Interprofessional Education and Healthcare Simulation Symposium

SSH
Society for Simulation in Healthcare

JOSIAH MACY JR FOUNDATION

NLN National League for Nursing

The writing group acknowledges and thanks all the individual presenters who contributed their time and talents in reviewing and finalizing the report

Writing Group
Janet Wilhaus, PhD (c), MSN, RN
Janice Palaganas, PhD, RN
Jennifer Manos, MSN, RN
JoDee Anderson, MD, MEd
Alan Cooper, PhD, MBA
Pamela Jeffries, PhD, RN, FAAN, ANEF
Mary Anne Rizzolo, EdD, RN, FAAN, ANEF
Elaine Tagliareni, EdD, RN, CNE, FAAN
Mary Elizabeth Mancini, PhD, RN, NE-BC, FAHA, ANEF, FAAN

Please see Acknowledgments for complete affiliate listing of all authors and for a complete list of all steering committee members and participants of the invitational session.

Cover photo from Cincinnati Children's Center for Simulation and Research

Table of Contents

Executive Summary 1
Introduction 9
- Purpose 9
- Background and Definitions 9

A Simulation Focused Approach to IPE and IP Practice 14
Current Models, Practices, & Barriers to Simulation-enhanced IPE 17
The Invited Stakeholder's Session 18
- Consensus Findings 19

Recommendations 21
- Next Steps for Organizations 21
- Next Steps for Individuals 21

Feedback Sessions 23
Summary 23
References 25
Appendices 27
- Appendix A: Three Frameworks for Collaborative Practice 27
- Appendix B: Organizations Invited to the Key Stakeholders Meeting 28
- Appendix C: Perspectives Summary 30
- Appendix D: Invitational Panel Participants & Process 52
- Appendix E: Core Competency Gallery Walk 54
- Appendix F: Attendee Questions 56

Acknowledgements 58

Executive Summary

Interprofessional Education (IPE) has been recognized by various international professional societies (e.g. World Health Organization and Institute of Medicine) and accreditation organizations as foundational to achieving safe, high quality, accessible, patient-centered care. An Interprofessional Education Collaborative (IPEC) formed in 2010 to develop common domains and again in 2011 to define domain competencies for interprofessional education.

Furthermore, in 2012 the Society for Simulation in Healthcare (SSH) and the National League for Nursing (NLN), supported in part by the Josiah Macy Jr. Foundation, collaborated to explore the advancement of IPE and interprofessional practice (IPP) via the instrument of healthcare simulation using the domains and competencies developed by IPEC. As a third national consensus collaborative, in 2012 the Society for Simulation in Healthcare (SSH) and the National League for Nursing's (NLN) symposium–supported in part by the Josiah Macy Jr. Foundation–on interprofessional education and healthcare simulation explored the use of simulation as an instrument for advancing interprofessional education (IPE) and interprofessional practice (IPP) using the domains and competencies developed by IPEC.

Establishing simulation as an effective vehicle for IPE, the recommendations and proceedings detailed here represent the consensus of an interprofessional panel composed of 29 leaders representing 27 key healthcare organizations and a summary of the discussions and findings of a 76 session symposium (out of 129 submitted abstracts) with a total of 454 registered attendees. The report articulates agreement that simulation is a powerful tool that should be leveraged in IPE. The dialogue describes the current science of simulation for IPE and a future for this type of quality healthcare education that can be attained through collaborations and research. This report includes: a description of current models for the use of healthcare simulation to enhance interprofessional education (IPE) for healthcare professionals (including strengths and weaknesses); identification of gaps in knowledge related to the use of simulation to enhance IPE; recommendations on how to address challenges and barriers to its use; and description of opportunities for further collaborations and research.

Current Simulation-Enhanced IPE Models, Barriers, And Opportunities

Invited representatives from medicine, nursing, dentistry, allied health, accreditation, and patient safety organizations presented current models, practices, barriers, and opportunities for furthering IPE through simulation.

While the presentations varied, common themes that included IPE were often inconsistent, fragmented, and non-standardized. The presentations consistently noted discipline compartmentalization, regulatory bodies, role confusion, expense and time for simulation as concerns for simulation-enhanced IPE.

Current Practices of Simulation-Enhanced IPE			
Organization	**Current Simulation-Enhanced IPE Practices**	**Barriers Identified**	**Opportunities for Further Collaborations and Research**
Accreditation Perspective			
The Joint Commission	The 7 Standards and Elements of Performance reinforce IPP and education and may be leveraged in organizations that plan to advance IPE programs.	• Lack of Alignment and oordination between competency and certification requirements • Organizational infrastructure for performance improvement	• Reduce and mitigate risk in high risk processes • Analyze actual events to improve understanding of communication defects and cultural barriers • Focus on eliminating "never events
Allied Health, Dental, EMS, and Pharmacy Perspectives			
The Association of Schools of Allied Health Professions (ASAHP)	Simulation-enhanced IPE models in allied health originally evolved from the reorganization of health related disciplines/colleges at the University of South Alabama. Current practices include simulation childbirth and pediatric mega code simulations, critical care orientation, skills training, demonstration of positive or negative professional and ethical behaviors and as a stimulus for conversation across disciplines.	Lack of • Research • Support • Educational programs The challenge of cultural change.	• Incorporating mandates for IPE competencies • Develop simulation-based activities and expanded case scenarios that are valid, are directed towards measured outcomes, and are specifically tied to improved patient care

The American Dental Education Association (ADEA)	Current expectations in simulation-enhanced IPE include developing effective IP communication skills, promoting understanding of how effective IP communication can improve patient care and how oral healthcare teams can be integrated into an IP team approach to patient care.	Need for: • Learner knowledge (roles and responsibilities for collaborative practice) • IP Communication • Policy (IP teamwork and infrastructure)	• Collaborative teaching to define roles and responsibilities for IP practice • Development of educational activities that promote IP communication • Definition of IP teamwork and team-based care • Establishment of cost-sharing models, best practices, central facilities, scheduling • Management of complex patients and the development of communication skills
The National Association of EMS Educators (NAEMSE)	There are simulation-enhanced IPE and collaborative activities throughout the EMS community; however, groups continue to work in "silos." The use of standardized patients has been the most common practice for many years.	Lack of: • Interdisciplinary interaction in education and practice • Shared practices Poor infrastructure	• Collaboration
The American Association of Colleges of Pharmacy (AACP)	An issue of the American Journal of Pharmacy Education(2011) focused entirely on simulation learning in pharmacy education. Most simulations in pharmacy are interprofessional and are directed at clinical care of patients and working together with other health professions to improve the outcomes associated with medication therapy.	Need for: • Learner knowledge • Infrastructure gaps • Policy	• Acute care and ambulatory care, IP learning and professionalism • Use of mannequins, computer-based learning case simulations, and OSCEs

Nursing Perspectives			
Invited participation included: the National League for Nursing (NLN), the American Association of Colleges of Nursing (AACN), the American Nurses Association (ANA), the American Organization of Nurse Executives (AONE), the International Nurses Association for Clinical Simulation and Learning (INACSL), and the Quality and Safety in Nursing (QSEN)	In 2011, 25 nurse leaders with expertise in the use of simulation participated in the 2011 Simulation for IPE Guidelines Nursing Think Tank. Simulation-based IPE activities take many forms from telehealth and online simulated IPE to collaborative education in simulation programs and community disaster exercises.	• Resource limitations • Logistical challenges of scheduling • Administrative Barriers • Faculty Resistance (lack of recognition of IPE as part of workload) • Role confusion	• Develop a simulation-based model for IPE/IPP • Recommend TeamSTEPPS communication training • Gain policy-maker recognition, endorsement, and funding • Achieve adoption of the IPEC definition and standards • Attain documentation of research and practice and administrative support • Make new teaching/learning materials available

Medical Perspectives			
The Association of American Medical Colleges (AAMC)	Simulation is utilized for team training and for the assessment of team skills. Simulation-enhanced IPE range from tabletop exercises to team-based objective structured clinical exams (TOSCE) for IP discharge planning. An interprofessional portal on the MedEdPORTAL platform is being developed.	• Too few proven models for team training • A paucity of shared resources for teaching IP professionalism, ethics, communication, roles • Lack of psychometrically sound tools to assess team skills in individual and teams •Lack of research on the relationship between performance in simulation and performance in practice	• Cross-disciplinary IP research on the impact of simulation as preparation for team-based care is needed • MedEdPORTAL
The American Association of Colleges of Osteopathic Medicine (AACOM)	Osteopathic medical schools are brainstorming on how to implement simulation with the increasing IPE activities. Simulation-enhanced IPE include the use of TOSCEs with initial outcomes showing higher scores in IPE competencies. There are plans to create a virtual IP community.	Gaps in: • Curriculum mapping and coordination • Funding and faculty resources	• Asynchronous care • Acute rapid response • Synchronous care • Community tabletop disaster preparedness and response

Practice Setting Perspective			
The American College of Surgeons (ACS)	There are a number of innovative simulation-based education and training IPE programs from online training to OSCEs and mannequin-based simulation using animations, laboratory data, and radiologic films. The ACS/ APDS Surgical Skills Curriculum is based on simulation and includes Team-based Training Scenarios. The ACS Annual Surgeons as Leaders Course emphasizes IPE using simulations.	• Lack of robust evaluation strategies to objectively demonstrate the impact of IPE on healthcare quality and safety • Insufficient train-the-trainer programs • Logistical challenges •Traditional compartmentalization of regulating bodies	•Design of innovative programs that involve participation by learners from various healthcare professions and assessments by teams of trained faculty from the respective healthcare professions • Sharing of innovative curricula and best practices •Demonstration of the impact of education and training on quality and safety •Development of new simulation and simulators
International Medicine Perspective			
The Royal College of Physicians and Surgeons of Canada (RCPSC	There are simulation-enhanced IPE activities including Acute Critical Event Simulation (ACES) and Rapid Team Training customized for nurses, physicians, and specialty teams in acute critical care. RCPSC uses simulation-enhanced IPE to study how patients are transferred between teams.	• Vague and ambiguous curricula • Logistics of engaging employees and non-employees in the practice environment	• Formative assessment • Development of technical and non-technical skills • System improvement and patient safety •Local to global collaboration

Recommendations:

Consensus recommendations were developed for organizations and for individuals.

The recommendations for organizations fell under two main strategic categories, *Building Capacity and Support for Simulation-enhanced IPE and Promoting IPE through Simulation*.

For the first organizational goal, *Building Capacity and Support for Simulation-enhanced IPE*, the stakeholders agreed that action areas include

- making efforts to link IPE to evidence-based quality and patient safety outcomes; and
- reviewing current materials and simulation scenarios to ensure inclusion of and alignment with IPEC competencies.

The second organizational goal, *Promoting IPE through Simulation*, focused more on communication actions, such as developing core messages to create and send a consistent message about simulation-enhanced IPE. To this end, organizations can

- create and promote awareness of the value of simulation-enhanced IPE using traditional and social media to announce progress and events; and
- host conferences and educational events to raise awareness, promote and provide education about simulation-enhanced IPE.

Gaps in Knowledge in Simulation-Enhanced IPE

Commonly reported gaps in knowledge include
• the lack of substantive and specific accreditation mandates;
• insufficient infrastructure and resources;
• a paucity of research support mechanisms that demonstrate the impact of simulation-enhanced IPE on quality and safety;
• logistical problems (e.g. scheduling and coordination); and
• cultural differences between professions.

