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CLINICAL SIMULATIONS FOR THE ADVANCED PRACTICE NURSE: A Comprehensive Guide for Faculty, Students, and Simulation Staff

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FOREWORD

The use of simulation in nursing education is not a recent innovation. In 1911 a doll maker created a life size doll, Mrs. Chase, to help nurses learn to care for hospitalized patients (Aebersold, 2016). Consider the orange; decades of nurses gave their first injections into an orange, which was thought to best simulate human tissue. The use of role playing in developing communication skills has also historically been integral to nursing education. Simulation allows for a controlled situation that provides for the objective measurement of competence. The ability to practice a skill without risking the safety of a patient helps the learner develop confidence.

Today the education of the Advanced Practice Registered Nurse (APRN) requires creativity as clinical application becomes more complex and competition for clinical sites continuously grows. This book provides insight into additional methodologies that are available to address these challenges. The American Association of Colleges of Nursing (AACN) has established essentials by which programs granting APRN degrees are evaluated. In the preamble to the DNP competencies, they state that the APRN needs:

- development of needed advanced competencies for increasingly complex practice;
- enhanced knowledge to improve nursing practice and patient outcomes;
- enhanced leadership skills to strengthen practice and health care delivery. (AACN, 2006, p. 6)

The competition for clinical sites can result in placements that do not provide the students the ability to experience the full scope of their chosen role and population. Simulation provides a means of filling these gaps. Mrs. Chase has evolved into today’s high-fidelity manikins that allow the student to develop their clinical competencies. Another means of simulation, the use of standardized patients who are trained actors, allows the student to receive feedback from the standardized patient, the faculty, and may include students as observers who provide feedback to one another. Criticism regarding the student’s technique may be more readily accepted from a standardized patient than from the faculty or preceptor. The use of simulation allows for a review of the case and provides the student with feedback in real time to help them identify areas that require additional work.

APRN clinical education is challenged by the current focus on interprofessional competencies that provide improved patient outcomes. Core competencies for interprofessional collaborative practice has indicated that “Competencies necessarily require moving beyond profession-specific educational efforts to engage students of different professions in interactive learning with each other” (Interprofessional Education Collaborative [IPEC], 2016). Few clinical placements provide opportunities for healthcare students to care for a patient as an interprofessional team. Simulation can provide those experiences needed to learn to work as a team developing an appreciation for the roles and responsibilities of the other professions (IPEC, 2016). Through simulation they can also work on the competencies of ethics, communication, and team skills.
This book is the first simulation guide designed specifically to support the training and evaluate the performance of advanced practice registered nursing students, novice nurse practitioners, and advanced practice registered nurses developing new skills. It blazes new trails in supporting, implementing, and standardizing quality graduate simulation cases, advancing graduate learning, and furthering the development of clinical judgment for the advance practice provider. It provides a foundation for transforming graduate nursing education to competency-based clinical evaluation. The standardized templates and options for including interprofessional education will empower programs to advance graduate simulation education and research.

This book, in addition to providing potential scenarios that can be used in a simulation setting, also provides information for the faculty for whom this may be a new endeavor. The skill of developing and evaluating a simulation can be daunting. This book assists those faculty who have not had this experience with developing the entire package including the cases, competencies, debrief, and evaluation tools needed to facilitate advanced practice student learning. We feel this comprehensive guide is an invaluable resource designed to assist faculty and the entire simulation team in presenting those complex clinical scenarios that students and eventually APRNs face each day.

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REFERENCES
PREFACE

APRNs have been providing primary, acute, and specialty care to patients of all ages for nearly half a century. APRNs assess, diagnose, order, and interpret diagnostic tests, initiate and manage treatment plans, as well as prescribe medications. Millions of patients choose APRNs as their healthcare providers, with more than 1.06 million visits annually (American Association of Nurse Practitioners, 2019).

Educating the APRN has become more challenging and requires additional expertise on the part of the educator, especially as clinical settings have become more complex and clinical sites more limited. The American Association of Colleges of Nursing (AACN) has established essentials by which programs granting APRN degrees are evaluated. In the preamble to the DNP competencies, AACN states that the APRN needs “development of advanced competencies for increasingly complex practice; enhanced knowledge to improve nursing practice and patient outcomes; enhanced leadership skills to strengthen practice and health care delivery” (American Association of Colleges of Nursing, 2006, p. 6). In addition, the 2017 Nurse Practitioner Core Competencies, with content outlined by the National Organization of Nurse Practitioner Faculties (NONPF), are used as a guide to the essential core competencies with educational content for all nurse practitioners (http://c.ymccdn.com/sites/www.nonpf.org/resource/resmgr/competencies/2017_NPCoreComps_with_Curric.pdf). The core competencies as outlined in this document are Scientific Foundation, Leadership, Quality, Practice Inquiry, Technology and Information Literacy, Policy, Health Delivery Systems, Ethics, and Independent Practice.

For decades there have been debates in nursing education over the use of simulation in graduate nursing programs and substituting clinical hours with simulation. Although simulation is not currently recognized by APRN accreditation and certification organizations as a substitution for the required 500 clinical hours minimum, its utility as an assessment modality is invaluable (Nye, Hetzel-Campbell, Henley-Herbert, Short, & Thomas, 2019). Simulation has the ability to evaluate competency, clinical reasoning, and multifocal learning domains by utilizing validated tools in a controlled environment, thus increasing the reliability of the evaluation. Simulation is instrumental when utilized as a formative, summative, objective structured clinical examination (OSCE), or high-stakes evaluation at multiple points across the curriculum continuum.

Collaborating with simulation experts, nursing faculty have successfully changed the conversation from “Can we use clinical hours?” to “How can we best use simulation?” Effective use of simulation includes a theoretical framework and implementation methods (Lioce et al., 2015; National Council of State Boards of Nursing [NCSBN], 2016a, 2016b; Society for Simulation in Healthcare [SSH], 2016). Scenarios may be used as high-fidelity simulation in a mock clinical environment, telepresence collaboration with intra- or interprofessional calls and patient consultations, in situ simulation, or even as unfolding case studies in the classroom with pause, pair, and share of learner-driven diagnosis and treatment discussions to promote active learning, thereby increasing learner engagement and synthesis of concepts. Simulation requires adequate time for
briefing, feedback, and creative problem-solving to expand and improve clinical practice and incorporate innovation in quality of patient care.

Best practice in simulation supports the use of the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: SimulationSM as the framework for any simulation-related education in a curriculum. The standards provide evidence-based criteria for areas such as simulation design, facilitation, debriefing, and participant evaluation. Implementation of the standards of best practice in a program signifies a dedication to simulation excellence and a commitment to quality education (INACSL Standards Committee, 2016). The INACSL Standards of Best Practice: SimulationSM outlines the criteria and elements required to provide participant evaluation in formative, summative, and high-stakes simulations.

With the integration of increased simulation and focus on competency measurement, it is vital to be familiar with, support, and adopt ethical simulation standards. Moreover, committing the time, training, and resources to provide well-designed, learner-centered, objective clinical experiences with direct observation, thoughtful constructive feedback, and evaluation by the faculty member is essential (INACSL Standards Committee, 2016; Lioce & Graham, 2017; SSH, 2016, 2018, 2019). The SSH Simulationists Code of Ethics (2018) states educators are to be transparent and “adhere to accepted standards in the documentation, analysis, design, development, implementation, and evaluation of simulation activities” (p.7).

This book blazes new trails in supporting, implementing, and standardizing quality graduate simulation cases, advancing graduate learning, and furthering the development of clinical judgment for the advanced practice provider. This book is the first simulation guide designed specifically to support the training and evaluate the performance of advanced practice nursing students, novice nurse practitioners, and advanced practice nurses transitioning to new fields. This comprehensive guide to simulations for advanced practice registered nurses has several levels of applications for students, faculty, standardized patients (SPs), staff development, and simulation personnel looking to prepare advanced practice nurses and their interprofessional teams with valid simulation experiences written by APRNs and simulation specialists.

Simulation development and design is time-consuming and can be overwhelming without a clearly defined process, policy, and procedure. Unlike other simulation books, this book is dedicated to advanced practice nursing students, their faculty, and the simulation staff that support their training. One third of the content is dedicated to narrative entries written for APRN students, faculty, and simulation staff, each with timely topics surrounding APRN training as well as sound advice from recent graduates, faculty experts, and leaders in the simulation field. The remaining two thirds of the book is dedicated to detailed clinical simulation cases arranged by APRN specialty. These simulation scenarios are designed to promote critical thinking and clinical reasoning in advanced practice nursing students, new APRN graduates preparing for boards, novice APRNs enrolled in onboarding or internship programs, experienced nurse practitioners looking to transition to a new clinical practice area, and advanced practice nurses seeking a review. The prepared simulation cases in this book will aid in alleviating the faculty/staff workload for design and allow the focus to primarily rest on support and implementation to enhance and measure outcomes. Competencies for each specific subspecialty are utilized to guide the development of content-specific scenarios; hyperlinks to the most up-to-date competencies are provided. This book provides a method and firm foundation for transforming graduate nursing education to competency-based clinical evaluation, empowering programs with standardized templates and interprofessional education options for each case to advance graduate simulation education and research.

To begin, we invited doctorally prepared and nationally recognized APRNs and APRN program directors from nationally recognized MSN and DNP programs as content editors of their respective APRN-specialty chapter. All specialties outlined in the consensus model are represented including the nurse practitioner specialties: Adult–Gerontology Primary and Acute Care; Family, Neonatal, Pediatric Primary and Acute Care, Psychiatric–Mental Health, Women’s Health; Clinical Nurse Specialists; Certified Nurse Midwife; and Certified Registered Nurse Anesthetist.
Doctorally prepared APRNs and APRN faculty were recruited as the content experts for authoring all clinical scenarios. Scenarios are written from the APRN perspective, their roles, and corresponding outcomes for their certification. Simulation experts from the National League for Nursing Simulation Leader Network were recruited to coauthor the clinical scenarios to ensure compliance with the best practices and standards from the INACSL, the Society for Simulation and Healthcare (SSH), and the National League for Nursing.

Chapter 1 is dedicated to the APRN student and novice practitioner preparing for simulation experiences. It provides anticipatory guidance for student and novice practitioners on how best to prepare for formative and summative evaluations, SP interactions, OSCE, high-stakes simulation testing, and interprofessional experiences. Practicing APRNs and faculty of nationally ranked programs were consulted to provide guidance to APRN students participating in simulation experiences and navigating APRN programs, as well as to provide information on national certification exams and a valuable list of resources.

Chapter 2 is dedicated to faculty, program directors, and staff development teams seeking to develop simulation experiences for the APRN that reflect best practices. Practical information on how to design engaging simulation experiences for the APRN and suggestions on mapping the various modes of simulation experiences to the levels and competencies of the APRN are provided. Simulation and APRN experts present best practices for utilizing SPs, developing scenarios, setting up OSCEs, incorporating diversity, implementing fair and equal evaluations, utilizing standardized checklists, and properly managing video recordings. The chapter also presents best practices for prebriefing, debriefing, promoting the success of diverse groups of students, faculty development, obtaining the CHSE and CHSE-A, as well as suggestions for including QSEN, TeamSTEPPS, SBAR, nursing informatics, and setting up successful interprofessional simulations.

Chapter 3 is dedicated to the simulation team, including administrators, managers, simulation staff, simulation operators, and ancillary personnel who are charged with the day-to-day responsibilities of running a simulation center to effectively meet the training needs of APRNs and interprofessional teams. This chapter includes entries on administrative considerations including developing policies, procedures, accreditation, training of essential personnel, setting up and maintaining equipment, technology considerations, acquiring proper consents for video recordings, and supporting the simulation staff in obtaining the Certified Healthcare Simulation Operations Specialist (CHSOS) certification.

Chapter 4 provides general physical assessment scenarios in the OSCEs format tailored to the increasingly utilized high-stakes testing for APRNs, PAs, and medical students. OSCEs are generally conducted on SPs and are often part of a summative evaluation or high-stakes testing at the end of courses, programs, or for hospital-based onboarding evaluations. This chapter includes suggestions for students, faculty, and SPs and provides a checklist for evaluating each OSCE. All scenarios were designed for the APRN and are adaptable to any member of the interprofessional team. Therefore, nursing, medical, or physician assistant students and their faculty can utilize the scenarios. Given OSCEs have become best practice for testing, we anticipate this chapter may be very useful to physician assistant programs and medical schools. These scenarios were written by APRN faculty who routinely collaborate with physician assistant and medicine colleagues to ensure scenarios are valid, reliable, and applicable to diverse advanced practice nursing students.

The remaining chapters provide a comprehensive guide to clinical simulation scenarios for each advanced practice nursing specialty. Unlike other simulation books, this guide contains chapters with scenarios and corresponding competencies specific to each APRN specialty. Each specialty chapter begins with an introduction to the role of that particular APRN, a description of scope of practice, expected competencies, credentialing, professional associations, and journals for that specialty. Following the introduction, there are a set of simulation scenarios outlined in the A to Z Clinical Simulation Template for the Advanced Practice Registered Nurse©. The three-part template is designed to be a practical, easy-to-read, condensed guide that is developed and shared among faculty, students, and simulation staff. It
should be thought of as a shorthand template that outlines the essential components of a clinical simulation: curricular design, logistical implementation, and evaluation.

The template is divided into three sections: the first is written for faculty from an academic best practices perspective, the second is a run guide outlining the logistics for the simulation technical team, and the third section is designed for evaluation of student learning outcomes. Each scenario incorporates best simulation practices from INACSL (2016), SSH (2016), and NLN standards (2016) and has identified expected AACN (2006) competencies and population-focused APRN specialty competencies identified as achievable within the scenario. These scenarios are intended for both novice and expert APRNs and can be adapted as part of a formative or summative evaluation, high-stakes testing, hospital-based onboarding evaluations, as well as for training and evaluation of advanced practice interprofessional teams.

This comprehensive guide includes all of the most commonly seen and most clinically prevalent clinical scenarios for all APRN specialties. It also includes a broad range of scenarios not commonly found in other simulation books. Some of the unique topics written by nationally recognized APRN experts include critical care transport scenarios with handoffs to air ambulance, ground ambulance, and fire/rescue/paramedics; interfacility transfers; telehealth encounters; retail scenarios; primary care in the home; transition from skilled nursing to home; imparting life-altering news; caring for a transgender patient; human trafficking; pain management in advanced illness; and opioid crisis.

In summary, this book is for all graduate level advanced practice nursing students, their faculty, and program directors. The introductory chapters provide practical information and best practices for the student, faculty, and simulation staff. We believe this comprehensive guide will be useful to new graduates of APRN programs preparing for boards and novice APRNs enrolled in internship or onboarding orientation programs. MSN and DNP program directors, faculty, staff development educators, and simulation staff will also find this book easy to utilize and instrumental in implementing all levels of simulations for the new, transitioning, and experienced APRN. Programs looking to add interprofessional training to the curriculum will find suggestions on how best to adapt every scenario to an interprofessional setting. We have intentionally designed this comprehensive book to be a clear, practical, and easy-to-follow guide for students, faculty, practitioners, and simulation operation teams. Our aim is for this to be a practical book that will be used by students, faculty, and staff on a regular basis versus a reference book with daunting details that is too large to utilize on a daily basis. This book has particular relevance to faculty in academic settings and staff development teams in clinical settings looking to develop and engage the APRN in interprofessional simulations for formative, summative, and high-stakes testing and competency evaluations.

Celeste M. Alfes and Elizabeth P. Zimmermann

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INTRODUCTION DEDICATED TO THE APRN STUDENT

Overview of the Advanced Practice Registered Nurse (APRN)

Heiddy DiGregorio, Susan Henley Hébert, Susan Reynolds, and Sarah Beebe

INTRODUCTION OF THE TOPIC
According to the American Nurses Association (ANA), an APRN has continued his or her education beyond the baseline requirements for initial nursing licensure and holds a minimum of a master’s degree and often a doctoral degree in the field of study. Nurse Practitioners (NPs), Nurse Midwives, Nurse Anesthetists, and Clinical Nurse Specialists (CNSs) are the four roles that encompass APRNs. Within these roles, APRNs work in both primary and acute care environments to diagnose, treat, and manage their clients’ healthcare needs. They are also frequent contributors to research, community outreach, and public health policy (ANA, n.d.-a).

NPs practice in primary care or acute care as well as population specialties across the life span. Common specialties include but are not limited to Family Practice, Adult-Gerontology, Neonatal, Pediatric, or Psych-Mental Health. In addition to the management of care for acute and chronic illnesses, they are responsible for health promotion, education, and disease prevention (National Council State Boards of Nursing [NCSBN], 2019b).

Certified Nurse Midwives (CNMs) specialize in women’s health. They primarily care for women seeking primary care and gynecologic and reproductive healthcare including childbirth and care of the newborn. They may also treat their female patients’ male partners for reproductive health issues and sexually transmitted diseases. Their practice is in diverse settings such as clinics, hospitals, private offices, and homes (NCSBN, 2019b).

Certified Registered Nurse Anesthetists (CRNAs) provide anesthesia care across the life span and across the full range of services. They care for patients across the spectrum of acuity including but not limited to patients who are acutely ill in life-threatening situations, those chronically suffering with pain, and healthy individuals with anesthesia needs. They are most often seen in hospitals and outpatient surgical centers (NCSBN, 2019b).

CNSs care for both the patient as well as the health system. The CNS often holds a role in supporting nursing practice and identifying risk behaviors in health organizations, communities, and individuals. They are responsible for health promotion as well as diagnosis and treatment of patients in a variety of settings and across the health to illness continuum (NCSBN, 2019b).
SCOPE OF PRACTICE

To effectively approach the role as a newly trained APRN, one should enter the profession with the necessary background, knowledge, and understanding of scope of practice. Doing so requires a committed understanding of the purpose of the role within the overarching scope of health care in addition to the individual responsibilities of the role. The ANA has established multiple resources that are available for all nurses to assist in guiding practice. One of these resources aims to define the scope of practice for APRNs by providing the “who,” “what,” “where,” “when,” “why,” and “how” of the APRN fulfilling the scope of this role:

- **Who**: APRNs are trained and maintain active licensure to practice.
- **What**: APRNs are trained to protect, promote, and assist patients to gain optimal health and ability. They assist clients to prevent illness and injury, in addition to healing facilitation by diagnosing and treating alleviation of suffering and response. They also play a key role in advocacy for individuals in their care, families, groups, community entities, and populations.
- **Where**: Wherever patients need care.
- **When**: Whenever a need arises to apply nursing knowledge, compassion, and expertise.
- **Why**: APRNs exist to promote attainment of the utmost in patient outcomes by maintaining a contract and obligation to serve society (ANA, n.d.-b, n.d.-d).

CONSENSUS MODEL

In 2008, a combined Consensus Model for APRN practice was outlined by the APRN Consensus Work Group and the National Council of State Boards of Nursing (NCSBN) APRN Committee (NCSBN, 2008). This model serves to provide recommendations and promote state-to-state alignment for APRN regulation. It also provides a unified definition of practice, describes the APRN regulatory model, titles to be used, specialty definitions, population focus, and ways to implement the APRN roles in practice. As a student or new APRN, the Consensus Model can be used to understand the acquired or desired role as an APRN. In addition, it guides individual state boards of nursing within the United States that regulate practice on an individual basis by state (NCSBN, 2019a). Included in the model are recommendations for individual states to guide regulatory practice for APRNs relating to state recognition of each of the four APRN roles (CNP, CRNA, CNM, and CNS).

The Consensus Model is not only a guiding document for states but also regulatory bodies, academic programs, and individual persons who are interested in the recommendations for APRN practice and role descriptions. The document defines recommendations to promote state-to-state alignment such as whether a state requires licensure for only the APRN role or the APRN licensure in addition to licensure as an RN. Descriptions are contained for the requirements needed to sit for licensure, such as obtaining graduate status from an accredited program in the aligning academic area or a postgraduate education or certificate for the desired role. Additionally, newly graduated APRN students can also find information on how to secure and maintain advanced level nursing certification from an accredited program. Recommendations are also provided to guide independent practice and prescriptive authority.

SUMMARY OF CURRENT BEST PRACTICE

APRNs are licensed independent practitioners (NCSBN, 2008). Although, as new APRNs move into independent practice, it is crucial to understand the laws and regulations that they may work under. These are defined by the licensing state. Many states have restrictions on the APRN’s authority to practice. For instance, state laws and regulations may require a collaborative agreement with another provider in order to obtain and maintain licensure. There are three practice environments that an APRN may practice under depending on their state laws and regulations: full practice, reduced practice, and restricted practice (American Association of Nurse Practitioners [AANP], 2018).
• Full Practice
  The APRNs in states with full practice authority are permitted to work independently, including the prescribing of medications and controlled substances under their state licensure. It should be noted that this level of authority is the recommended model of the National Academy of Medicine and the NCSBN (AANP, 2018).

• Reduced Practice
  Under a reduced practice environment, laws limit the practice of the APRN in at least one area of care, and often include a collaborative agreement with another provider to provide care. This level of authority may also limit the setting that an APRN may practice in. For example, APRNs may not be allowed to admit patients to the hospital but have the ability to care for the patient once admitted or in other settings (AANP, 2018).

• Restricted Practice
  In this practice environment, the licensure laws restrict the APRN to practice in at least one area of care. For example, state practice laws may not allow the APRN to have independent prescriptive authority. These environments require supervision by another provider or team in order for the APRN to practice (AANP, 2018).

The APRN practice laws and regulations are typically defined by state boards of nursing and the Nurse Practice Act. However, there are some states where different specialties of APRNs are regulated by other bodies of licensure, for example, the state board of medicine or public health (ANA, n.d.-b).

• Clinical Practice Settings
  APRNs practice in a variety of settings. Practice setting is often dependent on the specialty of APRN. The list of practice settings includes inpatient facilities, outpatient and ambulatory care facilities and offices, homes, and public health clinics and facilities. For example, CRNAs typically practice in a hospital or surgical suite and CNMs may practice in home, hospital, birth center, or some form of ambulatory care setting (NCSBN, 2019b). State practice regulations and laws may dictate what setting a specialty of APRN may be allowed to practice in or how they practice within that setting (AANP, 2018).

SUGGESTIONS FOR THE APRN STUDENT
  Developing in a new role as an APRN relies on development of the seven core competencies. All APRNs share the seven core competencies that include direct clinical practice; expert coaching and guidance; consultation; research; clinical, professional, and systems leadership; collaboration; and ethical decision-making (Arslanian-Engoren, 2018). The practice of an APRN is not a substitution for medical practice but rather a unique practice of its own that is considered complementary to medicine. Regulation of the APRN is through the regulatory model, which includes the following four essential elements: Licensure, Accreditation, Certification, and Education (LACE; ANA, n.d.-c).

• Licensure
  Licensure occurs at the APRN role and population foci and permits practice. The title APRN is a legally protected title. Each practice is specific and licensure will differ based on the APRN role and population foci. One of the four roles or six population foci define the APRN practice. Seven agencies offer credentialing services. Of the seven, the American Nurse Credentialing Center offers the broadest range and number of certification examinations. The APRN competencies build on the competencies required for an RN (Arslanian-Engoren, 2018).

• Accreditation
  The agency that reviews the APRN program to ensure the program meets the competencies for professional certification. The APRN program standards should align with the accrediting body.
• **Certification**
  Certification is a process by which recognition is given to an individual who has met predetermined qualifications and competencies as outlined by the accrediting body.

• **Education**
  The educational program prepares the student for one of the four APRN roles and population foci (Arslanian-Engoren, 2018). The educational requirements include faculty-supervised clinical practice hours as outlined by the APRN role. Three graduate courses are essential in the APRN core and include advanced physiology/pathophysiology, advanced health assessment, and advanced pharmacology.

**RENEWAL OF CERTIFICATION**
Renewal is accomplished through a certifying agency. Some examples of renewal requirements include continuing education; academic credit; presentations; evidence-based practice, quality improvement projects; publications or research; preceptor hours; professional service; direct clinical practice hours; or reexamination. Each of the categories must be related to the specialty of the initial certification.

