Evaluation of
Health Care Quality in
Advanced Practice Nursing
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Evaluation of Health Care Quality in Advanced Practice Nursing

Joanne V. Hickey, PhD, APRN, ACNP-BC, FAAN, FCCM

Christine A. Brosnan, DrPH, RN
We dedicate this book to …

- Pioneers and thought leaders … the pioneers in the field of evaluation, including Florence Nightingale, Ernest Codman, Avedis Donabedian, and Lu Ann Aday, who have elevated evaluation into a science-based process; and the thought leaders who are demanding that a solid evaluation must be an integral part in all health care endeavors.

- Students and colleague (current and future) … and particularly advanced practice nurses who have an unprecedented opportunity to impact new models of health care quality that will influence health policy for an ultimate transformation of the health care system.

- Our contributing authors … recognized experts in their disciplines, these leaders are much sought after for their expertise in practice, education, research, and consultation. Our request to share their knowledge through writing was met with gracious acceptance and production of excellent manuscripts. Their passion for quality health care and especially the role of evaluation in achieving quality health care is the heart and soul of this book.

- Our husbands … who supported our passion for creating this book even though it took considerable time away from other home and family based activities. Jim Hickey and Pat Brosnan served as in-house editors and wise listeners and counsels as we grappled with the best ways to organize ideas and find the right words to illuminate the work of evaluation.
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Evaluation is not a new concept to nurses. It is most often associated with a component of the nursing process designed to evaluate the outcomes of health care for an individual patient. Competency in evaluation of patient outcomes is an expectation of all professional nurses. What is new is the expectation of high level competency for advanced practice nurses (APNs) in evaluating health care, including health professional groups, patient populations, organizations, systems, programs, health informatics, practice guidelines/protocols, health policy, and other health-related entities from a systematic and comprehensive evaluation perspective. The bar for evaluation has been raised for APNs. Along with the higher expectations comes a new opportunity to influence high level decision making in health care.

Recognizing the need for APNs to be prepared in evaluation beyond individual patients, we conducted a search to identify textbooks and other resources that would be helpful for APNs to conduct their work. Surprisingly, little was found beyond case studies and general principles, although there were several books on program evaluation. Although helpful, these resources did not address the full scope of evaluation required in advanced practice nursing. No one comprehensive text was found that addressed the most common foci of evaluation by APNs. With this background we began the planning of this text guided by input from our colleagues, students, and practicing APNs. Our esteemed colleagues graciously agreed to share their expertise through the written word.

The intended audiences are students enrolled in advanced practice nursing programs, practicing APNs both at the master’s, and doctoral levels, nurse administrators, directors of quality improvement, faculty teaching evaluators, and others interested in evaluation of health care from a practice and clinical perspective. In selecting content, it was our intention to provide an overview of the state of the science of evaluation and what is known about evaluation and its application to common practice issues in which ANPs will lead or participate. As we reviewed the literature it became clear that evaluation as applied to health care is underdeveloped and evolving. It is a non-linear and messy process; there is no one right way to conduct an evaluation. The form of an evaluation is based on its intended purpose and use. The clear and urgent message is that all aspects of health care entities must be evaluated
systematically for effectiveness and to guide and inform decision making. APNs can contribute to developing the science, processes, and uses of evaluation in health care. Although the consensus is in agreement with a national call to action, the processes and timelines for evaluation are poorly established. The intent of this book is to lay a foundation for APNs to assume their important role in evaluation.

Section I addresses the underpinning of evaluation. Chapter 1 elaborates on the role of APNs in evaluation. Through a brief history, overview, mandate, and other aspects of high level evaluation, the APN is brought to the table of evaluation. Chapter 2 addresses the nature of evidence, the basic building block of evaluation, and provides a critical review of characteristics, sources, and quality of evidence as it applies to rigorous evaluation. The conceptual foundations for evaluation are discussed in Chapter 3. A number of frameworks are described to provide the reader with different models for addressing evaluation. The national imperative for cost effectiveness is addressed in Chapter 4 through an overview of economic evaluation.

Evaluation of organizations, systems, and standards for practice is the focus of Section II. Chapter 5 examines evaluation of organizations and systems, while Chapter 6 addresses health care informatics and patient care technology within health care. With the redesign of health care delivery, organizations and systems are being restructured and redesigned to be more responsive to patient-family centered care models. An integral part of health care is health informatics, and patient care technology integration and evaluation. The current national trend toward electronic medical records is creating challenges because of the far reaching impact on organizations, systems, and individual patients.

Section III addresses the evaluation of populations and health care teams. From a lens of populations, Chapter 8 addresses characteristics, risk factors, determinants, and the evaluation of population health. Chapter 9 covers the emphasis on interdisciplinary collaborative health teams as the foundation for quality and safety outcomes.

The final section, Section IV, is devoted to health policy and the future of health care evaluation. Chapter 10 discusses the important step of translating outcomes from evaluation into health policy. The chapter encourages APNs to seek opportunities for advocacy and leadership in developing new policies or revision of current health care policy. Chapter 11 examines challenges and trends for the future including the increased demand for comprehensive high level evaluation by APNs. In addition, the chapter addresses recommendations about initial and ongoing competency in evaluation by APNs.

Some of the unique features of the book are key definitions of terms, multiple examples to illustrate a point, case studies to provide examples of comprehensive evaluations with clinical applications and recommended resources for perusal and reference. As educators and practitioners, we were
keenly aware of the multiple definitions of key terms. Unless evaluators and users of evaluations are clear about terminology, confusion and misunderstandings will abound leading to underutilized or misdirected evaluations. The examples in the book come from a variety of practice settings and foci to provide the reader with an appreciation of the multiple uses of evaluation. This is also true of the case studies, which provide a more comprehensive overview of the evaluation process, outcomes, and uses. Readers may wish to explore other resources to augment their understanding and broaden their perspective of aspects of evaluation. Selected resources are thus provided for these purposes.

