A National Agenda for Credentialing Research in Nursing

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This report proposes a framework to organize the concepts and variables that inform credentialing research in nursing. This is an area of inquiry relevant to the health services research goal of identifying effective ways to organize and deliver high-quality care. This work was completed following an invitational summit convened by the American Nurses Credentialing Center (ANCC) to develop a national research agenda for credentialing in nursing. The report proposes a conceptual model and provides example research questions for investigating the impact of credentialing and credentialing variables on healthcare outcomes for nurses, patients, and organizations.

Background

Imperative for Assurances of Competency

Quality of health care gained national attention from the public, health professionals, and policymakers with the publication of *To Err is Human: Building a Safer Health System* (Institute of Medicine [IOM], 1999), in which it was reported that approximately 98,000 deaths occurred annually in the United States due to medical error. This publication was the first in a series of IOM publications examining the quality and safety of the healthcare system (IOM, 2001; 2003; 2004a; 2004b). A national imperative emerged to improve the quality and safety of an ailing healthcare system needing fundamental change. *Crossing the Quality Chasm: A New Health System for the 21st Century* (IOM, 2001) proposed six aims for improving health care that included safe, effective, patient-centered, timely, efficient, and equitable care. *Health Professions Education: A Bridge to Quality* (IOM, 2003) examined how health professionals are educated and recommended that all health professionals be prepared to deliver patient-centered care that is evidence-based and integrates informatics and quality improvement strategies within interdisciplinary models of care. This report was followed by *New Standard for Care* (IOM, 2004a) and *Keeping Patients Safe: Transforming the Work Environment of Nurses* (IOM, 2004b).

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These IOM reports examined the complexity of the healthcare system and recognized that health professionals need new competencies—achieved and maintained through primary education and lifelong continuing education—to ensure the quality and safety of the health care delivered.

With the heightened focus on the competency of health professionals, the issue of credentialing for health professionals as a means of protecting the public is undergoing critical analysis. Likewise, organizational credentialing has expanded over the past decade to reflect the importance of ensuring competency within a disease area (e.g., primary stroke center) or professional group.

The Work of ANCC and the ANCC Research Council

The more than three million professional nurses in the United States represent the largest workforce of any health professionals in the country. ANCC is the largest nursing credentialing organization in the world. ANCC offers four credentialing programs, one for individuals and three for organizations:

  For individuals
  - Board Certification (25 programs, including 12 in advanced practice)

  For organizations
  - Magnet Recognition Program®
  - Pathway to Excellence® recognition
  - Accreditation of continuing nursing education organizations, accreditation of courses to validate a nurse's skills or skill sets in the clinical setting (Nursing Skills Competency Program), and joint accreditation for continuing education providers with the Accreditation Council for Continuing Medical Education and Accreditation Council for Pharmacy Education

The ANCC Institute for Credentialing Research provides support for evidence-based practices for all of the credentialing programs offered by ANCC. The Research Council of the Institute for Credentialing Research is an advisory board composed of experienced researchers and experts in the credentialing of health professions. ANCC Research Council members examine and critically review the literature related to credentialing in order to assess the state of the science and gaps in the literature.

State of the Science of Credentialing Research

Individual credentialing—certification. Research on certification for healthcare professionals other than physicians is scant and mostly descriptive. Most studies are correlational and have included a small number of relevant variables from a wide and complex range of possibilities.[1] In nursing, several studies have been published on the nurse-reported value of certification, and some studies have related certification to knowledge or professional behavior differences; very few have attempted to link certification to patient outcomes (Drenkard, 2010b; Kendall-Gallagher, Aiken, Sloane, & Cimiotti, 2011; Krapohl, Manojlovich, Redman, & Zhang, 2010; Wade, 2009). While expert opinion articles address the importance of research on certification, most authors acknowledge the complexity of practice and care environments as limiting factors for investigating the relationship between certification and patient outcomes. Education, experience, the influence of other nurses in the work unit, and shared features of the practice environment are all confounding factors. Because the level of research