**PRESCRIPTIVE AUTHORITY**
Prescriptive authority is outlined by the state in which you practice. Application for prescribing must be granted through the state you hold licensure. States may require confirmation of the core academic graduate courses. Of particular interest is the confirmation of an advanced pharmacology course and/or continuing education credits in pharmacology at least within the last 2 years preceding the application for prescribing privileges.

**REFERENCES**
INTRODUCTION OF THE TOPIC
Clinical learning in APRN programs includes simulation-based education, which may be presented in many formats. Clinical placement requirements and insufficient numbers of preceptors pose challenges for schools of nursing in graduate and undergraduate programs. To compound these problems, there are widespread faculty shortages and a paucity of evidence to support the effectiveness of current clinical hour requirements of many APRN programs. Simulation better prepares APRNs for not only routine situations but also high-acuity, low-frequency, stressful, chaotic situations and team-based scenarios. The integration of technology, task training, deliberate practice, and problem-based critical thinking exercises into APRN curriculum promotes role development and socialization. Simulation activities can be standardized and targeted to the specific learning needs of each clinical specialty (Leflore & Thomas, 2016) to address the gaps in clinical opportunities that programs and faculty currently face.

SUMMARY OF CURRENT BEST PRACTICE
Content and quantity of simulation-based training may vary among advanced practice nursing programs, yet simulation best practices do not differ among graduate and undergraduate simulation experiences. The International Nursing Association for Clinical Simulation and Learning (INACSL) revised simulation standards of best practice in 2016. These standards, related to design, facilitation, and evaluation of simulation, aim to promote high-quality, learner-centered simulation experiences (INACSL, 2016). Faculty who are trained in simulation best practice, experienced in facilitation, and equipped with dedicated resources are essential in order to provide optimal simulation experiences for APRNs. Following best practice guidelines promotes learner engagement, optimizes learner opportunities and performance, increases the likelihood of objective learner evaluation, and increases the likelihood that learners will achieve the learning objectives (INACSL, 2016).

Advanced practice nursing students are often high achievers and concerned with performance assessments. Student evaluations may be formative in that learners are “informed” of progress made or performance issues to practice. Summative evaluations summarize the overall performance and ability of the learner to meet the learning objectives. Best practice states that learner objectives and method of evaluation are established prior to learning (INACSL, 2016), which also contributes to the safe learning environment that simulation offers in that learners do not feel surprised by expectations or testing methods.

SUGGESTIONS FOR THE APRN STUDENT
Development of minimum APRN competencies can pose challenges given indiscriminate learning opportunities and widely variable clinical practices of numerous clinical preceptors to which an APRN student may be assigned over the course of the program. Learners enrolled in a given program are not guaranteed equivalent clinical experiences due to the nature of clinical situations, yet simulation can provide standardized experiences with specific clinical events, patients, and experiences (Leflore & Thomas, 2016). Learning objectives that are specific to the APRN specialty may suggest high-fidelity simulation equipment as learner needs have advanced beyond basic skills.
Traditional, on-campus graduate nursing programs may be more inclined to use standardized patients, human patient simulation, and any combination of virtual reality or computer-based simulations, while programs that are distance-based may find online, case-based, e-learning, virtual reality, and telehealth approaches as ideal teaching tools (Duff, Miller, & Bruce, 2016). On-campus assessment models may also include objective structured clinical examinations (OSCEs) to determine clinical performance and provide feedback for improvement. During OSCEs, the use of skills stations is featured in which students rotate through and are assessed by rating scales or checklists to make judgments of mandatory competencies through observing students’ performances (Kelly et al., 2016). In order to gain confidence, a learner should meet a minimum requirement of skills or scenarios to achieve a basic competency in specific areas. Often, APRN roles involve clinical scenarios or clinical experiences that may be inadequate or nonexistent to obtain confidence in the desired skill. Simulation provides students opportunities for deliberate (repeated) practice and to ensure each student is exposed to clinical encounters until a desired level of competency is demonstrated (Leflore & Thomas, 2016).

As an APRN, participation in multidisciplinary and interprofessional teams is a key component in clinical practice. The use of simulation can support development of team and communication skills. Planning for these interprofessional simulation opportunities can be challenging due to scheduling difficulties and differences in matriculation progress. Healthcare education in silos is no longer acceptable and greater efforts must be made to craft realistic simulation events with learners from different educational programs that require input from all team members (Kelly et al., 2016). APRNs are key to the promotion of adequate access to healthcare. Simulation as an integral part of the APRN curriculum may bridge the gap in clinical opportunities and prevent delays that the aforementioned challenges might otherwise create in the production of qualified APRNs who can alleviate the access to care deficit.

REFERENCES


Debriefing

Catherine Hillberry

INTRODUCTION OF THE TOPIC

Simulation educators have adopted a general format for simulated clinical experiences that begins with orientation to the experience (prebriefing), an episode of care (the simulation case), and a period of postexperience analysis (debriefing; Doherty-Restrepo et al., 2018; Jeffries & Rogers, 2012). This introduction covers the debriefing period. Debriefing is a guided discussion led by a trained facilitator. The facilitator observes the learner’s simulation performance and then assists the learner in examining events, thought processes, and emotions that occurred during the simulation (Doherty-Restrepo et al., 2018; Fey & Jenkins, 2015). The debriefing process involves the active participation of learners. The facilitator guides the learner to critically reflect on his or her performance (Doherty-Restrepo et al., 2018). Research has shown that facilitated debriefing helps identify and close gaps in knowledge and skills. The self-examination and reflection
that occurs during the debriefing and the feedback are critical to learning and may be the most important part of the overall simulation experience (Fey & Jenkins, 2015).

APRN students are adult learners who come to higher education with a wide range of clinical experiences and ideas regarding practice. The framework for the APRN student’s clinical practice has been the nursing process. One of the objectives of APRN education is to expand and transform the student’s perspective to include medical decision-making, diagnosis, and treatment. While there are many techniques and theories involved in debriefing, the objective of assisting in the transformation of the learner’s thought and clinical processes remains the same for each model. Debriefing techniques allow the learner to assess what is relevant and determine the reasons for his or her actions.

SUMMARY OF CURRENT BEST PRACTICE
There are best practices for simulation and by extension debriefing. Research in the field of simulation-based education has led to some evidence-based practices (EBP) that are reflected in the following guidance.

The Standards of Best Practice for Simulation, Standard VI: The Debriefing Process published by the International Nursing Association for Clinical Simulation and Learning (INACSL) state that facilitators of simulation and debriefing are key to participant learning. The facilitators must be knowledgeable about the theory underlying facilitation, as well as be skilled in creating a psychologically safe learning environment, diagnosing learning needs, and managing group processes (Decker et al., 2013). The guidelines for these standards state that debriefing is a learner-centered reflective conversation that is intended to assist learners in examining the meaning and implications of actions taken during a simulation, thus creating new knowledge (Decker et al., 2013).

The National League for Nursing (NLN) and the INACSL feel strongly that the examination and self-reflection occurring during the debriefing conversation and the feedback received during this time are essential “meaning makers” for learners (NLN Board of Governors, 2015).

SUGGESTIONS FOR THE APRN STUDENT
Simulation has gained widespread acceptance as a teaching methodology used to train healthcare professionals from prelicensure to ongoing professional education. Simulation follows the path of prebriefing, the simulation case, and debriefing (Doherty-Restrepo et al., 2018; Jeffries & Rogers, 2012).

Literature has demonstrated that facilitators and peers providing immediate feedback about simulation performance improved participant learning and performance (Fey & Jenkins, 2015; Jeffries & Rogers, 2012). Engaging in rigorous reflection is an essential part of the learning process; there is no specific model or approach consistently identified as more effective than another for promoting reflection and critical thinking (Morse, 2015). There are several debriefing models and theories that may be used to debrief simulations. The NLN lists these four theory-based methods of debriefing currently in use:

- Debriefing for Meaningful Learning—DML
- Debriefing with Good Judgment
- Structured and Supported Debriefing
- Promoting Excellence and Reflective Learning in Simulation—PEARLS (NLN Board of Governors, 2015)

This list is not an exhaustive list of all theories or models of debriefing.

The most commonly employed models include a discussion between the facilitator and the learner(s) based on the intended learning objectives. In this approach, there is a focus on critique of performance prompted by asking the participants to describe what was done correctly, what was not done correctly, and what they would do differently the next time (Fey & Jenkins, 2015; Jeffries & Rogers, 2012). By answering these questions, students use the inductive and deductive thinking
skills that are foundational to critical thinking. This feedback is intended to change behavior or clinical practice (Fey & Jenkins, 2015; Jeffries & Rogers, 2012; Morse, 2015). The facilitator using the advocacy-inquiry method of nonjudgmental debriefing begins by stating an observation–hypothesis–assumption and then asks the student or learner to validate or explain it. This technique uses the inquiry to test the debriefing educator’s assumptions about what occurred in the simulation. This form of debriefing prompts students to articulate their frames or mental representations and make sense of their assumptions and understandings (Fey & Jenkins, 2015; Jeffries & Rogers, 2012). The DML method uses a consistent process involving six components: (a) engage (the participants), (b) explore (options reflecting-in-action), (c) explain (decisions, actions, and alternatives using deduction, induction, and analysis), (d) elaborate (thinking-like-a-nurse and expanding analysis and inferential thinking), (e) evaluate (the experience reflecting-on-action), and (f) extend (inferential and analytic thinking, reflecting-beyond-action; Fey & Jenkins, 2015; Jeffries & Rogers, 2012). Any of these methods or a combination of them are valid ways to debrief learners.

The trained facilitator guiding the learner in a reflective assessment of actions taken during a simulated patient care event can lead to a transformation of the learner’s thoughts and clinical processes. There are several ways to facilitate a debriefing experience, but with the learner’s active participation, the objectives of the simulation can lead to the outcome of enhanced learning and knowledge.

REFERENCES


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**Formative Assessment**

**Virginia C. Muckler**

**INTRODUCTION OF THE TOPIC**

Formative assessment (FA) provides APRN learners feedback on technical and nontechnical skill performance and “informs” them of their status toward achieving course learning objectives. Feedback includes strengths, suggestions for improvement, and considerations for alternative methods of thinking and doing. FAs can be considered preassessments or demonstrations prior to final testing in which learners are observed, critiqued, and provided feedback for the purpose of learning. This process allows the identification of knowledge and performance gaps necessary
for learners to make needed adjustments and improvements in practice, with the goal of successful demonstration of learning objectives during summative evaluation. Honest, timely feedback and dedicated periods of reflection and deliberate practice are essential for learners to gradually develop the skills needed to eventually and propitiously complete the summative evaluation. Perhaps most important to learners, FA is typically not associated with a grade so it results in a less stressful experience and creates an environment more conducive to learning.

**SUMMARY OF CURRENT BEST PRACTICE**

Simulation has been established as an effective method to assess KSAs: knowledge (cognitive), skills (psychomotor), and attitudes (affective) (Sando et al., 2013). In accordance with the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice (INACSL Standards Committee, 2016; Sando et al., 2013), learners can expect faculty and simulation facilitators to establish and inform learners of the assessment method upon introduction of the skill in the course and before the simulation-based experience occurs. FA is intended to provide learners the feedback needed to make necessary improvements related to goal attainment. Anticipate a wealth of initial feedback that aims to improve performance and that feedback intensity will wane as learner proficiency increases. Best practice also recommends that observations and critiques are consistent, provide learners with feedback, aim to correct improper practice and improve critical thinking, are goal-directed, and focus on developmentally appropriate objectives that are not beyond or beneath the learner’s current skill and knowledge level. The learner should spend additional practice time on skills and concepts that are challenging or have been identified as performance gaps. Additional simulation-based learning may include (a) having ongoing facilitator or faculty observation and feedback; (b) being engaged in deliberate and often independent practice that focuses on the skills and feedback provided by faculty; and (c) practicing specific exercises generated by the faculty, APRN learner, or peers.

Simulation-based FAs should also include the integral component of planned debriefing guided by a skilled debriefer or facilitator trained in debriefing (INACSL Board of Directors, 2011; INACSL Standards Committee, 2016). During the debriefing, learners are encouraged to reflect on the simulation-based experience and contemplate their actions, thoughts, or inadequacies of either. The facilitator must seize the opportunity to praise proper KSAs and correct learner gaps that may exist between the learner’s perceived and actual performance. Facilitators continue to help learners meet outcomes on subsequent FAs by coaching and prompting them much like an athletic coach provides feedback to the team. The debriefing is also a rich time for insight during which the learner assigns meaning to the simulation-based experience. Such insight may occur following learner-facilitator discussions or merely from learner self-critique and self-actualization. A skilled debriefer who frames learning points in such a manner that allows the learner to ponder and draw correct conclusions will empower learners and boost learner confidence.

Learners may think of FAs as cyclical plans, practice, and rehearsals to develop habit-forming rituals that will be performed and evaluated against outcome measures during the summative assessment. FAs are like military drills in which soldiers collectively engage in rigorous rehearsal of duties during peacetime in preparation for enhanced performance during wartime. Ongoing FA of the APRN promotes instinctive performance and assists the learner to hone in on the KSAs needed to sharpen and master skills prior to the final summative assessment.

**SUGGESTIONS FOR THE APRN STUDENT**

Faculty expect APRN students as adult learners to have higher levels of self-motivation and self-regulation than undergraduate students. Students are expected to be proactive and; to monitor their learning and progress toward personal goals and learning objectives established by faculty. Responsibility for learning is shifted to the adult learner who is self-motivated and uses
past experiences to construct new knowledge (Knowles, Holton, & Swanson, 2015). Motivated, self-aware APRN students are more inclined to practice and monitor their progress toward mastery of learning objectives against established standards of care, expectations, or performance standards.

Learners who are APRNs may also engage in FAs that are problem-based, scenario-based, and involve standardized patients as the level of fidelity often increases in parallel with complexity of content. Simulation-based experiences that involve higher-level fidelity align well with the andragogical need of adult learners for content to be relevant and immediately applicable. While high fidelity is not required for learning, simulation practice in a high-fidelity environment more closely mimics the professional environment for which the APRN is training and may be more meaningful for APRN students.

Although various new skills are learned throughout APRN programs, FAs primarily evaluate the APRN students’ ability to synthesize and make sense of numerous data points, prioritize findings, and coordinate timely patient care. Assembly and development of a mental construct based on patient assessment, technical and nontechnical clinical skills, and verbal and nonverbal cues provided during simulation-based experiences is cumulatively more complex than the simulation-based experiences of undergraduate or prelicensure students and requires higher level critical thinking skills. When anticipation of the unknown is eliminated, APRN learners can use FA as a tool to succeed.

REFERENCES

CHAPTER 1E

Summative Assessment

Virginia C. Muckler

INTRODUCTION OF THE TOPIC
Summative assessment (SA) is an evaluative approach in which performance is compared to established criteria and occurs at a predetermined time after training. Learners are informed of the type of assessment, when it will occur, and evaluative criteria against which performance will be measured prior to the initial formative assessments (see Chapter 1D). Comparison of learner performance against established standards or learning objectives has been used to determine grades, certifications, competence for APRN coursework, and continuing education credits for healthcare providers and other professionals (International Nursing Association for Clinical Simulation and Learning [INACSL] Standards Committee, 2016a, 2016b). In fact, in a 2018 descriptive survey of advanced practice nursing programs in North America, 62% (n = 133) of faculty respondents reported that SA was used as a measure of competency in their APRN program (Nye, Campbell, Hebert, Short, & Thomas, 2019).

SUMMARY OF CURRENT BEST PRACTICE
The INACSL 2016 Best Practice Standards note that simulation supports the assessment of knowledge, skills, and attitudes (KSAs) and that summative evaluation measures learner performance
against outcomes and objectives. Best practice involves the use of measurable objectives that can lead to achievable outcomes and that establishment and presentation of these objectives to learners should precede all simulation-based learning activities (INACSL Standards Committee, 2016c).

Objectives for SA outline the evaluative criteria against which learner performance will be measured. These objectives are evidence-based, specific, serve to demonstrate competency if achieved, and are outcome-based as they demonstrate a specific outcome if achieved (i.e., securing the airway is a course or program outcome for a nurse anesthesia student; stabilization of a newborn is a course or program outcome for a neonatal nurse practitioner student). Reliable, valid instruments are recommended for SA scenarios and scoring, although instruments that are not validated are often used across a cohort and are acceptable if conducted in a standardized fashion. Such instruments include (a) standardized scenarios that are repeated for each student in the cohort with the same scenario cues and details; and (b) standardized scoring instruments or checklists (INACSL Standards Committee, 2016b). Scoring determinations such as pass/fail or competent/not competent or other categorical determinations should be established prior to commencement of SAs.

SA objectives that are achievable represent the graduated level of learning for the APRN program. Skill level continually and rapidly progresses in advanced practice nursing programs, yet objectives or SA criteria must be realistic; they must be appropriate for the learner knowledge and skill level, feasible within the time frame allotted, and attainable with the resources or alternative resources provided (INACSL Standards Committee, 2016c). The time when SA will occur (i.e., week 4 of the course, mid-term, final exam week) and the amount of time allotted (i.e., 30 minutes or 90 minutes) for the learner to complete the simulation-based SA should be established and conveyed to the student upon introduction of the new content and prior to initiating the simulation experience or any formative assessments related to the content. The purpose of early communication is to provide clear instruction of the expectations and opportunities for learners to practice in the conditions under which they will be tested during SA. Learners must also be informed of when to expect the results of their SA, whether a quantitative or other type of grade will be issued as a measure of their performance, and what portion of the final grade is comprised by the SA.

Best practice recommendations are that SA occurs after the learner has received ongoing, constructive feedback that relays performance gaps or gaps that may exist in the learner’s perceived and actual performance. This process provides the learner repeated opportunities to make performance adjustments and improvements. SA that follows should occur in a safe learning environment after adequate orientation to the equipment and environment (INACSL Standards Committee, 2016b). Faculty or simulation facilitators may ask the APRN student to sign a confidentiality agreement or honor code, either of which acknowledge that the student will maintain the integrity of the SA testing material (the scenario) and not discuss its content. The student is expected to refrain from discussing SA content as with any test material as it would otherwise be considered cheating.

Resources may vary across institutions, yet, when possible, video recording of the SA is advised (INACSL Standards Committee, 2016b) and may be helpful for later review if an assessment tool is being evaluated or validated, reviewers or raters are being trained on its use, or if a second faculty must review when learner performance is questioned. Once the assessment and scoring are complete, summative feedback that outlines the learner’s degree of accomplishment toward objectives and outcomes should be provided to the learner in a private location.

**SUGGESTIONS FOR THE APRN STUDENT**

Learners are responsible for being well informed of their APRN program outcomes and aware of the accrediting body for the specialty program in which they are enrolled. The program outcomes should align with those listed by the accrediting body as this also represents content on the certification examination, although it is not all-inclusive. Among APRN programs, SAs may vary;
they may include standardized patients, or be timed, episodic, problem- or case-based. Regardless of approach, it is likely that the SA will encompass a variety of technical and nontechnical skills including, but not limited to, diagnostic reasoning, critical thinking, clinical prioritization, therapeutic communication, and crisis management. The learning objectives and outcomes along with the SA instructions and details provided by faculty will guide the APRN learner to prepare for the summative simulation experience, which compares learner performance to essential skills in the form of objectives and outcomes, and determines if the learner has met core competencies.

REFERENCES

CHAPTER 1F

High-Stakes Simulation Testing Experiences
Sean P. Convoy and Pamela Wall

INTRODUCTION OF THE TOPIC
The evidence associated with the use of high-stakes simulation testing in advanced practice nursing education is reasonably well established but not necessarily declarative. The National League for Nursing (NLN) concluded in 2015 that “well designed and facilitated scenarios delivered in a controlled setting can be a reliable and valid tool” for evaluating nursing skills (Rizzolo, Kardong-Edgren, Oermann, & Jeffries, 2015). Parsing the NLN’s qualified endorsement, the evidence suggests high-stakes simulation can be effective but only under certain circumstances. This section highlights those circumstances that can potentially improve high-stakes simulation testing outcomes (Exhibit 1.1F).

SUMMARY OF CURRENT BEST PRACTICE
Those best practice actions that should precede high-stakes simulation testing are best conceptualized and coordinated at a programmatic level well before any simulated event occurs. The use of simulation in an APRN program requires faculty possess a shared mental vision and philosophy regarding how and why it is used and implemented. While simulation learning objectives and outcome measures will vary across a program, there should be some degree of internal consistency among them. Patient simulation can be an anxiety-provoking experience for students. Consequently, best practice suggests iteratively using low- and high-fidelity simulation across the program to provide sensitizing doses of simulation to students ahead of the high-stakes encounter. Mindful of the anxiety, faculty will best serve students by formally delivering more than one round of anticipatory guidance related to the high-stakes event and creating a safe space for questions and answers. When faculty are involved in evaluating high-stakes simulation testing experiences, it is necessary to ensure intra-rater reliability among evaluators (Kardong-Edgren, Oermann, Rizzolo, & Odom-Maryon, 2017) as well as a candid discussion regarding the potential confounding influence of bias with all involved. Lastly, it is recommended that the term “high-stakes” be deemphasized by faculty as the term adds unnecessary pressure to an already intense situation.
The best practice actions that should take place during the high-stakes simulation testing period include the need for faculty, staff, simulated patient, and student to suspend disbelief (Muckler, 2017) as it relates to the contrived nature of the simulation encounter. Given their role, students will commonly follow the lead of faculty and staff in the classroom setting. Consequently, faculty and staff are encouraged to sell the experience as a genuine clinical opportunity designed to prepare for real clinical practice that is only achieved when all involved treat it like a genuine clinical encounter. Another potential confounding variable that is present during the high-stakes simulation testing period revolves around the insensible influence of bias. Bias, implicit or explicit, is present in all things. While it is not realistic to expect the simulation environment to be bias free, all participants are encouraged to discuss the potential influence of bias on both the simulated event as well as how it is evaluated.

Best practice actions that should precede high-stakes simulation testing revolve around a robust and multipronged process of evaluation. Immediately following high-stakes simulation testing there is value in scheduling time for both the simulated patient and faculty to deliver individualized feedback to the student in relation to the encounter and learning objectives. There is also value in processing the simulation event in a group setting among the student cohort. Dependent upon the availability of faculty resources and/or learning needs of struggling students, there can also be added value in faculty reviewing recordings of the simulated event and providing time-coded individualized feedback to students in the video recording. Lastly, there is value in employing reliable and valid tools that collect data in relation to the simulated event (Bray, Schwartz, Odegard, Hammer, & Seybert, 2011; Castro-Yuste et al., 2018; Kaiser & Bauer, 1995). One of the intrinsic values associated with a robust and redundant process of evaluation

Exhibit 1F.1 High-stakes simulation testing outcomes can be improved when . . .

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lies in its ability to institutionalize metacognitive strategies in students. Developing the reflective ability to critically “think about one’s thoughts” in real time is an iteratively developed skill.

SUGGESTIONS FOR THE APRN STUDENT

From the perspective of the student, a high-stakes simulation encounter should seem like a well-orchestrated event that all have been preparing for since matriculation. Provided faculty, staff, standardized patient, and student have done their due diligence in preparation, a high-stakes simulated encounter becomes more a validation of skills than a test of skills.

While it has been said at least once in this book, it bears repeating. Much like how an elite athlete, musician, or actor participates in a series of cognitive and behavioral prework (e.g., goal setting, image rehearsal, thought management, contingency planning, and emotional regulation) ahead of an event, so too must the APRN student engage in a similar set of activities ahead of a high-stakes simulation encounter. Students who struggle with simulation are encouraged to consider the following: often in our lives we spend more time attempting to control that which we cannot and neglect that which we can. In that regard, students are encouraged to put more time and effort into cognitive prework, trust the process, and table concerns regarding the outcome until after the simulation encounter is complete.

REFERENCES


Confidentiality

Michelle L. R. Gonzalez and Margory A. Molloy

INTRODUCTION OF THE TOPIC

Simulation and debriefing are concrete, effective ways to assist APRN students in transferring didactic knowledge to the care of patients. To create and maintain a respectful and supportive environment in simulation, which is a key objective for simulation educators, simulationists must take care to use specific strategies that protect the confidentiality of the learners’ individual performance (Zigmont, Kappus, & Sudikoff, 2011).