There were ten recommendations developed for individuals:

1. Examine personal assumptions, knowledge and skills relative to healthcare simulation, IPE, and simulation-enhanced IPE.
2. Identify and engage local spheres of influence and share information about the IPEC competencies.
3. Conduct formal and informal educational offerings.
4. Promote IPE and simulation-enhanced IPE through the use of social media.
5. Participate in regional, state, and national conferences to showcase and learn more about simulation-enhanced IPE.

6. Submit manuscripts and publications about simulation-enhanced IPE.
7. Review and enhance current simulation scenarios to ensure that they align with the IPEC competencies.
8. Use research reports to provide evidence which link simulation-enhanced IPE to quality and safe patient outcomes.
9. Employ evaluation tools that focus on IPE.
10. Access and add simulation-enhanced IPE resources through the MedEdPortal or I-collaborative.

Introduction

Purpose

The purpose of this proceedings report is to summarize the findings of the 2012 Invitational Meeting of Key Stakeholders in Interprofessional Education and Healthcare Simulation. The intent of the meeting was to explore the use of simulation as an instrument for advancing interprofessional education and practice.

Three specific goals of this report include the following:

1. Describe current models (including strengths and weaknesses) for the use of healthcare simulation to enhance interprofessional education (IPE) for healthcare professionals
2. Identify gaps in knowledge related to the use of simulation to enhance IPE, as well as how to addresses challenges and barriers to its use.
3. Articulate opportunities for further collaborations and research.

This report summarizes current practices and expectations of IPE and simulation in health profession's education from the perspective of various stakeholder organizations. It describes current evidence related to the effectiveness of simulation-enhanced IPE and examines current use, opportunities and challenges to advancing IPE education and practice. The report uses, as its foundation, the core competencies developed for IPE by the Interprofessional Educational collaborative (IPEC, 2011). Consensus findings are discussed and recommendations for next steps are made for both organizations and individuals.
It is anticipated that this report will be useful to health profession educational programs as they develop and refine their individual and collaborative IPE efforts. The information, recommendations and opportunities set forth in this document are intended to foster the use of simulation to achieve the goals of IPE, as well as catalyze collaborations and research directed towards making IPE and the acquisition of IPEC competencies a reality.

Background and Definitions

To create a foundation for deliberation and consensus building, attendees at the invitational meeting of key stakeholders discussed the history of current IPE and practices and identified common definitions of IPE. The attendees agreed to use the World Health Organization (WHO) definitions for interprofessional collaborative practice and interprofessional education.

The WHO describes interprofessional (IP) collaborative practice as occurring, "when multiple health workers from different professional backgrounds work together with patients, families, caregivers, and communities to deliver the highest quality of care." WHO (2010) also stated that IP collaborative practice is vital to safe, high quality, accessible, patient-centered care

While IPE may be a new concept to some, it has been at the forefront of national discussions since the early 1970s (IPEC, 2011). At the first Institute of Medicine (IOM) conference in 1972, "Interrelationships of Educational Programs for Health Professionals," and in the related report "Educating for the Health Team" (IOM, 1972), 120 leaders from allied health, dentistry, medicine, nursing, and pharmacy considered key questions about IPE. The question of how to use the existing health workforce optimally and cost-effectively

to meet patient, family, and community health care needs was central. Deliberations focused on cooperative efforts in the form of teams sharing common goals and incorporating the patient, family, and/or community as a member to improve care.

The consensus then, as it is now, was that the existing educational system is not preparing health professionals for teamwork. Although the 1972 Conference Steering Committee made several important recommendations and encouraged funding for IPE in the Health Resources and Service Administration (HRSA), IPE programs were primarily elective and targeted few students. Similar recommendations have been made over the years; and while IP collaborative care has been adopted by some specialized areas of healthcare, it is still very far from the norm in health profession's education. With the emergence of larger-scale practice issues over the last decade (widespread patient error associated with preventable mortality, quality, cost and system inadequacy issues), there is now momentum and broad-based support for changes in health profession's education, including a unifying focus on competencies for teamwork and team-based care. While some progress has been made in incorporating teamwork and team-based care into the practice setting, the health professions' educational movement toward incorporating IP collaborative competency expectations across all disciplines has not kept pace (IPEC, 2011) (Appendix A).

In 2010, inspired by the belief that IP collaborative practice is key to the safe, high quality, accessible, patient-centered care, six associations (the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of Colleges of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health) convened an expert panel to form the Interprofessional Education Collaborative (IPEC) to produce a report on the core competencies for IP collaborative practice (IPEC, 2011).

They developed a common vision for how the respective professions could combine their unique abilities to deliver patient-centered, team-based care, promote efforts to reform healthcare delivery, provide financing in line with that vision, and foster meaningful IP learning experiences to support team-based care of the future. Importantly, the panel identified working definitions of IP education and IP collaborative practice and detailed the core competencies essential for IP collaborative practice, current educational experiences, and curricular models.

In their 2011 report, IPEC presented an expectation of effective IP collaborative practice beginning with the development of IP competencies in health profession students who actively work as members of clinical teams as part of their learning process (IPEC, 2011). In this way, newly graduated health professionals would enter the workforce competent in the essential skills of teamwork and team-based care. The IP collaborative competencies (Table 1) were built on each profession's discipline-specific competencies. The development of IP collaborative competencies through IPE requires moving beyond these discipline-specific educational efforts to engage students of different professions in interactive learning with each other. Being able to work effectively as members of clinical teams, while in the student role, is a fundamental part of that learning.

Core Competencies for interprofessional Collaborative Practice from the Interprofessional Education Collaborative

1. General Competency Statement-VE. Work with individuals of other professions to maintain a climate of mutual respect and shared values.

Specific Values/Ethics Competencies:

VE1. Place the interests of patients and populations at the center of interprofessional health care delivery.

VE2. Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.

VE3. Embrace the cultural diversity and individual differences that characterize patients, populations, and the health care team.

VE4. Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.

VE5. Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services.

VE6. Develop a trusting relationship with patients, families, and other team members (CIHC, 2010).

VE7. Demonstrate high standards of ethical conduct and quality of care in one's contributions to team-based care.

VE8. Manage ethical dilemmas specific to interprofessional patient/ population centered care situations.

VE9. Act with honesty and integrity in relationships with patients, families, and other team members.

VE10. Maintain competence in one's own profession appropriate to scope of practice.

2. General Competency Statement-RR. Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of the patients and populations served.

Specific Roles/Responsibilities Competencies:

RR1. Communicate one's roles and responsibilities clearly to patients, families, and other professionals.
RR2. Recognize one's limitations in skills, knowledge, and abilities.
RR3. Engage diverse health care professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific patient care needs.
RR4. Explain the roles and responsibilities of other care providers and how the team works together to provide care.
RR5. Use the full scope of knowledge, skills, and abilities of available health professionals and health care workers to provide care that is safe, timely, efficient, effective, and equitable.
RR6. Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention.
RR7. Forge interdependent relationships with other professions to improve care and advance learning.
RR8. Engage in continuous professional and interprofessional development to enhance team performance.
RR9. Use unique and complementary abilities of all members of the team to optimize patient care.

3. General Competency Statement-CC. Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease.

Specific Interprofessional Communication Competencies:

CC1. Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.
CC2. Organize and communicate information with patients, families, and health care team members in a form that is understandable, avoiding discipline-specific terminology when possible.
CC3. Express one's knowledge and opinions to team members involved in patient care with confidence, clarity, and respect, working to ensure common understanding of information and treatment and care decisions.
CC4. Listen actively, and encourage ideas and opinions of other team members.

CC5. Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.
CC6. Use respectful language appropriate for a given difficult situation, crucial conversation, or interprofessional conflict.
CC7. Recognize how one's own uniqueness, including experience level, expertise, culture, power, and hierarchy within the health care team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships (University of Toronto, 2008).
CC8. Communicate consistently the importance of teamwork in patient-centered and community-focused care.

4. General Competency Statement-TT. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective, and equitable.

Specific Team and Teamwork Competencies:

TT1. Describe the process of team development and the roles and practices of effective teams.
TT2. Develop consensus on the ethical principles to guide all aspects of patient care and teamwork.
TT3. Engage other health professionals—appropriate to the specific care situation—in shared patient-centered problem solving.
TT4. Integrate the knowledge and experience of other professions— appropriate to the specific care situation—to inform care decisions, while respecting patient and community values and priorities/preferences for care.
TT5. Apply leadership practices that support collaborative practice and team effectiveness.
TT6. Engage self and others to constructively manage disagreements about values, roles, goals, and actions that arise among health care professionals and with patients and families.
TT7. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.
TT8. Reflect on individual and team performance for individual, as well as team, performance improvement.
TT9. Use process improvement strategies to increase the effectiveness of interprofessional teamwork and team-based care.
TT10. Use available evidence to inform others on effective teamwork and team-based practices.
TT11. Perform effectively on teams and in different team roles in a variety of settings.

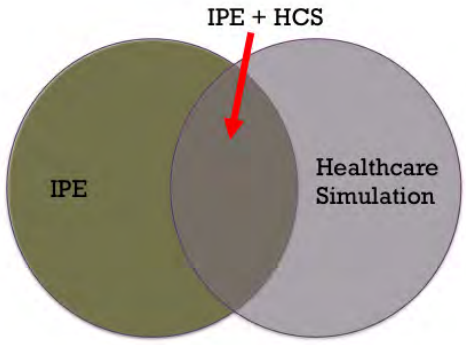
Table 1: Interprofessional Collaborative Practice Competency Domains (Retrieved from Interprofessional Education Collaborative Expert Panel. (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Washington, D.C.: Interprofessional Education Collaborative.)

While much remains to be understood about the optimum ways to assist students in learning IP competencies, it was suggested that educational technologies such as online learning, distance technologies, networking innovations, and simulation-based methodologies could help to model the real world of practice, where teamwork often happens asynchronously across time and space.

A Simulation Focused Approach to IPE and IP Practice

In 2011, the Society for Simulation in Healthcare (SSH) and the National League for Nursing (NLN) identified an opportunity to enhance IPE outcomes by better understanding and leveraging the intersection between IPE and simulation (Figure 1).

Figure 1: Relationship between IPE and Healthcare Simulation



SSH is a multi-disciplinary, multi-specialty, international society that includes medical, nursing, allied health and paramedical personnel, as well as representatives from the simulation industry. With over 3,000 educators, clinicians, technologists, and researchers as members, the organization is united by the desire to improve performance, enhance patient safety and quality, and reduce errors in healthcare by employing a full array of simulation methodologies and techniques from task trainers and patient simulators to virtual reality, computer-based simulations, and standardized patients. SSH believes that simulation is an effective vehicle for achieving and evaluating the IP competencies set forth by IPEC (IPEC, 2011).

Dedicated to excellence in nursing, the National League for Nursing is the premier organization for nurse faculty and leaders in nursing education. The NLN offers professional development, networking opportunities, testing services, nursing research grants, and public policy initiatives to its 37,000 individual and 1,200 institutional members. NLN members represent nursing education programs across the spectrum of higher education and healthcare organizations.

To achieve their common goal, SSH and NLN conceptualized a joint educational offering combined with an invitational meeting of key stakeholders in IPE education and practice. Supported in part by a grant from the Josiah Macy Jr. Foundation, the Interprofessional Education and Healthcare Simulation Symposium was convened in conjunction with the 2012 International Meeting for Simulation in Healthcare (IMSH) in San Diego, California. Adopting the IP

competencies set forth in the Core Competencies for Interprofessional Practice Report (IPEC, 2011), the goals of the Symposium included increasing knowledge about IPE, enhancing understanding about how simulation can facilitate IP education and practice, and creating momentum for further progress.