Our sincere hope is that this book will meet our primary aim of providing a useful and helpful resource to assist APNs in assuming responsibility and accountability for competency in the conduct of high level evaluation that will inform decision making for those engaged in health care delivery and practice. Competency in high quality evaluation positions APNs to influence health care decisions and health policy. It speaks loudly to the recommendation outlined in *The Future of Nursing: Leading Change, Advancing Health* (Institute of Medicine, 2011) that nurses should be full partners with other health professionals in redesigning health care.
Acknowledgments

We are indebted to many wonderful people who helped to make this book possible. We especially wish to acknowledge Dr. LuAnn Aday for her helpful review of the conceptual models of evaluation discussed in Chapter 3.
INTRODUCTION

Within the current national imperatives for health care quality and safety, the mandate for evaluation of care has never been more vital to meeting societal needs. Quality care is safe care, and safe care is a hallmark of quality. Evaluating the quality of care delivered to clients/patients is a necessity that emerges from the social contract between health professionals and society. Implicit in this social contract is the accountability of all health professionals to their clients/patients for the quality and safety of the services they render and for the expectation of care with predictable outcomes (Sidani & Braden, 1998).

This book examines the theory and practice of evaluation in advanced practice nursing. All professional registered nurses evaluate care provided to individual patients as part of the nursing process. The American Nurses Association (ANA, 2010, p. 63) defines evaluation as the process of determining the progress toward attainment of expected outcomes including the effectiveness of care. Bloom’s Taxonomy of the Cognitive Domain (Bloom, Enlerhart, Furst, Hill, & Krathwohl, 1956) is a time-honored hierarchy of cognitive abilities arranged from the least complex to the most complex. The original taxonomy was arranged in the following order: knowledge, comprehension, application,
analysis, synthesis, and evaluation. Each of the preceding levels is foundational for the subsequent level, and evaluation is at the highest level of complexity in the cognitive domain. Other authors have suggested that synthesis and evaluation are at the same level of difficulty, but use different cognitive processes (Anderson & Krathwohl, 2001). Regardless of these differences of opinion, it is clear that evaluation is a high-level cognitive activity that is complex in nature. Benner, Hughes, and Sutphen (2008) note that high order critical thinking and clinical reasoning are required for high quality clinical practice.

The ANA’s definition of evaluation is a discipline-focused definition of the patient’s responses to interventions and specific outcomes, as well as the care provided by the nurse. The advanced practice nurse (APN) must move beyond the single patient/client- and discipline-specific focus to also address evaluation at a population, organizational, systems, and provider level. With this perspective, the APN expands the depth and scope of evaluation to include the theoretical and scientific approaches utilized by behavioral, social, and organizational scientists to evaluate more complex multidisciplinary questions. The theoretical foundation of evaluation is grounded in science and the rigorous methodologies used to conduct systematic evaluations of phenomena of interest to those engaged in the delivery and utilization of health care services. In order for any evaluation to have credibility, it must be based on the best practices of evaluation science and methodologies considered to be valid and reliable by industry standards.

The APN must engage in evaluation at this level of expertise to be viewed as a credible health professional by health and other professionals, administrators, decision makers, and leaders who have expertise in evaluation science and methodologies. The results of these evaluations are used to inform decision makers who will affect health care delivery and the health care systems. The focus of an evaluation can be broad and comprehensive and may include quality indicators, clinical outcomes, and the risks–benefits of health care for a population, an organization, or a system. Table 1.1 provides examples of the scope of evaluation possibilities in which APNs might engage. The contributions of APNs is integral to achieving a high quality health care system for the nation, and thus APNs must develop the competencies to engage in high level evaluations processes both independently and as a member of a multidisciplinary team. Only then will the full potential of the APN to achieve high quality and safe outcomes be realized. It is, therefore, the primary purpose of this book to assist APNs to understand evaluation as an integral component of advanced practice and the theoretical and scientific underpinnings of evaluation in the health care system.

The differentiation of microsystem, mesosystem, and macrosystem influences evaluation. A microsystem refers to the small, functional frontline units that provide most health care to most people (Nelson et al., 2007, p. 3). A mesosystem is a larger unit in which midlevel leaders are responsible for large clinical programs, clinical support services, and administrative services
### TABLE 1.1
Examples of Evaluations in Advanced Practice Nursing

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<th>Focus</th>
<th>Description</th>
<th>Example</th>
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<tr>
<td><strong>Patient/client or groups/populations</strong></td>
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<td></td>
</tr>
<tr>
<td>Groups of patients/clients</td>
<td>A group may be defined as a group of patients who have in common a provider(s), disease, or receive care in a particular setting.</td>
<td>In a diabetic group within a practice, how the patients/clients’ outcomes compare to national, evidence-based guidelines such as targeted HgbA1c, weight, and blood pressure levels.</td>
</tr>
<tr>
<td></td>
<td>Focus of patient-centered evaluation is usually directed at response to care and health outcomes.</td>
<td></td>
</tr>
<tr>
<td>Populations</td>
<td>Refers to a set of persons having a common personal or environmental characteristic. The common characteristic may be anything that influences health such as age, diagnosis, level of disability, etc. (Maurer &amp; Smith, 2004).</td>
<td>The outcomes of patients with ischemic stroke in a multi-facility health care system as compared with national guidelines. Patient satisfaction with care and the encounter with the health care system.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td></td>
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<tr>
<td>Models of care</td>
<td>A conceptual model or diagram that broadly defines the way health services are delivered.</td>
<td>The effectiveness of models of practice such as interprofessional teams or solo practice in achieving decreased length of stay.</td>
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<td></td>
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<tr>
<td>Evidence-based practice</td>
<td>The integration of best research evidence, clinical research, and patient values in making decisions about the care of individual patients (IOM, 2003).</td>
<td>The adherence to evidence-based guidelines for myocardial infarction as the patient moved from one unit to another along the continuum of care.</td>
</tr>
<tr>
<td>Quality improvement</td>
<td>A formal approach to the analysis of performance and systematic efforts to improve it through a planned program within an organization.</td>
<td>Integration of health care technology and information systems into point of service care for a particular diagnosis or condition.</td>
</tr>
</tbody>
</table>
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Examples of Evaluations in Advanced Practice Nursing (continued)