Confidentiality aids in the assurance of protection, safeguarding, and maintaining the integrity of the simulation activity and more importantly, the conduct of APRN students, inclusive of demonstrations of knowledge, actions (skills), and interactions (attitude) as their perception or fear of failure can occur as these situations may be stressful and anxiety producing.
Therefore, confidentiality is particularly important in simulation-based education (SBE) with APRN students as sensitive information may be shared in these activities, particularly during debriefing, where feedback is communal, videotaping and playback may occur, students reflect on their performance, and discussions over decision-making processes frequently occur (Nye, Campbell, Hebert, Short, & Thomas, 2018). The purpose of this chapter is to outline the importance of maintaining confidentiality and expectations of all participants in SBE.

**SUGGESTIONS FOR THE APRN STUDENT**

Given the importance and complexity of debriefing, and the construct of the safe container in simulation (INACSL Board of Directors, 2011), it is essential for simulation educators to develop debriefing skills with a basis in current identified best practices. Best practices related to confidentiality in SBE are derived from aviation industry practices, organizational behavior, healthcare simulation, and *The INACSL Standards of Best Practice: Professional Integrity* (International Nursing Association for Clinical Simulation and Learning [INACSL] Standards Committee, 2016). Facilitators, debriefers, faculty, simulation operators, standard participants, nonparticipant observers, and any other contributors to SBE activities, including APRN students, have an obligation to be familiar with the concept of and adherence to confidentiality, which is an attribute of professional and personal integrity outlined in the INACSL standard on *Professional Integrity* (INACSL Standards Committee, 2016).

Ideally, confidentiality ought to be addressed prior to participation in SBE. When possible, a program-specific confidentiality agreement form should be signed by the learners, emphasizing the importance of protecting individual performance and issues raised during group discussions (Zigmont et al., 2011). This confidentiality agreement should also include specific established institutional policies/procedures and the implications of a breach of confidentiality by any participants in SBE activities. As constructive, objective, and respectful feedback are gold standards in debriefing in simulation-based learning activities, rules of engagement are to be clearly outlined prior to participation in simulation-based learning activities. Generalized SBE objectives may be revealed. However, specific information related to exact case objectives must also remain confidential. This confidentiality will prevent revealing content, which could exert undue influence on the organic unfolding of simulation scenarios. Additionally, confidentiality may prevent preconceived ideas and assumptions of learners who have yet to complete the simulation-based learning event.

**PARTICIPANT EXPECTATIONS**

APRN students may expect simulation programs to have established standards regarding confidentiality, inclusive of the APRN students’ participation and the debriefing process. All participating APRN students are expected to observe confidentiality and refrain from discussing individual or group performance outside of their specific simulation group activity. They may expect simulation educators to protect confidentiality of learner performance and only disclose content to other faculty as needed for evaluation of learning objective attainment.

**SUMMARY OF CURRENT BEST PRACTICE**

Learner performance is to be protected by all participants and observers to encourage continued and future participation of all learners, as well as to maintain a psychologically safe learning environment. Learning can be compromised when case information is not kept confidential or a breach of the activity occurs. Breach of confidentiality between learner groups may result in differing outcomes, as case information may be changed between simulation sessions thus potentially causing confusion among learners who are expecting events to unfold in a certain manner based on the shared (breached) information.
RESOURCES FOR APRN STUDENTS
As simulation use has grown, so too have organizations committed to advancing the use of simulation in nursing and healthcare education. Many individuals and organizations provide guidance for practices in simulation education, such as Pamela Jeffries work *The NLN Jeffries Simulation Theory* (2015), the Center for Medical Simulation (CMS), and INACSL. Key resources to guide simulation-based activities for APRN students include utilization of *INACSL Standards of Practice: Simulation*. These standards were revised in 2016 and now include standards on Simulation Design, Outcomes and Objectives, Facilitation, Debriefing, Participant Evaluation, Professional Integrity, Simulation-Enhanced Interprofessional Education, and the Simulation Glossary (INACSL Standards Committee, 2016). Additionally, the National League for Nurses offers myriad simulation resources in the online portal Simulation Innovation Resource Center. Regardless of resources utilized, a dedicated time for prebriefing in which the rules of engagement for simulation are discussed, the importance of confidentiality are emphasized, and an opportunity to discuss confidentiality agreement and potential implications should a breach occur (Decker et al., 2013).

REFERENCES

Feedback: Receiving and Giving

Virginia C. Muckler

INTRODUCTION OF THE TOPIC
Feedback is essential to the APRN student’s ongoing professional growth and development. Feedback fundamentally requires reporting of objective assessment data to the learner regarding the degree to which established learning objectives or specialty standards of practice have been met during or following a simulation performance. When APRN students are not provided feedback, they may lose focus of the learning objectives, develop errors of fixation, or improperly learn skills which impedes their ability to transfer skills to practice.

Intentional feedback involves bidirectional communication that presents an opportunity for growth if the learner considers the feedback, reflects upon the performance for which feedback was received, considers actions and inactions, and distinguishes between actions that were appropriate and those which need improvement. Equally, the learner must have opportunity for clarification, deliberate practice, and ongoing feedback to assess whether cognitive and psychomotor skills have improved.

Feedback originates with evaluation, which is an essential component of learning and ideally includes not only the evaluator but also the learner. Self-evaluation allows an opportunity to compare the learner’s perceived progress to actual performance as rated by a qualified individual, in this case, faculty or clinicians who are advanced practice nurses. Comparison of the
learner’s perceived performance to the evaluator’s assessment of that same performance allows for a gap analysis or identification of technical and nontechnical skills that are not being met (Simon, Raemer, & Rudolph, 2010) despite the learner’s belief that her or his performance is satisfactory. The gap analysis allows examination of the learner’s present performance compared to the target performance and what actions or behaviors are required for the learner to exhibit the target performance. Often, APRN students underestimate their performance due to self-critical nature. Learners can expect that faculty giving feedback in this type of situation should reassure and advocate for the learner to prevent deflation of one’s self-esteem. Occasionally, the contrary occurs with learners who are overly confident of their performance, which according to the level of the learner did not meet established performance standards.

**SUMMARY OF CURRENT BEST PRACTICE**

The simulation facilitator or faculty that provides feedback to the learner should be trained in this skill (Cheng et al., 2015). Feedback should connect the simulation performance, the ultimate professional goals, and be directly linked to the learning objectives. Information provided during feedback should reflect clear expectations and indicate that the feedback supports the professional development of the learner, recognizes the continuum of learning and the learner’s status on the continuum, and aims to improve learner performance. Feedback sessions are a time for facilitators to reinforce positive behaviors, correct negative behaviors, and explore cognitive frames that contributed to decision-making (Eppich & Cheng, 2015). An APRN student can expect feedback to begin in a private location with the facilitator asking, “How did you feel that went?” as this initiates the exchange by eliciting self-assessment. Expect feedback to be honest, informative, nonthreatening, provided in a timely fashion soon after the event with positive aspects presented first accompanied with examples of observed behaviors.

Equally, when the APRN student is in a position of providing feedback, these principles apply. The APRN student who gives feedback to peers in simulation should be respectful, maintain confidentiality, and demonstrate empathy for the learner’s emotion, especially when providing negative feedback in attempts to motivate learning. The APRN student should also expect to receive feedback from the facilitator on behaviors or skills that need improvement or correction. The facilitator can provide examples of observed behaviors and assist the learner to modify behaviors and skills by a variety of methods, including discussion and demonstration. Alternate approaches to performance should be suggested to the APRN student.

When providing feedback, it is important to limit it to a few key points to avoid overwhelming the learner and introducing a sense of defeat. As feedback concludes, learning points should be summarized and reflect the initial learning objectives, which are tied to the program outcomes. Feedback may be delivered by faculty or simulation facilitator to learner or peer to peer. Haptic feedback may be provided following virtual reality simulation. Haptic feedback is often costly due to the virtual reality expenses and does not provide participants an opportunity to develop proprioception (Konakondla, Fong, & Schirmer, 2017).

Regardless of feedback mode, emotional awareness is related to learning outcomes. In a study involving 15 learning sessions, periodic learner self-report of emotional state, and evaluator feedback, researchers compared students who were provided feedback and insight about their emotional state during the learning process (experimental group) to students who were not provided the same feedback during the learning process (control group). The study revealed that when learners experienced negative emotions such as anxiety, sadness, and frustration they disengaged from the process. The experimental group remained motivated and engaged in the learning activity while the control group became bored and lost self-confidence (Arguedas, Daradoumis, & Xhafa, 2016).

Other differences between groups were that the experimental group had greater creativity, participation, knowledge sharing, positive behaviors, teamwork, and learning outcome achievement (Arguedas et al., 2016). Student awareness of emotions paired with effective feedback positively impacted learning behaviors and improved students’ motivation, engagement, and self-regulation, which led to better learning outcomes.
An APRN student is more receptive to feedback when emotionally and physically ready. As an adult learner, it is the APRN student’s responsibility to inform the faculty/simulation facilitator if there is a personal or physical issue that will hinder learning, such as a death in the family or personal illness. Receiving negative feedback can be uncomfortable. The learner must accept feedback as it was intended and assume positive intentions from the “giver”—i.e., that the faculty/simulation facilitator wants the best for the learner and that the feedback will lead to improved performance.

**SUGGESTIONS FOR THE APRN STUDENT**

Prior to performance and receiving feedback, the APRN student can mentally prepare for the feedback by focusing on the immediate performance and not fixating on past negative performances. Previous errors or performances that did not meet expectations or learning objectives should be reflected upon and processed yet not hinder current or future performance. Past performances should be thought of as stepping stones that lead the learner to ultimately meet learning objectives. The APRN student should reflect on his or her simulation performance, purposefully think about feedback received, and engage in deliberate practice while seeking ongoing feedback.

Playback review can be quite enlightening and occur mentally using imagery or literally replaying an audio/video recording. Checklists that were used during simulation evaluation may also be presented during feedback sessions. Expect faculty and simulation facilitators to ask many questions. Initially, broad questions such as “How did that go?” will gradually move to more probing questions such as “What did you learn?” or “What will you do differently next time you’re in this type of situation?” Best practice guidelines indicate that feedback should be accurate, timely, and respectful (INACSL, 2016). Self-evaluation, self-reflection, and being receptive to feedback are essential components of learning that assist APRN students to assimilate concepts, knowledge, and technical and nontechnical skills that transfer to future healthcare situations.

**REFERENCES**


INTRODUCTION OF THE TOPIC
There are many resources available to the APRN student to improve simulation performance and overall experience. These resources include materials provided by the course faculty, simulation facilitator, the simulation laboratory staff, and virtual reality simulation applications. There are opportunities to attend simulation and education conferences for students interested in pursuing careers as nurse educators. Additionally, there are many scholarship opportunities for doctoral students conducting research with a focus on simulation and advancing education in nursing.

SUMMARY OF CURRENT BEST PRACTICE
The International Nursing Association for Clinical Simulation and Learning (INACSL) has developed standards of best practice for simulation. According to these standards, students should receive a detailed list of expected outcomes and measurable objectives prior to the simulation experience. These outcomes and objectives are to be consistent with current educational experiences and the skill level of the APRN student (INACSL Standards Committee, 2017). Additionally, students should receive a clear description of the type of evaluation that will take place, including formative, summative, or high-stakes evaluation (INACSL Standards Committee, 2017). Students should use these provided resources to prepare for the simulation experience. Depending on the simulation scenario, students may utilize nursing and medical textbooks, research articles, and other resources to develop practice scenarios, which will aid in adequately preparing for and improving success in the simulation experience.

SUGGESTIONS FOR THE APRN STUDENT
The key to simulation success is practice. One of the best resources available to students is the simulation laboratory where the simulation experience will be conducted. Students should reach out to the simulation coordinator(s) at their institution to schedule practice sessions in the setting. Students may work independently, or in groups, to simulate practice scenarios, which encompass expected outcomes and objectives. Utilizing the lab will acclimate students to the simulation environment. This hands-on deliberate practice will provide a mock orientation to the learning setting and may reduce student anxiety prior to real-time simulation testing (Cato, 2013). Group practice sessions allow students to learn by observing peers and receiving constructive criticism in a low-stress environment. The peer-to-peer learning environment helps students feel more prepared for the simulation and improves confidence in performing specific skills, which may improve overall performance in the simulation experience (Gray, Wheat, Christensen, & Craft, 2018).

In addition to on-site simulation preparation, there are several virtual reality simulation applications available to students to practice various clinical scenarios. The best part about many of these resources is that they are free! For example, there are medical applications offering free software that allows the user to practice realistic, virtual intubations on a smartphone or tablet. They provide exceptionally realistic visuals and aid in the preparation for hands-on simulation or clinical intubation. There are free smartphone/tablet applications that create virtual settings such as an ED, which may allow the user to run through a full-code situation. A clinical scenario is provided and requires the user to complete all aspects of care from initial assessment to ordering laboratory tests, medication administration, and performing interventions, such as intravenous access device insertions and cardiopulmonary resuscitation. There are many other clinical scenarios applications available for purchase as well. Virtual reality simulations provide personalized assessments, assigning a score for performance and providing suggestions...
for continuing education and improvement in various aspects of the simulation. These applications can provide students with invaluable practice to improve success in the on-site simulation arena.

There are many scholarship opportunities through the National League for Nursing (NLN) for students pursuing a DNP or PhD degree with a focus on nursing education and simulation. The NLN awards a maximum grant of up to $30,000 for students pursuing research in nursing education improvement. They also award scholarships to nurses pursuing advanced degrees in nursing with the goal of becoming a nurse educator. There are many cosponsored grants, from $2,500 to $5,000, which are awarded to doctoral-level students pursuing nursing education research. The Mary Anne Rizzolo Doctoral Research Award is a $2,500 scholarship awarded annually to students conducting research focused on simulation research and improvements in nursing education. More information on award eligibility, criteria, and applications can be found on the NLN website under the “grants and scholarships” page. There are also many resources on the NLN website to aid students in preparing proposals for these scholarships and grants (NLN, 2018).

Additionally, there are opportunities for students to attend national association meetings, such as the American Association of Nurse Anesthetists’ Assembly of Didactic and Clinical Educators (ADCE), formerly known as the Assembly of School Faculty (ASF). This meeting is designed to unite nurse anesthesia educators from across the country to discuss the challenges, advancements, and future of nurse anesthesia education. Students interested in pursuing a career in nurse anesthesia education may be nominated by their school faculty to attend this meeting and participate in the student mentorship program. Students are paired with experienced nurse educators who serve as mentors throughout the program. The ADCE provides an exceptional networking forum and provides students with a unique introduction to nurse anesthesia education. Interested students are encouraged to reach out to their APRN faculty to learn more about these opportunities.

REFERENCES

CHAPTER 1J

The National Certification Examination
Deborah L. Dillon

INTRODUCTION OF THE TOPIC
From day one in your nurse practitioner (NP) program, you start your preparation for the national certification examination. The exam is the culmination of your NP education and is meant to exhibit knowledge of a basic, entry level of performance in your area of specialization. Preparation for the examination is recommended to officially start in the 6 months prior to graduation (American Nurse Credentialing Center, 2019). Individuals prepare differently for this exam. Some prefer to prepare on their own while others form study groups and meet regularly with designated topics for discussion. Whatever your method, you know best how you learn. The various certification organizations offer textbooks, CDs, and a variety of learning media to help you prepare.
You may also choose to attend a review course. Graduates preparing for their certification exam may use a combination of any or all of these methods.

Specific information is needed prior to completing the certification examination application process. Hopefully, you have saved all your clinical hour time logs, as they are needed for verification that you completed the minimum required hours to sit for the certification examination. This hour requirement varies between certifying organizations and nursing programs. Additional information requested in relation to the time logs includes the practice address, specialty, and preceptor’s name and credentials. Program directors must complete and sign a form that validates your didactic coursework as well as that you have met the clinical hour requirements.

There are currently six certifying bodies. Be sure to discuss with your faculty your options based on your educational preparation. All of the current organizations have websites that provide additional information. Once you have determined a certifying organization, visit its website for specific information (Table 1J.1). For most of the certifying organizations, the application is completed online. The examination cost is usually cheaper if you are a member of the specialty organization. Joining these organizations is also cheaper if you do so while you are a student.

### Table 1J.1  Certifying Organizations, Websites, and Examinations Offered per Specialty

<table>
<thead>
<tr>
<th>CERTIFYING ORGANIZATION</th>
<th>WEBSITE</th>
<th>CERTIFICATION EXAMINATIONS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>AANP Certification Program</td>
<td><a href="http://www.aanpcertification.org">www.aanpcertification.org</a></td>
<td>Adult, adult–gerontology primary care, family nurse practitioner</td>
</tr>
<tr>
<td>AACN</td>
<td><a href="http://www.aacn.org">www.aacn.org</a></td>
<td>Acute care (recertification only), adult–gerontology acute care nurse practitioner</td>
</tr>
<tr>
<td>American Midwifery Certification Board</td>
<td><a href="http://www.amcbmidwife.org">www.amcbmidwife.org</a></td>
<td>Nurse midwife</td>
</tr>
<tr>
<td>ANCC</td>
<td><a href="http://www.nursecredentialing.org">www.nursecredentialing.org</a></td>
<td>Acute care (recertification only), adult (recertification only), adult-gerontology acute care, adult-gerontology primary care, adult psychiatric–mental health, psychiatric mental health, emergency, family, gerontology, pediatric primary care, and school nurse practitioner</td>
</tr>
<tr>
<td>National Certification Corporation</td>
<td><a href="http://www.nccnet.org">www.nccnet.org</a></td>
<td>Women's healthcare and neonatal nurse practitioner</td>
</tr>
<tr>
<td>Oncology Nursing Certification Corporation</td>
<td><a href="http://www.oncc.org">www.oncc.org</a></td>
<td>Advanced oncology certified nurse practitioner</td>
</tr>
</tbody>
</table>

AACN, American Association of Colleges of Nursing; ANCC, American Nurses Credentialing Center; AANP, American Academy of Nurse Practitioners.

**SUMMARY OF CURRENT BEST PRACTICE**

If you are considering practicing in another state after graduation, you will want to be sure that you are licensed as an RN in the state in which you will be seeking your advance practice certification. You will need to apply for an RN license in that specific state. This license is in addition to your NP certification license.

Forty-seven states require NPs to have a master’s degree in nursing, which enables them to sit for their national board certification examination. The recommendation of National Organization of Nurse Practitioner Faculties (NONPF) for a doctorate in nursing practice as entry level into NP
practice has not been fully implemented, but there is a commitment to accomplish this require-
ment by 2025 (NONPF, 2018). Certifying organizations have not adopted the recommendation as
a criterion to apply for or sit for the national certification examination.

Official grade transcripts will be required to be sent to the specific certifying organization. Official transcripts are those issued by the university registrar and are sent electronically or in a sealed envelope. You cannot forward a copy of your transcripts to the specific organization.

The APRN Consensus Model requires alignment in licensure, accreditation, certification, and
education (LACE). Discuss with your faculty prior to applying for a specific certification exami-
nation. In some instances, there is only one certifying agency for a specific NP specialty. In other
instances, you may have choices between several agencies. You can then review the specific infor-
mation and make an informed decision on your choice of certifying organization.

SUGGESTIONS FOR THE APRN STUDENT
Preparing for your certification examination actually starts at the beginning of your NP program. Intense preparation continues from 6 months until after graduation. Saving course syllabi, doc-
umentation on your clinical site and faculty, as well as specific hours spent at each site will save
you time and headaches later.

Before completing your application for your certification examination, gather all the neces-
sary materials. This will enable you to complete the application in a timely fashion and with the
accuracy that is required. Valuable time is lost when an application is incomplete and must be
returned. Money can be saved by joining the national organization that sponsors the certification
examination. Joining as a student is also discounted by most organizations.

After your application is accepted you will receive the necessary materials to present to the
testing center on examination day. Bring two forms of identification with you that day. Your name
should be identical on both documents. Usually one document is requested to be a photo identi-
fication. Review and follow the specific instructions regarding testing day. If you are not familiar
with the location of the testing site, it is wise to do a “test drive” to locate the facility. At the com-
pletion of most of the examinations, you will be notified that you successfully or unsuccessfully
completed your certification examination. An official copy of the examination passage is required
to be sent to your specific state board of nursing.

Exam preparation can be an exciting and stressful time. Prepare well for your certification
exam, research your certifying agency, be attentive to detail in your application process, and
before you know it you will be a certified nurse practitioner (CNP). Best wishes as you begin your
new career journey as an NP.

REFERENCES
ptstore/control/index
aprn-compact.htm
Simulation-Enhanced Interprofessional Education

Jane M. Gannon and Catherine Hillberry

INTRODUCTION OF THE TOPIC
Delivering care as a member of an interprofessional healthcare team and participating in outcome evaluation and research opportunities are expectations of the APRN. The APRN, in a leadership role with stakeholders and team members, is required to be competent in communication, collaboration, and team building as elucidated by the Nurse Practitioner Core Competencies Content (Thomas et al., 2017). These competencies must be initiated during the APRN’s student experience. Simulation-enhanced interprofessional education (Sim-IPE) is an ideal method for gaining proficiencies with these skills. Simulation in nursing education is used to develop critical thinking skills, provide experiential learning, and offset the challenges of exposing students to infrequently occurring, high-risk conditions. Sim-IPE creates an environment that allows the student to draw on past experience, textbook knowledge, and relationship-based communication during the decision-making process to assure a safe patient outcome (Thomas et al., 2017).

Simulation is a well-established strategy in nursing education, especially in undergraduate programs. Multiple studies attest to the positive outcomes simulation has, including student satisfaction, self-confidence, psychomotor skills development, and knowledge (Thomas et al., 2017). In graduate nursing programs, simulation is often focused on the specialty role. For instance, midwifery students may experience a simulated labor, or be exposed to simulated emergencies, like shoulder dystocia and postpartum hemorrhage. One may find the use of skills trainers, standardized patients (a common strategy used in assessment courses for the APRN student), or objective structured clinical exams (OSCE) used to assess APRN student performance.

Sim-IPE for the graduate nursing student is less common. A 2018 integrated review article described the paucity of such studies, finding just three out of 48 studies that included graduate nursing students (Horsley, O’Rourke, Mariani, Doolen, & Pariseault, 2018). Sim-IPE uses an active learning approach to immerse students in a clinical environment that mimics what they will find in their daily practice. Many studies found that students demonstrated improved teamwork skills, including communication and a positive attitude toward teamwork. The value in interprofessional simulation lies in not just improving these skills, but also in developing an awareness of what each profession brings to the table. When students participate in interprofessional education (IPE) opportunities outside their siloed education settings, each profession educates each other about their professional roles. IPE makes for new healthcare professionals who value each other and improves communication in the clinical environment (Interprofessional Education Collaborative [IPEC], 2016). Sim-IPE has the potential to focus on improving collaboration between healthcare professionals and to bring an unprecedented cooperation to the way patient care is researched, delivered, and improved.

SUMMARY OF CURRENT BEST PRACTICE
Combining the pedagogy of both simulation and IPE, the strategy of Sim-IPE integrates methods from both disciplines into all aspects of experience (International Nursing Association for Clinical Simulation and Learning [INACSL], 2016). There are global interprofessional networks from at least eight different countries with IPE frameworks. This discussion focuses on two American frameworks.
The Interprofessional Education Collaborative Competency framework guides IPE competency in the United States. The IPEC formed in 2009 to focus on advancing and promoting interprofessional learning experiences. IPEC updated their four core competencies in 2016. The framework for collaborative practice and IPE lists current competencies as Values and Ethics, Roles and Responsibility, Interprofessional Communication, and Teams and Teamwork (IPEC, 2016).

Simulation is an effective way of delivering IPE and enhances the experience by providing a more realistic workplace experience (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). The INACSL developed a series of practice standards, among them the INACSL Standards of Best Practice: SimulationSM, Simulation-Enhanced Interprofessional Education as an evidence-based framework to design, develop, and evaluate interprofessional focused simulation activities (INACSL, 2016).