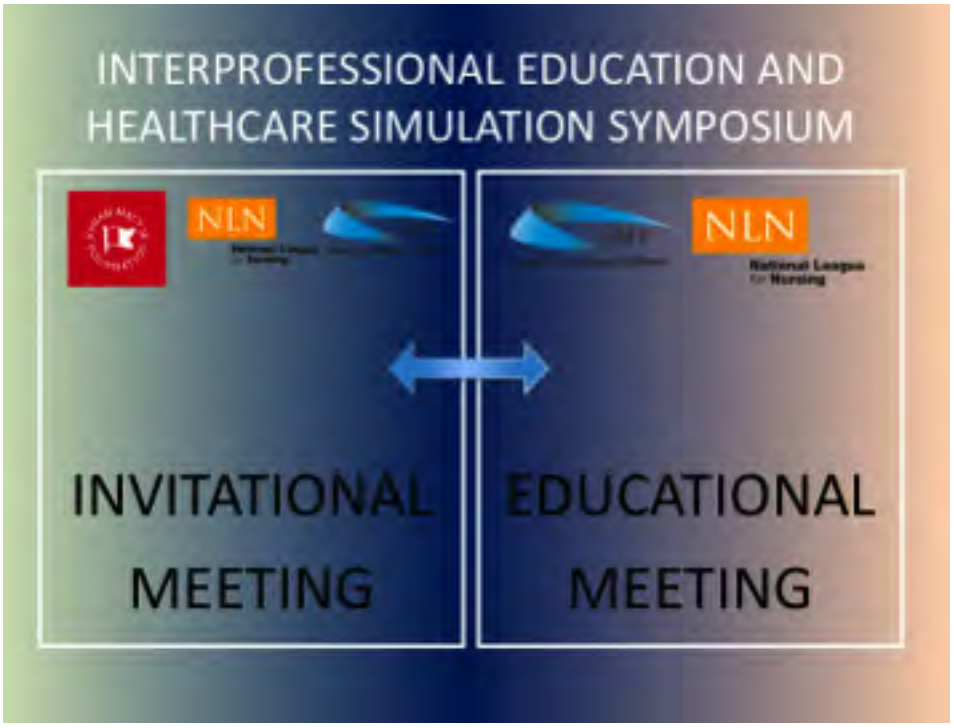


Figure 2: Representation of IPEHCSS tracks

An open invitation was sent to members of the SSH and NLN for abstracts describing interprofessional simulation-based activities. One hundred and twenty nine (129) abstracts were submitted and reviewed; 76 were accepted and categorized according to a modified four level framework of learner assessment (Issenberg, McGaghie, Paetrusa, Gordon & Scalese, 2005). The number of abstracts by type were: Implementation Models (n = 6), Planning Models (n = 4), International Models (n = 5), Evaluation Models (n = 3), Faculty Development Models (n = 5), Simulation Activity Models (n = 16), and Research Models (n = 35). Table 2 outlines (by level) the percentage of abstracts presented during the symposium that reported measurable impact from IPE simulation activities. Authors were invited to present their efforts via poster sessions, podium presentations, or professor rounds. This collection of presentations served to provide an overview of the current practice in IP simulation and echoed the perspectives, gaps, barriers, misnomers, and opportunities that were identified and outlined by the invited stakeholders.

Levels	Effectiveness Area	Percent of abstracts reporting an impact from IPE at this level
Level1	Participation Effectiveness in educational experiences	63%
Level 2a	Change of attitudes	33%
Level 2b	Change of knowledge and/or skill	27%
Level 3	Behavioral change	35%
Level 4a	Change in professional practice	3%
Level 4b	Benefits to patient	4%

Table 2: Percent of abstracts, by level, reporting an impact from IPE (Levels adapted from Issenberg, S. B., McGaghie, W. C., Petrusa, E. R., Gordon, D. L. and Scalese, R. J. (2005) 'Features and uses of high-fidelity medical simulations that lead to effective learning: a BEME systematic review', Medical Teacher, 27(1), 10-28.

Current Models, Practices and Barriers to Simulation-Based IPE

In his opening remarks at the Symposium, Dr. Stephen Schoenbaum, Special Advisor to the President of the Josiah Macy Jr. Foundation noted, "the need is great; the time is ripe" for health professions to make substantive efforts to integrate IPE into health education programs.

Invited representatives from key stakeholder organizations representing medicine, nursing, dentistry, allied health, accreditation, and patient safety organizations provided short, structured presentations during the opening session. (See Appendix C for a summary of presentations.) The presentations were designed to provide insight into the various perspectives from the field on current practice and expectations of simulation-based IPE, descriptions of existing IPE programs (target audiences, outcome measures, etc.), major gaps to achieving the IPE competencies, and opportunities for simulation-based IPE and for organizations to collaborate. The consensus from the field indicated the climate is indeed ripe to advance safety and improve quality care through simulation-enhanced IPE.

Examples of IPE in general and simulation-enhanced IPE efforts in particular varied across the organizations in terms of scope, integration, purpose and longevity. While a few programs report a long history of IPE, (e.g., University of Colorado added IPE into their program in 1999) the majority of programs are relatively new. Few programs have begun to report a measurable impact from their simulation-enhanced IPE efforts. For example, Western University of Health Sciences has incorporated Team Observed Structured Clinical Encounters (TOSCE) and TeamSTEPPS® components into their educational program. Initial reports reveal that that students who participated in team training scored higher on team based/IPE competencies.

While there was great variability in the examples of simulation-enhanced IPE, there was consistency across the organizations in terms of the gaps, opportunities, barriers as well as strategies to overcome them.

The majority of presenters noted that the current climate for IPE is often poorly defined, inconsistent, fragmented, and non-standardized. Common concerns expressed included the traditional compartmentalization of disciplines and regulatory bodies. Role confusion within each profession was also seen as a hindrance to implementing simulation-enhanced IPE as was the cost for purchasing equipment (or space in existing simulation centers) and the time necessary for planning.

The Royal College of Physicians and Surgeons of Canada's Dr. Susan Brien, Registrar and Associate Director of Professional Affairs presented an international perspective on IPE and simulation. Dr. Brien shared challenges experienced in her country such as IPE integration into ill-defined curriculum and the logistical issue of engaging employees and non-employees in a practice environment. She, as well as other presenters, advocated for collaboration to further advance simulation-based IPE initiatives between individuals, institutions, national organizations, regulatory organizations, public and private agencies, and all stakeholders.

Three organizations reported progress in the policy arena. Both the National League for Nursing Accrediting Commission (NLNAC) and the Commission of Collegiate Nursing Education (CCNE) address IPE in their nursing education

accreditation documents and the American Association of Colleges of Pharmacy (AACP) reported that the Accreditation Council for Pharmacy Education (ACPE) newest standards include acceptance of simulation learning, especially when focusing on IPE, team work, and patient safety.

The Invited Stakeholders Session

Following the opening presentations, the invited organizational representatives (N=29) separated from the attendees at the educational portion of the Symposium. Under the guidance of a professional facilitator, they engaged in a working meeting with interactive discussions to further explore the current state of simulation-enhanced IPE, challenges and barriers to implementation in each professional domain, and develop recommendations related to the use of simulation to facilitate the integration of IPE into health profession's education. (See Appendix Dfor a detailed description of how the stakeholders' session was conducted.)

To guide the discussions, five key assumptions were identified and used as a foundation for the development of recommendations (See Table 3).

Table 3: Five Key Assumptions Used as a Foundation for the Work of the Invited Organizational Stakeholders

1. *The Core Competencies for Interprofessional Practice* (IPEC, 2011) formed the framework for the exploration of the current state, opportunities, barriers/challenges, and strategies for simulation enhanced IPE. The 38 competencies are organized under four (4) domains (Values/ Ethics, Roles/ Responsibilities, Interprofessional Communication, Teams and Teamwork [See Table 1]).
2. Excellent health care does not happen by accident. It begins with a thorough assessment of health needs and depends heavily on the healthcare team's ability to cooperate and communicate. Effective teamwork requires specific education directed at working as an effective team and team member, as well as the opportunity to practice the learned concepts. Health profession's education currently offers limited opportunities for practiced interaction with students of other disciplines. Simulation offers an opportunity to address these needs.
3. Interprofessional education is necessary if the quality of healthcare is to be improved and patient safety maximized through effective interprofessional practice.
4. Experiential learning with simulation is a useful method for educating healthcare students and providers in both discipline-specific experiences and in IPE activities. The use of simulation is expanding to meet the needs of the health professions.
5. Discussion and collaboration among health disciplines, professional organizations, safety advocates, and other healthcare leaders around the use of simulation are effective ways to initiate and stimulate IPE endeavors.

Consensus Findings from the Invited Stakeholders Session

Consensus revealed that the climate is indeed ripe to advance safety and improve quality care through simulation-enhanced IPE. All organizations were able to identify specific areas that could benefit from simulation-enhanced IPE and recognized the opportunity to leverage emerging technologies (virtual reality, serious gaming, telehealth, etc.) to do so. The stakeholder representatives identified opportunities and barriers associated with adoption of simulation-enhanced approaches to each of the four core domains for IPEC competencies. [A detailed Table of Findings for each IPEC Core Domain can be found in Appendix E.]

Current Models for the Use of Simulation to Enhance IPE

The examples shared by symposium participants demonstrated various strategies to promote IPE in the academic setting. Many of the presenters indicated that participation in IPE programs was voluntary. Washington State University representatives reported the development of a Health Care Team Challenge activity, which brings students from - many health disciplines of the campus together on teams to interview a single patient with a chronic illness and simulate the design of a plan of care for that

individual. The teams then present their plans to a panel of judges of different health disciplines. Teams are evaluated on their ability to work together and demonstrate this by receiving additional questions and simulated patient problems to report on during the final moments of the competition.

Other models had required IPE activities where students of different disciplines participated in assigned simulation activities. One example discussed in the nursing report from St. Mary's Center for Education in Huntington, WV, where nursing, medical imaging, and respiratory care students were assigned roles on the hospital patient response team during their clinical rotations. Students prepared for and responded to simulated patient emergencies as a team during the course of the clinical day.

Knowledge Gaps – Barriers and Challenges

While there was great variability in the examples of simulation-enhanced IPE activities reported by the invitees, there was consistency in the gaps and opportunities identified across the organizations. Commonly reported reasons for slow growth of simulation-enhanced IPE include:

- The lack of substantive and specific accreditation mandates (ACGME competency requirements, certification requirements, etc.)
- Insufficient infrastructure and resources (funding, directed faculty development support, limited educational materials)
- A paucity of research support mechanisms (appropriate evaluation instruments, assessment tools, evaluation strategies) that demonstrate the impact of simulation-enhanced IPE on quality and safety
- Logistical challenges:
  - Lack of curriculum mapping and integration across discipline-specific educational programs, how to conduct programs when the discipline ratios are disproportionate
  - How to schedule time for IPE activities when each discipline has existing schedules
  - How to coordinate programs when there is a lack of co-located health professions' partners
- Cultural challenges (faculty and administrative resistance, traditional compartmentalization of regulatory bodies)

The group expressed the need for changes in policy, culture and infrastructure in order to foster the development and use of simulation-enhanced IPE models.

