



**National League
for Nursing**

**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**

The concept of interprofessional teamwork and education is not new. Health professionals and commissions have been recommending a team approach to health care for decades. In the 1950's, Silver (1958) supported changes to medical education and advocated for a team approach for preventative and therapeutic family care. In the 1960's, Szasz (1969) found little integration in learning among the health professions and proposed a plan for how interprofessional education (IPE) might be accomplished. The first Institute of Medicine (IOM) conference in 1972 produced a report that discussed the importance of establishing substantive relationships between educational programs for the health professions (IOM, 1972). In 1998, the Pew Commission (O'Neal, 1998) identified interdisciplinary teamwork as one of 21 essential competencies for this century. The IOM reports on health professions education (2003) and the future of nursing (2010) both included a call for health professionals to develop interprofessional competency and the need for interdisciplinary practice to be integrated into educational models.

In 2011, the Interprofessional Education Collaborative (IPEC) released *Core Competencies for Interprofessional Collaborative Practice*. The Collaborative, which includes representatives from the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of College of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health, reported 38 essential core competencies under four key domains of interprofessional practice. These core competencies are listed in Table 1.

Given the consistency of the recommendations for IPE over time along with research that

consistently demonstrates effective teamwork is an ability that individuals and groups can acquire through directed educational experiences combined with the opportunity to practice the learned concepts (Siassakos, et al., 2011; Salas, et al., 2008), one would expect the vast majority of schools for health professionals have already integrated IPE in substantive ways into their curricula.

Unfortunately this is not true. While it is generally accepted that excellence in the delivery of health care depends heavily on the health care team's ability to work together and communicate in highly effective and reliable ways, most undergraduate and post-graduate programs provide only limited educational opportunities for intentionally designed interactions with students of other disciplines.

Practice in simulated settings (“simulation”) has been shown to be an effective mechanism for developing individual and team skills (Carlson, Min, & Bridges, 2009). Simulation activities can occur in a wide array of settings—e.g. in simulation centers, in situ, in virtual settings as in Second Life—using varied techniques including immersive simulations, standardized patients, as well as single and multiplayer “serious games.” Regardless of location and format, simulation is increasingly being viewed as an enabling technology that transcends traditional educational boundaries and allows students in pre-licensure and post-graduate health care programs to acquire the competencies needed for interprofessional practice.

NLN's Invitational Think Tank

It is in this context that the National League for Nursing (NLN), in partnership with the Society for Simulation in Healthcare (SSH) decided to convene a meeting of key IPE stakeholders in San Diego, CA on January 27 and 28, 2012, immediately prior to SSH's 12th Annual International Meeting on Simulation in Healthcare (IMSH). Sponsored by a grant from the Josiah Macy Jr. Foundation, representatives from 24 organizations representing health professions education, practice, accreditation, and patient safety (Table 2) were invited to in a one and one-half day meeting to collect the unique perspectives of the various health disciplines and organizations on the use of

simulation for IPE, identify best-practices, determine opportunities to create relationships that foster IPE, and determine research questions that need to be addressed.

In preparing to present a nursing perspective at the IPE stakeholders meeting in San Diego, NLN sponsored an invitational think tank on Thursday, September 22, 2011 at the NLN Education Summit, in Orlando, Florida. The purpose of the Think Tank was to provide the NLN with input to develop a presentation describing the nursing perspective on the use of simulation-enhanced IPE. The presentation was to be delivered during 2012 Interprofessional Education and Healthcare Simulation Symposium cosponsored by the NLN and SSH.

A select group of 25 nurse leaders with expertise in the use of simulation participated in the think tank (Table 3). This report synthesizes participant perspectives about simulation-based IPE in nursing schools, examples of nursing participation in IPE, barriers to implementing IPE, opportunities to initiate simulation-based IPE, key actions to foster simulation-based simulation and facilitate the development of interprofessional competencies.

Simulation-based IPE in Nursing Schools

Nurses represent the largest group of health care professionals. Although the accreditation standards for all levels of nursing education include a requirement for IPE (NLNAC, 2011; CCNE, 2009), think tank participants felt its integration into student learning activities remains piecemeal. Although a consensus model for IPE has yet to emerge, the think tank participants believe that simulated learning environments are uniquely positioned to provide interactive IPE and practice both prior to and following graduation.