The criteria necessary to meet this standard are the following:

1. Conduct Sim-IPE based on a theoretical or a conceptual framework (INACSL, 2016).
2. Utilize best practices in the design and development of Sim-IPE (INACSL, 2016).
3. Recognize and address potential barriers to Sim-IPE (INACSL, 2016).

These documents guide the development of IPE initiatives including Sim-IPE. The skills, knowledge, and attitudes that are critical for collaborative practice are deliberately built into each educational experience.

**SUGGESTIONS FOR THE APRN STUDENT**

A simulation activity usually has at least three phases—a prebriefing period, simulation activity, and a debriefing. While learning is enhanced during the simulation process, there is foundational knowledge and psychomotor skills in which the student must be competent prior to participating in a simulation (IPEC, 2016). Simulation is an opportunity to apply what one knows and to be challenged by new information that requires reassembly of one’s knowledge and skills to be used in a different way. As a result, simulation requires preparation that can be assigned textbook readings, online activities, skills practice, or a pretest (Reeves et al., 2013). The prebriefing focuses on the learning objectives of the simulation, an explanation of the equipment, manikin functions, and location of resources that may be needed during the simulation. In addition, chart data and a patient report are also important components needed for success (INACSL, 2016).

A well-designed simulation activity includes attention to the fidelity of the replication of the clinical environment and patient conditions (IPEC, 2016). The experience encourages students to focus on the clinical data that emerges during the simulation and interactions with other participants which can help the student overcome the discrepancy between real and simulated life (IPEC, 2016).

The simulation activity itself may last only a minutes to a more extended period of time, depending on its focus. A typical length is 10 to 15 minutes. Simulations are designed with an end goal in mind, so it is important that the student understands the learning objectives and reviews any patient data that are made available in written or verbal form at the start of the simulation (INACSL, 2016).

Typically, the debriefing lasts at least twice as long as the simulation itself, sometimes longer. Debriefing follows the simulation and, ideally, is carried out in a room separate from where the simulation took place (INACSL, 2016). Debriefing first focuses on getting participants’ immediate reaction to the simulation in terms of what went well and what might be done differently; next, other forms of questioning engage the participants in an analysis of the simulation relating to the decisions made, their rationale, and how different conditions would affect those decisions (Reeves et al., 2013). Debriefing is where most “new learning” takes place. Being an active participant in the debriefing allows the student to critically reflect on actions taken leading to a meaningful learning experience (Reeves et al., 2013).
Simulation personnel vary depending on many factors; generally, the number of roles needed depends upon the complexity of the simulation. The facilitator role as described in the INACSL standards ensures that students are prepared for the simulation. Facilitators describe the ground rules, provide the prebriefing, and integrate preparatory activities into the prebriefing period, and often are the ones to deliver cues to participants in case they get off track during the simulation. The confederate can play an assigned role in the simulation but may also observe students’ performance. Technicians monitor the simulation equipment. Evaluators are present when specific competencies are being assessed during a simulation (INACSL, 2016).

Paying attention to details like those provided by INACSL and IPEC for IPE-SIM helps assure the provision of high-quality scenarios that facilitate realistic collaborative experiences for health science students, including the APRN. Care delivery occurs in increasingly complex environments needing the expertise of many professionals. Facilitating skill in interprofessional communication is key to assuring safe, effective care delivery.

REFERENCES
INTRODUCTION FOR THE FACULTY/EDUCATOR INSTRUCTING THE APRN STUDENT

The Evolution of Healthcare Simulation in Graduate Nursing Education

Lori Lioce

INTRODUCTION OF THE TOPIC

For decades, there have been debates in nursing education over the use of simulation in graduate nursing programs. In particular, if clinical hours could be comparable or counted as face-to-face patient encounters, whether simulation could formatively prepare learners, augment patient encounters, replace traditional didactic (active learning strategies), or if implementing simulation, as medical education has, can improve and measure competency validation. Should simulation be used for high-stakes testing? Some discussions have suggested simulation is only for undergraduates and that graduate programs should only use standardized patients and not use high-fidelity manikins. These questions and more are now answered through the evolution and scientific advancements of healthcare simulation technology, which provides a foundation for the use of simulation in education’s transformational change.

As graduate NP programs have expanded, increased online and hybrid courses are lessening face-to-face interaction, decreasing direct faculty observation of learners, and creating new challenges for administration and faculty. Preceptor input, virtual clinical site visits, and three-way conference calls have become vital for collaboration and to monitor progress, especially in programs with students in widespread geographical locations. Students express less confidence in their skills due to online programs (an area still ripe for research). Educators have a greater responsibility to the public to ensure clinical competency along with their accountability to the learner to teach, provide practice, build confidence in procedural skills and critical thinking, and expand diagnosis and treatment knowledge.

Additionally, competitive markets and the increasing demand for nurse practitioners to expand access to care have increased program competition for learners and clinical educators. Online programming is challenging the way we deliver educational experiences. Our profession is based on physical assessment (a hands-on science), verbal communication, and critical thinking, which can be challenging to teach and measure virtually. Solutions to
effectively teach virtually have resulted in programs investing in additional faculty training for online instructors, facilitators, and debriefers, expanding active learning expertise for learner engagement, providing technological support staff; and incorporating third-party virtual learning applications.

This perfect storm of educational and practice change has driven transformation. New learning platforms—barriers to standard clinical apprenticeship training—have expanded the number of programs focusing on intra- and interprofessional education and laid a foundation for engaging learners through well-developed simulation activities. Additionally, the positive return on simulation education investment relies heavily on development of a comprehensive theoretically based simulation program design. Vital to this process is strategic planning, faculty and staff development, especially in facilitation and briefing, along with clearly defined objectives and operational processes.

The number one complaint from faculty about simulation programs is lack of planning time and minimal administrative/facilitator participation in the vital phases of simulation program planning and coordination. When faculty experience lack of planning time, critical simulation design elements may be overlooked, decreasing the quality of the simulation (International Nursing Association for Clinical Simulation and Learning [INACSL], 2016; Lioce et al., 2015). When communication cues and planning gaps become evident during the live simulation, they typically result in a high degree of variability in simulations, which make it difficult to effectively measure competency. While it is reasonably understood that implementation of any new program is initially time-consuming, failure to plan is planning to fail. Therefore, prior to implementing simulation cases with students a dry run with faculty participating in the student role to test the case and ensure cues are accurate and sufficient to test the design of the unique setting is recommended (INACSL, 2016; Lioce et al., 2015). A dry run will provide an in-depth understanding of how the competencies have been incorporated into the scenario and will provide an opportunity to hone objectives and performance measures.

Accreditation, Rules, and Regulations

A basic understanding of the certifying bodies, program accreditation guidelines, and competencies will provide a foundation for understanding the role of simulation in the training process for APRN programs. Nurse practitioner programs are generally accredited by either the Commission on Collegiate Nursing Education (CCNE) or the Accreditation Commission for Education in Nursing (ACEN). Graduate programs in nurse midwifery are accredited by the Accreditation Commission for Midwifery Education (ACME).

Table 2A.1 provides an overview of organizations involved in regulation and quality assurance for nurse practitioner programs.

The AACN program essentials are currently under revision (Clabo, Kesten, & Stanley, 2019, p. 31) and expected to incorporate the APRN Common Competencies (AACN, 2017). Accreditation standards are well established in education. However, competency-based assessment continues to evolve rapidly to keep pace with learning preference and technological capabilities and innovation. In the United States, the National Organization for Nurse Practitioner Faculties coordinates and collaboratively sets APRN competencies (knowledge, skills, attitudes, and behavior expectations). The Criteria for Evaluation of Nurse Practitioner Programs was created by a multi-organizational National Task Force (NTF). The NTF was established by the National Organization of Nurse Practitioner Faculties (NONPF) in 1995 to

1. Develop standardized criteria for evaluation of NP programs
2. Pilot test the criteria as a self-study document
3. Develop an implementation/dissemination plan for the criteria
4. Seek endorsement of criteria from participating organizations and other selected nursing organizations.
The significance of this task force was consensus and endorsement of evaluation criteria developed by representatives from regulating bodies and nursing organizations. The first edition of the criteria was released in 1997 and was updated in 2002, 2008, and 2012. The most recent criteria, the fifth edition, was released on July 2016. NONPF confirmed endorsements from “the Commission on Collegiate Nursing Education (CCNE) has adopted the evaluation criteria into their accreditation standards. The National League for Nursing (NLN) has endorsed the evaluation criteria and recognizes this document as the national standard for nurse practitioner educational programs” (NONPF, 2019, n.p.).

In the latest revision, to capture advancement in APRN educational strategies, changes were made that address “the use of simulation and competency-based education” (NTF, 2016, p.7). In particular, Criterion III.E was modified to “provide detail on the NTF’s perspective on the valuable application of simulation in augmenting NP student preparation” and to clarify “the distribution of clinical hours supports competency development . . . , that clinical experiences can include telehealth and international direct care experiences . . . , highlights the important role of simulation to augment the clinical learning experiences over and above the minimum 500-hour requirement” (p. 8). The NTF stated, “While strongly endorsing the use of simulation, the NTF agreed that simulation cannot replace any of the required minimum 500 direct patient care hours.” NTF further stated, “Direct patient care involves assessment, diagnosis, treatment, and evaluation of a real client/patient—not simulations or lab exercises with trained patient actors’ (NTF Criteria, p. 19).

Table 2A.1  Overview of Regulation and Quality Assurance Organizations for Nurse Practitioner Programs

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>PURPOSE</th>
<th>GUIDING DOCUMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Core Competencies for Nurse Practitioners 2017</td>
</tr>
<tr>
<td>American Association Of Colleges Of Nursing (AACN)</td>
<td>Set curriculum standards and competencies</td>
<td>The Essentials of Master’s Education in Nursing (Master’s Essentials) 2011</td>
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<td></td>
<td></td>
<td>The Essentials of Doctoral Education for Advanced Nursing Practice (Doctoral Essentials) 2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Common Advanced Practice Registered Nurse Doctoral-Level Competencies 2017</td>
</tr>
<tr>
<td>The Commission On Collegiate Nursing Education (CCNE)</td>
<td>Autonomous arm of AACN</td>
<td>Standards for Accreditation of Baccalaureate and Graduate Nursing Programs 2018</td>
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<tr>
<td></td>
<td>Recognized by U.S. Secretary of Education as an Approved Accrediting Organization</td>
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<tr>
<td></td>
<td>Accredits baccalaureate and graduate nursing programs and nurse residency programs</td>
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<tr>
<td></td>
<td>Accredits all types of nursing education programs, including clinical doctorate/DNP specialist certificate, master’s/post-master’s certificate, baccalaureate, associate, diploma, and practical nursing programs</td>
<td>Crosswalk of Criteria for Evaluation of Nurse Practitioner Programs (2016) and ACEN Standards and Criteria (2017)</td>
</tr>
</tbody>
</table>
The new updates go even further to endorse simulation for teaching, assessment, and evaluation. “Simulation is recommended to augment the clinical learning experiences, particularly to address the high-risk, low frequency incidents” (p. 12). Further, a new form was added to assist in data collection on the use of simulation in NP programs (see Exhibit 2A.1 for sample form H [NTF, 2016]).

**SAMPLE FORM H**

*Relates to Criterion III.B but is not part of required documentation*

**SIMULATION EXPERIENCES**

NP programs may wish to use this form to document the types of simulation clinical experiences that NP students may have beyond the required 500 direct patient care clinical hours.

<table>
<thead>
<tr>
<th>TYPE OF SIMULATION (E.G., HIGH-FIDELITY SIMULATION, LOW-FIDELITY SIMULATION, STANDARDIZED PATIENTS, AND DESCRIPTION OF SIMULATION EXPERIENCE)</th>
<th>SPECIFIC COURSE IN WHICH SIMULATION IS USED AND COURSE OBJECTIVE THE EXPERIENCE IS MEETING</th>
<th>NO. OF HOURS USED FOR CLINICAL AND NONCLINICAL EXPERIENCE (SPECIFY BOTH)</th>
<th>USE (E.G., FORMATIVE ASSESSMENT, SUMMATIVE ASSESSMENT, EDUCATION)</th>
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</table>

**Exhibit 2A.1** Simulation Experiences Sample Form

NP, nurse practitioner.

Both the NTF (in Criteria IV.A) and NLN’s Commission for Nursing Education Accreditation (Standard II-F; III-A) discuss a need to ensure quality of simulation faculty and resources, in particular, that there is adequate faculty support and access to clinical simulations.

NLN, in relation to resources in Standard II-F, states, “Physical infrastructure provides access and space in classroom, simulation, and laboratory settings” (p. 15). In Standard III-A regarding faculty NLN states, “The program’s established faculty/student ratios in classroom, clinical, simulation, and laboratory settings, including all distance education” (p. 16) should be noted.

**SUMMARY OF CURRENT BEST PRACTICE**

Direct observation of the student by NP faculty is necessary for competency verification. Standards acknowledge the need for input from the preceptor and/or standardized patients, yet it is clearly stated “student evaluation is the responsibility of the NP faculty” and “clinical observation may be . . . direct or indirect evaluation methods such as student–faculty conferences, computer simulation, videotaped sessions, clinical simulations, or other telecommunication technologies” (NTF Criteria VI.A.5, p. 18).

CCNE and the NLN Nursing Accreditation Commission (2016) require nursing students to demonstrate comprehensive clinical performance competencies.

The Master’s Essentials documents offer the following guidance:

Learning experiences also can occur using simulation designed as a mechanism for verifying early mastery of new levels of practice or designed to create access to data or healthcare situations that are not readily accessible to the student. These experiences may include simulated mass casualty events, simulated database problems, simulated interpersonal communication scenarios, and other new emerging learning technologies. The simulation is an adjunct to the learning that will occur with direct human interface or human learning experience. (p. 30)

Interprofessional groups have collaborated to form well-established simulation standards and best practices to advance the science of healthcare simulation (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014; INACSL, 2016; NCSBN, 2016a, 2016b; Society for Simulation in Healthcare [SSH], 2016, 2019). Systematic and high-level reviews have attempted to analyze and synthesize methods and outcomes of simulation studies, but rigor and variability in purpose, objectives, methods, and structures were lacking in the research to support conclusions or complete meta-analyses for replacement of face-to-face patient hours (Nye, Campbell, Hebert, Short, & Thomas, 2019; Rutherford-Hemming, Nye, & Coram, 2016; Warren, Luctkar-Flude, Godfrey, & Lukewich, 2016). Nye et al. (2019) reported 98% of 133 APRN programs used simulation; 83% aligned scenario objectives with program outcomes and 71% with NONPF competencies.

In 2015, development of standardized reporting methods (Cheng et al., 2016) were created and disseminated to standardize and organize simulation research reporting. The CONSORT and STROBE statements provide a method to collect evidence, support outcome measurement, aid in translation to clinical practice, document improvement of patient outcomes, and support meta-analyses of future studies. The use of these reporting processes provides a broader range of evidence-based practice in simulation.

A white paper published by the American Association of Colleges of Nursing in 2015 entitled “Re-envisioning the Clinical Education of Advanced Practice Registered Nurses” clearly delineated the issues faced in graduate education and enunciated the following considerations:

- The lack and competition for preceptor sites
- A need to reexamine the apprenticeship approach
- Difference in clinical experience of students entering programs
- Interprofessional education (IPE) integration
- Inadequately trained or qualified preceptors
• Increased number of programs and increasing enrollment
• Regulatory changes for programs
• Preceptor sites’ increase in compliance documentation
• Faculty shortage
• Role change from clinician to educator
• Need for standardized, valid, and reliable assessment tools

The paper analyzes healthcare simulation research (including a systematic review of 109 research articles by Issenberg in 2005) to support “the use of high-fidelity patient simulation . . . to facilitate learning” (p. 6) and states the “direct effect of simulation based clinical experiences on patient outcomes benefits are smaller but significant” and that simulation “significantly improves skills” (p. 7).

Though current curricular standards still protect and maintain a minimum of 500 direct patient hours (NTF, 2016), the majority of programs have well over that number of clinical hours. Most programs meet or exceed the clinical hour requirements of national organizations.

With the entry-level practice for APRNs moving from master’s level education to the doctoral level through the doctor of nursing practice (DNP) by 2025 (NONPF, 2018), development of common terminology and competencies across all APRN practice is vital. In 2018, the American Association of Colleges of Nursing approved a transformative consensus document. The Common Advanced Practice Register Nurse Doctoral-Level Competencies was developed over a 2-year period by 25 stakeholder organizations. This document "describes the process, delineates definitions, identifies broad domains and common APRN competencies across the specialty areas, and compares progression indicators" (Clabo et al., 2019, p. 2). The document provides consensus on adopted definitions for competency and competence and articulates 29 APRN competencies for measurement at two time intervals: competency for entrance to APRN programs and competency prior to graduation based on the following eight domains:

1. Patient care
2. Knowledge for practice
3. Practice-based learning and improvement
4. Interpersonal and communication skills
5. Professionalism
6. Systems-based practice
7. Interprofessional collaboration
8. Personal and professional development

This work will influence future practice and provide a standardized platform for competency measurement as the profession continues to evolve. The AACN APRN Common Competencies Workgroups assess current uses, analyze the state of competency measurement/assessment, and determine next steps (Clabo et al., 2019).

SUGGESTIONS FOR THE FACULTY/EDUCATOR

With integration of increased simulation and competency measurement focus, it is vital to be familiar with support and adopt ethical simulation standards and commit the time, training, and resources to provide well-designed, learner-centered, objective clinical experiences with direct observation, thoughtful constructive feedback, and evaluation by the faculty member (INACSL, 2016; Lioce & Graham, 2017; SSH, 2016, 2018, 2019). The SSH Simulationists Code of Ethics (2018) states faculty are to be transparent and “adhere to accepted standards in the documentation, analysis, design, development, implementation, and evaluation of simulation activities (p. 7).”

The conversation has changed from can simulation substitute for clinical hours to how is simulation used best. Effective use of simulation should include a theoretical framework and implementation methods (Lioce et al., 2015; NCSBN, 2016a, 2016b; SSH, 2016). Scenarios may be
used as high-fidelity simulation in a mock clinical environment, telepresence collaboration with intra- or interprofessional calls and patient consultations, in situ simulation, or even as unfolding case studies directly in the classroom with pause, pair, and share of learner-driven diagnosis, and treatment discussions to promote active learning, thus increasing learner engagement and synthesis of concepts. Simulation requires adequate time for briefing, feedback, and creative problem-solving to expand and improve clinical practice and incorporate innovation in quality of patient care. Who knows, you may be privileged to witness radical transformation in practice, protocols, process, or procedure through thoughtful, intentional simulation experiences and research!

REFERENCES
INTRODUCTION OF THE TOPIC
Simulation allows for demonstration of cognitive learning (knowledge) and deliberate practice of specific psychomotor and affective skills. Experiential learning through the various forms of simulation (manikin-based, virtual or computer-based, task trainers, standardized patients and role-play) allows APRN students to demonstrate clinical decision-making, diagnostic reasoning, and competencies specific to their advanced practice role (National League for Nursing [NLN], 2015).

In addition to demonstrating cognitive, technical, or psychomotor skills, advanced practice nurses in team-based simulation have the opportunity to demonstrate leadership, communication, and teamwork principles and incorporate core competencies for interprofessional collaborative practice (IPEC, 2016) to demonstrate how APRN roles may integrate into and lead interprofessional teams in practice.

Recommendations from the NLN for teaching with simulation include the intentional connection of simulation experiences with learning outcomes and program outcomes (NLN, 2015). Simulation may be integrated into an APRN curriculum by creating simulation objectives and outcomes using common APRN role-specific and interprofessional core competencies.

SUMMARY OF CURRENT BEST PRACTICE
A review of health professions education literature reveals a significant effort by health education, licensure, certification, and professional organizations to define competency-based education and develop a common framework to enhance patient-centered, team-based care (IPEC, 2016; NLN, 2015).

The initial work of the interprofessional education collaborative (IPEC) identified four competency domains for interprofessional collaborative practice: values and ethics, roles and responsibilities, interprofessional communication and teams, and teamwork. The 2016 update recognizes interprofessional collaboration competency as a single domain and focuses on promoting health of populations. IPEC competencies and sub-competencies are written to be applicable across practice settings and professions and are outcome driven. In addition, learning activities, educational strategies, and evaluations offer flexibility to be used across the learning continuum from prelicensed learner into practice. Further, interprofessional education involving simulation is learner-centered. These experiential strategies (case-based, team-based, manikin, and/or standardized patients) enhance how health professions learners achieve common or shared competencies (IPEC, 2016).
In 2016, representatives from the four APRN roles and multiple education, licensure, certification, and accreditation organizations gathered to identify common competencies for doctoral-prepared APRNs to foster both intraprofessional and interprofessional education, collaboration, and communication. Discussion and outcomes are exhibited in Tables 2B.1 and 2B.2.

International Nursing Association for Clinical Simulation and Learning (INACSL) standards for developing simulation call for intentional and deliberate attention to defining what will be learned, by whom, how the learning will be evaluated, and over what time frame (INACSL Standards Committee, 2016).

When developing scenarios for APRN student simulation-based education, it is important for the simulation educator to build the activity based on course goals and objectives and to be consistent or linked to program outcomes, domains of shared and role-specific APRN competencies, and core competencies for IPEC. Objectives for simulation activities can be mapped back to any of these three competency areas. Table 2B.1 illustrates areas of where interprofessional education, role-specific, and common APRN competencies overlap.

Recommendations from NLN (2015) and standards of best practice for simulation by INACSL Standards Committee (2016) include strategies to ensure that simulation activities are developed to be consistent with the developmental level of the learner. One way to ensure consistency is to use Bloom’s Taxonomy hierarchy to level objectives from simple to more complex. Using formative, summative, and high-stakes evaluation of learner performance in the same simulation activity is another strategy to demonstrate learner progression. Table 2B.2 offers some examples of simulation strategies that may be altered from simple in the preclinical semesters, to more

<table>
<thead>
<tr>
<th>IPEC</th>
<th>APRN ROLE-SPECIFIC COMPETENCIES (I.E., CORE COMPETENCIES FOR NURSE PRACTITIONERS)</th>
<th>COMMON APRN DOCTORAL-LEVEL COMPETENCIES (DOMAINS)</th>
</tr>
</thead>
</table>
| Interprofessional teamwork and team-based practice | Independent practice | Patient care  
Interpersonal and communication skills  
Professionalism  
Interprofessional collaboration |
| Values/ethics for interprofessional practice  
And Interprofessional communication | Ethics  
Independent practice | Knowledge of practice  
Interpersonal and communication skills  
Professionalism  
Interprofessional collaboration  
Personal and professional development |
| Roles and responsibilities (knowledge of own role and roles of others) | Practice inquiry  
Independent practice | Patient care  
Knowledge of practice  
Interpersonal and communication skills  
Professionalism  
Interprofessional collaboration  
Personal and professional development |
| Scientific foundation  
Practice inquiry  
Quality  
Technology and information literacy | Practice-based learning and improvement  
Systems-based practice |  |

IPEC, interprofessional collaborative practice.
complex as students progress through the clinical coursework. The AACN Work Group (2017) includes two time frames or “progression indicators” to specifically describe the level of achievement expected of the student from first clinical course (Time One) to graduation (Time Two).

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Simulation is experiential learning, based on adult learning principles and is intended to be experience-based and student-centered. Novice APRN students often have experience in the role of RN and may find success in simulation when encouraged to draw on previous clinical and patient experiences. Encourage students to consider prior experience as nurses to support their clinical reasoning and decision-making in their APRN role in the simulation.

Common and role-specific APRN competencies provide the structure and expectations for novice APRN practice. Consider including an intentional review of how APRN competencies are linked to simulation objectives and outcomes prior to students’ participation in the activity. Reinforce this connection of simulation objectives and APRN competencies during the debrief and evaluation.