Opportunities for Future Collaboration and Research

Collaboration to further simulation-enhanced IPE initiatives was advocated between individuals, institutions, national organizations, regulatory organizations, as well as public and private agencies committed to enhancing patient safety and quality care. In terms of networking and sharing best practices, it was noted that the MedEdPortal website, sponsored by the Association of American Medical Colleges (AAMC), is available as an online repository for IPE learning and assessment tools, best practices, etc. MedEdPortal is a free and open education resource and publication service provided by the AAMC in partnership with the American Dental Education within which there is a section for interprofessional initiatives with templates and guidelines for simulation-enhanced submissions. (https://www.mededportal.org/about/initiatives/). Materials undergo a peer-review process prior to final

posting on the site.

At present, only materials using medical or dental terminology formatting can be posted, but it may be possible to open it to other health professions in the future. Another promising area for networking sponsored by the AAMC is the I-collaborative - an area where non-peer reviewed materials can be shared or posted (https://www.aamc.org/icollaborative/).

Recommendations

Recommended Next Steps for Organizations

Consensus recommendations for next steps for organizations fell under two main strategic categories, Building Capacity and Support for Simulation-enhanced IPE and Promoting IPE through Simulation.

For the first organizational goal, Building Capacity and Support for Simulation-enhanced IPE, the stakeholders agreed that action areas include:

- Making efforts to link IPE to evidence-based quality and patient safety outcomes.
  - Organizations can support research in the area of simulation-enhanced IPE as well as dissemination of best practices in simulation-enhanced IPE.
  - Although valid and reliable tools are needed for this kind of inquiry, organizations can assist by recommending the use of tools that are currently available. For example, the Readiness for Interprofessional Learning Scale (RIPLS) (Parsell & Bligh, 1999), the Interdisciplinary Education Perception Scale (IEPS) (McFadyen, Maclaren, & Webster, 2007), and the Interprofessional Attitudes Questionnaire (IAQ) (Carpenter, 1995).
- Reviewing current materials and simulation scenarios to ensure inclusion of and alignment with IPEC competencies.

The second organizational goal, *Promoting IPE through Simulation*, focused more on communication actions, such as developing core messages to create and send a consistent message about simulation-enhanced IPE. To this end, organizations can:

- Create and promote awareness of the value of simulation-enhanced IPE using traditional and social media to announce progress and events
- Host conferences and educational events to raise promote and provide education about simulation-enhanced IPE

Recommended Next Steps for Individuals

Ten practical steps were identified that individuals can take to help disseminate IPE competencies/domains and propel IPE and IPE-based simulation in their local sphere of influence (Table 4).

TABLE 4. TEN NEXT STEPS FOR INDIVIDUALS

1. Examine personal assumptions, knowledge and skills relative to healthcare simulation, IPE, and simulation-enhanced IPE.
2. Identify and engage local spheres of influence and share information about the IPEC competencies; explore and recruit potential partners for supporting simulation-enhanced IPE (e.g., retired health professionals or contacts met at symposiums and conferences).
3. Conduct formal and informal educational offerings, such as a brown bag lunch meetings, where the IPEC Competencies and the use of simulation-enhanced IPE can be discussed.
4. Promote IPE and simulation-enhanced IPE through the use of social media, to create an environment for people to talk with and learn from and about each other.
5. Participate in regional, state, and national conferences to showcase and learn more about simulation-enhanced IPE.
6. Submit manuscripts to publications about simulation-enhanced IPE to include editorials, position papers, and viewpoints.
7. Review current simulation scenarios to ensure alignment with the IPEC competencies; enhance these by developing an IPE planning, design and implementation team.
8. Use research reports to provide evidence which link simulation-enhanced IPE to quality and safe patient outcomes.
9. Employ evaluation tools that focus on IPE (i.e., RIPLS, EPS, IAQ, etc.).
10. Access and add simulation-enhanced IPE resources through the MedEdPortal or I-collaborative.

Feedback Sessions

Consensus findings and recommended strategies for individuals and organizations were reported to the attendees of the educational portion of the IPE in Healthcare Symposium and also during a designated session at the International Meeting on Simulation in Healthcare. Questions and comments were solicited and answers provided by IPEHSS leaders. The complete list of questions and comments gathered from the stakeholder validation session are located in Appendix F.

A pre-symposium survey suggests that simulation educators perceive mannequins, standardized and simulated persons and team-based activities to be the most effective modalities for IPE.

The results of this survey will be published in a separate manuscript (Palaganas & Anderson, in progress). Both the pre-symposium survey and audience responses revealed a need for standardized languages and areas for further study.

Summary

The remarkable response to the Invitational Meeting of Key Stakeholders in Interprofessional Education and Healthcare Simulation demonstrates that indeed the time has come to leverage simulation to achieve the goals of IPE. Henry Ford said, "Coming together is a beginning. Keeping together is progress. Working together is success." The invited representatives from the 22 participating organizations came together in San Diego and committed to moving forward to work with each other on several initiatives that included the following:

1. To continue as a dedicated task force to explore the most efficient and effective ways to use simulation-enhanced IPE
2. To use a committed approach that embraces diversity at all levels and begin with the examination of their own assumptions related to IPE and simulation
3. To continue their support for existing simulation-enhanced IPE efforts by leveraging individual resources and exploring funding sources to expand their collective efforts

In the six months since the event, the involved organizations have moved forward on these commitments. Activities have included:

- An editorial reporting on the IPEHCSS in Clinical Simulation in Nursing (Howard, 2012)
- A report in Nursing Education Perspectives about the IPEHCSS (Willhaus, 2012)
- A new online course on Simulation-based Interprofessional Education in development and slated for release by in the National League for Nursing in September on the Simulation Innovation Resource Center website (www.SIRC.nln.org).
- A podium presentation by a stakeholder attendee at Rutgers College of Nursing 30th Annual International Interprofessional Technology conference (Rizzolo, 2012)

In summary, there is agreement that simulation in all of its modalities–task training, team training, immersive experiences using standardized patients or manikins, screen-based simulations, virtual reality, serious gaming—is a powerful tool that should be leveraged in IPE. While the evidence is not yet robust enough to identify a single best way to achieve the desired competencies of interprofessional practice through simulation-enhanced IPE, the representatives

believe much will be accomplished by working together toward a common goal using varied collaborative efforts and forward-thinking research. Indeed, the need is great; the time is ripe.

References

A Nursing Perspective on Simulation and Interprofessional Education (IPE): A report from the National League for Nursing's Think Tank on using simulation as an enabling strategy for IPE. (2011)

Carpenter, J. (1995). Interprofessional education for medical and nursing students: evaluation of a programme. Medical Education, 29(4), 265-272.

D'Amour, D. & Oandasan, I. (2005). Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept. Journal of Interprofessional Care, 19 (Supplement 1), 8-20.

Freeth, D., Hammick, H., Reeves, S., Koppel, I., & Barr, H. (2005). Effective Interprofessional Education: Development, Delivery and Evaluation. Oxford: Blackwell.

Frenk, J., Chen, L., Bhutta, S.A., Cohen, J., Crisp, N., Evens, T. et al. (2010) Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. The Lancet, 676, 9756, 1923-1958.

Howard, V. (2012) President's message: Interprofessional education and healthcare simulation symposium. Clinical Simulation in Nursing, 8(3), e77. doi: 10.1016/j.ecns.2012.02.001

Institute of Medicine. (1972). Educating for the heath team. Washington, D.C.: National Academy of Sciences.

INASCL Board of Directors. (2011). Best Standards of Practice: Simulation. Clinical Simulation in Nursing , S3- S19.

Interprofessional Education Collaborative Expert Panel. (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Washington, D.C.: Interprofessional Education Collaborative.

The Joint Commission's Annual Report on Quality and Safety 2007: Improving America's Hospitals. Retrieved March 1, 2012 from http://www.jointcommission.org/assets/1/6/2007_Annual_Report.pdf.

Issenbert, S. B., McGaghie, W. C., Petrusa, E. R., Gordon, D. L., & Scalese, R. L. (2005). Features and uses of high fidelity medical simulations that lead to effective learning: a BEME systematic review. Medical

McFadyen, A. K., Maclaren, W. M., & Webster, V. S. (2007). The Interdisciplinary Education Perception Scale (IEPS): An alternative remodeled sub-scale structure and its reliability. Journal of Interprofessional Care, 21(4), 433-443. doi:10.1080/13561820701352531

Parsell, G. & Bligh, J. (1999). The development of a questionnaire to assess the readiness for health care students for interprofessional learning (RIPLS). Medical Education, 33, 95-100.

Rizzolo, M. A. (2012). Report of the SSH/NLN Interprofessional Education and Healthcare Simulation Symposium [podium presentation] at Rutgers College of Nursing 30th Annual International Interprofessional Technology Conference, New Brunswick, NJ.

Ten Cate, O. & Scheele, F. (2007). Competency-based postgraduate training: Can we bridge the gap between theory and practice? Academic Medicine, 82, 542-547.

University of Toronto. (2008). Advancing the interprofessional education curriculum 2009. Curriculum overview. Competency framework. Toronto: University of Toronto, Office of Interprofessional Education. Retrieved December 18, 2010 from http://www.interprofessionaleducation.utoronto.ca/std/docs/Core%20Competencies%20Diagram%202010.pdf

Willhaus, J. K. (2012). Headlines from the NLN: Working toward interprofessional education with simulation. Nursing Education Perspectives, 33(2), 134.

World Health Organization (WHO), (1988). Learning to work together for health. Report of a WHO Study Group on Multiprofessional Education for Health Personnel. The Team Approach Technical Report Series 769. Geneva: WHO.

World Health Organization (WHO), (2010). Framework for action on interprofessional education& collaborative practice. Geneva: World Health Organization. Retrieved February 12, 2012 from http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.p

Appendices

Appendix A: Three Frameworks for Collaborative Practice

1. "Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept" (D'Amour, D. and Oandasan, I. 2005).
2. "Framework for Action on Interprofessional Education and Collaborative Practice" (WHO Study Group on Interprofessional Education and Collaborative Practice 2010).
3. These two frameworks emerged from an interprofessional context (D'Amour and Oandasan 2005, WHO Study Group on Interprofessional Education and Collaborative Practice 2010). These frameworks highlight the dynamic interdependency of IPE (to enhance learner outcomes) and collaborative practice (to enhance patient care outcomes). IPE is seen as a means of improving patient-centered and community/population care (IPEC 2011). The WHO Framework suggests actions health profession's education and health systems can take to drive workforce planning and policy making to support IPE and IP collaborative practice for the improvement of healthcare (IPEC 2011).
4. "Health Professionals for A New Century: Transforming Education To Strengthen Health Systems in an Interdependent World" (Frenk et al., 2010).
5. A framework by the Commission on Education of Health Professionals for the 21st Century, addresses global health needs and seeks to strengthen health systems by the "promotion of interprofessional and transprofessional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams" (Frenk et al., 2010).

Appendix B: Organizations Invited to the Key Stakeholders Meeting

Organizations Invited to the Key Stakeholders Meeting in San Diego, CA
(In alphabetical order-representative names to be added)

American College of Surgeons

Accreditation Committee on Graduate Medical Education

American Academy of Medical Ethics

American Academy of Ophthalmology

American Association of Colleges of Nursing

American Association of Colleges of Osteopathic Medicine

American Association of Colleges of Pharmacy

American Dental Association

American Dental Education Association

American Medical Association

American Nurses Association National Center for Nursing Quality

American Organization of Nurse Executives

American Society of Anesthesiologists

American Society for Bioethics and Humanities

Association of American Medical Colleges

Association of Standardized Patient Educators

Association of Schools of Allied Health Professions

Josiah Macy Jr. Foundation

The Joint Commission

Institute of Healthcare Improvement

International Nursing Association for Clinical Simulation and Learning

National Association of EMS Educators

National League for Nursing

National Patient Safety Foundation

Quality and Safety Education for Nurses

Royal College of Physicians and Surgeons of Canada

Society for Simulation in Healthcare

Appendix C: Perspective Summary

Accreditation Perspective: The Joint Commission

Presenter

Ana Pujols-McKee, M.D., Executive Vice President and Chief Medical Officer of The Joint Commission (JC)

Background
The Joint Commission is an independent, not-for-profit organization founded in 1951 that accredits and certifies more than 19,000 healthcare organizations in the United States. Their vision is that all people always experience the safest, highest quality, best-value healthcare across all settings.