Building on the evidence associated with patient safety and professional practice, participants noted nursing education standards currently include requirements for interprofessional collaboration. In the NLN Education Competency Model, *Teamwork* is described as an integrating

concept which necessary for interprofessional function (NLN, 2010). The American Association of Colleges of Nursing (AACN) identifies *interprofessional learning* as an expected competency for baccalaureate (2008), masters (2011) and doctoral preparation (2006). Both accrediting bodies for nursing education programs, National League for Nursing Accrediting Commission (NLNAC) and Commission on Collegiate Nursing Education (CCNE), seek evidence of interprofessional education (NLNAC, 2011; CCNE, 2009).

The Quality and Safety Education for Nurses (QSEN) initiative supported by Robert Wood Johnson Foundation (RWJF) lists teamwork and collaboration as one of its six core competencies for both pre-licensure and graduate knowledge, skills, and attitudes (KSA's) necessary for continuous improvement of quality and safety in the health care system. (Cronenwett, Sherwood, Barnsteiner, Mitchell, & Sullivan, 2007). QSEN defines teamwork and collaboration as functioning both within nursing and interprofessionally to improve patient safety and care. Although only a limited number of simulation-specific resources are included, think tank participants commented positively on the simulation resources available on the QSEN site (www.qsen.org).

Think tank participants believed that opportunities for interprofessional interactions can uncover new dimensions of communication among health professions students. This is particularly true for scenario-based IPE experiences. Although each profession must educate students in preparation for their expected roles, it was considered essential that team members understand the roles of the others on the team. Simulated health care practice allows students to question the perceptions about these roles brought from culture and environment. To allow for learning with and about each other to occur, it was agreed that IPE activities (whether simulation based or not) should be initiated early in all undergraduate health professional programs and continued in post-graduate programs. Unfolding cases were provided as an example of starting at a basic level and increasing complexity over time. The use of alternating roles (medical students in the role of the nurse, nursing

students in the role of the social worker, etc.) during simulations is an example of a mechanism that is useful in learning the role of the other. Such simulation activities can be undertaken in a simulation center, in situ at a clinical site, in a screen-based game, or in Second Life.

Whether in undergraduate or graduate level programs, it was agreed that one IPE experience is not adequate to achieve the goals of IPE. Systematic and repeated experiences were considered best. Careful attention to matching student levels across the various programs was considered important to maximizing success. The issue of scheduling students for simulation activities in general and IPE-related activities in particular was seen as particularly challenging.

With regard to resources to assist nursing schools implementing simulation-based IPE activities, several organizations were noted to have developed documents that participants found useful. The accreditation standards of the Society for Simulation in Healthcare (SSH) were noted to provide guidance that promotes excellence in interprofessional health care education, practice, advocacy, and research through a variety of simulation modalities (SSH, 2011). A certification program for educators using simulation was also noted as being developed by SSH. The certification includes elements specifically related to IPE.

The International Nursing Association for Clinical Simulation and Learning (INACSL) developed the Standards for Best Practice in Simulation in 2011. These standards provide a general framework for the integration of simulation with single or multiple professions in a variety of settings. Use of the standards can ensure that best practices related to simulation are incorporated within the experiences (INACSL Board of Directors, 2011).

Examples of Nursing Participation in IPE

Due to multiple factors including geographic location, rigid course schedules, and the traditional single profession focus in health professions education, the incorporation of IPE into nursing education has been limited. Exemplars provided here were shared by members of the

nursing think tank and include simulation and non-simulation learning opportunities. Each describes collaboration among disciplines to identify mechanisms for substantive opportunities in IPE.

University of Colorado

University of Colorado at Denver (UC Denver) conducts mandatory IPE simulations for students in all their health professions programs. Every Wednesday afternoon, UC Denver students from the health professions programs including nursing, medicine, pharmacy, physical therapy, and dentistry have dedicated time for interprofessional clinical activities. One example of such an activity is pairing patient mentors with teams of students from the various health disciplines. The patient mentors guide the teams to better understand the experience of health and illness. On the UC Denver Anschutz Medical Campus there are no profession-specific areas dedicated for nursing or other health profession students. Instead 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.