<table>
<thead>
<tr>
<th>SIMULATION STRATEGY AND LEVEL OF LEARNER</th>
<th>PRECLINICAL (PATHOPHYSIOLOGY, PHARMACOLOGY, PHYSICAL ASSESSMENT)</th>
<th>NOVICE CLINICAL LEARNER (FIRST CLINICAL SEMESTER)</th>
<th>ADVANCED CLINICAL LEARNER (ACHIEVE IN FINAL SEMESTER OF CLINICAL EDUCATION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardized patient interaction</td>
<td>Identifies own role</td>
<td>Demonstrates knowledge of own role, includes patient in decision-making</td>
<td>Engages all members of interprofessional team to within their specific roles to meet health needs of patients and populations and healthcare settings and the community</td>
</tr>
<tr>
<td>APRN skills lab</td>
<td>Articulates understanding of physiologic principles and monitoring devices</td>
<td>Formative evaluation Checklists</td>
<td>Summative evaluation or high-stakes evaluation of task/procedure And role-play to obtain consent for procedure And appropriate clinical communication of procedure in accurate procedure note</td>
</tr>
<tr>
<td>Focused and complete history and physical exam using standardized patients OR virtual or computer-based case studies</td>
<td>Formative → summative evaluation with high-stakes checkoff</td>
<td>Expectation of competence with H&amp;P, beginning diagnostic reasoning</td>
<td>Recognizes cultural diversity or social determinants of health for the patient</td>
</tr>
<tr>
<td>Team-based, medium-high-fidelity simulation</td>
<td>Team includes learners in APRN role and RN role Teamwork and communication outcomes Formative evaluation of practice inquiry competencies</td>
<td>Interprofessional team APRN role as team leader Summative or high-stakes evaluation of practice inquiry competencies Quality and practice inquiry competencies demonstrated in teamwork and documentation of simulation</td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION OF THE TOPIC
The challenge of evaluating clinical competency and student achievement of clinical learning objectives is a global issue facing nurse educators, regardless of the curriculum. The current practice of evaluating competency during clinical practice has been the gold standard of evaluation for decades, but traditional clinical evaluation methods continue to fall short. Evaluating in the clinical environment poses many challenges and complexities, such as the subjectivity of the evaluator, limited availability of suitable clinical placements, and the difficulty of evaluating the cognitive, affective, and psychomotor learning domains in an unstructured learning environment (Leigh, Stueben, Harrington, & Hetherman, 2016). The push for APRNs to practice to the full extent of their education and training has made the process of quality evaluation imperative.

Simulation is not currently recognized by APRN accreditation and certification organizations as a substitution for the required 500 clinical hour minimum, but its utility as an assessment modality is invaluable (Nye, Hetzel-Campbell, Henley-Herbert, Short, & Thomas, 2019). Simulation has the ability to evaluate competency, clinical reasoning, and multifocal learning domains by utilizing validated tools in a controlled environment, thus increasing the reliability of the evaluation. Simulation can be utilized as a formative, summative, objective structured clinical examination (OSCE), or high-stakes evaluation at multiple points across the curriculum continuum.

A formative simulation evaluation is performed during a student’s progression through a course to evaluate growth and the achievement of objectives, whereas a summative simulation assessment is performed at the end of a course or program to assess the cumulative results of student learning or achievement of program learning outcomes (INACSL Standards Committee, 2016). An OSCE is a simulated performance evaluation utilized to assess clinical skills and to provide practice in a safe learning environment (Aronowitz, Aronowitz, Mardin-Small, & Kim, 2017). High-stakes simulation evaluation is a process that can occur at any point in the curriculum; it carries major academic or educational implications and consequences (INACSL Standards Committee, 2016; Kardong-Edgren, Oermann, Rizzolo, & Odom-Mayron, 2017).
SUMMARY OF CURRENT BEST PRACTICE

Best practice in simulation supports the use of the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: SimulationSM as the framework for any simulation-related education in a curriculum. The standards provide evidence-based criteria for areas such as simulation design, facilitation, debriefing, and participant evaluation. Implementation of the standards of best practice in a program signifies a dedication to simulation excellence and a commitment to quality education (INACSL Standards Committee, 2016). The INACSL Standards of Best Practice: Simulation outline the criteria and elements required to provide participant evaluation in formative, summative, and high-stakes simulations. Currently, OSCEs are not included in the INACSL standards, but many of the best practices discussed will apply.

FORMATIVE SIMULATION

Formative simulations are used as a tool to assess student progression toward competency. A formative style assessment is an invaluable tool for a nurse educator, as it allows for the identification of knowledge gaps and the ability to immediately rectify any deficits during the student’s learning process. The hallmark sign of formative simulation is facilitator feedback regarding performance. This feedback is provided to assist the student in improving skills and honing clinical reasoning.

The INACSL Standards of Best Practice: SimulationSM supports the use of formally trained simulation facilitators who are well versed in simulation pedagogy, evaluation, and debriefing techniques (INACSL Standards Committee, 2016). In a formative simulation, effective debriefing is paramount. It is during this phase of the simulation experience that reflective learning and metacognition occurs, assisting the student in improving his or her ability to “think like a nurse.”

SUMMATIVE AND HIGH-STAKES SIMULATION

Summative simulations are performed at a specific point in time, generally at the end of a course or program of study. This type of simulation is used to validate that a student has met program learning outcomes and achieved clinical competency. Summative assessments can be high-stakes or simply another process of evaluation. A high-stakes simulation is an evaluation that has negative implications or consequences, if the student does not reach a predetermined assessment score. The INACSL Standards of Best Practice: SimulationSM suggests that the cut-score is theoretically based and supported. If negative consequences can result in not meeting the score, it is imperative that the chosen score has evidence or theory to support it (INACSL Standards Committee, 2016).

The INACSL Standards of Best Practice: SimulationSM suggests that a student be oriented to the simulation environment and all available equipment (INACSL Standards Committee, 2016). Orientation assists in alleviating any uncertainty or confusion during the simulation, which may prevent a student from achieving the expected outcome or to fall below the predetermined score. It is also best practice to inform the students of the evaluation process prior to the simulation (INACSL Standards Committee, 2016). Students have the right to transparency regarding the method in which they will be evaluated.

SUGGESTIONS FOR THE FACULTY/EDUCATOR

In both summative and high-stakes simulation, the use of a validated and reliable evaluation tool is imperative (INACSL Standards Committee, 2016). The purpose of this type of simulation is to evaluate student performance. If evaluation is to occur, it must be reliable and nonbiased. A valid evaluation tool is crucial, particularly in the case of a high-stakes simulation, which could carry with it legal implications. In a recent study by Nye et al. (2019), it was found that only 44% of simulation facilitators reported using a validated evaluation tool (p. 7). Work needs to be done to achieve this INACSL standard of best practice if high-stakes simulation is to be widely utilized in APRN education.
Although using a validated tool is important, the reality is that the assessment tool is only as accurate as the individual scoring student performance. To increase rater reliability, and to utilize best practice, training must be provided to raters (INACSL Standards Committee, 2016). To increase reliability, the rater must have an understanding of the tool used for evaluation, as well as having a shared mental model of the expected competency behaviors or outcomes to be achieved (Kardong-Edgren et al., 2017).

To increase rater reliability, it is suggested to employ multiple raters in the evaluation of the simulation, thus increasing the accuracy. The effects of unskilled raters and individual rater bias can be reduced in this manner (Kardong-Edgren et al., 2017). The method of videotaping simulations is also helpful to increase reliability as asynchronous evaluation can occur with multiple raters, allowing for reevaluation of skills or to settle discrepancies as they arise (Leigh et al., 2016).

**OBJECTIVE STRUCTURED CLINICAL EXAMINATION**

OSCE is a simulated evaluation which is often used as a summative assessment to gauge a student’s clinical skills. OSCEs can also be utilized in a formative manner to provide students practice in a safe learning environment (Aronowitz et al., 2017). In an OSCE exercise, students work through a series of stations where they examine, interview, and treat patients (either manikin or standardized patients) who present with a series of medical issues. The students are evaluated on their knowledge, skills, and attitude (KSAs) and clinical competencies by raters utilizing evaluation tools or checklists. The benefit associated with an OSCE is that it offers the ability to quickly assess a variety of clinical skills in one evaluation, allowing for easy identification of the students who are in need of remediation (Kardong-Edgren et al., 2017). The aforementioned INACSL Standards of Best Practice for formative, summative, and high-stakes simulations apply to OSCE simulations as well.

Best practice for the design of an OSCE simulation suggests that the cases should be developed in a progressive manner. It is recommended that in OSCE development the cases that are first introduced are basic and then increase in complexity as the nurse grows in confidence and skill (Aronowitz et al., 2017).

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Faculty must not forget that even though APRN students who enter a program are experienced nurses, they are stepping into an advanced role, which is new to them, making them once more a novice (Aronowitz et al., 2017). It is suggested that OSCEs are required in the laboratory following each clinical experience. Utilizing this sequencing assists with standardizing the evaluation of the students’ progression of KSAs, as well as assessing competency (Aronowitz et al., 2017).

**REFERENCES**


Video Recording

Tonya Breymier

INTRODUCTION OF THE TOPIC
Simulation-based education (SBE) continues to increase throughout multiple healthcare discipline education programs. As these programs continue to increase their use of SBE, videotaping has arisen as a method of evaluation of performance. Videotaping during an SBE scenario facilitates evaluation in multiple ways relative to knowledge, skills, and attitudes in addition to performance behaviors. Some programs utilize videotaping as a review during debriefing, evaluation of performance, and as a self-evaluation tool (Bussard, 2016; Gough, Yohannes, & Murray, 2016; Jacobs, 2017).

SUMMARY OF CURRENT BEST PRACTICE
Video-reflexive ethnography (VRE) uses video to record individuals in their natural work environment. VRE is gaining value in healthcare education relative to SBE as an evaluation tool that provides learners and faculty with valuable insight toward participant actions, intentions, and habits when providing care (Iedema et al., 2019). Gough et al. (2016) found the combination of VRE and SBE with pre physiology students provided an evaluation tool that elicited gaps in curriculum and enhanced student awareness of not only their own strengths and weaknesses but also the strengths and weaknesses of their peers. The authors concluded that VRE and SBE have potential for improving patient safety.

Bussard (2016) found that pre licensure nursing students viewing their SBE videos independently after debriefing and self-reflecting on their performance had elicited changes in future performance, enhancing their clinical judgment. Another study that utilized video-assisted debriefing sessions with practicing nurses found that the participants appreciated the opportunity to review their performance and ranked the use of debriefing and the videotaping higher than the actual learning tools used in the simulated activity (Jacobs, 2017). Additionally, Jacobs found participants were able to identify good teamwork and communication when afforded the opportunity to view their performance of the SBE activity.

SUGGESTIONS FOR THE FACULTY/EDUCATOR
Analysis of VRE in actual practice environments has elicited multiple benefits: prevalence of certain behaviors, effects of certain behaviors, and association of certain behaviors (Bezemer et al., 2017, pp. 584–585). VRE analysis has uses for auditing and performance improvement and provides provision of care transparency. The same benefits during SBE are just beginning to surface, but there is not an abundance of empirical evidence for SBE and VRE at this time.

APRN faculty may find the use of videotaping during SBE activities provides multiple opportunities for evaluation. Utilizing a combination of SBE and VRE for debriefing purposes may provide students with an enhanced level of clinical judgment and clinical reasoning that advanced practice demands. The use of VRE could provide faculty an avenue to identify gaps in the curriculum in addition to faculty evaluation performance with simulation facilitation.

The combination of SBE and VRE provides a self-reflective tool for students and faculty alike relative to advanced practice performance, teamwork and collaboration, and communication. Additionally, the literature supports the use of SBE and VRE to promote patient safety. It is important to remember best practices for simulation facilitation and inform the students that videotaping will be occurring during the scenario, who will be viewing the video, and what will happen with the video after the evaluation is complete.

REFERENCES
Introduction for the Faculty: Prebriefing

Jacqueline Robinson

INTRODUCTION OF THE TOPIC
Prebriefing is the term used to describe the period of time prior to the simulation experience in which the participants are given to prepare for what is to take place and assimilate the objectives. It is given the term prebrief rather than preparation to emphasize its importance. A solid prebriefing will add meaning and value to the simulation experience. In addition, it can add to the realism of the environment and solidifies the objectives of the scenario, emphasizing the student role and intended outcome. It has typically involved a time immediately preceding the actual simulation itself, the briefing, but now encompasses participant participation prior to the event, based on the goals and objectives of the scenario, as well as the method of evaluation.

SUMMARY OF CURRENT BEST PRACTICE
Prebriefing has evolved over time to include two distinct phases based on the objectives of the simulation and the evaluation method. The actual definition of prebrief as defined by the Agency for Healthcare Quality and Research (AHRQ; 2016) is “an information or orientation session held prior to the start of a simulation activity in which instructions are or preparatory information is given to the participants.” The definition goes on to list activities such as orientation to the environment, time frames, and even preparation of the instructors in these activities (AHRQ, 2016). This time is actually a briefing period and is a mandatory component of all simulation experiences that must be included in the allotted time for the simulation experience.

The immediate pre scenario prebriefing period must take place in the simulation center in the location of the event and include several key components in order to facilitate the integrity of the scenario and enhance the realism. A review of the objectives must be done at the very opening of the session after introductions to ensure everyone understands the purpose of their attendance at the event. If the simulation involves an evaluation, a review of the evaluation or rubric is also a necessary component. After this crucial introduction, the rest of the elements can occur in any order and require the input of both the faculty authors of the scenario and the simulation staff. First of all, if students were asked to prepare any materials prior to the event, then a review of those materials should be included in this time frame, especially if these materials will aid the participants in their understanding of the objectives.

Establishment of a safe environment is a task that is done in tandem between faculty and simulation staff. The objectives should also be tied into this aspect of the session as well to reiterate any expectations or criteria. A code of conduct should be introduced and enforced that stresses a nonjudgmental and respectful manner to peers, faculty, staff, and any other participants. The participants should also be reminded that the event is a simulation meant to mirror reality; therefore, participants are to act as if they are in a true, clinical environment treating manikins, participants, and any standardized patients, equipment, and so on. At this point, the faculty may opt to
have the participants sign a “fiction contract” in which they agree to act in this manner. This con-
tract may also have verbiage regarding confidentiality, which is another aspect of the prebriefing
that must be stressed prior to the event that is included with the professional integrity aspect of
the period. Participants should be told that the scenario, activities, and actions in the simulation
are not to be shared outside of that event.

Students must then be given concrete information from the faculty about the simulation itself
that includes information such as the intended time frame of the event. Roles should be delin-
eeated during this time and time should be given to clarify any misconceptions regarding those
roles and what they mean during their scenario. Behavioral objectives should be linked to these
roles in terms of what exactly the faculty want the students to complete within their role in cor-
relation to the overall objectives of the scenario. For example, if there is an observer role, it should
be emphasized that this person should not participate in any hands-on activities during the sim-
ulation itself. The orientation to roles should be done by the faculty that authored the scenario
objectives and/or who is evaluating the simulation rather than the simulation staff in order to
legitimize the scenario to the curriculum rather than to link it to a simple exercise. Lately, there
has been an increased emphasis on exactly how much emphasis on scenario preparation should
take place during the immediate prebrief period. In a study by Chamberlain (2017), nursing stu-
dents reported a higher level of satisfaction and engagement with the simulation experience
when they were offered dialogue with their faculty and fellow participants prior to the simulation
events compared to peers who did not participate in such dialogue. In fact, peers that did not par-
ticipate were observed to be less engaged in the scenario and sought guidance during the activity
(Chamberlain, 2017). Chmil (2016) also described the relevance of discussing a plan of care prior
to the simulation that mirrors a clinical preconference. However, time may be an issue and this
may not be feasible in all cases, making preparation prior to the day of the event a better option.

The simulation staff should be responsible for orientation to the environment, and this is why this
aspect of prebriefing must be done in the actual simulation environment. Orientation is a valuable
opportunity for participants to engage with the equipment, manikins, and spatial orientation of the
simulation arena to erase any preconceptions about the scene and alleviate any stress. At this time,
the simulation staff should inform the participants about what pieces of equipment they are able to
actually use during the scenario and what pieces of equipment are present but are used as props or
to be used as a demonstration rather than an actual piece of working equipment. If possible and if
time allows, students should be given a chance to interact with any high-fidelity manikins that may
be planned, giving explicit instruction on what the manikin can and cannot do and what procedures
they will be expected to perform on the manikin versus a task trainer or verbally describe. Participants
should also be informed about whether or not they will be videotaped during the simulation expe-
rience. It is up to the individual simulation center and/or educational institution whether or not to
include a contract regarding videotaping and subsequent storage and retrieval of any recordings.

SUGGESTIONS FOR THE FACULTY/EDUCATOR
The other component of the prebriefing is the preparation period that may or may not be part of
the simulation based on the objectives, faculty preference, and the evaluation methods. This
preparation may include but is not limited to providing articles on the topics to be covered during
the simulation, chart activities, or even providing the actual scenario. The only mandatory com-
ponent that must be included prior to the actual day of the event is any tool that will be used for
evaluation purposes, such as a skill check sheet or grading rubric. Providing information prior to
the actual event may aid in performance and may decrease stress. The preparation is particularly
useful for the APRN student who is trying to learn new concepts in the role of advanced practice
versus bedside nurse and is often being evaluated during the simulation experience. In the role
of APRN, the student will be asked to identify differential diagnosis as well as to develop a holistic
plan of care that includes pharmacologic and nonpharmacologic support and diagnostic studies.
A review of the relevant literature as well as pertinent components of the case prior to the simul-
ation will provide the APRN with information needed to formulate ideas and concrete knowledge
prior to the event.
Prebriefing then is an area with a vast opportunity for research potential. Although the immediate prebriefing components of the environmental scan, establishment of professional integrity, and review of objectives are well established, little is known about the benefit of more in depth preparation. In addition, there are no established tools, routines, or schedules that have been developed that clearly outline the steps that should take place during the prebriefing period. The opportunities to further improve this area and thus improve the simulation experience are worth pursuing in depth for all levels of learners in all disciplines.

REFERENCES

Debriefing
Margaret Bowers and Margory A. Molloy

INTRODUCTION OF THE TOPIC
Debriefing has been recognized as one of the most significant aspects of simulation, and when done effectively promotes learning (Sawyer, Eppich, Brett-Fleegler, Grant, & Cheng, 2016). Educators of APRN students must be able to recognize the impact of debriefing on developing critical thinking and decision-making. Debriefing requires a commitment for developing an appropriate skill set that is guided by simulation pedagogy (INACSL Standards Committee, 2016). Although basic debriefing skills may be acquired quickly, mastery requires continued refinement and commitment to discovery of best practices (Palaganas, Maxworthy, Epps, & Mancini, 2015).

As with all educational sessions, there should be a framework in place to provide structure to the learning environment. The INACSL Standards of Best Practice: SimulationSM Debriefing (2016) provide this framework and describe five criteria that should be met:

1. The debriefing is facilitated by a person(s) competent in the process of debriefing.
2. The debriefing is conducted in an environment that is conducive to learning and supports confidentiality, trust, open communication, self-analysis, feedback, and reflection.
3. The debriefing is facilitated by a person(s) who can devote enough concentrated attention during the simulation to effectively debrief the simulation-based experience.
4. The debriefing is based on a theoretical framework for debriefing that is structured in a purposeful way.
5. The debriefing is congruent with the objectives and outcomes of the simulation-based experience.

SUMMARY OF CURRENT BEST PRACTICE
Effective debriefing actually starts with student and faculty engagement in the prebriefing period. During the prebriefing period familiarization with equipment, role clarification, learning objectives, as well as ground rules are clearly defined (Cheng et al., 2016). Even before the simulation begins both faculty and students should understand that the length of a debriefing should be at least the same amount of time as the simulation and often requires an extended period of time (INACSL Standards Committee, 2016).

APRN educators must be able to discern the difference between feedback and debriefing. Feedback is giving input to an individual or team with the intention of modifying future behavior.
Debriefing is facilitating a structured form of feedback that allows individuals and the team reflection to understand issues and discuss improvements in a time-sensitive manner (Palaganas et al., 2015).

As you consider your debriefing method, learning objectives must be kept in mind. A systematic review done by Levett-Jones and Lapkin (2014) found that debriefing, regardless of the method used, contributes to effective learning and should be included as an integral component of all simulation-learning experiences. In addition, there were no statistical education advantages reported with video-assisted debriefing over instructor debriefing.

Each of the debriefing models have fundamental similarities, including review of the scenario performance, guided reflection, and expression of feelings (Palaganas et al., 2015). There are several styles of debriefing that are described in Table 2F.1 and the potential application to APRN education.

<table>
<thead>
<tr>
<th>Table 2F.1</th>
<th>Debriefing Styles in APRN Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STYLE</strong></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Plus Delta</td>
<td>+ What was done well—What are some areas for improvement?</td>
</tr>
</tbody>
</table>
| GAS         | • G = Gather—Listen to participants to understand what they think and how they feel about session  
              • A = Analyze—Facilitate participants’ reflection on and analysis of their actions  
              • S = Summarize—Facilitate identification and review of lessons learned | Assessing attitudes and behaviors. Effectively used during standardized patient sessions dealing with challenging conversations such as end of life care |
| PEARLS      | • Setting the stage  
              • Reactions phase  
              • Description phase  
              • Analysis phase | Assessing knowledge, skills, and attitudes. Provides a consistent broad framework for all types of simulations |
| Debriefing with Good Judgment | Designed to increase the chances that the trainee hears and processes what the instructor is saying without being defensive or trying to guess the instructor’s critical judgment | Assessing knowledge and attitudes. Useful in discussion of ethical dilemmas and complex treatment decisions |
| Debriefing for Meaningful Learning | • Uses a consistent but iterative process of debriefing to model reflection.  
                                           • Challenging taken for granted assumptions helps students learn to think like a nurse.  
                                           • Using reflection-in-action, reflection-on-action, and reflection-beyond-action facilitates development of clinical reasoning. | Assessing knowledge, skills, and attitudes. Useful with standardized patient interview with multiple medical problems and a new psychiatric problem |
| Three-Dimensional Model of Debriefing | Defusing, Discovering, and Deepening  
                                           The experiential learning process involves participation in key experiences and analysis of those experiences. | Assessing knowledge, skills, and attitudes. Useful in the later stages of the curriculum when the student has a foundation to build upon. Can be done in clinical setting or with high-fidelity simulation |
| Outcome Present State-Test Model of Clinical Reasoning | The provider makes notes and jots down relevant facts of the story. Moving to the left, there are places to write down inferences and conclusions that result from the provider’s logic and analysis of the facts between and among the diagnoses and relationships. | Assessing knowledge and skills. Useful early in curriculum to have students link didactic content with clinical learning. Effective in teaching diagnostic reasoning |

In addition to diverse debriefing methods, the demeanor of the facilitator is a significant factor to consider in how it impacts student learning. Verbal and nonverbal cues, body language, tone of voice, and active listening all contribute to the environment in which debriefing can occur in a safe and effective manner (Cheng et al., 2016).

All methods of debriefing encompass three main components: reaction, analysis, and summary phases that may be named differently depending on the debriefing method used (Cheng et al., 2016). At the onset of the debriefing it is imperative to solicit learner reactions, which then allows the instructor to expose the concerns and feelings of the learners and direct the discussion. This validation of the learner agenda creates an environment of collaboration and promotes ongoing engagement during the reaction phase of debriefing before moving forward to the analysis phase.

In the analysis phase, the instructor is challenged to refrain from providing all the answers and instead to promote self-assessment, investigate rationale for behaviors, identify performance gaps, and prioritize content to be covered. The instructor must be clear that if there are time constraints that all subjects may not be covered during the debriefing period. When prioritizing content to be discussed, the instructor must be open to the learner’s agenda and be cognizant of the objectives of the simulation, and when there is discordance, focus on the critical issues for patient care.

During the self-assessment, learners reflect on their own performance and take responsibility for their learning. Uncovering the rationale for certain behaviors provides the instructor with insight into how each learner is problem-solving. Grouping the discussion can focus on the diverse approaches to problem-solving and the learners can take responsibility for decision-making and potential need for behavior change.