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[1]No examples were found for physical therapy or pharmacy other than surveys about the value of certification.
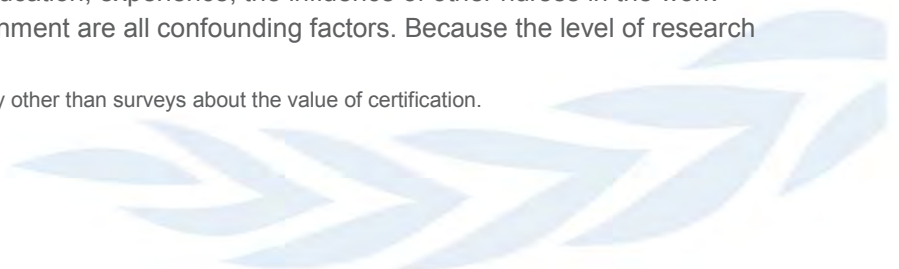
available is largely descriptive and correlational, little is known about how nurse certification links directly to patient outcomes in a causal relationship. Although intuitively it seems that better-educated and certified nurses will provide higher-quality care that leads to better patient outcomes, the current state of the science has not clearly delineated those relationships.

Unlike nursing, medical practice affords researchers greater opportunities to link particular physicians with particular patients, making it possible to examine direct relationships for specific procedures, such as surgical or other procedures. For example, a coronary artery bypass performed by a surgeon can be linked directly to increased perfusion of cardiac muscle as measured with a cardiac catheterization. Insertion of central lines by physicians can be linked to punctured lungs, a complication of central line insertion, as compared to insertions by other healthcare providers. Designing research studies to examine the influence of certification on outcomes is more straightforward when the connection from individual practitioners to patients or procedures can be clearly identified.

Yet medicine, too, has some of the same issues as nursing. For example, the complexity of practice and care, particularly with interprofessional collaborative practice models, makes it difficult to identify clear cause – effect relationships for any one provider. A literature review of physician board certification and clinical outcomes found that few of the 33 included studies used research methods appropriate for the research question (Sharp, Bashook, Lipsky, Horowitz, & Miller, 2002). When intervening variables that are part of the complexity of care are not represented in a study, the study is suspect of being too simplistic in trying to establish causality (Bennett, 2000). Although a number of studies have demonstrated a positive association, the body of evidence for the influence of physician certification on clinical outcomes shows mixed findings (Brennan, Horwitz, Duffy, Cassel, Goode, & Lipner, 2004).

Other problems with the current research on certification are that key terms, such as credentialing, may be defined in many different ways and that the conceptual framework and design of the studies are varied, thus making comparisons difficult. International contexts add further dimensions of confusion by introducing additional terminology and concepts that do not translate easily to the American vernacular. Despite the gaps in the literature, it seems likely that increased knowledge assessed through examination would lead to improved patient outcomes such as decreases in infection rates, patient falls, and mortality.

Organizational credentialing. In nursing, the best-known body of research about organizational credentialing is the research on Magnet® environments. This began in the early 1980s and was revived again following the establishment of the Magnet Recognition Program by the American Nurses Credentialing Center in 1994. Drenkard (2010a) outlined the return on investment opportunities from organizing a hospital's nursing services division by the framework of the Magnet model. A variety of research studies have found more positive outcomes in Magnet organizations compared to non-Magnet organizations:

- Lower RN turnover and lower total turnover (RN, licensed practical nurse, and unlicensed assistive personnel) in Magnet organizations (Staggs & Dunton, 2012)

- Higher nurse job satisfaction in Magnet organizations (Aiken, Havens, & Sloane, 2000; Brady-Schwartz, 2005; Friese, 2005; Kelly, McHugh, & Aiken, 2011; Lacey, Cox, Lorfing, Teasley, Carroll, & Sexton, 2007; Schmalenberg & Kramer, 2008; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2007; Ulrich, Woods, Hart, Lavandero, Leggett, & Taylor, 2007)

- Lower nurse burnout or emotional exhaustion in Magnet organizations (Aiken et al., 2000; Friese, 2005; Kelly et al., 2011)