Summary

Dr. Ana Pujols-McKee began her presentation by acknowledging the importance of the symposium and the work being produced [in IPE] and stated that it will change the way medicine is practiced and care is delivered. Dr. McKee said that the JC is well aligned and ready for a completed product [in IPE]. The purposes of the evaluation process of the Joint Commission (JC) are to advance safety in the organizations and to improve the quality of care.

According to Dr. Pulois-McKee, most people are unaware that the Joint Commission also has a Center for Transforming Healthcare that operates as not-for-profit and is working in a collaborative way using robust process improvement tools with leading organizations to come up with solutions. Another not-for profit entity in the Joint Commission is the educational and consulting arm, which also conducts the International Accreditation Program of the Joint Commission.

The Joint Commission Standards (expectations) and Elements of Performance (how the organization meets the expectation) help the organizations prepare for their accreditation surveys. The 7 Standards and Elements of Performance can be leveraged in organizations that plan to advance [IPE] programs. Dr. Pulois-McKee stated that everything is based on a culture of safety. Translating IPE initiatives into collaboration requires a culture of safety. She defined a culture of safety as one in which the leadership is committed to zero defects; to robust process improvement tools; and where there is a sense of trust and respect with non-punitive attitudes or policies when accidents happen and individual accountability for reckless behavior.

By helping organizations manage counterproductive behavior, the JC helps create the environment for collaboration. Standard 2, “Leaders establish a team approach” and Standard 4 reinforce collaboration between

the mixes of disciplines. And the last 3 Standards are some of the ways the JC encourages the medical staff to coordinate, to participate, and to introduce [collaboration] into their practice. The hospital defines the competencies. The JC requires competency assessments. The staff participates in education and training that incorporates the skills of team communication, collaboration, and coordination of care. Participation is documented.

The Joint Commission 7 Standards and Elements of Performance

1. Leaders create and maintain a culture of safety and quality throughout the hospitals.
2. Leaders establish a team approach among all staff at all levels.
3. Leaders create and implement a process for managing disruptive and inappropriate behavior.
4. Leaders provide for a sufficient number and mix of individuals to support safe, quality care, treatment and services.
5. The organized medical staff participates in the coordination of care, treatment, and services with other practitioners and hospital personnel and, as relevant to the care, treatment, and services of an individual patient.
6. The hospital defines the competencies it requires of its staff and evaluates performance.
7. The staff participates in education and training that incorporate the skills of team communication, collaboration, and coordination of care and participation is documented.

Dr. Pulois-McKee shared that she is currently participating in an Academy at the JC and that some of training (Robust Process Improvement, Change Acceleration Management, Lean Six Sigma) parallels the work of the conference. The annual training includes 20-30 employees comprising multidisciplinary (physicians, nurses, engineers, technicians) training teams working together on projects and using simulation exercises for problem solving. So there are similar processes at work inside the JC.

In relation to current processes that limit the achievement of IP competencies and/or the full engagement of health professions education programs, Dr. Pulois-McKee identified the lack of alignment and coordination. While the Accreditation Council for Graduate Medical Education (ACGME) has competency requirements on performance improvements and the American Board of Internal Medicine and Medical Specialties has requirements on maintenance of certification requirements, they are not aligned with their organizations infrastructure of performance improvement.

Pulois-McKee went on to identify three opportunities that might be achieved with simulation-based IPE: (1) communication defects and cultural barriers, (3) focus on eliminating “never events”/wrong surgeries. reduce and

mitigate risk in high-risk processes, analyze actual events to improve understanding of

Pulois-McKee suggested collaboration and alignment opportunities with the ACGME, the Association of American Medical Colleges (AAMC), professional physician, nursing and technical professional organizations.

A important function of the JC is to review sentinel events. Dr. Pulois-McKee stated that the JC receives approximately 17,000 complaints per year (from families, patients, and healthcare workers), reflecting a climate of distrust and disrespect. [Something that simulation-based IPE could potentially help dispel.]

Dr. Pulois-McKee concluded, "Last year over 900 sentinel events [occurred], 120 of them wrong surgeries. The wrong surgeries were not corrected by any standards […] We would like to see a focused effort in wrong surgeries […] We are all working […] to improve the care and safety of the patient."

Allied Health, Dental, EMS and Pharmacy Perspectives

Presenter

Richard Talbott, PhD, President, The Association of Schools of Allied Health Professions

Background

The Association of Schools of Allied Health Professions (ASAHP) is a national professional organization for administrators, educators, and faculty concerned with critical issues affecting allied health education. Allied health encompasses over 160 disciplines and represents 3 million practitioners. The membership of the ASAHP consists of 112 academic institutions, two professional associations, and approximately 200 individual members.

Summary

With professionalism as their goal and simulation as their tool, the ASAHP is committed to increasing IPE/collaborative educational approaches, and IPE is included in their educational requirements. Dr. Talbott noted their model for use of simulation in IPE originally evolved from the reorganization of health related disciplines/colleges at the University of South Alabama. He presented a video that reviewed the multidisciplinary human patient simulation program at the University of South Alabama, Division of Health Science. Simulation is used in the emergency medical services training for paramedic students in their final semester. Students undergo a rigorous classroom instructional path and then immediately apply what they have learned on simulated patients. EMS students participate in childbirth and pediatric mega code simulations. The Department of Speech Language Pathology and Audiology use simulation in its graduate programs for critical care orientation using high fidelity simulators. The Department of Physician Assistant Studies uses simulation for first and second year instruction and training to educate students in both skills and diagnostic clinical decision-making. The Department of Radiologic Sciences uses simulation in their first and second year curriculum to train students in the skills needed to become qualified professionals.

Under the leadership of the Vice President of Health Sciences, Dr. Ron Franks, students at the Pat Capps Covey College of Allied Health Professions come together with nursing and medicine and observe simulated scenarios for enhanced multidisciplinary professional learning. These simulation seminars are used to demonstrate positive or negative professional and ethical behavior and to stimulate conversation across disciplines. Dr. Talbot noted that 6,800 students went through the four simulation laboratories last year.

How simulation has been used for IPE varies among the disciplines. Simulation is integrated into the second year clinical phase and used both for teaching individual disciplines and for IPE. Current professionalism components require every student in three colleges to participate. Group discussions, case studies and debates are the current form of IPE. Gaps identified include lack of research, support, educational programs and the

challenge of cultural change. Opportunities include incorporating mandates for IPE Competencies as defined by IPEC, developing simulation-based activities and expanded, valid case scenarios, directed towards measured outcomes and specifically tied to better patient care. The ASAHP sees this as a favorable time to collaborate and move forward with simulation-based IPE.

Presenter

Karen Novak, DDS, MS, PhD, Senior Vice President for Institutional Capacity Building, American Dental Education Association (ADEA)

Background

The American Dental Education Association (ADEA) is the sole national organization representing academic dentistry. Its membership includes more than 19,000 students, faculty, staff and administrators from all of the U.S. and Canadian dental schools, many allied and advanced dental education programs, and numerous corporations working in oral health education.

Summary

Dr. Novak began her presentation with a request that the other disciplines remember and include the dental discipline as they engage in conversations and collaborations about IPE and interprofessional collaborations in patient care. She used the analogy of the mouth as a window to the body to remind the audience that the early manifestations of chronic disease can often be discovered there. ADEA is one of the Interprofessional Education Collaborative (IPEC) member organizations and was a participant on the IPEC Expert Panel and a sponsor of its work, Core competencies for interprofessional collaborative practice: Report of an expert panel (IPEC 2011). Simulation clinics are embedded in the curriculum in every school. They can take the form of Dental Practice Management Simulations –computerized simulations of management decisions, virtual worlds like Second Life and Grand Rounds. Standardized patients are used in Behavioral Sciences to teach communication skills and patient interaction. The broadest most important use of simulation is in the Clinical Sciences and the development of clinical skills. Most dental schools in North America are equipped with Simulation Clinics and simulation has been embedded in the curriculum for years.

Expectations of simulation-based IPE include the ability to: develop effective IP communication skills in a safe environment, gain an understanding of how effective IP communication skills can improve patient care and integrate an IP team approach into patient care.

In an ADEA IPE simulation survey, 10 of 72 (13.9%) respondents reported that they have been engaged in IPE simulation activities. Dr. Novak noted ADEA would like to identify best practices that can be replicated in those schools not currently engaged in IPE simulation activities. As an example of a simulation activity that supported the acquisition of IPP competencies, Dr. Novak presented a simulation for a medical emergency in the dental clinical setting that was used to evaluate readiness for such emergencies. It included dentistry,

nursing, pharmacy, medicine, physician assistants and was implemented recently.

Gaps identified fell into 3 categories:

Learner knowledge – roles and responsibilities for collaborative practice, IP communication
Policy – IP teamwork and team-based care
Infrastructure – scheduling and cost

Opportunities cited included collaborative teaching to define roles and responsibilities for collaborative practice, development of educational activities that promote IP communication (learner knowledge), defining "IP teamwork and team-based care" (policy), establishment of cost-sharing models / best practices, central facilities, central scheduling (infrastructure), management of complex patients and medical emergencies and the development of communication skills.

As an opportunity to enhance IPE, Dr. Novak noted organizations could collaborate to develop a core set of IPE simulation exercises that can be shared among programs and IPE simulations for use in virtual worlds that bring distant/unique programs together. In addition, she noted an opportunity to design new IP healthcare models and evaluate their impact on patient outcomes.

Presenter

Chris Le Baudour, MsEd, EMT, Board of Directors, The National Association of EMS Educators (NAEMSE)

Background

The National Association of EMS Educators (NAEMSE) is a professional membership organization that consists of Program Directors, Deans, Training Officers, EMS Physicians, EMS Nurses and EMS State Officials. It has over 3,000 members and represents 20 countries. The NAEMSE mission is to inspire excellence in EMS education and lifelong learning within the global community.

Summary

Mr. Le Baudour expressed that NAEMSE is strategically poised to push forward with IPE, to help break down the silos and create liaisons and relationships. NAEMSE currently has liaisons with 13 organizations (Advocates for EMS, EMS Education Agenda Implementation Taskforce, NASEMSO, NHTSA, National Association of EMS Management, NREMT, CECBEMS, NAEMT, NAEMSP, ACEP, COAEMSP, CAAHEP, AHA). While live patient simulation has been common practice for years and the use of high fidelity manikins is increasing, most groups are still working in "silos". The gaps are a lack of interdisciplinary interaction, shared practices and a poor infrastructure. Through collaboration, best practices can be developed and more opportunities for

Presenter

Robert Kerr, PharmD, Vice President, Academic Affairs, The American Association of Colleges of Pharmacy (AACP)

Background

The American Association of Colleges of Pharmacy (AACP) is the national organization representing pharmacy education in the United States. It is comprised of all accredited colleges and schools with pharmacy degree programs accredited by the Accreditation Council for Pharmacy Education (127 colleges/schools), including approximately 57,000 professional degree students, 5,700 students enrolled in graduate studies and more than 5,800 full-time faculty. Its mission is to lead and partner with our members in advancing pharmacy education, research, scholarship, practice and service to improve societal health.