<table>
<thead>
<tr>
<th>Focus</th>
<th>Description</th>
<th>Example</th>
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<tr>
<td><strong>Systems</strong></td>
<td>A comparative evaluation of two or more interventions in which costs are calculated in dollars (or the local currency) and end-points are calculated in health related units (Drummond, Sculpher, Torrance, O’Briend, &amp; Stoddart, 2005).</td>
<td>Assists health professionals in making decisions about equipment purchases or establishing new programs or services.</td>
</tr>
<tr>
<td>Cost effectiveness analysis</td>
<td>The ability of a person, unit, or organization to address the expressed needs of a community. The community is usually described as external to the health care organization or system and may be people living in the same area as the facility, a facility such as a housing project, or an ethnic group with ties to the health care facility.</td>
<td>Programs are developed based on expressed needs of the community of interest through a partnership with that community so that the community partners are stakeholders in the program. Examples of such programs are starting a Saturday clinic for immunization at the local school, a prenatal clinic for high-risk mothers in a community with a high incidence of premature deliveries, or a hypertension clinic at a local industrial plant for workers.</td>
</tr>
</tbody>
</table>

(Nelson et al., 2007, p. 205). It is the layer between the microsystem and the macrosystem, and is often the interface between the two. A macrosystem refers to broader, overarching sectors such as organizations or systems. Its leaders are responsible for organization-wide performance (Nelson et al., 2007, p. 205). Depending upon the purpose, the evaluation can focus on a single level (e.g., microsystem, mesosystem, or macrosystem), or can include all three levels. At the micro level, the emphasis is on evaluating the quality of a particular intervention or program, and often involves examining the effectiveness in achieving expected outcomes (Sidani & Braden, 1998). An evaluation addressing a problem at the mesosystem level may focus on a division, such as surgical...
services, in which multiple units that provide clinical care to surgical patients are included. An example of a possible evaluation focus might be policies and procedures for the clinical service. At the macro level, the emphasis shifts to a broad and comprehensive focus in which evaluation of the quality of programs or initiatives at the organization or systems level is addressed. For example, an evaluation might investigate the organizational policies on drug reconciliation as patients move from one unit to another.

EVALUATION AND RELATED TERMS AND CONCEPTS

There are many definitions of evaluation, and some are reflective of a specific type of evaluation. Table 1.2 includes terms commonly used in evaluation. A generic definition of evaluation is: A process that requires judgments to be made about the extent to which something satisfies a criterion or criteria; another definition is “The systematic application of scientific and statistical procedures for measuring program conceptualization, design, implementation, and utility; making comparisons based on these measurement; and the use of the resulting information to optimize program outcome” (Centers for Disease Control and Prevention [CDC], 1999). This is a broader definition than the ANA definition given earlier and focuses mainly on programs. Other related terms and concepts often used have some commonalities as

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<tr>
<td>Accountability</td>
<td>The obligation to demonstrate and take responsibility for performance in light of agreed expectations.</td>
</tr>
<tr>
<td>Analysis</td>
<td>An investigation of the component parts of a whole and their relationships in making up the whole; the process of breaking a complex topic or substance into smaller parts to gain a better understanding of it.</td>
</tr>
<tr>
<td>Assessment</td>
<td>The classification of someone or something with respect to its worth.</td>
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<tr>
<td>Benchmarking</td>
<td>The process of comparing one’s processes and performance metrics to industry bests and/or best practices from other industries.</td>
</tr>
<tr>
<td>Best practices</td>
<td>The most up-to-date patient care interventions, which result in the best patient outcomes and minimal patient risk of complications or death (RWJF, 2011).</td>
</tr>
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(continued)
### TABLE 1.2
Definitions of Frequently Used Terms in Evaluation of Health Care (continued)

<table>
<thead>
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<tr>
<td>Criterion</td>
<td>A standard on which a judgment or decision may be based. “an attribute of structure, process, or outcome that is used to draw an inference about quality” (Donabedian, 2003, p. 60).</td>
</tr>
<tr>
<td>Critique</td>
<td>A critical review of an object, process, literature, or performance; a critical examination or estimate of a thing or situation with the view to determine its nature and limitations or its conformity to standards or criteria.</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>The degree to which goals and objectives are successfully met. Refers to a change in health status resulting from an intervention provided under usual conditions (Donabedian, 2003, p. 4).</td>
</tr>
<tr>
<td>Efficacy</td>
<td>The degree to which an intervention can be effective under optimum implementation conditions.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>The process of determining the progress toward attainment of expected outcomes including the effectiveness of care (ANA, 2010, p. 63).</td>
</tr>
<tr>
<td></td>
<td>“The systematic application of scientific and statistical procedures for measuring program conceptualization, design, implementation, and utility; making comparisons based on these measurement; and the use of the resulting information to optimize program outcome” (CDC, 1999).</td>
</tr>
<tr>
<td>Formative evaluation</td>
<td>An appraisal occurring during the implementation of an intervention (such as a program or patient interaction).</td>
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<tr>
<td>Indicators</td>
<td>A quantitative or qualitative variable that provides simple and reliable means to measure achievement, monitor performance, or to reflect changes.</td>
</tr>
<tr>
<td>Monitor</td>
<td>The process of comparing one's business processes and performance metrics to industry bests and/or best practices from other industries.</td>
</tr>
<tr>
<td>Quality</td>
<td>Medical quality is the degree to which health care systems, services, and supplies for individuals and populations increase the likelihood for positive health outcomes and are consistent with current professional knowledge (IOM, 1990).</td>
</tr>
<tr>
<td>Quality assurance</td>
<td>A program for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met.</td>
</tr>
<tr>
<td></td>
<td>“All actions taken to establish, protect, promote, and improve the quality of health care” (Donabedian, 2003a, p. xxiv).</td>
</tr>
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TABLE 1.2 (continued)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definitions</th>
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<tr>
<td>Quality of care</td>
<td>A measure of the ability of the provider, health care facility, or health plan to provide services for individuals and populations that increase the likelihood of desired health outcomes and are consistent with current professional knowledge (RWJF, 2011).</td>
</tr>
<tr>
<td>Quality improvement</td>
<td>Initiatives with a goal to improve the processes or outcomes of the care being delivered.</td>
</tr>
<tr>
<td></td>
<td>Clinical quality improvement is an interdisciplinary process designed to raise the standards of the delivery of preventive, diagnostic, therapeutic, and rehabilitative measures in order to maintain, restore, or improve health outcomes of individuals and populations (IOM, 1990).</td>
</tr>
<tr>
<td>Standard</td>
<td>Authoritative statement established and promulgated by credible sources such as the profession by which the quality of practice, service, or education can be judged (ANA, 2004).</td>
</tr>
<tr>
<td>Summative evaluation</td>
<td>An appraisal that occurs at the end of an intervention or program.</td>
</tr>
<tr>
<td>Synthesis</td>
<td>The composition or combination of parts or elements so as to form a whole; the combining or often diverse conceptions into a coherent whole.</td>
</tr>
<tr>
<td>Transparency</td>
<td>“The process of collecting and reporting health care cost, performance, and quality data in a format that can be accessed by the public and is intended to improve the delivery of service and ultimately improve the health care system” (RWJF, 2011).</td>
</tr>
<tr>
<td></td>
<td>Ensuring openness in the delivery of services and practices with particular emphasis on valid, reliable, accessible, timely, and meaningful data that are readily available to stakeholders including the public.</td>
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well as differences with evaluation that include program evaluation, quality assurance, quality improvement, and outcomes research.