- Higher likelihood among nurses in Magnet organizations to recommend nursing as a career (Hess, Desroches, Donelan, Norman, & Buerhaus, 2011; Ulrich, Buerhaus, et al., 2007), which is an indication of job fulfillment and satisfaction

- Higher likelihood among nurses in Magnet organizations to communicate about errors and participate in error-related problem solving (Hughes, Chang, & Mark, 2009), thereby contributing to improved patient safety

- Lower rates of negative occupational health incidents among nurses in Magnet organizations (Stone & Gershon, 2006), including musculoskeletal injuries, blood and body fluid exposure, and other injuries

- Higher nurse-perceived quality of care in Magnet organizations (Aiken et al., 2000; Djukic, Kovner, Brewer, Fatehi, & Cline, 2011; Friese, 2005; Havens, 2001; Schmalenberg & Kramer, 2008; Ulrich, Woods, et al., 2007)

- Higher adoption of National Quality Forum safe practices in Magnet organizations (Jayawardhana, Welton, & Lindrooth, 2011)

- Lower patient fall rates in Magnet organizations (Dunton, Gajewski, Klaus, & Pierson, 2007; Lake, Shang, Klaus, & Dunton, 2010)

- Lower risk-adjusted rates of seven-day mortality, nosocomial infections, and severe intraventricular hemorrhage for very low-birth-weight infants (Lake, Staiger, Horbar, Cheung, Kenny, Patrick, & Rogowski, 2012)

Moreover, several studies comparing Magnet and non-Magnet organizations have found that Magnet organizations exhibit higher rates of baccalaureate education among nurses (Aiken et al., 2000; Kelly et al., 2011) and higher nurse staffing levels (Aiken et al., 2000; Kelly et al., 2011; Lake et al., 2010). Both nurse staffing levels and baccalaureate education have been linked to lower patient mortality and failure to rescue (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011; Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Kendall-Gallagher et al., 2011; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Lang, Hodge, Olson, Romano, & Kravitz, 2004; Tourangeau et al., 2007).

Finally, several studies have shown that Magnet organizations, as compared to non-Magnet organizations, exhibit superior practice environments (Aiken et al., 2000; Bacon, Hughes, & Mark, 2009; Friese, 2005; Kelly et al., 2011; Lake, 2002; Lake & Friese, 2006; Schmalenberg & Kramer, 2008). The most frequently used measures of the practice environment derive from the Nursing Work Index (NWI), a set of nurse survey items designed to represent the characteristics of Magnet environments (Kramer & Hafner, 1989; Lundmark, 2008). The Practice Environment Scale of the Nursing Work Index (PES-NWI), a set of 31 items in five subscales (Lake, 2002) endorsed by the National Quality Forum (2004), is widely used in studies conducted in the United States. Both the PES-NWI and other variations of the NWI have become common survey tools in studies conducted in other countries.

Largely through the availability of the NWI and PES-NWI, the evidence linking Magnet environment characteristics to nurse, organizational, and patient outcomes has grown significantly in recent years. Superior nursing practice environments have been associated with:

- Higher nurse job satisfaction or enjoyment (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Aiken, Sermeus, Van den Heede, Sloane, Busse, McKee, et al., 2012; Aiken, Sloane, Clarke, Poghosyan, Cho, You, et al., 2011; Chen & Johantgen, 2010; Duffield, Roche, Blay, & Stasa, 2010; Friese 2005; Laschinger, 2008; Laschinger, Almost, & Tuer-Hodes, 2003; Laschinger, Shamian, & Thomson, 2001;

Manojlovich, 2005; Manojlovich & Laschinger, 2007; McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011; Patrician, Shang, & Lake, 2010; Tervo-Heikkinen, Partanen, Aalto, & Vehvilainen-Julkunen, 2008; Wade et al., 2008)

- Lower nurse burnout or emotional exhaustion (Aiken et al., 2008; Aiken et al., 2012; Aiken, Sloane, et al., 2011; Friese 2005; Laschinger et al., 2001; Patrician et al., 2010; Squires, Tourangeau, & Laschinger, 2010; Vahey, Aiken, Sloane, Clarke, & Vargas, 2004)