In a debriefing session, transition from one topic to another can be challenging since all questions may not be answered before the next topic is addressed and students may become frustrated. The facilitator is responsible for managing time in the debriefing and providing a forum to address the unanswered questions to ease student angst while soliciting engagement.

The summary phase culminates the debriefing by addressing what has been learned during the simulation. Asking the learners to describe the key points of the simulation allows the instructor to determine whether or not the learning objectives were met and to clarify any areas of misunderstanding.

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

During the prebriefing, faculty should set the stage for the learner as to what to expect during the debriefing. One important aspect to highlight is that the debriefing period will be at least as long as the simulation, if not longer. During the debriefing, faculty should be explicit on how the learning objectives were met, what outcomes arose, the APRN competencies that were addressed in the simulation, and the importance of confidentiality of the experience. Debriefing may occur face-to-face, virtually by phone, or by video in a space that is a psychologically safe environment for the learner to share their thoughts and feelings.

Debriefing is much more than providing the learners with feedback on their performance. Successful debriefing promotes learning and ensures that objectives are addressed. APRNs come to higher education with a wide range of clinical experiences. Building on clinical nursing experience, simulation can be used to promote medical decision-making, diagnosis, and treatment for APRN students (Morse, 2015). Faculty development in utilizing debriefing is essential. Morse (2015) describes debriefing as a time for critical reflection that contributes to deeper learning. Better debriefing practices may enhance role transition from nurse to nurse practitioner.

**REFERENCES**

Debriefing Assessment for Simulation in Healthcare (DASH): Evaluating the Experience

Beth Latimer

INTRODUCTION OF THE TOPIC
How do we best ensure that simulation-based experiences consistently enhance APRN student learning and improve advanced practice readiness for the complexity of today’s patient care practice? One critical way to strengthen simulation for transformative learning is to evaluate and build debriefing competence and excellence among APRN faculty and educators.

The quality of debriefing is well recognized in simulation-based education as the driver for reflection, accelerated learning, critical thinking, collaboration, and improved future performance for clinical practice (International Nursing Association for Clinical Simulation and Learning [INACSL] Standards Committee, 2016; Morse, 2015). Yet, healthcare educators and simulation programs are challenged to meet the professional development needs for debriefing competence, evaluation, and mastery (National League for Nursing [NLN] Board of Governors, 2015; Rudolph et al., 2016).

The Debriefing Assessment for Simulation in Healthcare (DASH; Brett-Fleegler et al., 2012) discussed here is an assessment tool that provides a research- and theory-based standard that can help simulation educators and programs evaluate simulation experiences and provide a framework to build competence and excellence in debriefing practice.

SUMMARY OF CURRENT BEST PRACTICE
The latest Standards of Best Practice: SimulationSM Debriefing (INACSL Standards Committee, 2016) call for the ongoing use of an established instrument to validate continuing debriefing competence among simulation educators facilitating debriefings. The DASH tool is an established instrument that can be used to meet this criterion. It is a tool that synthesizes best practices for effective debriefing from a broad range of fields (aviation, clinical learning and teaching, adult experiential and organizational learning) and can provide valid and reliable data for use in a variety of simulation settings. The DASH has been used to rate debriefings and intervention consistency in many healthcare studies, including Morse’s (2015) study of perspective transformation in nurse practitioner (NP) students.

The DASH is designed for use across healthcare disciplines and can be applied to any style of debriefing (Brett-Fleegler et al., 2012; Rudolph et al., 2016). It is used in numerous simulation programs worldwide for formative assessment, faculty development, and feedback. Multiple versions have been developed to rate debriefing from many perspectives—the trained rater (DASH-RV), the student (DASH-SV), and the instructor self-evaluation (DASH IV). All are available in multiple languages.

The DASH is a six-element, criterion referenced, behaviorally anchored rating scale. Element ratings are based on a 7-point effectiveness scale, with high ratings assigned to debriefings that are learner focused, cultivate psychological safety, are well organized, provide clear feedback on performance, and engage participants in reflection, inquiry, and sharing reasoning. Table 2G.1 details the DASH elements and dimensions.

### Table 2G.1 DASH Elements and Dimensions

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishes an engaging learning environment during the prebriefing</td>
<td>Clarifies the objectives, environment, confidentiality, roles, and expectations</td>
</tr>
<tr>
<td></td>
<td>Establishes an agreement or “contract” with participants</td>
</tr>
<tr>
<td></td>
<td>Attends to logistical details</td>
</tr>
<tr>
<td>Ensures an engaging learning environment</td>
<td>Clarifies objectives, roles, and expectations</td>
</tr>
<tr>
<td></td>
<td>Engages participants in a limited-realism context</td>
</tr>
<tr>
<td></td>
<td>Ensures psychological safety and conveys respect for learners</td>
</tr>
<tr>
<td>Organizes the structure of the debriefing</td>
<td>Encourages learners to express their reactions and, if needed, and provides an orientation to what happened in the simulation</td>
</tr>
<tr>
<td></td>
<td>Provides guidance in analyzing learners’ performance during the middle of the session</td>
</tr>
<tr>
<td></td>
<td>Collaborates with participants to summarize learning near the end of the session.</td>
</tr>
<tr>
<td>Encourages discussion and engagement</td>
<td>Provides concrete examples and outcomes as a basis for inquiry and discussion</td>
</tr>
<tr>
<td></td>
<td>Shares personal reasoning and judgments</td>
</tr>
<tr>
<td></td>
<td>Utilizes verbal and nonverbal techniques to facilitate discussion</td>
</tr>
<tr>
<td></td>
<td>When applicable, uses video, replay, and review devices</td>
</tr>
<tr>
<td></td>
<td>Is sensitive to recognizing and managing the upset participant</td>
</tr>
<tr>
<td>Identifies and explores performance gaps</td>
<td>Objectively provides performance feedback</td>
</tr>
<tr>
<td></td>
<td>When needed, helps learners explore the source of performance gap</td>
</tr>
<tr>
<td>Facilitates methods to help learners achieve or sustain sound performance</td>
<td>Helps to close the performance gap through discussion and teaching</td>
</tr>
<tr>
<td></td>
<td>Demonstrates solid knowledge and firm grasp of the subject</td>
</tr>
<tr>
<td></td>
<td>Achieves objectives of the session</td>
</tr>
</tbody>
</table>

Source: Adapted from additional behavioral anchors provided in the DASH rater handbook available on the Center for Medical Simulation site harvardmedsim.org/debriefing-assessment-for-simulation-in-healthcare-dash
SUGGESTIONS FOR THE FACULTY/EDUCATOR

The DASH is a versatile resource for simulation programs and APRN simulation educators. There are numerous applications for the DASH. Faculty development processes can include an initial DASH self-assessment and individual goals guided by specific element ratings. The DASH can be utilized for simulation debriefing research activity to rate debriefing quality and intervention consistency. Full faculty simulation educator evaluation with the DASH can be used to inform program quality improvement and faculty development resource needs. Incorporated use of the DASH to validate ongoing debriefer competence aligns with best practice standards and accreditation recommendations for simulation learning quality.

The DASH multiple versions provide perspectives of expert raters, students, peers, and instructor self-evaluation to individual faculty, as well as programs. This valuable 360° feedback can inform development priorities, learner perception, and program needs. Creating opportunities for APRN student participation in evaluation through the DASH can expand students’ understanding of quality debriefing elements and engage them in experiential learning reflection on communication, feedback, and perspective taking that can enhance their practice.

The DASH is a powerful tool for evaluating and building debriefing competence and excellence among APRN faculty and educators. Use of the DASH can guide improved debriefing practice that advances simulation-based education and cultivates a culture of transformative learning that especially supports APRN practice readiness.

REFERENCES


Rubrics: Standardized Checklists

Kimberly Hawkins

INTRODUCTION OF THE TOPIC

As patient care increases in complexity, the ability to teach advanced practice nursing students in a simulated environment becomes a valuable teaching–learning strategy (Wiggins, Morrison, Lutz, & O’Donnell, 2018). Because student knowledge cannot be observed directly, it must be inferred through their performance in these simulation scenarios. Educators must be able to evaluate student performance and provide feedback using evidence-based methods. This need has led to the use of rubrics or checklists, allowing for faculty to convey expectations to students and to provide formative or summative feedback in a consistent and objective manner (Li, 2016).

Rubrics are a tool that allow faculty to assess students based on set standards (Dickinson & Adams, 2017). Rubrics also assist with guiding student learning and help students make connections between what they are learning and how they will be evaluated. Students who have rubrics to guide their expectations experience deeper or more effective learning because they know the
intended learning outcomes in advance. Rubrics also reduce the subjectivity of evaluation and allow faculty to track both individual and group performances within a simulation or over time (Li, 2016).

**SUMMARY OF CURRENT BEST PRACTICE**

To be effective, grading rubrics should include the evaluation criteria to be rated, definitions of quality, and a scoring strategy (Dickinson & Adams, 2017; Li, 2016). Evaluation criteria are the factors or components that the evaluator takes into consideration during the simulation. For advanced practice nursing students, criteria may include concepts from the American Association of Colleges of Nursing (AACN) or National Organization of Nurse Practitioner Faculties (NONPF) Core Competencies. Definitions of quality provide a clear description of what the evaluator expects to see for each criterion. It is what the students’ performance looks like for each criterion at each performance level (Martens, 2018). The scoring strategy is typically a scale that allows for an interpretation of the evaluation into a numerical score (Li, 2016). Scoring may involve weighting of criteria according to importance (Dickinson & Adams, 2017). Rubrics must be clearly communicated to students in advance. This foreknowledge is key to ensuring students know what is expected of them (Li, 2016). When expectations are clearly defined in advance, students are more likely to have a quality experience and succeed in meeting the expected outcomes (Dickinson & Adams, 2017).

Once the content of the rubric has been developed, the rubric needs to be meaningful when put into practice. For rubrics to be meaningful, they should be both valid and reliable. Being valid and reliable ensures that the rubric is measuring what it was intended to measure, and that if used by multiple evaluators, the findings are consistent. A valid and reliable rubric results in reduced subjectivity in assigning value to behaviors and creates clarity for the evaluators as to what is expected (Li, 2016; Wiggins et al., 2018). A component of maintaining the reliability of rubrics includes evaluator training. It is essential that faculty using a rubric is trained on how the rubric was intended to be used (Martens, 2018).

Another aspect of rubric use includes the ability to use rubrics in the debriefing process after a simulation takes place. It is well documented that debriefing is one of the most important components of simulation-based education (Wiggins et al., 2018). During the debriefing process, faculty can guide the discussion using the rubric to help to create a shared understanding of the learning that occurred. The student sees how her or his knowledge translated into interactions that occurred during the simulation and faculty can lead discussions in a way that is organized, meaningful, and directed at ensuring understanding of the content being evaluated (Martens, 2018).

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Rubrics help in setting clear expectations with students. Students appreciate knowing what is expected of them and receiving feedback on their performance that will help them become safe, effective advanced practice nurses (Li, 2016). Rubrics also help faculty approach student evaluation and debriefing in an organized and meaningful manner (Martens, 2018). In order to effectively use rubrics in simulation, there are a few guiding principles to keep in mind.

First, whether faculty are utilizing existing rubrics or developing their own, rubrics should be developed based on literature, evidence-based practice, and stakeholder input (Dickinson & Adams, 2017; Martens, 2018). A solid foundation will ensure that faculty are focused on critical competencies that are essential to safe practice.

Second, rubrics should be simple, explicit, and easy to understand (Li, 2016; Martens, 2018). To maintain simplicity of use, it is helpful if the rubric is no longer than one page in length (Martens, 2018). Rubrics should also be realistic and should avoid the use of negative language within the evaluative criteria (Dickinson & Adams, 2017; Martens, 2018). And while clarity is great, rubrics should not be overly precise (Martens, 2018).
Third, rubrics should be timely, so feedback can quickly be communicated to the learner. This timeliness makes rubrics a great tool when used as part of the debriefing process. Students receive immediate, structured feedback that is consistent and objective, no matter which faculty member is facilitating the discussion (Li, 2016).

Finally, consider what the rubric would look like in the clinical environment. The more students are able to be evaluated and provided feedback that mirrors what they are experiencing in the clinical setting, the more realistic and meaningful the feedback will be for the students. Transferability of meaning connects the simulation experience to the live clinical setting and can foster the students’ transition to practice (Li, 2016).

REFERENCES


Quality and Safety Education for Nurses (QSEN); Situation, Background, Assessment, Recommendation (SBAR); and Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®)

Jane M. Gannon

INTRODUCTION OF THE TOPIC
In 1999, the Institute of Medicine (IOM) released its landmark study reporting an astounding estimated number of annual deaths of 44,000 to 99,000 due to medical errors. Refined research strategies in recent years found the problem is far greater, indicating medical errors are now the third leading cause of death in the United States (Makary & Daniels, 2016). Shortly after the release of the IOM report, healthcare regulators, administrators, educators, and other stakeholders collaborated to explore solutions and strategies to improve healthcare outcomes by making care delivery safer. From those efforts emerged several initiatives, including Quality and Safety Education for Nurses (QSEN), Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®), and structured communication tools like SBAR (Situation, Background, Assessment, Recommendation). This chapter explores these initiatives and how they can be integrated into simulation pedagogy to enhance quality and safety in healthcare systems.

SUMMARY OF CURRENT BEST PRACTICE
QSEN was triggered by the IOM Safety and Quality initiative and funded by the Robert Wood Johnson Foundation using a multiphasic approach, with the goal of preparing future generations of nurses to be able to think systemically about safe care delivery. Focusing on care delivery processes,
structural elements needed to carry out those processes, and their subsequent impact on patient care outcomes, an advisory board and multiple nursing faculty representing programs and professional nursing organizations across the nation collaborated to identify six competencies, first for pre-licensure nurses and later for the advanced practice nurse. These competencies are (a) patient-centered care, (b) collaboration, (c) evidence-based practice, (d) quality improvement, (e) informatics, and (f) safety. Definitions for each were also established, with extensive descriptions of the knowledge, skills, and attitudes (KSA) that reflect each competency. Subsequently, advanced practice registered nurse organizations undertook the development of APRN KSAs that reflect the six competencies, and these were integrated into the original KSA list but differentiated as APRN focused (Cronenwett et al., 2009).

QSEN developers emphasized the need to integrate both the individual and systems perspective in care delivery. Such skills therefore include problem-solving, priority setting, delegation, collaboration, and action taking, and how the skills influence individual and systemic care processes and outcomes in an interdependent fashion (Dolansky & Moore, 2013). As an experiential in the moment activity, simulation is a prime strategy for helping students develop the critical thinking needed to gain competence in those skills, at both the individual and systems levels. The challenge for the faculty member then becomes one of identifying learning needs that can be best met through simulation as well as scenarios to accomplish that teaching goal.

SBAR is a communication tool developed within the TeamSTEPPS framework to address communication gaps, a significant contributor to medical errors (Shitu, Hassan, Aung, Kamaruzaman, & Musa, 2018) as well as errors in other industries, including aviation. The crew resource management (CRM) concept was introduced into the aviation industry decades ago to improve flight safety, and more recently was adopted by the healthcare industry. The approach focuses on understanding the role human factors play in errors and aims to overcome them through structured communication and related strategies.

Physicians Michael Leonard (Physician Leader for Patient Safety), Doug Bonacum, and Suzanne Graham at Kaiser Permanente of Colorado collaborated on developing a communication system in healthcare based on lessons learned from the aviation industry (2004). What resulted was the situation briefing tool called SBAR, short for a communication strategy in which a provider describes a significant clinical issue, provides background information about the patient, and follows up with assessment data and a recommendation on what is needed to address the issue. The structured nature of the SBAR approach is designed to overcome communication system failures that result not only from disjointed and unorganized patient data reporting but also due to confrontation and intimidation factors in the healthcare environment. SBAR facilitates information transfer, assertion behavior, and critical thinking, resulting in improved situation awareness or understanding of a clinical event. In a systematic review, 8 of 26 patient outcome indicators demonstrated significant improvement in a series of pre-/poststudies examining nurse use of SBAR with physicians (Muller et al., 2018). Originally designed to facilitate nursing communication to other healthcare providers, healthcare systems are now adopting this strategy for all interprofessional communication.

TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety) is a team-based training program developed to improve safety in healthcare settings through healthcare provider collaboration and communication. The Agency for Healthcare Research and Quality (AHRQ) and the Department of Defense (DOD) collaborated to create the TeamSTEPPS curriculum. TeamSTEPPS encompasses communication strategies and tools that are easily remembered, formulaic, and can be effortlessly carried out across healthcare settings. The curriculum is available free of charge on the AHRQ website at www.ahrq.gov/teamstepps/instructor/index.html along with multiple downloadable resources.

The focus of TeamSTEPPS is on helping healthcare professionals find and improve untapped skills related to team functioning, including (a) team structure, (b) communication, (c) leadership, (d) situation monitoring, and (e) mutual support. Interactive strategies are integrated across all five domains. For instance, SBAR is advocated for use by TeamSTEPPS in the communication domain. Leadership strategies include briefings before and after patient care and ad hoc huddles
while carrying out care. Situation monitoring is a way to ensure fellow team members are safely carrying out care, while mutual support approaches focus on how to communicate assertively to overcome confrontation and intimidation behaviors in the healthcare environment. Here, mnemonic tools guide the use of interactive skills needed to transfer situational information between healthcare team members. These tools include assertive statements like CUS (I am concerned, uncomfortable, this is a safety issue) and the two-challenge statement that empowers team members to stop a care process if they sense a safety breach is underway.

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Integrating QSEN, SBAR, and TeamSTEPPS competencies into APRN simulation requires a deliberative process. Starkweather and associates advocate use of the QSEN APRN KSAs to guide both the subject of simulations and debriefing content in advanced practice curricula (2017). Their Progressive Assessment and Competency Evaluation (PACE) model for integrating simulation into a graduate nursing curriculum puts the program objectives and outcomes at the center from which are derived formative and summative evaluation strategies for the curriculum's teaching and learning strategies. Care management–based simulations would be one such strategy used to assess psychomotor, problem-solving, and clinical reasoning skills progression toward program outcomes (Starkweather et al., 2017). Other simulation opportunities include virtual education tools that integrate QSEN competencies. For instance, Shadow Health® incorporates QSEN competencies throughout advanced health assessment activities of a virtual patient.

Opportunities abound for integration of SBAR-based activities into advanced practice nursing curricula using simulation strategies. For those MSN and DNP programs that utilize virtual patients in their advanced health assessment course, SBAR reports can be added as a formative and summative assessment tool. Assessment of virtual patients generates opportunities for the student to create a verbal report in the form of a media file that is uploaded for review by a faculty member.

Laboratory-based simulations with an interprofessional focus are another prime target for SBAR integration. Despite the challenge offered by scheduling health science students for a synchronous activity, the opportunity such a simulation offers in terms of communication skills development cannot be understated. Similarly, intraprofessional simulations using SBAR are a novel way to improve communication skills of both the prelicensure and graduate nursing student. Such an approach, pairing the two types of nursing students, increases role awareness, scope of practice, and collaboration skills (Guido-Sanz, Diaz, Anderson, & Gonzalez, 2019).

For the advanced practice nurse, TeamSTEPPS® can be utilized to develop students’ team skills in the laboratory as well as in situ with staff members using simulation. Among the resources that TeamSTEPPS provides are a vast array of scenarios from a variety of specialty areas that can be adapted for simulation. Most of these scenarios are focused on interactions between healthcare providers rather than teams. This focus facilitates development of communication, situational awareness, and leadership competencies among others, before students are integrated into a team environment. While the prime focus of these TeamSTEPPS® scenarios is on the nurse role as opposed to advanced practice nurse roles, the scenarios are adaptable for the APRN role. For example, a labor and delivery scenario features a deteriorating fetal heart rate pattern that a physician is choosing to ignore, while the nurse advocates for internal monitoring. Such a scenario would be appropriate for the student nurse-midwife to learn how to communicate assertively with either a preceptor or consultant. Similarly, a neonatal case involves a resident who disagrees with an NICU nurse who believes a premature infant is unstable. In an ED scenario, a patient becomes disruptive. This case offers students an opportunity to demonstrate competence in APRN client de-escalation communication strategies.

For team-based student simulations, especially those that are interprofessional in structure, assuring equal exposure to TeamSTEPPS competencies by all those who are participating is a crucial first step. This step could be in the form of assigned online lectures, readings, or other activities, or as part of prebriefing activities where the TeamSTEPPS® Essentials presentation could be used. Team structure should be equally balanced when multiple students are involved,
with similar distribution across teams, as in one to two students from nursing, pharmacy, and medicine on each team when students from all three health sciences are participating. Having a short team-based activity precede the simulations helps establish camaraderie among team members. Student teams may be given 3 minutes to form a paper chain, with the longest one winning. However, each member can only use one hand, forcing them to collaborate to cut strips of construction paper, get pieces of tape, and form as long a chain as possible.

An important consideration in student team structure is assuring the APRN students are on equal footing with the medical and pharmacy students. A senior APRN student may have far more experience than a second year pharmacy student for instance. Communication between faculty team members to ensure congruence in student team structure is just as important as the communication skills being developed between students.

In today’s complex healthcare environments, the more APRN students know how to communicate with patients, peers, and other professionals, the more gaps can be closed to ensure safe care delivery. QSEN, SBAR, and TeamSTEPPS are some of the many strategies available to help advanced practice nurses develop competence as members of the healthcare team. APRN faculty members can help students achieve this goal using simulation strategies that seamlessly integrate them into challenging scenarios.

REFERENCES

Nursing Informatics Curriculum Development
Mary Joy Garcia-Dia

INTRODUCTION OF THE TOPIC
Nursing faculty/educators have opportunities to expand their own nursing informatics skills and collaborate with engineering, computer science, and biomedical faculty counterparts in designing an interprofessional nursing curriculum for APRNs. Transforming the APRN curriculum using simulation entails an ongoing curriculum needs assessment and content mapping that incorporates clinical and informatics competencies utilizing three frameworks (Fowler, Conner, & Smith, 2018). The first framework is grounded on DIKW (data, information, knowledge, and wisdom) to delineate nursing informatics competency. Based on existing simulation training programs, there are laboratory-based (anatomical models, task trainers, role playing, games, computer-assisted instruction, standardized patients, low- and high-fidelity manikins),
virtual (virtual reality, augmented reality), and hybrid-customized environments (telepresence, interactive communication technology) that can be utilized in evaluating the APRN’s cognitive, psychomotor, and affective domain skills, as well as nursing informatics competencies on computer proficiency, information literacy, and information management. The second framework is outlining people, process, and technology in adopting innovative tools to implement simulation projects successfully. The International Nursing Association for Clinical Simulation and Learning (INACSL) has worked on standards of best practice that correspond to project management life cycle, which can potentially facilitate inter professional collaboration, teamwork, and leadership team skills. The third framework is incorporating the Quality and Safety Education for Nurses (QSEN) informatics competency requirements essential to delivering safe, quality patient care. Mapping these three frameworks depends on the course objectives, the institution’s overall graduate program design, integration of nursing informatics competencies, and the National Council of State Boards of Nursing (NCSBN) regulation on the use of simulation education and training.

SUMMARY OF CURRENT BEST PRACTICE
Simulation curriculum development has evolved for the past decade. The influence of the Internet and emerging technologies, such as interactive communication, portability of devices, and gaming application, has pushed innovative training and education techniques that can meet the learning needs of today’s multigenerational nursing students. The adoption and use of virtual reality within the simulation training process has shown positive outcomes in promoting self-confidence and enhancing safety and management of patient care (Woda, Gruenke, Alt-Gehrman, & Hansen, 2016). Results of the effectiveness of simulation on APRN students’ competency show improvement in assessment skills and management of complex patient populations as well as increased team leadership and inter professional collaboration (Kesten, Brown, & Meeker, 2015). These outcomes support the American Nursing Association (ANA) nursing informatics standards of practice on assessment, diagnosis, problems, issues identification, communication, leadership, and collaboration.