Program evaluation, as viewed from a public health lens, is defined as “an essential organizational practice in public health using a systematic approach to improve and account for public health actions” (CDC, 1999). Quality improvement is a process of assessment conducted about a patient’s care or an organizational or systems problem for the purpose of improving processes or outcomes. Quality assurance is defined as “all actions taken to establish, protect, promote, and improve the quality of health care” (Donabedian, 2003b,
Quality assurance is the older term and still used in the literature, although quality improvement is the term seen more frequently.

**A BRIEF HISTORY OF HEALTH CARE EVALUATION**

Individuals change history, and the modern history of health care evaluation was particularly influenced by three visionaries: Florence Nightingale, Ernest Codman, and Avedis Donabedian. Each brought to health care the idea that interventions should be more than worthy efforts and should produce real benefit to patients. It is said that Florence Nightingale not only took care of patients, she also counted them. Born in 1820, she was drawn to mathematics, nursing, and public health, none of which was considered a desirable career for a wealthy woman living in 19th century England (Spiegelhalter, 1999). As a professional nurse, she had the vision to integrate her keen observational skills with her knowledge of statistics and public health to improve patient care. Nightingale is a recognized pioneer in the evaluation of health care outcomes because she clearly understood the goal of care. She said, “In dwelling upon the vital importance of sound observation, it must never be lost sight of what observation is for. It is not for the sake of piling up miscellaneous information or curious facts, but for the sake of saving life and increasing health and comfort” (Nightingale, 1859, p. 70).

Ernest Codman was a man who lived before his time. He was born in 1869 and educated at Harvard Medical School. He accepted a position at Massachusetts General Hospital soon after graduation and seemed to be following the path of a successful physician of his day (Archives of the American College of Surgeons; Donabedian, 1989). But he began to wonder if medical interventions actually improved patient health and soon focused on the idea of measuring end results. He left Massachusetts General Hospital to found his own hospital in which he put his theories about evaluation into practice. In 1924, he described his concept of end result: “It is that every hospital should track each patient with the object of ascertaining whether the maximum benefit has been obtained and to find out if not, why not” (Codman, 2009, pp. 2766–2770).

Dr. Codman kept cards on each of his patients. On each card he would write how he had treated a patient and whether his treatment helped or hurt. He had patients with similar conditions placed on the same wards and suggested they should be under the care of a physician with specialized knowledge about the condition. He collected patient information during a hospital stay and analyzed it to determine the success or failure of medical care. He encouraged his colleagues to do as he did, but very few shared his enthusiasm or curiosity. The more he exhorted members of the medical community to examine the results of their interventions, the more they distanced themselves from him. The preoccupation with using patient outcomes to learn about improving care changed the course of his life and resulted in some success. He integrated his
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ideas into projects and published works, which received acclaim during his lifetime. But he was never able to convince his colleagues that evaluating medical care would lead to improved patient health (Donabedian, 1989).

Avedis Donabedian developed a model for health care evaluation that is still widely used today. Born in 1919, Dr. Donabedian spent a major portion of his professional career teaching and writing at the University of Michigan (Sunöl, 2000). He discerned that health care outcomes could not be measured in isolation (Mulley, 1989); rather, they must be viewed within the context of the quality of care (Donabedian, 1980). He understood that methodologies must differ based on the perspective of the evaluation. That is, the methods used to evaluate the quality of care to an individual patient are different than the methods used to evaluate system or population outcomes (Donabedian, 1980).

Donabedian (1980) defined quality as “a judgment concerning the process of care, based on the extent to which care contributes to valued outcomes” and outlined indicators of structure, process, and outcome as pathways to evaluating quality of care. He described structure as “the relatively stable characteristics of the providers of care, of the tools and resources they have at their disposal and of the physical and organizational settings in which they work” (Donabedian, 1980). He described process as “a set of activities that go on within and between practitioners and patients,” and outcomes as “a change in a patient’s current and future health status that can be attributed to antecedent health care” (Donabedian, 1980).

Each of these leaders had an unswerving dedication to improving patient health. They had the clarity of vision to see the link between practitioner-patient interactions and health status, and the perseverance to continue their work regardless of the obstacles. Their influence continues to impact health care evaluation and quality improvement science today.

WHY IS EVALUATION SOMETIMES NEGLECTED?

There are a number of reasons why so many resources are spent on developing new interventions and programs while comparatively little time is spent on evaluating them. First, the concept of evaluation itself is threatening. Most practitioners follow care protocols they believe will produce good outcomes if applied competently. Evaluating care can be seen as questioning the practitioners’ personal dedication, knowledge and skills. Second, the available evidence may be insufficient to determine if a treatment or program is really effective. Practitioners may follow protocols and still have poor outcomes because they are doing the wrong thing right. The standard of care is only as good as the evidence supporting it.

Third, evaluation is difficult and complex (Mulley, 1989). For example, in the intensive care unit, practitioners must adjust for patient demographic characteristics and prior health status before measuring patient outcomes.
Age, gender, socioeconomic status, and severity of illness all factor into developing a case mix. Feasibility must also be considered. Tracking of indicators of care over a long period of time may be essential to determine if a program benefits a population but this may be seen as too costly and impractical.

Fourth, technology keeps changing. Practitioners may find themselves in the middle of evaluating a program when new information or a new technique makes the program obsolete. Finally, innovation is exciting and often brings funding and acclaim to a system or institution. Evaluation can seem a necessary but tedious process that diverts resources and time away from patient care (Bloom, Fischer, & Orme, 1999).