- Higher organizational commitment (McHugh et al., 2011)

- Lower intent to leave (Aiken et al., 2008; Aiken et al., 2012; Hinno, Partanen, & Vehvilainen-Julkunen, 2011; Lin, Chiang, & Chen, 2011; Stone, Larson, Mooney-Kane, Smolowitz, Lin, & Dick, 2006; Stone, Mooney-Kane, Larson, Pastor, Zwanziger, & Dick, 2007; Vahey et al., 2004)

- Higher perceived unit effectiveness (Siu, Laschinger, & Finegan, 2008)

- Higher nurse-perceived quality of care (Aiken et al., 2008; Aiken et al., 2012; Aiken, Sloane, et al., 2011; Friese, 2005; Hinno et al., 2011; Kim, Capezuti, Boltz, & Fairchild, 2009; Laschinger, 2008; Laschinger et al., 2001; Patrician et al., 2010; Van Bogaert, Clarke, Roelant, Meulemans, & Van de Heyning, 2010; Van Bogaert, Muelemans, Clarke, Vermeyen, & Van de Heyning, 2009)

- Higher nurse-ranked safety of care (Aiken et al., 2012)

- Lower nurse-reported adverse events (Laschinger & Leiter, 2006)

- Lower rate of sharps injuries (Clarke, 2007)

- Lower rate of nurse occupational injuries (Stone & Gershon, 2006)

- Stronger safety climate (Armstrong & Laschinger, 2006; Armstrong, Laschinger, & Wong, 2009; Squires et al., 2010)

- Stronger patient perceptions of better symptom management (Bacon et al., 2009)

- Higher patient satisfaction (Kutney-Lee et al., 2009; Seago, 2008; Tervo-Heikkinen et al., 2008; Vahey et al., 2004)

- Lower rate of catheter-associated urinary tract infections (Stone, Mooney-Kane, Larson, Horan et al., 2007)

- Lower patient mortality (Aiken et al., 2008; Cummings, Midodzi, Wong, & Estabrooks, 2010; Friese et al., 2008; Tourangeau et al., 2007)

- Lower failure to rescue (Aiken et al., 2008; Friese et al., 2008)

While this beginning body of research knowledge about organizational credentialing in nursing is impressive and growing, much remains to be studied and understood. The state of the science for this line of research has some of the same shortcomings (Lundmark & Hickey, 2011) as the research on certification in nursing or medicine. For example, virtually all the studies on Magnet and nursing practice environments to date have relied on cross-sectional surveys of nurses (Lundmark & Hickey, 2011), and the majority have included relatively few variables to represent the many potentially influential factors in the healthcare setting.

The fact that Magnet recognition is a voluntary credential also poses methodological challenges. Many excellent organizations with superior practice environments may not have chosen to seek Magnet recognition. If the non-Magnet group in a study includes organizations with similarly strong, Magnet-like practice environments, comparisons between the Magnet and non-Magnet organizations are unlikely to show significant differences.

Missing variables, weak measures, and a lack of controls for confounding factors can contribute to mixed and inconsistent findings (Hearld, Alexander, Fraser, & Jiang, 2008; Kazanjian, Green, Wong, & Reid, 2005; Unruh, 2008). Citing methodological and design problems that do not adequately reflect the complexity of health care, Mick and Mark (2005) emphasized the need for robust new methodologies to be developed before cause – effect relationships can ascertain what characteristics of the healthcare environments are directly related to patient outcomes.

Summit on Credentialing Research in Nursing

To address the need for more rigorous credentialing research, ANCC convened an invitational summit on credentialing research for nursing in December 2010. Participants represented a broad, cross-sectional range of expertise and disciplinary knowledge, including quantitative and qualitative methodologists, health services researchers, a chief nursing officer of a Magnet facility, academicians, practitioners, leaders in nurse credentialing organizations, and an international nurse representative. The summit was attended by 18 participants whose names are listed in Appendix A.