University of Kansas

In part due to limited access to a pediatric patient population, nursing students at the University of Kansas Medical Center (KUMC) complete 25 percent of their pediatric clinical rotation using simulation. In one experience nursing students, medical students and residents, and pharmacy students participate in an interprofessional simulation that uses an electronic health record as a bridge to learning. The simulation starts on the medical school campus where medical students review a pediatric patient's chart, are taught the electronic order entry process, and then write electronic orders to admit the patient. Pharmacy students located on a campus 40 miles away retrieve the orders by accessing the online electronic health record. These students learn the process for verifying the medications and assign each medication ordered to products within the formulary. Nursing students then review the case electronically before meeting in the simulation lab with

medical students and a pediatric resident to proceed with a simulation scenario. After the simulation, nursing and medical students debrief together with faculty from both nursing and medicine. This example demonstrates how the use of 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.

St. Mary's Center for Education

St. Mary's Center for Education, Huntington, WV, educates nursing, medical imaging, and respiratory care students. All three groups of students share Mondays as a clinical learning day at the hospital. Students rotate through an assignment that simulates an interprofessional emergency response team. Students are expected to review the roles and functions associated with an emergency response team and come to the clinical day prepared to respond if an in situ emergency situation is called. Some weeks an emergency is called and others not, but all students must prepare for this collaborative activity. After the simulation the students meet to debrief as an interprofessional group. This coordination of student activity requires collaboration among faculty members across the three disciplines. This activity has prompted administrators to consider contacting to a nearby medical school for additional interprofessional experiences.

Texas Tech University

At the Texas Tech University Health Sciences Campus (TTUHSC), health professions students learn with and from each other as they participate in TeamSTEPPS® training. TeamSTEPPS® is an evidence-based system designed cooperatively by the Department of Defense (DoD) and Agency for Healthcare Research and Quality (AHRQ) to improve quality, safety, and efficiency of health care. The program relies heavily on various simulation techniques to achieve four core competencies: team leadership, situational (or mutual performance) monitoring, mutual support, and communication. Students at TTUHSC utilize the competencies learned in Team

STEPPS when participating in other interdisciplinary simulation activities and in their clinical settings. Interdisciplinary teams of students can also compete against each other in health care simulation competitions.

In another TTUHSC endeavor, emergency medical services (EMS) personnel, nurses, residents, fellows, and students use integrated communication skills to improve trauma patient care during “hand offs” as patients progress through the continuum of care. Simulation scenarios have been developed and validated that follow trauma patients from point of injury through the emergency care system to EMS response, emergency room presentation, operating room transfer, and admission to the intensive care unit.

Nursing think tank participants also shared information about IPE activity from other schools such as Florida International University, University of North Carolina, Johns Hopkins, University of Texas at Arlington, Oregon Health Sciences University and Indiana University.

While no specific examples of simulation-based (or non-simulation based) IPE for advanced practice nursing students were shared during the think tank, the literature provides examples of the use of simulation at this level to achieve the competencies associated with interprofessional practice through IPE (LeFlore & Anderson, 2009). A comment from Florida International University highlighted the importance of interprofessional practice in advanced education. It was noted that certified registered nurse anesthetists and anesthesiologists often work together closely in the practice setting; however, because a university usually has only one or the other of these programs, it is very rare for these two groups of health professions students to have learning activities together before schooling is complete.

Barriers to Implementing IPE

The participants noted a variety of factors that limit the ability of nurse educators to incorporate simulation-based IPE into courses and curricula. Significant barriers to development

and implementation of simulation-based IPE include:

- The challenge of scheduling IPE across multiple programs
- Lack of co-located or geographically proximate health professions programs with which to partner
- Limited resources to develop and implement IPE
- Questions about who will bear the cost of shared programs and resources
- Lack of recognition by administrations that IPE is part of faculty workload
- Faculty and administrative resistance to change
- State-to-state variability on the amount of simulation allowed within a nursing program

Think tank participants noted nursing represents the largest body of health professions students resulting in a disproportionately large number of students compared to other health professions. This presents a challenge to provide enough IPE opportunities for each student nurse to work with medical students, pharmacy students, and allied health professions students. Regulatory boards maintain discipline-specific expectations and requirements. While IPE may be mandatory for some students it may be optional for others. This may result in funding sources dedicated to only one program and subsequently limiting participation for partner disciplines. Nursing education regulations also differ from state to state. Some states place no restrictions on the amount of simulation time that a program can count as clinical placement while other states have specific limitations (Nehring, 2008).