The case of hormone replacement therapy (HRT) is a good example of the complexities inherent in evaluating interventions. Practitioners had long recognized that HRT provided relief to menopausal women from the effects of vasomotor symptoms such as hot flashes and night sweats. During the 1990s reviews of mainly observational studies indicated HRT had additional benefits including a decrease in both cardiovascular disease and hip fractures (Barrett-Connor, Grady, & Stefanick, 2005). HRT treatment for menopausal women became the standard of care and prescriptions soared, climbing to 91 million in 2001 (Hersch, Stefanick, & Stafford, 2004). Practitioners followed protocols and diligently recommended HRT to their patients because they thought it was the right thing to do. Patients learned about the importance of hormone therapy from newspaper articles, the Internet, and TV and were glad to take a pill that might prevent serious and debilitating disorders. A few practitioners may have observed adverse events among their patients, but probably not enough to be alarming. An individual practitioner lacked the sample size to detect a significant increase in morbidity or mortality.

Then findings from the Women’s Health Initiative Estrogen Plus Progestin Trial (WHI-EPT) and the Heart and Estrogen/Progestin Replacement Study (HERS) were released (Hulley et al., 1998; Rossouw et al., 2002). These studies were randomized controlled trials and involved thousands of women. Depending upon the kind of hormone medication prescribed, results indicated that women had an increased risk for certain cardiovascular diseases and cancers. The number of prescriptions plummeted as the standard of care changed and practitioners became more cautious in their treatment. This case illustrates that an individual practitioner frequently lacks the resources and expertise to evaluate a new and widely accepted intervention that becomes the standard of care. It is also an example of practitioners unwittingly doing the wrong thing right.

AN OVERVIEW OF HEALTH CARE EVALUATION

Health care evaluation may be described as a systematic and objective determination of the structure, process, and outcomes of care. The goal of evaluation is to provide the practitioner with the information needed to make decisions
about future actions. Evaluation is most often a collaborative process because the very nature of health care is collaborative. The APN works with other professional practitioners in providing patient care and, similarly, the APN usually collaborates with other health professionals to arrive at a judgment about the benefits, risks, and cost of care.

The APN is one member of a team comprising professionals who have the skill and knowledge to contribute their expertise to the endeavor. Depending upon the purpose, perspective, depth, and scope of the evaluation, team members may include stakeholders, economists, administrators, politicians, patients, and other health care professionals. The team leader should be selected based on unique expertise required for the specific project and team members should be assigned tasks based on their unique skills. During the planning phase of the study, the team leader should have frequent discussions with the administrator or sponsor requesting the evaluation. This is to ensure that the goal and purpose of the study are clearly understood, that methods are appropriate to the setting, and that adequate financial and structural support will be provided.

The first step in developing an evaluation plan is to discuss the purpose of the evaluation (Table 1.3). The purpose may be to examine only one approach (for example, the outcome of care) or to examine all three approaches to quality assurance (the structure, process, and outcome of care). An outcome evaluation may focus on the effectiveness of an intervention, program, or policy. Effectiveness refers to a change in health status resulting from an intervention provided under usual conditions. Effectiveness differs from efficacy, a term frequently used to describe a change in health status resulting from an intervention provided under controlled conditions (Brook & Lohr, 1985; Donabedian, 2003a).

The team may choose to conduct a formative evaluation or a summative evaluation. Formative evaluation refers to an appraisal occurring during the implementation of a program in which the results are used to revise and improve the rest of the program. Summative evaluation refers to an appraisal that occurs at the end of a program in which the results are used

### TABLE 1.3
Steps in the Evaluation Process

<table>
<thead>
<tr>
<th>Step</th>
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<tbody>
<tr>
<td>Decide on the purpose of the study.</td>
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<tr>
<td>Determine the perspective of the study.</td>
</tr>
<tr>
<td>Select a conceptual model.</td>
</tr>
<tr>
<td>Choose an appropriate and feasible study design. Determine methodology.</td>
</tr>
<tr>
<td>Conduct the study.</td>
</tr>
<tr>
<td>Submit results in a written report and/or oral presentation.</td>
</tr>
</tbody>
</table>
to determine the benefit and future use of the program. Formative is often used interchangeably with process evaluation, and summative evaluation is used interchangeably with outcome. They do not always mean the same thing (Fitzpatrick, Sanders, & Worthen, 2004).

For example, as part of a hospital program to prevent nosocomial infections, a practitioner conducts a process evaluation to determine if the correct protocol for hand washing is being used by the staff. The evaluation is formative if data about hand washing methods are collected during the course of the evaluation and used to make adjustments to the current hand washing protocol. The evaluation is summative if data about hand washing methods are collected at the end of the evaluation and used to modify future programs to prevent nosocomial infections. In each case the evaluation focused on a process of care (hand washing) but differed on how the results were used.

Second, the team determines the evaluation’s perspective. Will the evaluation be viewed from the perspective of an individual, an organization (such as a hospital or clinic facility), or society (such as a city, state, or country). Methods vary depending upon the perspective of the study. Third, the team selects a compatible conceptual model. The conceptual model provides the framework from which evaluation activities flow. Donabedian’s model has been briefly described, and will be further discussed in the next chapter along with other evaluation models. Fourth, the team chooses an appropriate evaluation design and methods. There are several alternatives from which to choose depending upon the type of evaluation and the resources available. One alternative is to identify criteria of interest, collect data, and compare the findings to a standard that may be internally developed or externally required by an accrediting body or government agency. A criterion refers to characteristics used to appraise the quality of care. A standard refers to a measurable reference point that is used for comparison. Generally, criteria are expressed in relation to standards (Donabedian, 2003a; Fitzpatrick et al., 2004). For example, if an evaluation is focused on diabetes mellitus management, an appropriate criterion could be the level of HgbA1c. The standard might be “95% of clinic patients will maintain a HgbA1c <7%.”

The team decides on the methods they will use to assess and analyze data collected. In this context, assessment is part of the methodology and refers to the collection of data. Monitoring refers to the periodically scheduled collection of data. Monitoring may be used to detect trends and to determine compliance with guidelines and protocols (Donabedian, 2003a; Fitzpatrick et al., 2004). The team selects the type of data to be collected, the most suitable sources of data, the instruments that will be used to collect data, the time period for data collection, and the personnel responsible for gathering the data. In the preceding example, evaluators could, over the course of a year, retrospectively monitor the medical records of a sample of patients with diabetes.