The main goal of the summit was to establish a national credentialing research agenda for nursing that would be disseminated to those interested in using or conducting credentialing research. Other purposes of the summit were to:

- Define key terms related to credentialing research in nursing

- Develop a national agenda for credentialing research in nursing

- Assume a leadership role as a convener for a broad-based dialogue about the national agenda for credentialing research in nursing

- Propose research priorities and long-term goals

- Develop a plan to bring diverse interests to the table around a common research agenda (including, for example, medicine, pharmacy, and allied health)

- Stimulate credentialing research

The group's work was directed at comprehensively exploring the issues related to credentialing research and building consensus around definitions, focus, and the need for credentialing research. Very early in the dialogue it became evident that there were no clear, universally accepted definitions of terms used to define credentialing, credentialing research, and other related terms. Defining terms clearly became a high priority as a first step. The second step was to propose a research agenda. The third step was to generate a set of example research questions. At subsequent meetings, ANCC's Research Council refined the definitions and questions and developed a graphic model for credentialing research.
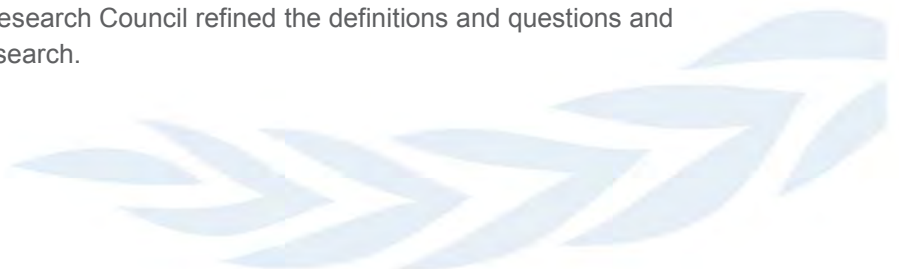
Definition of Key Terms

Credentials, standards, and criteria. A credential is a mark to the public that attests to the achievement of standards by individuals, groups, or organizations. The American Nurses Association (2010) defines standard as an authoritative statement defined and promoted by the profession by which the quality of practice, service, or education can be evaluated." Standards provide models for achievement with criteria serving as the dynamic aspect of standards (Singer, 1996):

> *Standards should express the expectations we have carefully and systematically formed for competence and achievement, and criteria should provide us with objective indicants of how well standards have been met. (Fincher, 1984: 501).*

Credentialing. The development of definitions for credentialing[2] in nursing began in the 1970s with the American Nurses Association's landmark study of credentialing (ANA, 1979). ANCC relies on the definition given in Table 1, which is currently posted by the International Council of Nurses, and offers credentialing programs in three of the seven forms listed: certification, accreditation, and recognition.

Table 1. Credentialing Definition and Forms

The International Council of Nurses (2009) describes credentialing as:

> *A term applied to processes used to designate that an individual, programme, institution, or product has met established standards set by an agent (governmental or nongovernmental) recognised as qualified to carry out this task. The standards may be minimal and mandatory or above the minimum and voluntary. Licensure, registration, accreditation, approval, certification, recognition, or endorsement may be used to describe different credentialing processes but this terminology is not applied consistently across different settings and countries. Credentials are marks or stamps" of quality and achievement communicating to employers, payers, and consumers what to expect from a credentialed" nurse, specialist, course or programme of study, institution of higher education, hospital or health service, or healthcare product, technology, or device. Credentials may be periodically renewed as a means of assuring continued quality and they may be withdrawn when standards of competence or behaviour are no longer met (Styles and Affara, 1997).*

Forms of credentialing identified in the American Nurses Association's 1979 study of credentialing included:

- Licensure
- Registration
- Certification
- Accreditation
- Charter
- Recognition
- Approval

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[2] This use of the term credentialing is different from the form of credentialing many healthcare facilities undertake to validate competencies and approve healthcare practitioners to provide selected services and procedures in the clinical arena (Health Resources and Services Administration, 2001).