Summary

Dr. Kerr opened his remarks by stating that while pharmacy education continues to prepare graduates to work in drug distribution systems, a considerable aspect of pharmacy education is now directed at the clinical care of patients and working together with the other health professions to improve the outcomes associated with medication therapy. As a collaborator and sponsor, AACP is involved in significant activities in IPE through the Interprofessional Education Collaborative (IPEC). A recent Issue of the American Journal of Pharmacy Education (AJPE) focused entirely on simulation learning in pharmacy education (Vol 75, Issue 9, November 2011). Dr. Kerr reported that most of the work that pharmacy is executing in the area of simulation education is interprofessional in nature. Notably, the Accreditation Council for Pharmacy Education (ACPE) increased its standards to include a requirement for early experiential education throughout the first three years of pharmacy education with 20% allowable documentation for the use of simulation and the assessment of student performance in simulation environments (Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree (Adopted January 15, 2006, Guidelines 2.0, January 23, 2011, Guideline 14.5).

Dr. Kerr noted while there are several examples of IPE in Pharmacy Schools across the nation (University of Maryland, University of Missouri Kansas City, University of Southern California, etc.), his example "Simulation Case for an IP Learning Group" is the collaborative program between the University of Washington and Washington State University, which involves nursing, physician assistant, and doctor of pharmacy students. The case utilizes SimMan in an Emergency Department environment; recumbent SimMan is experiencing severe shortness of breath. The team of nursing students, PA students, and PharmD students work with this simulation for the purposes of demonstrating that they have the appropriate discipline specific skills and that they know how to communicate to the other professions about the particular case. Then there's a debrief afterwards and some very specific action steps that the students are expected to employ. An assessment

of student performance is included.

As noted above, gaps identified fell into 3 categories:

1. Learner knowledge (skills in patient assessment, IP communications, IP professionalism)
2. Infrastructure (the need for viable IP care models where each profession plays a critical role in achieving health outcomes, the logistical challenge that less than 50% of colleges/schools of pharmacy are on Academic Healthy Center campuses)
3. Policy (the focus on intraprofessional needs vs. interprofessional needs)

The Accreditation Council for Pharmacy Education (ACPE) now accepts simulation learning for up to 20% of Introductory Pharmacy Practice Experience (experiential learning during the first 3 years of a 4-year Pharm.D. curriculum). There are opportunities for acute care and ambulatory care patient care IP learning and IP Professionalism and for the use of human patient simulators, computer based learning case simulations, Objective Structured Clinical Examinations (OSCE's).

Other examples of collaboration include the Pharmacogenomics: National Human Genome Research Institute (http://www.genome.gov/), HRSA's Patient Safety and the Clinical Pharmacy Services Collaborative (http://www.hrsa.gov/publichealth/clinical/patientsafety/index.html).

Dr. Kerr concluded his presentation by mentioning that the AACP is participating in the Interprofessional Education Collaborative 2012 Institute where organizations bring representatives of at least three professions to work as a team with the goal of creating an implementable interprofessional education plan. (For more information visit http://www.aacp.org/meetingsandevents/2012IPECInstitute/Pages/default.aspx).

Nursing Perspectives: NLN, AACN, ANA, AONE, INACSL, QSEN

Presenter

Pam Jeffries, DNS, RN, FAAN, ANEF, Associate Dean, John Hopkins School of Nursing

Background

In preparing to present the unified nursing perspective on the use of simulation-enhanced IPE, the National League of Nursing (NLN) sponsored an invitational Simulation for IPE Guidelines Think Tank at the NLN Education Summit in September, 2011. A select group of 25 nurse leaders with expertise in the use of simulation participated, representing six organizations and a diverse group of three million nurses in practice, education and administration. Together, the National League for Nursing (NLN), American Association of Colleges of Nursing (AACN), American Nurses Association (ANA), American Organization of Nurse Executives (AONE), International Nurses Association for Clinical Simulation and Learning (INACSL) and the Quality and Safety in Nursing (QSEN) collaborated to share their perspective and experience of simulation-based IPE in nursing.

Summary

Each nursing association or organization represented in the NLN think tank is involved at some level in IPE. The NLN Education Competency Model features teamwork. The AACN was a participant on the Interprofessional Education Collaborative Expert (IPEC, 2011) and the AACN essentials documents for nursing education include IP learning. Both the AACN and the NLN address IPE in their accreditation documents. Created to address the challenge of preparing future nurses with the knowledge, skills and attitudes (KSA) needed to continuously improve the quality and safety of healthcare systems in which they work, the QSEN project identified teamwork and collaboration as one of the six core competencies for nursing pre-licensure programs. QSEN resources include published teaching strategies, faculty development modules, and an annotated bibliography of over 1000 citations (www.qsen.org).The INACSL has recently published Standards for Best Practices in Simulation (INASCL Board of Directors, 2011).

The nursing organizations identified the following as major gaps / barriers in IPE-based simulation:

- Resource limitations to develop and implement IPE, questions about bearing the cost of shared programs and resources
- Logistical challenges of scheduling across multiple programs, disproportionate numbers (120 nurses to 250 med students), lack of co-located health professions programs with which to partner
- Administrative/ faculty resistance and lack of recognition of IPE as part of workload
- Role confusion (assumptions about the scope of each other's practice)

The primary opportunities detailed were growing culture for quality and safety in healthcare by leveraging various technologies, virtual modalities and telehealth for synchronous and asynchronous simulation-based IPE.

Dr. Jeffries noted that in nursing, IPE is often a single experience or an elective course. While the need exists for an integrated sustainable model in the overall curriculum, there are, however, examples of successful programs. One such program has been in place since 1999 at the University of Colorado. All health professions' students (medical, nursing, pharmacy, dentistry, physical therapy and others) are required to take IPE courses and participate in simulations. An evaluation of the program is currently in progress. While there are no profession-specific areas dedicated for nursing or other health profession students on the UC Denver Anshutz Medical Campus, students from all disciplines meet and study in common areas designed and named for various venues of practice such as preventative care, rural, or acute health.

For the past year, St. Mary's Center for Education, Huntington, WV, has involved their nursing, medical imaging and respiratory care students in an IP student code team for in situ patient emergency simulations. Evaluation measures are in development. At the University of Kansas, in part due to limited access to pediatric patients, medical, nursing and pharmacy students conduct pediatric care scenarios, which also utilize the electronic health record. The simulation begins on the medical school campus and continues with pharmacy students located on a campus 40 miles away. This is followed by nursing students' conducting electronic case reviews before meeting in the simulation lab with medical students and a pediatric resident to proceed with a simulation scenario (NLN Think Tank Paper, 2011). This is an example of how technology can transcend the physical distance between health professions programs while helping students from all three disciplines understand the roles and responsibilities for their own and for the other disciplines (NLN Think Tank Paper, 2011). At Texas Tech University, EMS, nurses, medical residents, and medical fellows learn with and from each other as they participate in TeamSTEPPS® training for the communication competency used in a trauma simulation that follows a patient from point of injury through the healthcare system to surgery. Outcome measures are in development for that process as well.

Simulation-based IPE activities take many forms from telehealth and online simulation-based IPE activities to activities developed through collaboration with hospital simulation centers and community disaster experts. The Clarion Competition at University of Minnesota is an example where students from different health disciplines collaborate on cases and compete against other teams for honors. The Institute for Health Care Improvement supports the development of IP student chapters focused on improved delivery of health care SSH, the NLN and the AACH. The Josiah Macy Jr. Foundation sponsors grants and fellowships, which promote and enhance opportunities for team-based and IPE competencies (NLN Think Tank Paper, 2011).

The priorities stated were to:

- Develop a model, recommend TeamSTEPPS® communication training at all levels
- Gain policy-maker recognition, endorsement, funding
- Achieve adoption of the IPEC definition and standards
- Attain documentation of research and practice and administrative support
- Make new teaching/learning materials available

Medicine Perspectives: AAMC, AACOM, ACS

Undergraduate Medical Education

Presenter

Carol Aschenbrenner. MD, Executive Vice President, Chief Medical Officer, Association of American Medical Colleges

Background

The Association of American Medical Colleges (AAMC) represents 136 accredited U.S. and 17 accredited Canadian medical schools; nearly 400 major teaching hospitals and health systems, including 62 Department of Veterans Affairs medical centers; and 93 academic and scientific societies. Through these institutions and organizations, the AAMC represents 128,000 faculty members, 75,000 medical students, and 110,000 resident physicians. Its mission is to serve and lead the academic medical community to improve the health of all.

Summary

The AAMC was a participant on the Interprofessional Education Collaborative Expert Panel and is a sponsor for its work, Core Competencies For Interprofessional Collaborative Practice: Report Of An Expert Panel (IPEC 2011). To assess the use of medical simulation in medical education (defined as "a method used in healthcare education to replace or amplify real patient experiences with scenarios designed to replicate real health encounters, use life-like mannequins, physical models, standardized patients or computers"), the AAMC in collaboration with SSH, AACN, ASPE, conducted a survey. The survey results came from 90 medical schools and 64 teaching hospitals. All use simulation for medical students –medical schools across all four years, mainly building medical knowledge, clinical skills in Internal Medicine, Pediatricsand Emergency Medicine. Teaching hospital use is mainly in clerkships during Internal Medicine, Emergency Medicine and Obstetrics-Gynecology rotations. Eighty-three medical schools and 55 teaching hospitals reported using simulation for resident education, mainly in the first three years. The most common disciplines reporting use were Internal Medicine, Emergency Medicine, Surgery, Pediatrics, Anesthesia and Obstetrics-Gynecology.

Simulation is most commonly used for education (86% of medical schools, 87% teaching hospitals) and assessment (71% medical schools, 61% teaching hospitals) and least often used for quality improvement activities (40% medical schools, 34% teaching hospitals). Medical schools reported using simulation across the range of ACGME competency domains; most often, it is used for patient care, professionalism, communication and medical knowledge; least often for practice-based learning and improvement (72%) and systems-based

practice (70%). Use for team training (87%) is more common than for assessment of team skills (58%). Dr. Aschenbrenner identified Jefferson Medical Center as a robust example of interprofessional education that has been active since 2007. The Center provides a spectrum of learning resources that are available on their web site. These simulation exercises range from tabletop exercises to Team-based Objective Structured Clinical Exams (TOSCE) for IP discharge planning. The Center is probably best known for their health mentor program in which employees and students across several professions work together with actual patients.

Major gaps identified are too few proven models for team training beyond TeamSTEPPS®, a paucity of shared resources for teaching IP professionalism, ethics, communication, roles and a lack of psychometrically sound tools to assess team skills in individual and teams and a lack of research on the relationship between performance in simulation and performance in practice. Cross-disciplinary IP research on the impact of simulation as preparation for team-based care is needed.

There is fertile ground for development and sharing. There are opportunities for IP simulations that address the core IPE competencies and models that integrate quality improvement and patient safety across the continuum of learning.

A significant collaborative effort is underway. The Interprofessional Education Collaborative (IPEC) is joining to catalyze the development of high quality learning and assessment resources that could be shared widely through Interprofessional Portal on the MedEdPORTAL platform. Resources, including video and computer simulation would be available globally, without fee. Peer review and usage statistics would be employed to recognize faculty scholarship.