The continuous evolution of the electronic medical record (EMR) into an integrated model with clinical decision support and predictive algorithms has influenced how APRNs adopt technology tools and polish their nursing informatics skills. Managing standardized patients within simulation scenarios can include the use of EMRs as part of the laboratory activity focusing on data collection, prioritization, critical thinking, and clinical decision-making.

Multiple sources of clinical data are generated from electronic sources and clinical decision support systems (provider written notes, prescriptions, images, laboratory and pharmacy, insurance/administrative, financial). Other sources of data are machine generated, which includes physiologic monitors, Internet sources, feeds from social media, blogs, and research articles (Raghupathi & Raghupathi, 2014). The neo theoretical framework in Figure 2J.1 expands the DIKW framework incorporating analytics, artificial intelligence, and awareness (A3). The integration of A3 components within the DIKW model proposes that NI competency will evolve as machine learning automates the reasoning process and developers incorporate AI within the workflow, while nurses consciously promote intentional awareness in maintaining the human connection and critical thinking with patient care (Garcia-Dia, 2019). Applying the DIKWA3 framework in simulation as a theoretical framework can provide a learning pathway to develop skills on problem-solving, psychomotor, critical thinking, clinical reasoning, and judgment.

The increasing popularity of machine learning could potentially shape the evaluation process in simulation training. For instance, setting up customized algorithms to evaluate specific clinical skills that require precision, deliberate practice, and predictive analytics can be explored with simulation designers in anticipating and preventing medical errors or patterns that can lead to a rapid response team event. Based on the automated analysis, individual students’ knowledge and
skill sets can be corrected through real-time coaching and reinforcements in combination with remediation from the logged feedback.

The healthcare delivery process continues to be value driven and shifting toward care coordination and collaboration across the care continuum. This shift opens a new business model that is consumer-centric, where an individual can have instant access and talk to a provider from the comfort of his or her home anytime, anywhere. Urgent care center, telehealth, e-Consults, and virtual visits are flexible services that are gaining popularity in healthcare organizations to stay competitive. These new healthcare encounters require different communication styles and methods of interaction in a virtual environment. In addition, the nursing faculty/educator can partner with IT and telecommunication services and programmers to simulate a virtual practice environment. The staging of actors based on the patient’s home environment and resources needs to be taken into consideration. Familiarity with technology, computer use, and health literacy are factors that need to be captured to mimic the unknowns and other environmental variables that patients may encounter during the virtual visit.

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Nursing faculty can prepare APRN students in expanding their informatics competencies by performing a needs assessment and a self-evaluation of the students’ nursing informatics competency. APRN students may have different educational backgrounds, level of experience and expertise. Taking these variables into consideration is essential in planning the course content and mapping the curriculum to integrate the three frameworks: DIKW, technology adoption, and QSEN competencies. Table 2J.1 provides a curricular map of where these frameworks can be integrated based upon APRN role and specialty. It is essential to determine how each specialty can benefit from these various informatics contents not only as a single course topic but also within the overall clinical practicum and simulation training of the APRN student.

Involving the APRN students in designing case scenarios similar to “A day in the life” can promote engagement. Extending the discussion outside of the classroom through blogs, discussion lists, and social media (Twitter, Instagram, and Facebook) as part of the simulation exercise can promote targeted conversations and stimulate positive learning outcomes. The use of photovoice to tell a patient story or one’s professional journey through a scavenger hunt game can be used as a team building exercise. Planning field trips to a three-dimensional (3D) print lab, data center,
Table 2J.1 Curricular Mapping Using Three Frameworks: DIKW, QSEN, IT Adoption Based on APRN Role and Specialty

<table>
<thead>
<tr>
<th>AP RN</th>
<th>COURSE</th>
<th>TECHNOLOGY</th>
<th>SIMULATION SUGGESTION</th>
</tr>
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<tbody>
<tr>
<td>CNP (Certified Nurse Practitioner)</td>
<td>Leadership class</td>
<td>Project management</td>
<td>Request for proposal</td>
</tr>
<tr>
<td>CNS (Clinical Nurse Specialist)</td>
<td>Informatics class</td>
<td>Database support</td>
<td>Content design support</td>
</tr>
<tr>
<td>CRNA (Certified Registered Nurse Anesthetist)</td>
<td>Informatics class</td>
<td>Clinical specialty</td>
<td>Training</td>
</tr>
<tr>
<td>CHM (Certified Nurse Midwife)</td>
<td>Evidence-based/ research class</td>
<td>Emerging technology</td>
<td>Evidence-based/ research</td>
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**SKILLS**

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<th>CONTENT</th>
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<tbody>
<tr>
<td>DIKW</td>
<td>QSEN</td>
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<tr>
<td>Content integration and systems life cycle</td>
<td>Critical analysis of decision support</td>
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<tr>
<td>Database support</td>
<td>Content design support</td>
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<tr>
<td>Clinical specialty</td>
<td>Training</td>
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<td>Evidence-based/ research</td>
<td>Emerging technology</td>
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**PEOPLE**

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<th>ATTITUDE</th>
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<tbody>
<tr>
<td>Recognize</td>
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<td>Support safe patient care</td>
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<td>Support safe patient care</td>
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**PROCESS**

<table>
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<tr>
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<tbody>
<tr>
<td>Apply SDLC with clinical systems implementation</td>
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<tr>
<td>Workflow analysis</td>
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**CONTENT**

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**SIMULATION SUGGESTION**

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<tbody>
<tr>
<td>Virtual adolescent patient teaching</td>
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<td>Mobile game application</td>
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<td>Mobile game application</td>
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<td>Mobile game application</td>
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Source: Adapted from QSEN Competencies.

**DIKW** - data, information, knowledge, and wisdom; **QSEN** - Quality and Safety Education for Nurses; **SDLC** - systems development life cycle.
a telehealth center provides a rich experiential learning experience. APRNs can provide a report on the technical and workflow components including the impact of technology on clinical and patient outcomes. These informatics-related activities can be integrated in both simulation and clinical practicum training.

REFERENCES

Nursing Informatics Practice Implications
Mary Joy Garcia-Dia

INTRODUCTION OF THE TOPIC
Today’s healthcare environment is data-driven, challenging organizations to strategize in preparing the workforce to utilize effective, innovative tools that can support the clinical needs of healthcare providers and the delivery of safe, quality patient care. Senior leadership, in collaboration with human resources/staff development, can set qualification criteria and credentialing requirements of existing and future APRNs to meet the demands of a high-tech and high-touch healthcare environment. This process provides an opportunity for academic institutions to perform regular evaluation of curriculum content and training strategies in meeting APRN’s education knowledge and training for nursing informatics (NI). Creating and developing an innovative NI curriculum for the APRN student requires professional, organizational, environmental, and regulatory considerations.

SUMMARY OF CURRENT BEST PRACTICE
Professional
According to the National Council of State Boards of Nursing (NCSBN), APRNs fulfill four professional roles (nurse practitioners, nurse anesthetists, nurse-midwives, and clinical nurse specialists) with corresponding scopes of practice. The American Nursing Association Standards of Nursing Informatics Practice and Standards of Professional Performance for Nursing Informatics are grounded on nursing knowledge and foundational skills. The acquisition of advanced NI competencies and skills may be influenced by one’s practice environment, availability of innovative tools, and leadership’s support of emerging technologies. Clinical simulation design can mimic the APRN’s functional or professional role.

The diagram in Exhibit 2K.1a outlines the NI standards for practice and professional performance set by the American Nurses Association (ANA), which supports the competencies that APRN professionals need to develop and acquire (see Exhibit 2K.1b). Each of the standards or a combinations of standards can be used as a basis in creating the goals, objectives, and simulation activities for course content design. For example, the standards can be grouped to simulate an end-to-end digital healthcare enterprise. Staging the actors to role-play a caring-based
curriculum or a mentor-mentee interaction in a patient visit simulation promotes the integration of DIKW (data, information, knowledge, wisdom) framework in supporting the acquisition of NI skills as part of clinical, operational, and business practice. Table 2K.1 shows a practice mapping of course content by integrating the people, process, and technology adoption. This

(continued)
Table 2K.1  ANA Standards of NI Practice and Standards of Professional Performance for NI Practice Mapped Within the Healthcare Continuum and APRN’s Role and Practice (continued)

<table>
<thead>
<tr>
<th>STANDARDS OF NI PRACTICE AND STANDARDS OF PROFESSIONAL PERFORMANCE FOR NI</th>
<th>COMMUNITY HEALTH/REGULATIONS</th>
<th>AMBULATORY CARE</th>
<th>ACUTE/URGENT CARE</th>
<th>PRIMARY CARE / FOLLOW-UP</th>
<th>PATIENT’S HEALTH PROMOTION PREVENTION</th>
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<tr>
<td>Planning</td>
<td>Implementation of a new practice with modular or phased integration toward a capstone project (example, website, electronic medical record)</td>
<td>1. Project management knowledge areas with content on needs assessment and request for proposal</td>
<td>2. Feasibility study with market analysis and regulations related to core clinical metrics</td>
<td>3. Business plan incorporating clinical, financial, operational components</td>
<td>4. Systems development life cycle (technology/software) incorporating testing and training scenarios</td>
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<tr>
<td>Resource Utilization</td>
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<td>Communication</td>
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<td>Leadership</td>
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<td>Collaboration</td>
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<td>Implementation</td>
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<td>Coordination of Activities</td>
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<td>Consultation</td>
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<td>Evaluation</td>
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<td>Professional Practice Evaluation</td>
<td>Emerging technology with focus on</td>
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<tr>
<td>Ethics</td>
<td>1. Genetics and genomics</td>
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<tr>
<td>Evidence-Based Practice and Research</td>
<td>2. Precision medicine as it relates to specific disease conditions—oncology, orthopedics, cardiovascular health, endocrine/metabolic diseases</td>
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<tr>
<td>Quality of Practice</td>
<td>3. Data visualization with dashboard reporting</td>
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<tr>
<td>Health Teaching/Health Promotion</td>
<td>Mobile technology integration with practice in</td>
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<tr>
<td>Education</td>
<td>1. Communication with patients—text, e-mail, Facetime, video (Skype)</td>
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<tr>
<td>Environmental Health</td>
<td>2. Guidelines on the use of social media as a leader in one’s specialty</td>
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ANA, American Nurses Association; NI, nursing informatics.

integration captures the APRN roles, patients, and other clinicians in the workplace as it mimics the transition and patient care coordination across the healthcare environment. The learning process can be facilitated as modules are embedded within the prerequisite nursing courses, disease management laboratory class, or core informatics classes. For example, the blue module on assessment, diagnosis, problem/issues identification and outcomes identification can be part of a simulation class on population management. Similarly, modular learning (yellow, lilac, and green rows) blocks can be integrated with leadership development, current trends in healthcare, or health management policy classes.
Organizational

Despite varying professional scope of practice and roles, the curriculum content’s overarching component has to be patient-centric, keeping into account APRN’s expertise, experience, and educational background. Keeping these variations at the forefront provides a common ground for academic and healthcare institutions to conduct an initial assessment of APRNs’ individual understanding of information technology, their informatics competencies, and use of innovative technology tools in providing patient care and clinical practice. This assessment allows the faculty and professional clinical educators establish a baseline set of expectations and help clarify challenges the APRNs may have in improving his or her NI competency and integrating this knowledge into clinical practice.

Organizations are implementing digital end-to-end healthcare enterprise solutions to cover a full suite of services from eVisits via mobile devices, virtual kiosks at retail pharmacies, and roaming/mobile Tele-stroke units. These innovative ideas bring policy and practice challenges: lack of uniformity on legal, regulatory, ethical requirements across states, privacy, and security implications, and unclear guidelines on telehealth services and reimbursements. APRNs have to adhere to the Health Insurance Portability and Accountability Act (HIPAA) to protect patient confidentiality and to operationalize security measures internally and externally to avoid cyber attacks. On the other hand, the proliferation of urgent care clinics providing telehealth access opens opportunities for nursing faculty to collaborate with pharmacy faculty or electronic health record (EHR) vendors for an interprofessional clinical practicum with other disciplines. APRNs can gain insights and provide best practice recommendations in creating an interprofessional practice education or curriculum.

Environmental

The Internet of Things (IoT), expanding digital space in the form of social media, and the use of artificial intelligence are emerging technologies that will disrupt the healthcare ecosystem. Consumers’ adoption of mobile health applications, health and fitness trackers, and virtual assistants will influence APRNs’ interpersonal interaction with their patients, family members, and the community. Academic and clinical faculty will have to reimagine and work interprofessionally in integrating use of case scenarios to depict how these technologies will drive APRNs’ care practice in an ethical and competitive manner.

The healthcare work environment has become increasingly complex as a result of longer life spans, medical discoveries in managing terminal or genetic disease process, complex comorbidities, and expanding digital space (Honey & Procter, 2017). Healthcare providers’ consumption, use, and timely access of data demands an agile ecosystem that can process longitudinal health information, proactively predict care complications, and monitor complex health problems efficiently. Despite these complexities, APRNs have to cultivate a culture of safety and care grounded on quality and evidence-based practice. Nursing faculty/educators may need to engage with healthcare organizations and community-based organizations to stay current and relevant with the overall population’s healthcare issues and to address these in simulation studies.

Regulatory

Being culturally sensitive and knowledgeable of ongoing changes with healthcare policies and regulations is essential for APRNs to stay compliant and competent in their practice. These factors influence the management of population health, reimbursement policy, and care delivery models. Nursing faculty/educators can attend conferences offered by the Office of the National Coordinator (ONC) that provides current updates on rules on health information exchange, such as the proposed Fast Healthcare Interoperability Resources (FHIR) open platform web standards, certification requirements for an electronic medical record, and the government’s initiative to address clinician documentation burden.
The training and education of APRNs will require robust clinical work integrated with rigorous data and information management processes to support innovative and futuristic thinking. For example, reimbursement models and regulations have shifted from pay-for-service to value-based care. Clinician documentation needs to reflect correct coding of patient’s diagnosis supported by appropriate treatment, plan of care, and quality outcomes to qualify for reimbursement by Centers for Medicare and Medicaid Services (CMS) and insurance payers. The standardization of practice eliminates variations in care and drives accurate capture of clinical data. Software applications are in place to monitor variances and abstract provider’s compliance with clinical quality indicators that are benchmarked nationally. Accountable Care Organizations (ACOs) are cognizant of the need to implement quality management programs in coordinating the care of certain defined populations through shared governance. Quality measures, such as reducing hospital readmissions and preventing healthcare-associated infection (HAI), are tied with reimbursements and hospital ratings, thus putting pressure on administrators to maintain accurate clinical documentation and monitor compliance. These accountability measures mean that APRNs will have to extend their monitoring services outside of the hospital wall and stay connected with their patients as they transition back to the community. This monitoring will require patient engagement and various communication methods (e-mail, text messaging, group chat), depending on one’s comfort level and familiarity with interactive communication technology (ICT).

Nursing faculty/educators will have to include relevant topics in their curriculum on healthcare reform goals that impact health information exchange and stage 3 meaningful use requirements. For example, the Patient Protection and Affordable Care Act requires the interoperability of software applications that allow patients access records in their preferred native language. Similarly, stage 3 meaningful use recommends patients access self-management tools, be responsible, and engage in their own healthcare that can be facilitated through a patient portal (CMS, 2016).

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Bridging APRNs’ NI competencies through a well-designed simulation space that promotes emerging technologies can increase graduate students’ awareness and experiential learning. The management of a multigenerational student body (traditionalists, baby boomers, millennials) will require a combination of teaching methods (hybrid, simulation, ICT) and communication modes (phone, e-mail, text) to sustain an engaged learning environment. Integration of informatics into the curricula (Shuffitt & Effken, 2012) requires a clear understanding of APRN students’ professional role, specialty, and scope of practice.

The increasing complexity of the healthcare environment is further challenged by socioeconomic issues related to social determinants of health and the growth of diverse communities that may require culturally tailored interventions. Theories rooted in transcultural care, adaptation, and self-efficacy are part of undergraduate education. APRNs are positioned to have a better appreciation of diversity in cultures and understand patients’ own skills, knowledge, and adoption of technology as healthcare increasingly becomes consumer-centric and data-driven.

Nursing faculty/educators who welcome disruptive technologies as part of simulation training and accommodate diverse types of learners from different demographic backgrounds will likely stimulate engagement. A holistic informatics approach will prepare APRN students to practice efficiently and effectively.

**REFERENCES**


Faculty Development: Certified Healthcare Simulation Educator (CHSE) and Certified Healthcare Simulation Educator-Advanced (CHSE-A)

Tonya Breymier and Amanda J. Carmack

INTRODUCTION OF THE TOPIC
Simulation-based learning (SBL) experiences have grown and become widespread across nursing education programs. The literature recognizes and supports that simulation faculty training and development is often neglected (Jeffries, Thomas-Dreifuerst, Kardong-Edgren, & Hayden, 2015), yet simulated clinical experiences continue to increase in usage as a clinical teaching pedagogy. Faculty training/education and ongoing development are imperative for an effective simulated clinical learning experience.

A first step toward a successful simulation program is identification of a simulation coordinator (SC) or simulation champion. The SC can then coordinate efforts toward faculty simulation education and development (Jeffries et al., 2015). The SC can engage simulation facilitators to work collaboratively on simulation mapping and integration into the curriculum, identification of simulation evaluation methods, and simulation policy creation. The simulation program policies will include required simulation facilitator faculty preparation, development, and evaluation procedures.

It is the collaborative responsibility of the simulation program (SC and faculty simulation facilitators) to identify and establish what the simulation facilitator qualifications and facilitator evaluation processes entail.

SUMMARY OF CURRENT BEST PRACTICE
Lioce, Graham, and Young (2018) share four recommendations toward simulation facilitator preparation:

- International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: Simulation
- Society for Simulation in Healthcare (SSH) Certified Healthcare Simulation Educator (CHSE)/Certified Healthcare Simulation Educator-Advanced (CHSE-A) certification
- SSH’s Council for Accreditation of Healthcare Simulation Accreditation standards
- National Council of State Boards of Nursing (NCSBN) faculty and program checklists

Each of the four recommendations call for simulation facilitators to obtain simulation facilitator education and preparation as a requirement for simulation programs to demonstrate that the facilitators are qualified and evaluated (Lioce et al., 2018).

The International Association for Clinical Simulation and Learning published standards for SBL entitled “INACSL Standards of Best Practice: Simulation.” These standards include Simulation Design; Outcomes and Objectives; Facilitation; Debriefing; Participant Evaluation; Professional Integrity; Simulation-Enhanced IPE; and Operations (INACSL Standards Committee, 2016). Nursing education programs integrating SBL experiences need to meet INACSL Standards of Best Practice: Facilitation in addition to evaluating those facilitators.
The SSH (2019) recognizes the CHSE and CHSE-A certification as a credential that demonstrates skills and specialized knowledge of simulation facilitation. The certification exam for CHSE covers five practice domains: educate and assess learners using simulation; demonstrate knowledge of simulation principles, practice, and methodology; manage overall simulation resources and environments; engage in scholarly activities; and display professional values and capabilities (Lioce et al., 2018, p. 433).

The CHSE-A certification is a portfolio-based certification for CHSE certified educators who serve as leaders and experts in healthcare simulation. The CHSE and CHSE-A certifications are recognized and supported by the Nurses Organization of Veterans Affairs (NOVA), Simulation Australia (ASSH), the Association for Standardized Patient Educators (ASPE), INACSL, and the National League for Nursing (NLN) (SSH, 2019).

The SSH provides standards of accreditation for simulation programs. By following these standards, simulation programs work to offer quality simulation learning experiences. Standards include mission and governance; program management; resource management; human resources; program improvement; integrity; and expanding the field (SSH, 2019). The human resources standard includes acknowledgment of a qualified individual to serve as director; adequate number of qualified simulation staff; and an identified process for orientation, development, and evaluation of simulation staff. Simulation healthcare-certified staff is recognized within the human resources standard as a credential for simulation educator qualification.

The NCSBN provides faculty and simulation program checklists that can provide an outline and framework for simulation programs organizing simulation facilitator education, orientation, and ongoing faculty development initiatives (Alexander et al., 2015; Lioce et al., 2018). The checklists are organized according to best practices for simulation programs and facilitation. Information regarding best practices for graduate level simulated education is limited in the literature, but an expert panel including representatives from INACSL, American Association for Colleges of Nursing (AACN), NLN, SSH, boards of nursing, and the NCSBN developed simulation guidelines that includes the faculty checklist. These guidelines and checklist can easily be applied to graduate level simulation facilitators.

Important components of the faculty preparation checklist include established method of facilitator evaluation and ongoing faculty development. Utilization of the faculty preparation checklist provides simulation programs with a framework with which to establish baseline facilitator requirements (Alexander et al., 2015).

**SUGGESTIONS FOR THE FACULTY/EDUCATOR**

Many resources are available for faculty to peruse and adopt as required faculty development for simulation facilitator competency (Jeffries et al., 2015; Lioce et al., 2018). Formal simulation faculty development can be obtained at multiple educational institutions, including Boise State University; Bryan Health Simulation Education; Drexel University; Robert Morris University; and University of San Francisco.

Simulation faculty development is also available through the California Simulation Alliance, INACSL, NLN Nursing Simulation Innovation Resource Center, and the University of Washington Center for Health Sciences. It is worthy to note that the University of Washington Center for Health Sciences received a Health Resources & Services Administration (HRSA) grant for creation of simulation faculty development online courses. The courses are available free of charge at collaborate.uw.edu/resources-and-training/online-training-and-toolkits/simulation.

Obtaining CHSE and/or CHSE-A certification provides simulation facilitators with the credentials that identify their skills, specialized knowledge, and experience as a simulation healthcare educator. The SSH website provides ample resources for the simulation facilitator to prepare for CHSE and/or CHSE-A certification. Table 2L.1 provides faculty seeking simulation educator information with direct URL links to the information.

As with any national certification, faculty need to discover their own learning needs prior to sitting for the initial CHSE certification; the SSH website provides multiple resources to prepare for the exam. SSH also provides a preparation document that gives guidance on using the
examination blueprint, preparatory guidelines, and web resources to prepare for the CHSE certification exam. A variety of preparatory guidelines include web resources; study groups; literature reviews; books; and peer inquiries (SSH, 2019). Additionally, SSH offers formal online certification preparatory courses as well as a practice exam.

Faculty development and evaluation processes for optimal simulation facilitator competencies should be one of the top priorities for a positive simulated clinical learning experience. Simulation programs need to explore the best options for simulation faculty education, ongoing development, and requirements for CHSE/CHSE-A certification based on their simulation program curriculum plan (Jeffries et al., 2015).

REFERENCES


### Table 2L.1 Simulation Educator Information Resources for Faculty

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<thead>
<tr>
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Promoting the Success of Diverse Groups of Graduate Nursing Students

David Foley

**INTRODUCTION TO THE TOPIC**
The dual phenomena of an acute nursing shortage and noted health disparities between minority and nonminority populations has gained traction within the national psyche over the past 25 years (Institutes of Medicine [IOM], 2003). Resultantly, nurse educators have been forced to
reexamine methods for educating graduate students. By doing so, they strive to graduate more students with increased diversity to provide competent care within a widened cultural framework (IOM, 2010).

Efforts to enhance diversity within the profession have also challenged staid pedagogical methods as the composition of nursing student bodies slowly evolves from primarily middle-class Caucasian females to those that more accurately reflect increasing ethnic, gender-based, and linguistic diversity. Stubbornly high attrition rates, often twice those of their Caucasian female peers, present formidable challenges for these nonmajority graduate nursing students.

The traditional model of nursing education is rooted in a staid educational model consisting of classroom, skills-based, and clinical site instruction. These distinctive learning formats require competence in verbal, written, and psychomotor skills (Billings & Halstead, 2012). To promote the success of diverse groups of students in each of these settings, nurse educators must balance academic rigor with techniques that create a supportive, inclusive learning environment.

SUMMARY OF CURRENT BEST PRACTICE

Stanton-Salazar’s Social Capital Framework (2011) highlights the increasingly diverse learning needs in the nursing classroom. Social capital is defined by a set of highly valued resources that include social connections, language, mannerisms, and patterns of behavior usually associated with a majority population (Bourdieu, 1986). Greater amounts of social capital inevitably have a positive impact on educational performance and, ultimately, job attainment (Stanton-Salazar, 2011). Based on deficits in social capital, minority students may experience difficulties in nursing school as well as require assistance to overcome them.