Framework for Credentialing Research

For credentialing research, the ANCC Research Council developed the following definition:

> *Credentialing research in nursing is inquiry into the impact of credentialing and credentialing variables (standards and criteria) on healthcare performance and outcomes for nurses, patients, and organizations. Credentialing research provides evidence for credentialing standards and generates knowledge about the impact on the public and the profession from credentialing. Ultimately, the goal of credentialing research is to inform policy at all levels and to improve health care (American Nurses Credentialing Center, 2011).*

This definition offers four desirable features. It asserts that standards and criteria are important independent variables for credentialing research studies. It acknowledges that credentialing standards will evolve as the empirical evidence underpinning them evolves. It specifies the need to expand knowledge of the impact of credentialing on both the public and the profession. And finally, it links the policy implications of findings from credentialing research to the ultimate goal of improving health care.

Development of a Model[3] to Guide Credentialing Research

As the participants in the summit developed a common understanding of the definitions and the domain of credentialing research, the need for a model to guide the research became apparent. The first step taken by the ANCC Research Council subsequent to the summit was to clearly explicate the main concepts. A credential, as discussed above, was conceptualized as being at the individual or organizational level. Standards were considered to develop as an antecedent to the credential or, perhaps, concurrently. Outcomes were viewed broadly and could be conceptualized at multiple levels.

The more complicated concepts to explicate related to the multiple intervening and environmental variables that could influence outcomes either directly or indirectly. Initially, several domains of environmental influences were considered as potentially distinct concepts. For example, organizational attributes (e.g., size, affiliations) and policy, which has the potential to influence credentialing standards and outcomes, might each be isolated as separate environmental concepts. Similarly, the range of potential intervening variables that transmit or mediate the effects of standards and credentials on outcomes was seen to be quite large. Based on the sheer number of intervening and environmental concepts that could be envisioned, it was decided to develop the model with higher-level concepts.

Linking the concepts into a coherent relational model that could guide the development of credentialing research was the next step in the process. While not explicitly stated, the classic Donabedian (1966) structure–process–outcome framework for health quality provided the basis for this development. In Donabedian's model, structure is proposed to directly influence processes, and both structure and processes directly influence outcomes. Structure commonly refers to attributes of the settings in which care is provided such as resources, size, or governance. Process denotes what is actually done to the patient or the processes that support the care. Outcomes refer to changes in patients or populations that might be attributed to health care.

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[3] We use the term model interchangeably with framework or scheme to signify a less formal way than theories to organize concepts and relationships. A conceptual model reflects the assumptions and philosophic views of the model's designer" (Polit & Beck, 2012: 128).

Applying Donabedian's concepts to develop a model for credentialing research, standards and credentials might be conceptualized as structure. Intervening variables may represent processes of care. Outcomes may refer to outcomes for individuals, groups, or organizations.

Multiple iterations of the credentialing research model evolved, ranging from distinct models for individuals and organizations to parallel models that included both individuals and organizations and the potential interaction of the two. It was also recognized that many of the credentialing relationships are not simple or linear but complex. This resulted in the addition of nonrecursive relationships (i.e., bidirectional) and paths to represent direct and indirect relationships. While this process helped the group define many issues, successive model versions became increasingly complex. With the goal of presenting a parsimonious model that could be used to guide many different research efforts related to credentialing, a simplified model was developed.

Overview of the Model

Figure 1 illustrates the proposed model for credentialing research. *Standards* and *credentials* are on the left. *Standards* are distinct from *credentials* but may be related. Furthermore, either *standards* or *credentials* or both may be considered at the individual or organizational level.