Graduate Medical Education

Presenter

Susan Mackintosh, D.O., M.P.H, Director of Interprofessional Education, Assistant Professor, Western University of Health Sciences, College of Osteopathic Medicine of the Pacific, IPEC member, For the American Association of Colleges of Osteopathic Medicine (AACOM)

Background

The American Association of Colleges of Osteopathic Medicine (AACOM) represents the administration, faculty and students of all of the osteopathic medical colleges in the United States. Its mission is to lend support and assistance to the nation's osteopathic medical schools, and to serve as a unifying voice for osteopathic medical education.

Summary

Dr. Mackintosh stated that osteopathic medical education is embracing IPE. AACOM has a focus on patient safety and prevention of medical errors and has evidence that team-based care can improve quality of care. Also, AACOM is concerned about and planning for physician shortages and the reorganization of healthcare around medical homes and accountable care organizations; the issues of systems-based practice; the growing geriatric population; and the framework put into place by the Patient Protection and Affordable Care Act. Dr. Mackintosh noted that this framework was published in the Journal of American Osteopathic Association by the President of AACOM, Dr. Stephen Shannon, in an issue that was entirely dedicated to interprofessional education in medical education (April, 2011).

There is the recognition that technology is emerging as a critical need for the future of healthcare, combined with an increasing call for IPE, which has caused many osteopathic medical schools to consider not just IPE, but how to implement with technology/simulation. There is a perfect alignment of IPE competencies with tenets and core competencies of osteopathic medical education. Additionally, there is an increased chance of community engagement to enhance prevention and population health. Dr. Mackintosh commented that this is an opportunity not just for the individual patient, but to effect change in public health, preventative health, community health and global health as well.

At Western University of Health Sciences, there are nine graduate programs (osteopathic medical education, physician assistant, physical therapy, graduate nursing, pharmacy, optometry, podiatry, dentistry, and veterinary medicine) and a three-phase course for IPE. Nine hundred students from 9 colleges are divided into 94 different problem-based learning groups.

The first phase is case-based. The second phase is for second year DO students, second year pharmacy students, and the advanced clinical nurses and provides health professions' students an opportunity to engage in teamwork. Through a grant and collaboration with the UCLA California Geriatric Education Center, this standardized patient simulation uses a geriatric patient who is three days post hospital discharge. The patient had been hospitalized for a cardiovascular accident. The adult caregiver starts the scenario from the patient's home with a visit from a physical therapist. Students use team-based concepts to successfully navigate the patient through the asynchronous ambulatory care environment—overcoming medication errors, confusing discharge orders and other safety issues. TeamSTEPPS® is an integral aspect of the program. Team-based Objective Structured Clinical Exams (TOSCE) are another opportunity to engage 2nd/3rd year students in interprofessional learning. The focus is on team formation in asynchronous ambulatory care environment (base of program is implementation of TeamSTEPPS® (teamstepps.ahrq.gov). Initial outcomes show students who participated in team training scored higher on team-based/IPE competencies. Additional programs include the use of group Wikis and blogs, and there are plans to create a virtual community.

Dr. Mackintosh described how logistical challenges were overcome on a sister campus that recently opened in Lebanon, Oregon with a stand-alone osteopathic medical college. Their accreditation required them to duplicate the curriculum from the College of Osteopathic Medicine of the Pacific. An inter-institutional IPE program was created by partnering with Oregon State University and Linn Benton Community College so that an additional 400 students from three institutions could participate.

Dr. Mackintosh stated that IPE needs to be integrated with the existing healthcare system. She identified major gaps in curriculum mapping and coordination, the lack of resources — funding and faculty support and participation, and competition for time with home programs (student and faculty perspective).

Opportunities noted for simulation-based IPE included asynchronous care, acute rapid response, (TOSCE's, Virtual communities, Wiki's/Blogs), synchronous care (simulation mannequins for team training in patient safety/rapid response), and community tabletop disaster preparedness and response.
Collaborative opportunities mentioned included asynchronous ambulatory care, acute care/rapid response, surgical settings, transition from acute to ambulatory care, condition specific (diabetes) and community health and wellness issues such as disaster preparedness and response.

IPE in the Practice Settings

Presenter

Ajit Sachdeva, M.D., FACS, FRCSC, Director, Division of Education, American College of Surgeons (ACS)

Background

The American College of Surgeons (ACS) is a scientific and educational professional organization of surgeons founded in 1913 to raise the standards of surgical practice and to improve the care of the surgical patient. With more than 78,000 members, it is the largest organization of surgeons in the world.

Summary

There is broad support for simulation-based IPE within ACS, to address specific needs across the continuum of professional development. The ACS Division of Education has focused on IPE for years and IPE activities of the division are anchored to the 6 core competencies. Experiential learning methods are used in distributed and contextually-relevant education and training programs that include valid and reliable assessments.

Dr. Sachdeva highlighted a number of innovative simulation-based education and training programs of the ACS Division of Education that address IPE. These include an online curriculum for surgery residents in the early years of training that features 94 interactive cases robust with animations, laboratory data, and radiologic films. Many cases of this curriculum emphasize effective IPE and teamwork. The ACS Surgery Resident Observed Structured Clinical Examination (OSCE) involves 10 integrated stations that focus specifically on patient safety. The OSCE stations include interprofessional activities, as well as rigorous and validated assessment tools. This program was funded through a major grant from The Agency for Healthcare Research and Quality.

The ACS/APDS Surgical Skills Curriculum is based on simulation and includes the following team-based training scenarios: teamwork in trauma bay; post-operative hypotension (PACU); laparoscopic crisis (OR); pre-operative briefing (OR); laparoscopic troubleshooting; post-operative pulmonary embolus (SICU); post-operative MI (SICU); latex allergy anaphylaxis (OR); patient hand-off (SICU); and retained sponge on post-operative CXR (PACU). Dr. Sachdeva noted that all these modules require extensive team collaboration. Also, the ACS Annual Surgeons as Leaders Course emphasizes the value of teamwork and interprofessional collaboration. It is in its 8th year and continues to be oversubscribed each year. The definitive program on professionalism in surgery includes 24 interactive case simulations, all with a strong and compelling focus on IPE. Dr. Sachdeva also described the ACS Program on Preventing Errors and Near Misses. Created by an interdisciplinary team of surgeons, nurses, and PAs, this program was released last year (2011). The ACS Patient

Education Program addresses skills of patients and their caretakers to help them participate effectively in pre- and post-operative care. The ostomy skills kit is a prototype of the innovative Patient Education Program and was developed by an interprofessional team of experts. The ACS Program for Accreditation of Education Institutes (simulation centers) emphasizes interprofessional education, as well. For Comprehensive Level I Accreditation, the Education Institute has to serve three learner groups in addition to practicing surgeons. In addition, the Director of the ACS-accredited Education Institute does not need to be a surgeon.

Dr. Sachdeva identified the major gaps in IPE activities. These include lack of robust evaluation strategies to objectively demonstrate the impact of IPE on healthcare quality and safety, and insufficient train-the-trainer programs. Logistical challenges and traditional compartmentalization of regulating bodies are barriers, as well. Opportunities to advance simulation-based IPE include: design of innovative programs that involve participation by learners from various healthcare professions; assessments by teams of trained faculty from the respective healthcare professions; sharing of innovative curricula and best practices; demonstration of the impact of education and training on quality and safety; and development of new simulations and simulators.

Dr. Sachdeva concluded that collaboration needs to take place between institutions, among national organizations representing the various healthcare professions, and across regulatory organizations and public and private agencies. Best practices need to be identified and shared.

International Medicine Perspective

Presenter

Susan Brien, M.D, Med, CSPQ, FRCSC, CPE, Registrar and Associate Director of Professional Affairs, Royal College of Physicians and Surgeons of Canada (RCPSC)

Background

The Royal College of Physicians and Surgeons of Canada (RCPSC) oversees the education of specialists in Canada, sets standards, accredits programs, administers examinations for 69 specialty programs, supports members in life-long learning and maintenance of competence through professional learning /development and advances sound health policy in partnership with other Canadian health agencies.

Summary

Opportunities have been created for formative assessment, of either needs or evaluation, and for IPE educational intervention. Expectations are driven by the CanMEDS competency-based framework and supported in the areas of simulation by our simulation program accreditation and the expectation of residency training standards. In Canada, there are many organizations that are leaders in IPE, including McGill University and University of Toronto UBC.

To forward the simulation agenda, the RCPSC acquired a simulation-based company and with it the intellectual property of a virtual patient platform.

An example of IPE-based simulation is the Acute Critical Event Simulation (ACES) and Rapid Team Training customized for nurse-led, family physician-led or specialty-led teams who deliver acute critical care to the undifferentiated patient. The focus is to help care teams understand what to do when something needs to be done, but it is not clear what that is. Specifically how does one get a team together in an undifferentiated patient scenario? The RCPSC has used this type of simulation as a foundation for scholarly research to understand how patients are transferred between teams and as a foundation point for a national boot camp for all critical care doctors starting programs in Canada.

Dr. Brien noted challenges to the integration of IPE into health profession's education include ill-defined curricula, the logistics of engaging employees and non-employees in the practice environment and closing the gap between wanting to do something and actually knowing how to do it. The concept of work-based assessment, both for needs and evaluation is also an area of interest.

Opportunities identified for simulated-based IPE include formative assessment, the development of technical and non-technical skills, system improvement and patient safety. Local to global collaboration opportunities abound between individuals, professional organizations, across healthcare regions, etc. In 2007, Dr. Brien gave an example of how the Royal College collaborated with all the schools of nursing, family practice, pharmacy, occupation therapy and physiology to review accreditation standards and create a common document.

In Canada, simulation has and will continue to help drive both safety and inter-professional agendas. In closing, Dr. Brien encouraged stakeholders to look at all requests for collaboration as opportunities to move the IPE agenda forward.

Appendix D: Invitational Panel Participants and Process

Panel Process Charge

1. All invited Representatives (See Appendix B) attended an orientation and networking meeting.
2. The Symposium opened with power point presentations from selected stakeholder groups on the status of simulation-based IPE.
3. Under the guidance of a professional facilitator, all invited Representatives (N=29 engaged in interactive discussions to explore the current state of simulation-based IPE, challenges and barriers to implementation, and make recommendations related to the use of simulation to facilitate the integration of IPE into professional education.

Process Described

For each Competency Domain (Domain 1: Values/ Ethics, Domain 2: Roles/ Responsibilities, Domain 3: IP Communication, Domain 4: Teams and Teamwork) a workstation was created with a poster of the Domain and its competencies, as well as a poster-sized flipchart to record the notes and table and chairs. From the group of participants, a facilitator and recorder were designated for each of 4 Competency Domain Stations. The remaining participants were divided into 4 groups to conduct 4 rounds at each Competency Domain Station. The first round was 50 minutes to set the framework for the competency. The subsequent rounds were 30 minutes each to add to the previous work. If a change to previous work was needed, the previous group would be consulted. After the second round, there was a 15-minute break. Following the 4th round, participants had 20 minutes to prepare a report on the findings of each domain.

For each Competency Domains participants:

- Defined the current situation / what simulation in IPE looks like today in that domain
- Listed the top 3 opportunities that would exist if simulation were used more in IPE
- Listed the top 5 barriers /challenges to enabling simulation to work in IPE
- Defined strategies tied to the opportunity/barrier/challenge

The following day participants were asked to identify common themes across domains and then the group was split, with 1 group charged to identify strategies to address opportunities and barriers at the organizational level and the other group charged to provide strategies at the individual level. Both groups reported their consensus findings and strategies for next steps and presented them at the Symposium's closing meeting.

4. At the concluding session of the Symposium a panel consisting of representatives from the Invitational Meeting presented the outcomes of the group discussion to attendees at the educational pre-conference on IPE.
5. During a dedicated session at IMSH, IMSH attendees used an audience response system to respond to recommendations and questions identified by the IPE Representatives during their meeting.