Analysis refers to the procedures and calculations used to describe or make inferences about the data collected. Depending upon the perspective
and scope of the appraisal, analysis may be as simple as comparing the results of the evaluation to a standard. For example, data obtained from a retrospective medical record review might be analyzed and the mean value for each patient calculated. The percent of patients who maintained a HgbA1c <7% would then be determined and the results compared to the standard of 95%. In contrast, analysis of complex designs may require application of sophisticated statistical techniques.

Fifth, the team conducts the evaluation. The number of personnel and resources needed to implement the study depends upon the complexity and scope of the evaluation. A plan that is clear and understood by everyone involved will greatly increase the chance of success. Sixth, the team submits a report that clearly describes the results, including strengths and weaknesses of the evaluation, conclusions, and implications. Team members review the findings and discuss their recommendations with the administrator or sponsor requesting the evaluation.

THE DIFFERENCES BETWEEN RESEARCH EVALUATION AND NON-RESEARCH EVALUATION

Evaluation activities that are categorized as research and activities categorized as non-research share similarities. All evaluations are systematic and objective; they flow from a conceptual framework, make comparisons, and draw conclusions. However, there are characteristics that are more likely to be associated with one or the other (Table 1.4). Quality improvement and program evaluation are generally assumed to fall into the category of non-research (CDC, 1999; Morris & Dracup, 2007; Newhouse, 2007). Outcomes research and health service research are generally assumed to fall into the category of research. It is important to understand the distinction between research and non-research evaluation to ensure that evaluation activities are conducted in an ethical and legal manner.

| TABLE 1.4 |
| A Comparison of Non-Research Evaluation and Research Evaluation |

<table>
<thead>
<tr>
<th>Component</th>
<th>Non-Research Evaluation</th>
<th>Research Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Improve current health care practice or health policy. Evaluates standard practice or clinical guidelines.</td>
<td>May or may not impact health care practice or health policy. Generates new knowledge including the effectiveness of new interventions.</td>
</tr>
</tbody>
</table>
TABLE 1.4
A Comparison of Non-Research Evaluation and Research Evaluation (continued)

<table>
<thead>
<tr>
<th>Component</th>
<th>Non-Research Evaluation</th>
<th>Research Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study design</td>
<td>Design is normally less rigorous than research. Structure-process-outcome criteria may</td>
<td>Often includes controls or randomization. Clinical trials and observational studies</td>
</tr>
<tr>
<td>and methods</td>
<td>be monitored over time. Frequently reviews medical records.</td>
<td>are more frequently used. Data are obtained from a wide variety of sources.</td>
</tr>
<tr>
<td></td>
<td>Often includes comparisons to an internal or external standard.</td>
<td>Describes findings in one group or compares groups.</td>
</tr>
<tr>
<td>Patient risk</td>
<td>Minimal or none.</td>
<td>Patient risk is usually increased.</td>
</tr>
<tr>
<td>Implementation</td>
<td>Leadership depends upon the purpose and the individual expertise of team members.</td>
<td>Principal investigator of the research team writes the grant proposal and organizes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the process.</td>
</tr>
<tr>
<td>Submit results</td>
<td>Results are not usually generalizable. Results are submitted to the individual or group</td>
<td>There is an expectation that results are generalizable. Process includes submitting</td>
</tr>
<tr>
<td></td>
<td>sponsoring the evaluation. Results may or may not be published. Findings are used</td>
<td>the results for publication. Findings become part of a growing body of science.</td>
</tr>
<tr>
<td></td>
<td>internally to improve a specific program or practice.</td>
<td></td>
</tr>
</tbody>
</table>

The purpose of research evaluation is to generate new knowledge that may or may not directly improve current health practice or patient health status (Bloom, Fischer, & Orme, 1999). Whether a non-research evaluation examines an intervention, a program, or a policy, the purpose is to directly improve current health practice and patient status. The evaluator is monitoring an accepted and standard practice. The purpose is not to generate new knowledge. Research as described in 45CFR 46.102(d) is “a systematic investigation, including research development, testing and evaluation designed to develop or contribute to generalizable knowledge” (CDC, 1999; U.S. Department of Health & Human Services [USDHHS], 2009).

Types of research designs and methods may overlap in evaluation but research evaluation is likely to apply more rigorous designs including controls and randomization (McNett & Lawry, 2009). Randomized controlled trials and observational designs are frequently used in research and data are
obtained from a wide variety of sources. Non-research evaluation is more likely than research to monitor structure-process-outcome criteria through medical record review. Findings are compared to an internal or external standard rather than to a similar group of patients.

A key difference between non-research and research evaluation involves patient risk (Reinhardt & Ray, 2003). Research places patients at greater risk than they would be under standard clinical protocols. The testing of a new intervention, a rigorous design, and the desire to generalize findings require the collection of data that are not needed for standard health practice (Casarett, Karlawish, & Sugarman, 2000). Prior to beginning a study that involves human subjects, researchers must submit a study proposal to the Institutional Review Board (IRB) of a hospital or agency. The Board may decide that the study is exempt from review or that a review is needed before approval can be given allowing investigators to proceed. Non-research evaluation is exempt from IRB review (USDHHS, 2009).

In research studies, the principal investigator selects an area of interest, writes a proposal for funding, and assumes leadership of the project (Fitzpatrick et al., 2004, p. 6). Non-research evaluations are frequently made at the request of administrators, policy makers, politicians, or stakeholders. The team member with the greatest expertise in the area assumes leadership. The APN may be a leader in an evaluation focused on nursing care and a team member in an evaluation focused on respiratory care.

There is an expectation in research that the findings are generalizable and that results will be published in order to expand scientific knowledge (CDC, 1999). Results from a non-research evaluation are not necessarily generalizable and are usually not published. Instead, a report is presented internally to the administrators who requested the study. Administrators then decide whether or not to use the recommendation to change health care practice, revise an existing program, or modify policy.

Distinguishing research evaluation from non-research evaluation can be difficult. Experts in the field continue to debate the attributes of each category (Miller & Emanuel, 2008). Saying that an evaluation is being done for the purpose of quality improvement or program evaluation does not eliminate the possibility that the study meets the definition of research and that the proposal must be submitted to an IRB. One way to address this concern is to appoint an administrator with experience in evaluation who reviews all evaluation studies before implementation and collaborates with IRB members to confirm that correct procedures are followed (McNett & Lawry, 2009).