Role confusion exists both inside and outside the boundaries of the nursing discipline due to the various levels of education allowing different points of entry into practice. Think tank participants agreed that intraprofessional as well as interprofessional opportunities for nursing students would be beneficial. Opportunities for advanced practice nursing students, registered

nursing students (both pre and post licensure), practical nursing students and nursing assistant students to work together as a team are rare in education, although cohesive teamwork is expected of nursing personnel in the professional environment after graduation. Simulation, it was noted, is equally amenable to intraprofessional and interprofessional education.

Identification of specific courses and learning objectives where IPE can be efficiently inserted as well as the development of IPE-specific scenarios are challenges nursing programs are facing as they seek to implement IPE. The NLN Simulation Innovation Resource Center (SIRC), an online e-learning site for nursing faculty, was noted to be a useful resource for identifying IPE scenarios (www.sirc.nln.org). Other resources for examples of simulation-based IPE activities include the Josiah Macy Foundation (www.josiahmacyfoundation.org) and the Robert Wood Johnson Foundation, Josiah Macy Jr. Foundation and ABIM Foundation's *Team-Based Competencies: Building a Shared Foundation for Education and Clinical Practice* (<http://www.rwjf.org/humancapital/product.jsp?id=72322>).

Opportunities to Initiate Simulation-Based IPE

The growing safety and quality movement in health care offers the ideal introduction for simulation-based IPE. Think tank participants noted agencies focused on improving patient safety and care are beginning to provide resources and funding for simulation-based IPE. Emerging technology offers the promise of both synchronous and asynchronous IPE. The use of virtual modalities as well as telehealth-based models can provide health professions students who are not co-located with opportunities for increased interaction. Retired or working health care professionals can collaborate with students and educators to fill in the gaps of expertise not found on a particular campus.

Simulation-based IPE takes many forms. It includes opportunities for online activities. It can also be accomplished through networking with hospital simulation centers and community disaster

experts. For example, the Clarion competition at University of Minnesota gives students from different health disciplines opportunities to collaborate on cases and compete against other teams for honors. The Institute for Health care Improvement is another organization that supports the development of interprofessional student chapters focused on improved delivery of health care and patient safety. Organizations such as the SSH, the NLN and the AACN who support the intentional and deliberate use of simulation-based IPE also provide resources and partnerships. The Josiah Macy Jr. Foundation sponsors grants and fellowships which promote and enhance opportunities for team-based and IPE competencies.

Key Actions To Foster Simulation-Based IPE

Nursing Think Tank participants identified seven key actions they believe are needed for successful implementation of simulation-based IPE.

- Adoption of the standardized definition of IPE and the IPE competencies as disseminated by IPEC
- Development of a simulation-based model for IPE and interprofessional practice (IPP)
- Recognition, endorsement and funding of IPE by those who regulate, accredit, and influence health professions education
- Incorporation and practice of TeamSTEPPS® principles during simulations in every health profession curriculum and at all levels of nursing education (CNA to DNP/PhD)
- Administrative support and academic recognition for faculty engaged in simulation-based IPE
- Research into best practices in simulation-based IPE
- Dissemination of new teaching/learning materials that support simulation-based IPE

Summary

In summary, participants of the Nursing think tank noted effective and efficient IPE is essential if we are to achieve effective and efficient interprofessional practice within the health care system.

Simulation is believed to be an enabling technology that supports progressive, deliberative and repetitive opportunities for IPE that is patient-centered and covers preventative, acute and chronic care across the lifespan. Simulation-based IPE in community care and disaster management is well documented and deserves consideration all programs. While implementation of simulation-based IPE presents significant challenges, there are examples of innovative simulation enhanced IPE that show potential for being generalizable. Ultimately, nursing think tank participants believe, simulation can serve as a focal point that brings health professions educators together and allows IPE to be started early and span the educational continuum in order to provide true interprofessional learning opportunities.