Appendix E: Core Competency Gallery Walk

For each Competency Domain for the four IPEC competency domains, stakeholders were asked to describe the current situation in healthcare, identify the top three opportunities that would exist if simulation were used more in IPE, list the top five barriers or challenges and provide strategies to address each. For all four competency areas the current situation was described as poorly defined, inconsistent, fragmented and non-standardized. Common barriers included lack of IPE leadership, lack of curriculum mapping/accountability/accreditation requirements, lack of trained faculty and role models, resource and logistical challenges and cultural (traditional hierarchy and administration's) resistance to change. Overlapping opportunities and strategies for all domains advocated accreditation and curriculum mapping, learning from the best practices of others, layering specific IPE competencies on existing simulation-based IPE, leveraging technology to share and utilize tools, and overcoming logistical challenges. A comprehensive one repository for simulation-based IPE resources could enhance the dissemination of validated/standardized tools and scenarios, teaching and learning strategies, definitions, the supporting research, the exemplars and the faculty development opportunities.

Ethics & Values

While it is not explicit in the curriculum, there is an implicit assumption that IPE ethics and values are being taught. A lack of awareness, time and faculty trained to teach and role model ethics and values in IPE are needed. The risk adverse mindset of many practitioners may keep them from addressing difficult ethics and values topics as they arise. Cultural diversity between healthcare professionals and patients present another challenge in this area. Opportunities in this domain included referencing ethical principles via a common language team simulation for both life-threatening and non-life-threatening situations across the life span. There is a need for simulations related to identification of ethics/value conflicts interprofessional values discovery and conflict resolution early in educational processes. Simulation could be used to challenge stereotypes and explore cross discipline core ethics. Specific strategies include the exploration and definitions of cross discipline professionalism. Tools are needed to assess and professional values and ethics in simulation. Examples of how to infuse ethics and values into the curriculum may be learned from EMS (example), from Canada (example), from ACS (educational material on delivery of bad news and disclosure) and others (palliative care – Oregon).

Roles & Responsibilities

The second IPEC domain of roles and responsibilities was described as the least explicit domain of the competencies (least utilized in simulation in Canada). It is seldom linked to clinical performance and not often included in learning objectives. In general, practitioners have a limited understanding of each other's roles and responsibilities and limited recognition of their own personal limitations within their role and how this may impact patient care/outcomes. Barriers include a lack of an IPE unified voice, leadership, facilitators, faculty role models, and metrics. In order to overcome barriers, a task force of the 22 participating stakeholders was proposed to engage key thought leaders and regulatory/accreditation to create a unified position statement. A

simulation-based IPE working group within each organization could assist with addressing regulatory and accreditation requirements.

Communication

Communication, the third IPEC competency, is characterized by cultural differences across health professions. Variable simulation and training methods lead to an approach where care is fragmented at best. Inadequate communication between healthcare providers, or between providers and the patient and family members, was the root cause of over half the serious adverse events reported in accredited hospitals (JC, 2007).

Improving communication promises improved safety and outcomes, more congruent care, efficiency and cost savings, improved risk management and an enhanced work environment. Communication is still considered a "soft skill" and resistance of the traditional hierarchy and education must be overcome with support from leadership. All healthcare professionals should be educated about the link between communication and patient safety. Leadership is needed to model the significance and value of communication training for all health professionals. Communication can be demonstrated as a core competency for all health professionals through integration in case-based scenarios. Facilitators of simulations should be trained in communication strategies, communication skills and communication evaluation. Strategies for teaching communication should be based on evidence. Information systems and electronic health records can also be used to refine methods for efficient communication.

Teams / Teamwork

The final IPEC competency (2011), Teams and Teamwork - has not previously been considered essential for specific disciplines. Progress has been made using the training in TeamSTEPPS®, a communication technique developed by the Department of Defense. Barriers to team and teamwork training include divergence from a traditional hierarchical approach, funding, and curriculum integration. The competencies as described in the IPEC document (2011) may not be descriptive enough for behavioral measures. Competition between health care providers with the current insurance payment model may also add barriers to learning teamwork. Strategies to overcome these barriers included using examples of early adopters of teamwork models to create champions for simulation-based IPE. The value of teamwork must be clearly demonstrated by using safety, job satisfaction, and patient satisfaction as exemplars. Faculty development work in this area must be intentional and model a team approach.

Appendix F: Attendee Questions

The following are the questions and comments submitted to the organizational leaders by the attendees of the 2012 International Meeting for Simulation in Healthcare (IMSH) that was held in conjunction with the 2012 Interprofessional Education and Healthcare Simulation Symposium in San Diego. The questions and comments are categorized by topic.

IPE / IPEC Awareness

What are "interprofessional" competences?

There are two main challenges that contribute to patient safety:
1) Communication
2) Knowledge

IPE ideology, discussed so far, focuses on communication. How do we address filling knowledge gaps of different specialties?

Resources

What textbooks, articles, and teaching materials would you recommend for IPE?
Hospital Models

Although I understand, it seems most are educators, who can affect students (pharmacy resident nurses); where is a voice for the hospital?

Is there training going on now? Are there established hospitals with IPE mandates?

Barriers

We here, all believe in IPE. How do you convince hospital, clinical, and research leaders to provide the support for simulation and financial and time for teachers and learners? How do you convince healthcare systems to invest in multidisciplinary collaboration? (Their focus is primarily financial, driven by market and money.)

How do we make IPE happen? (On a university [where] the only other Healthcare discipline is social work and speech and hearing. There is no medical school. I am only person running a simulation lab. We need time and support to move forward.)

How do you start with students for those centers that are not affiliated with universities?

Are we heading toward regulatory and consortium guidelines with mandates for IPE?

One of the concerns throughout the presentations was a lack of resources to initiate/maintain IPE simulation activities since CMS (Center for Medicare and Medicaid Services) is a primary funder of graduate medical education. Hence, has CMS been invited to the conversation?

Strategic / Practical

How do you incentivize IPE at your facility? For example, how do you get the entire team together, short of mandating IPE training? If you mandate IPE, how do you enforce compliance?

How have you overcome schedule conflicts-how does one convince "the powers" to change schedules?

Acknowledgements

Kate Aberle, MBA**
Society for Simulation in Healthcare
Executive Director

Myrna R. Allen, MSN, RN*
American Nurses Association National Center for Nursing Quality
Associated Executive Director

JoDee Anderson, MD, MEd**
Oregon Health & Science University, Department of Pediatrics
Director of Simulation Education, Associate Professor
Society for Simulation in Healthcare – Vice Chair, Education Committee

Carol A. Aschenbrener, MD*
Association of American Medical Colleges
Chief Medical Education Officer

Susan Brien, MD, MEd, CSPQ, FRCSC, CPE*
Royal College of Physicians and Surgeons of Canada
Registrar and Associate Director, Professional Affairs

Verena Briley-Hudson, MN, RN*
VA Office of Inspector General
Chicago Director, Office of Healthcare Inspections
American Organization of Nurse Executives

Felicia Cohn, PhD*
Kaiser Permanente Orange County
Bioethics Director
University of California-Irvine, School of Medicine
Clinical Professor
American Society for Bioethics and Humanities – President-Elect

Alan H. Cooper, PhD, MBA**
North Shore-LIJ Health System, Center for Learning and Innovation
Vice President
Society for Simulation in Healthcare – Chair, Education Committee

Bonnie Driggers, RN, MS, MPA**
Oregon Health & Science University
Professor Emeritus
Society for Simulation in Healthcare

Carol Durham, EdD, RN, ANEF*
University of North Carolina at Chapel Hill, School of Nursing
Clinical Professor and Director, Education-Innovation-Simulation Learning Environment
Quality & Safety Education for Nurses (QSEN)
Faculty and Consultant

Valerie Howard, EdD, MSN, RN*
Robert Morris University Research University School of Nursing and Health Sciences
Assistant Dean and Professor
Research and Innovation in Simulation Education (RISE) Center - Director
International Nursing Association for Clinical Simulation and Learning - President

Pamela R. Jeffries, PhD, RN, FAAN, ANEF**
Johns Hopkins University School of Nursing
Professor, Associate Dean for Academic Affairs
Society for Simulation in Healthcare

Robert A. (Buzz) Kerr, PharmD*
American Association of Colleges of Pharmacy
Vice President for Academic Affairs

Chris Le Baudour, MSEd*
Verihealth Inc.
Program Director
National Association of EMS Educators

Susan Mackintosh, DO, MPH*
Western University of Health Sciences/ College of Osteopathic Medicine of the Pacific
Associate Dean for Academic Affairs
American Association of Colleges of Osteopathic Medicine

Beverly Malone, PhD, RN, FAAN, CEO**
National League for Nursing
Chief Executive Officer

Mary Elizabeth Mancini, RN, PhD, NE-BC, FAHA, ANEF, FAAN**
The University of Texas at Arlington, College of Nursing
Professor, Associate Dean and Chair for Undergraduate Nursing Programs
Society for Simulation in Healthcare President

Jennifer Manos, MSN, RN**
Society for Simulation in Healthcare
Associate Executive Director

Karen Novak, DDS, MS, PhD*
American Dental Education Association
Senior Vice President for Institutional Capacity Building Policy Center

Tamara Owens, MEd*
Howard University Clinical Skills and Simulation Center
Director
Association of Standardized Patient Educators – Past President

Janice Palaganas, PhD, RN**
Center for Medical Simulation
Principal Faculty
Society for Simulation in Healthcare

Mary Patterson, MD, MEd**
Akron Children's hospital
Medical Director of Simulation Services
Society for Simulation in Healthcare

Laura Petri, PhD, RN-BC*
American Association of Colleges of Nursing
Director of Faculty Programs

Paul Phrampus, MD**
Peter M. Winter Institute for Simulation, Education, and Research (WISER)
University of Pittsburgh
Director
Society for Simulation in Healthcare President-elect

Diane Pinakiewicz, MBA, CPPS*
The National Patient Safety Foundation
Lucian Leape Institute at NPSF
President

Ana Pujols-McKee, MD*
The Joint Commission
Executive Vice President and Chief Medical Officer

Mary Anne Rizzolo, EdD, RN, FAAN, ANEF**
National League for Nursing
Consultant, Professional Development

Gary Rush**
MGR consulting
Facilitator

Ajit Sachdeva, MD, FRCSC, FACS*
American College of Surgeons
Director, Division of Education

Stephen C. Schoenbaum, MD, MPH**
The Josiah Macy Jr. Foundation
Special Advisor to the President

Michael Seropian, MD, FRCPC**
Oregon Health & Sciences University, School of Medicine
Medical Director of Simulation
Pediatric Anesthesiologist and Faculty Member
Society for Simulation in Healthcare Immediate Past President

Randolph Steadman, MD*
David Geffen School of Medicine at UCLA, Department of Anesthesiology
Professor and Vice Chair
UCLA Simulation Center
Director
American Society of Anesthesiologists

Elaine Tagliareni, EdD, RN, CNE, FAAN**
National League for Nursing
Chief Program Officer

George E. Thibault, MD
Josiah Macy Jr. Foundation
President

Richard (Rick) Talbott, PhD, FASHA, FASAHP, FAAA*
Pat Capps Covey College of Allied Health Professions, University of South Alabama
Dean
Association of Schools of Allied Health Professions – President

Janet Wilhaus, MSN, RN**
National League for Nursing
Doctoral Student

* - Invited Organizational Representative
** - IPEHCSS Committee (Convener) Members