THE RELATIONSHIP OF POLICY AND ADVANCED PRACTICE

A policy refers to a plan of action that incorporates goals and procedures (Guralnik, 1979; Merriam-Webster Dictionary). Health care policies may be organizational or societal. They evolve from scientific evidence, cultural
values, and political influence. The development of rules for patient visitation provides an example of the factors impacting policy decisions. Nightingale (1859), among others, discussed the benefits and harms of visitors to patient well-being. There has been a longstanding debate among health care professionals about who should be allowed to visit and the timing of visits in hospital units, particularly in specialty care units. Concerns included increased risk of infection, lack of time available to interact with families, and confidentiality issues (DeLeskey, 2009; Frazier, Frazier, & Warren, 2010; Kamerling, Lawler, Lynch, & Schwartz, 2008; Powazek, Goff, Schyving, & Paulson, 1978).

Changing cultural mores affected this debate as patients along with their families and friends became vocal about having input into the decision-making process. Policies changed as evidence indicated the benefit to patients when those close to them are allowed to visit (Walls, 2009). At the micro level, individual hospitals developed policies that encouraged family visits. Kamerling et al. (2008) described a quality improvement program designed to increase visitation through a multidisciplinary collaboration of family and health care professionals, through staff education, and through increased administrative support. Over a 3-year period, visitation increased from 44% to 90%. At the macro level, on April 15, 2010, President Barak Obama (2010) signed a memo directing the Secretary of Health and Human Services “to ensure that hospitals that participate in Medicare or Medicaid respect the rights of patients to designate visitors”.

Policy formulation and implementation are iterative processes. The APNs, along with other health care professionals, evaluated the impact of hospital visitation on patient outcomes. The results informed decision makers and were, in part, responsible for a change in local and national policy. In many of the nation’s hospitals, therefore, flexible visitation has become the standard of care, and, in many cases, nursing professionals are responsible for quality improvement projects that ensure the standards are implemented.

THE ROLE OF ETHICS IN EVALUATION

Having a solid ethical framework is basic to the APN’s role of evaluator. Ethical evaluators systematically and objectively analyze all of the information, both positive and negative. Threats to conducting an ethical evaluation may be explicit or implicit (Fitzpatrick et al., 2004). Some common threats are reviewed in this section.

First, an APN may be biased toward an intervention, program, or policy because an APN developed it. If the APN sets out to prove that the program works, there is little doubt that the APN will have a hard time being objective. It may be that the APN has put years of labor into implementing a program
and believes that it benefits patients. It may be that a great deal of effort has been put into developing these policies, and their implementation has brought professional success. It doesn’t matter. Human nature is such that it’s very difficult to be unbiased about one’s own accomplishments.

Second, an APN may find it hard to be objective because there is administrative support for the program the practitioner has been asked to evaluate. For example, suppose a supervisor has developed a lucrative follow-up program for elderly patients hospitalized with pneumonia. The goal of the program is to decrease future hospitalizations by providing periodic home care. After systematically and objectively examining the program the APN realizes that the frequency of hospitalizations among these patients has not decreased. In a survey, patients say they are generally satisfied receiving care at home, but find the visits to be inconveniently timed and disruptive to the family routine. Some patients report they even enjoy leaving the home on occasion and do not mind keeping clinic appointments. An evaluator might be concerned about reporting these negative results to the administrator.

A third threat relates to structural deficiencies. In the home care example, the practitioner realizes that while administration is touting the benefits of the program, the resources that the hospital provides are inadequate. In order to keep expenses down, the hospital has hired nurses who are not sufficiently qualified and has failed to provide adequate administrative support. Reporting these findings to administration will be a challenge.

There are approaches a practitioner can use when confronted with an explicit or implicit conflict of interest. The APN can discuss the goals and processes of evaluation with an administrator before beginning the study. While working with a team does not always lead to objectivity, a team that includes a member who does not report to the same hospital administrators may also increase the chances of conducting an objective evaluation (Fitzpatrick et al., 2004).

The American Evaluation Association (2004) developed five principles to facilitate ethical conduct for professionals involved in any type of evaluation regardless of the discipline. The first principle focuses on the importance of an objective and systematic examination. The second principle states that the evaluator must be competent. For example, an APN must possess not only advanced nursing skills, but also have the appropriate knowledge and skills needed to conduct an evaluation. Third, evaluators should be honest in planning, implementing, and reporting study results. Fourth, evaluators must respect all individuals and groups including those requesting the evaluation, team members, and patients. Fifth, evaluators must be aware that their responsibility extends to the general public. In conducting the evaluation and reporting the results, they should consider its impact on the cultural and political environment of society.
A MANDATE TO EVALUATE

The mandate to evaluate is integral to professional nursing practice. The focus of the evaluation and the expected competencies will vary based on the educational preparation of the professional nurse. The Essentials of Master’s Education in Nursing (2011) and The Essentials of Doctoral Education for Advanced Nursing Practice (2006), both published by the American Association of Colleges of Nursing (AACN, 2006), outline expectations for advanced nursing practice including evaluation and expected competencies. The documents are organized around specific areas of practice called “Essentials.” Each Essential includes a description of the area of practice and related expected competencies. The Master’s Essentials (Exhibit 1.1) and the DNP Essentials (Exhibit 1.2) serve as a blueprint for the education of APNs at their respective levels of advanced practice competencies. Not every Essential includes reference to evaluation; therefore, only those Essentials that address evaluation activities are included in the tables.

EXHIBIT 1.1
The Essentials of Master’s Education in Nursing

A number of The Essentials of Master’s Education in Nursing (2011), henceforth referred to as MSN Essentials, address evaluation. The following lists expectations to evaluate by master’s prepared nurses as addressed in the specific MSN Essentials.

Essential I: Background for Practice From Sciences and Humanities (AACN, 2011, p. 10)
- Apply ethical analysis and clinical reasoning to assess, intervene, and evaluate advanced nursing care delivery
- Use quality processes and improvement sciences to evaluate care and ensure patient safety for individuals and communities.

Essential II: Organizational and Systems Leadership (AACN, 2011, p. 12)
- Demonstrate the ability to use complexity science and systems theory in the design, delivery, and evaluation of health care.

- Evaluate outcome data, using current communications technologies, information systems, and statistical principles to develop strategies to reduce risks and improvement health outcomes.

