better scores for teamwork skills and IP communication skills. Not more confident about patient safety issues.

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
	National Patient Safety Goals  Th : not reported		small group discussions)			
Wamsley et al., 2012	To describe IP standardized patient exercise  Th: ISPE framework (Interprofessional Standardized Patient Exercise)	QUANT→qual  Pre-post intervention questionnaire and one focus group	Non-probability N = 101  26 Medical st 21 NP st 24 Pharmacy st 7 PT st 23 Dental st (Pharm, PT and NP volunteers, mandatory for MDs and Dental st)  Team comp: one member of each profession (4-5 students/team)  4h (total program)	SP (trained) with debriefing  Scenarios: transient ischemic attack	R/V: Cronbach's alpha: 0.83 for team value, 0.74 for team efficiency, and 0.61 for physicians shared role; (consistent with other studies)  Attitudes Toward Healthcare Teams questionnaire (ATHCT)	Attitudes toward team-based care improved significantly on team value and team efficiency subscales; significant differences in attitudes toward team-based care by profession—physicians and dentistry with less favorable attitudes.
Westberg et al., 2006	To describe the development and implementation of an IP activity using SP  Th: not reported	qual  Pre-post intervention survey	Non-probability N = 48  Medical st NP st 48 Pharm st (mandatory for all) <sup>a</sup>  Team comp: 1 MD, 2 nurses, 1 pharm  1h session	SP followed with “feedback”  Scenarios: 3 total (domestic abuse, HIV patient, homeless patient)	R/V: Locally developed, not validated  Survey about perceptions of the role of other professionals.	Measure outcomes for pharm students only.  Low response rate for post-intervention survey (54%).  Pharm students gained a better sense of how health professionals work together.
Whelan et al., 2008	To develop and evaluate a rural interprofessional learning module  Th: not reported	quant - qual  Pre-post intervention questionnaire (over 2 years)  Thematic analysis of 8	Non-probability N = 60  Medical st Nursing st Pharm st (all volunteers) <sup>a</sup>	Mannequin-based, low-tech sim, and role-playing; each followed by debriefing  Scenarios: 2 per team (confused patient, acute	R/V: not reported  Questionnaire about perceptions of roles, responsibilities, communication, teamwork; focus groups	Positive shift in students' understanding of IPP and teamwork as a way of problem solving and improving patient outcomes. Pharm students uncomfortable with role-play.

Reference	Purpose and Theory	Design	Sample, Team Composition and Duration	Simulation Modality and Scenarios	Outcome Measures	Findings
		open items and focus groups	Team composition: not reported (5 students/team)  Duration: 90 min/sim (sim part of a 2 weekend program)	diabetic episode, cardiac arrest)	Open-ended questions on perceptions of learning	

*Note.* Th = Theory; <sup>a</sup> = sample sizes per professional group not reported; R/V = Reliability and Validity; quant = quantitative; qual = qualitative; st = students; res = resident; RN or Nurs = Nurse; MD = Medical Doctor; SW = Social Work; MSW = Masters in Social Work; DPT = Doctor of Physical Therapy; PT = Physical Therapy; ESP = Embedded Simulated Person; SP = Standardized Patient; sim = simulation; Pharm = Pharmacy; PA = Physician Assistant; OT = Occupational Therapy; NP = Nurse Practitioner; IP = Interprofessional, PBL = Problem-based learning; AV = audio/visual