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Table 1
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 effective teamwork and team-based practices.
- TT11. Perform effectively on teams and in different team roles in a variety of settings.

Table 2

Organizations Invited to the Key Stakeholders Meeting in San Diego, CA
(in alphabetical order)

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 in 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

Table 3

Attendees at the NLN Think Tank (in alphabetical order)

Kathryn E. Adams, Director of Continuing Education, Society for Simulation in Healthcare
Gail Armstrong, DNP, ACNS-BC, CNE, Assistant Professor, University of Colorado Denver College of Nursing
Kay Carlton-Hodson, RN, EdD, ANEF, FAAN, Associate Director and Simulation and Information Technology Center Director, Ball State University
Mary Cato, MSN, RN, Assistant Professor, Oregon Health Sciences University
Helen Connors, PhD, RN, FAAN, Executive Director of University of Kansas Center for Health Informatics and Associate Dean for Integrated Technologies, University of Kansas School of Nursing
Sharon Decker, RN, PhD, ACNS-BC, ANEF, Professor and Covenant Health System Endowed Chair in Simulation and Nursing Education, Director of the F. Marie Hall SimLife Center, Anita Thigdon Perry School of Nursing, Texas Tech University Health Science Center
Michael Gates, PhD, RN, RWJF Nursing Faculty Scholar, San Diego State University
Janet Grady, DrPH, RN, ANEF, FAAN, Vice-President of Academic Affairs and Chair, Division of Nursing and Health Sciences University of Pittsburg at Johnstown
Pamela Jeffries, PhD, RN, FAAN, ANEF, Associate Dean for Academic Affairs, Professor, Johns Hopkins University School of Nursing
Suzan Kardong-Edgren, PhD, RN, ANEF, Assistant Professor, Washington State University
Sheila Kyle, MSN, EdD, RN, vice President Schools of Nursing and Health Professions and Director of School of Nursing, St Mary's Center for Education
Julie McAfooes, MS, RN-BC, ANEF, Web Development Manager, Chamberlain College of Nursing
Beth Mancini, RN, PhD, NE-BC, FAHA, FAAN; Professor, Associate Dean and Chair for Undergraduate Nursing Programs, University of Texas at Arlington College of Nursing; President-elect, The Society for Simulation in Healthcare
Jennifer Manos, BSN, RN, Manager of Accreditation Council of Accreditation of Healthcare Simulation Programs, Society for Simulation in Healthcare
Anna Marshalick, RN, MSN, Executive Director, New Cortland Education Center, New Courtland School of Practical Nursing
Linda Norman, DSN, RN, FAAN, Senior Associate Dean for Academics, Vanderbilt University School of Nursing; Gail Armstrong, DNP, ACNS-BC, CNE, Assistant Professor, University of Colorado Denver College of Nursing
Laura Petri, PhD, RN-BC, Director of Faculty Programs, American Association of Colleges of Nursing
Patricia Ravert, PhD, RN, CNE, ANEF, Associate Dean, Undergraduate Studies, Nursing Learning Center and Clinical Simulation Laboratory coordinator, Associate Professor, Brigham Young University
Mary Anne Rizzolo, EdD, RN, FAAN, ANEF, Consultant, Professional Development, National League for Nursing
Elaine Tagliareni, EdD, RN, CNE, FAAN, Chief Program Officer, National League for Nursing
Janet Willhaus, MSN, RN, Scholar in Resident for Simulation, National League for Nursing
Mary Tarbell, MS, RN, Dean School of Nursing, Springfield Technical Community College
Maureen Tremel, MSN, ARNP, CNE, Nursing Professor, CBJT-RNCPI, Nursing Curriculum and Technology Director, Seminole State College of Florida

Also providing input:

Jeffrey Groom, PhD, CRNA, Director and Clinical Associate Professor Anesthesiology Nursing Program, Florida International University
Valerie Howard, EdD, RN, Associate Professor, Robert Morris University, President of International Nursing Association for Clinical Simulation and Learning
Marla Weston, PhD, RN, Chief Executive Officer, American Nurses Association