Essential VII: Interprofessional Collaboration for Improving Patient and Population Health Outcomes (AACN, 2011, p. 23)
- Employ collaborative strategies in the design, coordination, and evaluation of patient-centered care.


(continued)
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EXHIBIT 1.1 (continued)

- Evaluate the effectiveness of clinical prevention interventions that affect individual and population-based health outcomes using health information technology and data sources.

Essential IX: Master’s-Level Nursing Practice (AACN, 2011, p. 28)
- Apply advanced knowledge of the effects of global environmental, individual, and population characteristics to the design, implementation, and evaluation of care.
- Apply knowledge and skills in economics, business principles, and systems in the design, delivery, and evaluation of care.
- Apply theory and evidence-based knowledge in leading, as appropriate, the interdisciplinary care team to design, coordinate, and evaluate the delivery of patient care.
- Apply learning and teaching principles to the design, implementation, and evaluation of health education programs for individuals or groups in a variety of settings.


EXHIBIT 1.2
Doctor of Nursing Practice (DNP) Essentials

A number of The Essentials of Doctoral Education for Advanced Nursing Practice (2006), henceforth referred to as DNP Essentials, also address evaluation. The following lists expectations to evaluate by DNP prepared nurses as addressed in the specific DNP Essential.

Essential I: Scientific Underpinnings for Practice
- Use science-based theories and concept to evaluate outcomes.
- Develop and evaluate new practice approaches based on nursing theories and theories from other disciplines.

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Evaluate the cost effectiveness of care and use principles of economics and finance to redesign effective and realistic care delivery strategies.
- Develop and evaluate care delivery approaches that meet current and future needs of patient populations based on scientific findings in nursing and other clinical sciences, as well as organizational, political, and economic sciences.
- Develop and/or evaluate effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization, and research.
- Design, direct, and evaluate quality improvement methodologies to promote safe, timely, effective, efficient, equitable, and patient-centered care.

(continued)
EXHIBIT 1.2
Doctor of Nursing Practice (DNP) Essentials (continued)

Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Design and implement processes to evaluate outcomes of practice, practice patterns, and systems of care within a practice setting, health care organization, or community against national benchmarks to determine variances in practice outcomes and population trends.
- Design, direct, and evaluate quality improvement methodologies to promote safe, timely, effective, efficient, equitable, and patient-centered care.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Design, select, and use information systems/technology to evaluate programs of care, outcomes of care, and care systems.
- Design, select, use, and evaluate programs that evaluate and monitor outcomes of care, care systems, and quality improvement including consumer use of health care information systems.
- Evaluate consumer health information sources for accuracy, timeliness, and appropriateness.

Essential V: Health Care Policy for Advocacy in Health Care
- Develop, evaluate, and provide leadership for health care policy that shapes health care financing, regulation, and delivery.

Essential VII: Clinical Prevention and Population Health for Improving the Nation’s Health
- Evaluate care delivery models and/or strategies using concepts related to community, environmental and occupational health, and cultural and socioeconomic dimensions of health.

Essential VIII: Advanced Nursing Practice
- Design, implement, and evaluate therapeutic interventions based on nursing science and other sciences.


QUALITY AND SAFETY EDUCATION FOR NURSES PROJECT

The overall goal of the Quality and Safety Education for Nurses (QSEN) project, funded by the Robert Wood Johnson Foundation (RWJF) is to meet the challenge of preparing future nurses with the knowledge, skills, and attitudes (KSAs) necessary to continuously improve the quality and safety of the health care systems in which they work. The project has examined nursing education from a contemporary quality and safety perspective and has published competencies for baccalaureate-prepared nurses and APNs without differentiating
the APN based on master’s or doctoral preparation (Cronenwett et al., 2009). A landmark report, *Health Professions Education: A Bridge to Quality* (Institute of Medicine [IOM], 2003), identified competencies that all health professional must have for practice in the 21st century. These five competencies address the basis for all health professionals to provide patient-centered care, work in interdisciplinary teams, employ evidence-based practice, utilize quality improvement methodologies, and integrate informatics in providing care. The QSEN project has built on these five competencies and has added safety as the sixth competency to their framework. Expected competencies related to evaluation are addressed in the QSEN framework and are listed in Exhibit 1.3.

It is clear from these important publications and others as well, that there is a clear mandate for evaluation by APNs regardless of the setting, population, or focus of service.

**SUMMARY**

This chapter acquainted the APN with the basic concepts and definitions related to evaluation, and highlighted the expectation to evaluate within the Essentials documents for master’s education and doctor of nursing practice education. The message is clear that APNs are responsible and accountable to conduction evaluations. The fundamental purpose of evaluation is to provide information for decision making. Within the backdrop of a developing body of knowledge about evaluation, the APN must understand what is possible methodologically and what outcomes one can expect.

There are many ways to conduct evaluations, and professional evaluators tend to agree that there is no “one best way” to do any evaluation. Instead, good evaluation requires carefully thinking through the questions that need to be answered, the type of program being evaluated, and the way

### EXHIBIT 1.3

Quality and Safety Education for Nurses (QSEN) Project

<table>
<thead>
<tr>
<th>Evidence-Based Practice:</th>
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<tbody>
<tr>
<td>Evaluate organization cultures and structures that promote evidence-based practice.</td>
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</table>

<table>
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<tr>
<th>Safety:</th>
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<tbody>
<tr>
<td>Evaluate effective strategies to reduce reliance on memory.</td>
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<table>
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<tr>
<th>Informatics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate the strengths and weaknesses of information systems used in patient care.</td>
</tr>
<tr>
<td>Evaluate benefits and limitations of different communication technologies and their impact on safety and quality.</td>
</tr>
</tbody>
</table>
in which the information generated will be used. “Good evaluation should provide useful information about program functioning that can contribute to program improvement” (Kellogg, 2004). For good program planning, monitoring, and evaluation, it is important to know not only what the program expects to achieve, but also how it achieves those outcomes. The evaluator must understand the principles on which a program is based (Weiss, 1998). Discussions about the whethers, hows, and whys of program success require credible evidence and attention to the paths by which outcomes and impacts are produced. Subsequent chapters will lead the APN down a path to increase understanding of evaluations in specific areas of interest in health care.

REFERENCES


Section I: Underpinnings of Evaluation