Stanton-Salazar (2011) asserted many students lack awareness of deficits in their social capital until a faculty member, peer mentor, or advisor raises their awareness. Nursing faculty, advisors, and support staff can thus positively impact graduate students’ success early in their nursing program by guiding them toward mentors or other empowerment agents who can help to supplement deficits in social capital. Stanton-Salazar’s (2011) Social Capital Framework calls for educational equality through full integration of minority students into the educational system (Stanton-Salazar, 2011), which can be accomplished through culturally responsible pedagogical methods.

Pedagogical Strategies for Student Success include communication, time orientation, mentoring, and supporting those with limited English proficiency. Minority nursing students can experience biculturalism, or a sense of straddling two worlds with competing cultural norms. A lack of social capital in the form of professional connections and other resources may lead to stress and academic failure. Nevertheless, nurse educators can purposefully incorporate instruction on specific scaffolding strategies (Stanton-Salazar, 2011) through classroom discussion, case studies, and various methods of clinical simulations.

Regardless of background, students may need instruction to assume a far more formal manner of communication than they would typically use in their culturally defined “home front,” or safe zone defined by their cultural norms. Interactions with both faculty and patients may be far more linear, formal, and precise than with their culturally based social-peer group, requiring faculty to role-model appropriate discourse and provide frequent feedback in all educational settings. Faculty should provide such feedback privately whenever possible, as public corrections could cause graduate students embarrassment and may undermine learning.

Due to the critical nature of the work nurses perform daily, punctuality must be role-modeled by nurse educators and reinforced as a performance expectation, especially at the graduate level. The concept of time orientation displays tremendous variation across cultures, with some groups having a far more relaxed sense of punctuality than others do. Nevertheless, nurse educators should convey clear expectations for both punctuality and attendance and reinforce these concepts as a cultural imperative within the profession. Individual consultations with graduate students may be required, but these should not automatically be interpreted as laziness or defiance, but rather culturally framed opportunities for learning.

Nursing faculty as empowering agents can be cultural mediators to assist minority, LEP, and male students to understand the complexities of graduate nursing education. However, given
the mandate to meet strict benchmarks for first-time NCLEX-RN® performance, minority nursing students often experience attrition rates that are almost twice as high as those of their Caucasian female counterparts (Condon et al., 2013). Other factors such as an acute shortage of nurse educators often divert administrative effort from value-added efforts such as curricular enhancements and student mentoring programs (Billings & Halstead, 2012).

Mentoring is by far the most potent strategy to promote graduate student success in the development of effective faculty–student and student–student programs. Nurturing effective mentor–mentee relationships is especially critical during the first two semesters of a graduate nursing program as these relationships support the needs of specific minority student groups.

Limited English proficiency (LEP) students are often first- or second-generation immigrants who seek economic and social mobility through educational advancement (Crooks, 2013). Family members within their home or family units can often offer little support, as they may also struggle with LEP. Graduate nursing students with LEP should be encouraged to resist the temptation to associate only with other LEP students and instead seize opportunities to network—and receive mentorship—with non-LEP students.

As many LEP students struggle with reading, verbal or written comprehension–expression deficits may not become evident until midway through the first semester. Thus, rather than evaluating student success solely on high-stakes written examinations, faculty should consider adjusting a student’s course evaluation to include case studies, simulations, group, or individual presentations. These various evaluative strategies allow students to demonstrate competence across a variety of formats (Memmer & Worth, 2014).

Students of color from ethnic minorities may also face challenges in graduate nursing school, many of which result from variances in social capital found within the American educational system. Given a paucity of minority faculty members and mentors who could assist graduate students within the comfort of their cultural framework, other nonminority faculty may emerge as empowering agents to help minority students embrace new academic challenges, communication skills, and unfamiliar concepts such as shared governance.

A pedagogical movement known as “flipping the nursing classroom” has transformed classrooms in primary, secondary, and postsecondary classrooms across the country for over 20 years (Benner, Sutphen, Leonard, & Day, 2010; Billings & Halstead, 2012). For many nurse educators, this concept seems to be an effective vehicle to reinforce critical thinking through discourse and simulation. Graduate-level faculty may thus create useful simulations, case studies, and other vehicles that challenge students’ critical thinking skills, as well as provide supportive coaching and encouragement as needed. Such contemporary teaching practices are often absent in the curriculum taught in many public school systems and are thus representative of a deficit in social capital that may impede graduate nursing student success.

Men, a dominant group in mainstream society, may experience gender bias within nursing’s matriarchal meritocracy. When confronted with the realities of entering a profession rooted in feminism, many men may self-select into critical-care subspecialties within nursing where they feel more comfortable within roles more consistent with concepts of masculinity (Barrett-Landau & Henle, 2014). Specialties such as pediatrics and obstetrics, often viewed as the ultimate specialties for displaying nurturance and caring, may appear unavailable to male graduate students.

Nurse educators should be very diligent to avoid injecting gender-biased discourse or teaching practices when engaging male graduate students and be careful to use gender-neutral language in the classroom and clinical settings. Avoiding the practice of referring to any students by gender (i.e., “male nursing student” rather than simply “student”) will assist men with creating their sense of identity free from gender-bias.

SUGGESTIONS FOR THE FACULTY/EDUCATOR

Nursing faculty, like other educators, act in a sociocultural manner as they instruct students, whether in the classroom or clinical setting. Nurses often communicate patient demographic and medical information in a highly direct, linear manner (Billings & Halstead, 2012). Nursing
faculty model this style of discourse during presentations in the clinical area known as pre- and post-conferences or grand rounds and may unwittingly discourage minority students who display alternative narrative styles from full participation in the learning experience. Faculty should be sensitive to interrupting these students, which may thwart effective performance by minority students in the clinical setting.

Internal academic referral and support systems for school of nursing students who fall outside the narrow cultural framework can help students identify resources (i.e., empowering agents) to address barriers to academic success, particularly regarding cultivating appropriate scaffolding techniques. Given that minority, LEP, and male students frequently lack the social capital of their colleagues, faculty should make every effort to provide the necessary support to ensure their success in graduate nursing programs (Stanton-Salazar, 2011).

REFERENCES

Standardized Patient Interactions
Margory A. Molloy and Sean P. Convoy

INTRODUCTION OF THE TOPIC
The utilization of standardized patients has been a mainstay in medical education for many decades. Use of standardized patients in nursing education has been gaining traction over the past decade and is viewed as an effective teaching modality. The use of standardized patients has been of particular interest to APRN programs for both formative and summative evaluation of learning. Additionally, trained standardized patients can provide timely feedback on learner performance from a unique perspective.

A standardized patient as defined in the INACSL Standards of Best Practice Glossary is “a person trained to consistently portray a patient or other individual in a scripted scenario for the purposes of instruction, practice, or evaluation” (INACSL Standards Committee, 2016b, p. S44). Depending on scenario objectives, standardized patients have the potential to illustrate more than just a set of symptoms; they can be an individuals struggling with and responding to a constellation of symptoms in dynamic interaction with their environment.
In 2017, the Association of Standardized Patient Educators (ASPEs) revised their definitions of both standardized patient and simulated patient (SP), which have historically been used interchangeably. Both terms refer to a person trained to portray a patient in realistic and repeatable ways. The use of SP-based education in healthcare curriculums has grown in size and scope of practice to include many different roles. For this reason, the term simulated participant is being used as a more inclusive term to refer to all human role players in any simulation context.

SPs bring with them the additional value of being able to provide feedback on learner performance in the context of the character they portray. This feedback can be verbal or written depending on what was arranged in the initial planning phase of the case development. Often, SPs participate in the faculty-led debriefing session and can provide the learner with value-added insights that commonly complement faculty and student-peer feedback. Verbal and nonverbal feedback when delivered consistently in a meaningful way can impact students’ performance in future clinical encounters (Dayer Berenson, Goodill, & Wenger, 2012).

SPs can be used in high-stakes evaluations for APRN students as well. This type of evaluation is more commonly known as objective structured clinical examinations (OSCEs) and can include formative elements such as history taking, clinical interview, and physical assessment skills. Manikin-based simulation has not proven to be successful for use in mental health context due to the inability of the manikin to provide nonverbal cues. Thus, the use of SPs is the gold standard for evaluating students’ communication and teamwork skills.

SUMMARY OF CURRENT BEST PRACTICE
The inherent value of using simulation in APRN education lies in its potential to provide students with a value-added and low-risk environment from which they can begin to translate academic data and information into clinical practice knowledge. The thoughtful implementation of formative and summative elements of patient simulation in APRN education establishes a means by which both faculty and students can evaluate process and content for both student development and curricular refinement. Formatively evaluating elements of the APRN role (e.g., physical assessment, history collection, rapport development) through simulation, making iterative adjustments in response to formative outcomes, and then galvanizing the process with summative simulation evaluation represents the best practice. If done effectively, summative encounters lose their “high-risk” moniker as success is assured with rigorous attention to the formative elements. This process is analogous to a Joint Commission Accreditation in that all the preparatory work (formative assessment) that should be iteratively taking place in between accreditation visits assures that the actual accreditation visit (summative assessment) will be successful. As it relates to the use of patient simulation in APRN education, the whole is most assuredly greater than the sum of its parts.

Lewis et al. (2017) describes five domains of best practices for use of SPs: (a) safe work environment, (b) case development, (c) SP training for role portrayal, feedback, and completion of assessment instruments, (d) program management, and (e) professional development. The ASPE Standards of Practice Committee created guidelines that were precise yet flexible to address a wide array of SP experiences. Key practices are described for creating simulations that are safe for all stakeholders while achieving desired outcomes. Simulation program staff has a responsibility for creating a safe psychological and physical learning environment (INACSL Standard: Professional Integrity). This environment must be built upon safe work practices, confidentiality, and respect (Lewis et al., 2017).

SUGGESTIONS FOR THE FACULTY/EDUCATOR
The use of standardized patients in APRN education represents the gold standard due to its in vivo nature and potential for multisensory reinforcement. APRN students are expected to “suspend disbelief” in the simulated encounter, mindful that the exercise is in fact preparing them for “real-life” clinical practice. The suspension of disbelief begins with and must be rigorously role-modeled by the faculty and staff who support the process. As it relates to the suspension of
disbelief, one marginalized comment or behavioral devaluation has the potential to break the spell leading to qualitative losses in student outcomes. All involved (e.g., faculty, staff, student, and actor) are encouraged to treat the simulated encounter like a theatrical production where getting into character is built into the process with the expectation of rigorous behavioral and metacognitive prework. Much like how an elite athlete, musician, or actor participates in a series of cognitive prework (e.g., goal setting, image rehearsal, thought management, contingency planning, and emotional regulation) ahead of an event, so too must the APRN student engage in a similar set of activities. The degree to which all involved genuinely embrace the simulated event speaks to its potential to develop knowledge, skills, and abilities.

REFERENCES
### For Simulation Technical Team

#### CONTEXT/SETUP

**Overview** | SP playing the role of a 45-year-old female complaining of right upper abdominal pain
---|---
**Setting/Setup** | Outpatient office in any setting (any type of clinic including walk-in clinic)
**Supplies** | Blood pressure cuff, stethoscope, thermometer, exam gloves, hand sanitizer. No moulage
**Simulator SP** | SP, high-fidelity manikin
**Task Trainer** | SP, simulation center coordinator, faculty evaluator
**Prebriefing Questions for Formative Evaluation**
- How will you conduct this exam?
- Besides the history of present illness questions, what focused history questions need to be asked?
- What components of physical exam should be done?

#### SCENARIO EVENTS AND ACTIONS

<table>
<thead>
<tr>
<th>APRN ACTIONS/BEHAVIORS</th>
<th>PATIENT ACTIONS/RESPONSES (Manikin/SP/Task Trainer)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APRN Student:</strong></td>
<td>Patient responses</td>
</tr>
<tr>
<td>APRN student should begin interaction by introducing self and confirming purpose of the visit.</td>
<td>“I am having stomach pain and I am exhausted.”</td>
</tr>
<tr>
<td>“Tell me about this stomach pain. When did this start?”</td>
<td>“Sharp pains started yesterday after I ate lunch; it has been pretty much constant since the time it started but has lessened in severity.”</td>
</tr>
<tr>
<td>“Where is the pain?”</td>
<td>“On the right side mostly.” (points to RUQ of abdomen)</td>
</tr>
<tr>
<td><strong>Cues/lifesavers (If student never introduced self):</strong></td>
<td>“I can’t rate it—it’s better than initially.”</td>
</tr>
<tr>
<td>SP should say—“You are getting pretty personal, who did you say you were again, the doctor?”</td>
<td><strong>Cues:</strong></td>
</tr>
<tr>
<td><strong>Cues:</strong> (If student does not give pain scale or utilize words such as mild, moderate, or severe):</td>
<td>“Nothing.”</td>
</tr>
<tr>
<td>“I guess it is a lot worse after I eat. I would say it is pretty bad then.”</td>
<td>“Does anything make the pain worse?”</td>
</tr>
<tr>
<td>“Does anything make it better?”</td>
<td>“Nothing.”</td>
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</table>

### Scenario:
SP playing the role of a 45-year-old female complaining of right upper abdominal pain.

Setting/Setup: Outpatient office in any setting (any type of clinic including walk-in clinic).

Supplies: Blood pressure cuff, stethoscope, thermometer, exam gloves, hand sanitizer. No moulage.

Simulator SP, high-fidelity manikin.

Staffing: SP, simulation center coordinator, faculty evaluator.

Prebriefing Questions for Formative Evaluation:
- How will you conduct this exam?
- Besides the history of present illness questions, what focused history questions need to be asked?
- What components of physical exam should be done?

APRN Student:
- APRN student should begin interaction by introducing self and confirming purpose of the visit.
- “Tell me about this stomach pain. When did this start?”
- “Where is the pain?”
- “How would you rate the pain on a scale from 1 to 10?”
- “Does anything make the pain worse?”
- “Does anything make it better?”

Patient responses:
- “I am having stomach pain and I am exhausted.”
- “Sharp pains started yesterday after I ate lunch; it has been pretty much constant since the time it started but has lessened in severity.”
- “On the right side mostly.” (points to RUQ of abdomen)
- “I can’t rate it—it’s better than initially.”
- “I guess it is a lot worse after I eat. I would say it is pretty bad then.”
- “Yes, food; any kind of food.”
- “Nothing.”
"Have you tried anything for the pain?"
"What do you think caused this pain?"
"Have you ever had pain like this before?"

"Why did you come in today? Have you been seen by another healthcare provider?"

Review of systems
"Have you had any nausea and/or vomiting?"

"Have you had diarrhea?"

Cues: if the student asks all three at the same time (nausea, vomiting, diarrhea)
SP should say let me answer those questions one by one

"Do you have heartburn?"
"Do you have pain with swallowing?"
"Do you have difficulty swallowing?"

"Have you had gallbladder problems?"

"Do you take any other medications beside what is listed in your chart: prescription, nonprescription, or herbals?"

Cues/lifesavers: SP (if the student does not categorize medications as prescription, nonprescription):

"Do you have burning or pain with urination?"
"Are you sexually active?"
"Do you have any abnormal vaginal discharge?"

TRANSITION TO PHYSICAL EXAM:
APRN performs physical exam:

- Inspection of the abdomen
- Auscultation: with diaphragm of stethoscope in one place (NOT four quadrants)

- Palpation
- Special maneuver: Murphy's sign
- Special maneuver (either): Iliopsoas or obturator test
- Auscultate heart
- Auscultate lungs

TRANSITION TO PHYSICAL EXAM:
Prepare SP/manikin/pelvic exam trainer for physical findings:

- SP supine position with knees flexed on cart or exam table
- Bowel sounds present

- SP reports slight pain in RUQ
- SP has pain with Murphy's sign
- No pain
- RRR, No murmurs
- Clear
**APRN orders labs/studies:**

| Cues: | Results of labs/studies |

**Transition to Next Steps/Final Plan/Closure:**

APRN makes the plan:
- If no diagnostic tests are ordered (for the student in advanced assessment class)
- Ask patient to complete a log for next week for food and pain

**Cues:**

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**EVALUATION OF STUDENT LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Completed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Demonstrate the use of therapeutic communication to obtain a focused history</td>
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<tr>
<td><strong>2.</strong> Demonstrate the ability to conduct an organized and focused history</td>
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<tr>
<td><strong>3.</strong> Demonstrate the ability to conduct an organized, focused physical exam</td>
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<tr>
<td><strong>4.</strong> Complete physical assessment skills correctly and in a timely fashion</td>
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<table>
<thead>
<tr>
<th>Competencies</th>
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<tbody>
<tr>
<td><strong>1.</strong> Performs a comprehensive, evidence-based assessment</td>
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<tr>
<td><strong>2.</strong> Uses advanced clinical judgment to diagnose</td>
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<tr>
<td><strong>3.</strong> Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patients</td>
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<tr>
<td><strong>4.</strong> Uses effective communication tools and techniques that include a nonjudgmental attitude, respect, and compassion when addressing sensitive issues to promote therapeutic relationships</td>
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<tr>
<td>Objective</td>
<td>Completed</td>
<td>Comments</td>
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<td>---------------------------------------------------------------------------</td>
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<tr>
<td>5. Uses advanced health assessment skills to differentiate between normal, variations of normal, and abnormal findings</td>
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<tr>
<td>6. Works to establish a relationship with the patient characterized by mutual respect, empathy, and collaboration</td>
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<tr>
<td>7. Creates a climate of patient-centered care to include confidentiality, privacy, comfort, emotional support, mutual trust, and respect</td>
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<tr>
<td>8. Employs screening and diagnostic strategies in the development of diagnoses</td>
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<tr>
<td>9. Incorporates the patient’s cultural and spiritual preferences, values, and beliefs into healthcare</td>
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<tr>
<td>10. Uses the best available evidence to continuously improve quality of clinical practice</td>
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RUQ, right upper quadrant; SP, standardized patient.
# APRN SIMULATION RUN GUIDE

## For Simulation Technical Team

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<tr>
<th>CONTEXT SETUP</th>
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<tr>
<td><strong>Overview</strong></td>
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<td><strong>SP</strong></td>
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<tr>
<td><strong>Staffing</strong></td>
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<tr>
<td><strong>Prebriefing Questions for Formative Evaluation</strong></td>
</tr>
</tbody>
</table>

## Scenario Events and Actions

### APRN ACTIONS/BEHAVIORS

**APRN student:**
1. Enters exam room
2. Introduces self to patient
3. Asks how she or he can help the patient today
4. Obtains focused history; uses OPQRST (onset, provokes pain, quality, radiate, severity, timing) for acute illness

**Cues:**
- If student is not focused in history taking, remind student to concentrate on HPI and the sexual history

### PATIENT ACTIONS/RSPONSES (Manikin/SP/Task Trainer)

**Patient responses ready for patient interviewing:**

"I am here because I just have not been feeling very well the last few days. I am having headaches, severe pain when I pee, and painful vulvar lesions."

- Sexually active since age 18. Lifetime partners—10; last 60 days—three partners. Two recent partners have been with off and on over last year. First episode of intercourse with other new partner about 1 month ago
- Does not use condoms. On Depo-Provera × 2 years, last injection 6 weeks ago. Partners male
- Denies history of intravenous drug use in self or partners. Unknown if partners are gay/bisexual. Engages in vaginal and oral sex. No anal sex

**Onset:** "Started feeling bad about 4 days ago. Lesions first appeared 3 days ago. I have never had anything like this before."

**Provocation or palliation:** "Nothing seems to make it better. It really hurts to pee and hurts when my clothes rub against me down there."

**Quality of pain:** "Burning and throbbing."
**Region and radiation:** “Down there—all between my legs and vagina.”

**Severity (1–10 scale):** 9

**Time:** “Hurts all the time, worse when I pee and move around.”

### Transition to Physical Exam:

**APRN performs physical exam:**
1. Washes hands and describes exam to the patient
2. Patient in lithotomy position (or use of pelvic model positioned with SP)
3. Arranges appropriate materials for performing pelvic exam
4. Dons exam gloves
5. Examines for inguinal lymphadenopathy, external genitalia, introitus, Bartholin’s glands, urethral meatus. Inserts speculum; examines cervix, vaginal walls, vaginal discharge. Collects appropriate specimens; unroofs vesicles for culture. Removes speculum and disposes of it. Performs bimanual exam to assess cervical motion tenderness (CMT), adnexal tenderness/masses, uterine size/shape/tenderness/masses
6. Removes and disposes of gloves
7. Washes hands

**Cues:** If student forgets part of the exam (e.g., checking for inguinal lymph nodes)—prompt to do a complete exam

### Transition to Physical Exam:

**Prepare SP/manikin/pelvic exam trainer for physical findings:**
1. Multiple enlarged inguinal lymph glands
2. Diffuse vesicles 1–3 mm in size, several ulcers, tender to touch on vulva and at introitus
3. Labia majora mild edema bilaterally
4. Vaginal walls pink, rugae, scant whitish discharge, no lesions
5. Cervix smooth, firm, pink, no discharge
6. Bimanual reveals no adnexal masses or tenderness, no CMT, uterus smooth, anteverted, mobile, no masses or tenderness
7. Patient was able to tolerate exam

### Results of labs/studies:

**Today’s lab results:**
- OraQuick HIV test—negative
- Vaginal swab or wet prep negative for Candida, trich, and BV

Send out lab results:
- HSV culture positive for HSV 2
- NAAT for *Chlamydia trachomatis* and *Neisseria gonorrhoeae*—negative
- RPR—negative

### Transition to Next Steps/Final Plan/Closure:

**APRN makes the plan:**

**Prescriptions:** Acyclovir 400 mg orally three times a day for 7–10 days

*OR* acyclovir 200 mg orally five times a day for 7–10 days

*OR* valacyclovir 1 g orally twice a day for 7–10 days

*OR* famciclovir 250 mg orally three times a day for 7–10 days

**Education:**
- Natural history of disease, recurrence of symptoms, viral shedding of active lesions, and asymptomatic viral shedding
- Prodromal symptoms and recurrence of lesions; avoid sexual contact during prodromal stage and active lesions
- Episodic treatment of recurrent episodes and potential use of suppressive therapy

### Prepare Responses to APRN’s Plan:

1. Were CDC treatment guidelines followed?
2. Consider cost, compliance due to number of times medication taken each day.
3. Was patient education covered as expected?
• Symptom relief: oral analgesics, warm sitz baths, loose clothing, oatmeal baths, application of cold, wet tea bags, urinating in tub to minimize pain, gentle washing and air drying
• Condom use consistently and correctly, limit partners, know partner’s STI/HIV status
• Symptomatic partners should be evaluated and treated accordingly

**Follow-up:** for next Depo injection and Pap as scheduled. If HSV symptoms recur frequently, can be prescribed suppressive dose of antivirals

**Documentation:** SOAP charting or EHR template

**Cues:**
1. Most likely diagnosis
2. CDC guidelines
3. Patient teaching

### EVALUATION OF STUDENT LEARNING OUTCOMES

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<thead>
<tr>
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<tbody>
<tr>
<td>1. Obtain a focused history, including sexual history</td>
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<tr>
<td>2. Describe or perform the indicated physical exam</td>
<td></td>
<td></td>
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<tr>
<td>3. Order indicated laboratory tests</td>
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<tr>
<td>4. Develop a management plan</td>
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<thead>
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<td>1. Uses advanced clinical judgment to diagnose</td>
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<tr>
<td>2. Synthesizes relevant data to develop a patient-centered, evidence-based plan of care</td>
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<tr>
<td>3. Manages disease manifestations unique to women</td>
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<tr>
<td>4. Provides counseling, management, and/or referral based on identified healthcare risk factors</td>
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</tbody>
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CDC, Centers for Disease Control and Prevention; EHR, electronic health record; HSV, herpes simplex virus; NAAT, nucleic acid amplification test; RPR, rapid plasma reagin; SP, standardized patients; STI, sexually transmitted infections.