Figure 1. Model for Credentialing Research
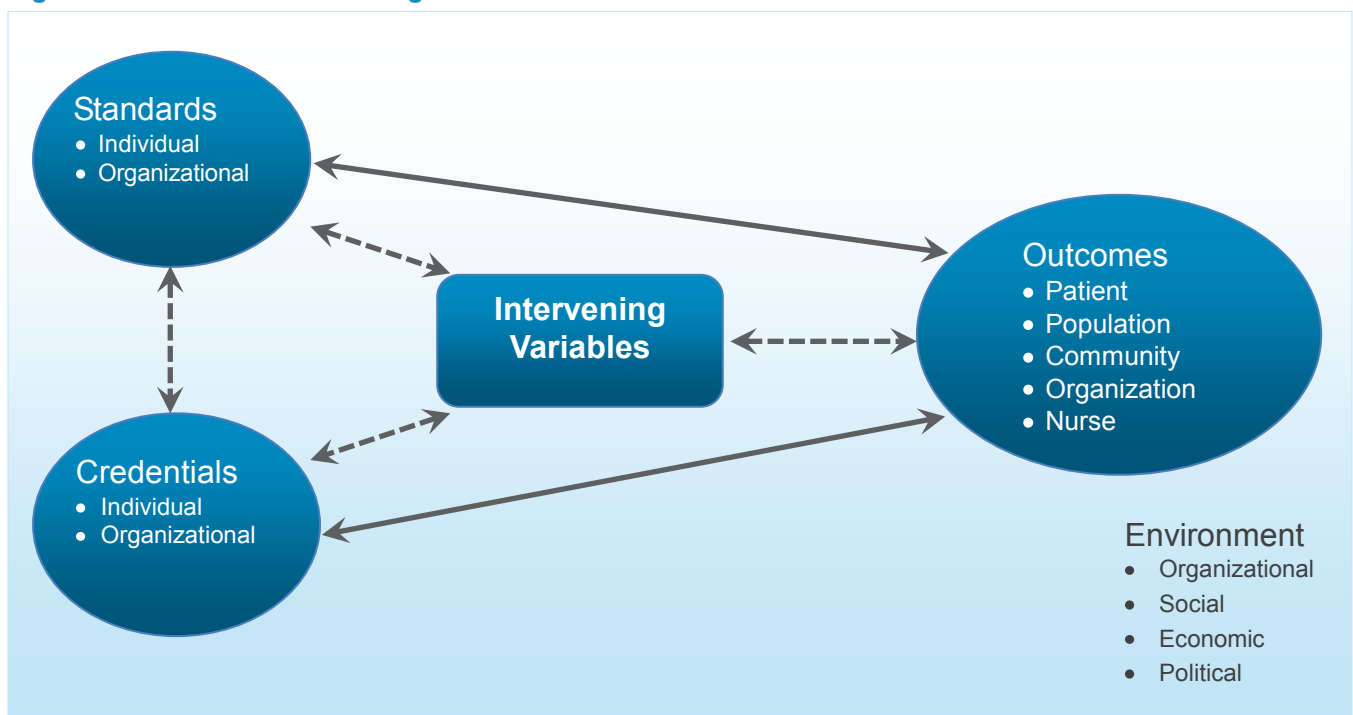
Dotted lines indicate indirect relationships
Double arrowheads indicate nonrecursive relationships

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Outcomes are on the far right and may refer to the patient, population, community, organization, or nurse. A box for *intervening variables* in the center acknowledges variables that might influence the relationships among

standards, *credentials,* and *outcomes*. The dotted arrows represent indirect relationships, and the solid arrows represent direct relationships. The box around the entire set of concepts is meant to illustrate the potential impact of *environment* on any of the components or relationships in the model. *Environment* is conceptualized to include organizational, social, economic, and political influences.

Using the Model to Address Research Questions

This model for credentialing research provides a guide for the identification and development of empirical questions. Examples of individual and organizational research questions are given in Tables 2 and 3. To further demonstrate how the model might be used to guide the development of research, a few illustrations are provided.

Table 2. Examples of Research Questions: Individual Credentialing

Environment

Linked to Credential

- What are the performance and behavioral predictors of nurses who become certified?
- What are the motivating factors for seeking certification? Do they change over time?
- What rewards or incentives do hospitals offer for seeking or holding certification?
- How is certification information presented in the undergraduate curriculum?
- Compared to the United States, are there different drivers for certification internationally?

Linked to Outcomes

- What is the effect of state variation in certification requirements on quality and outcomes?
- What is the effect on quality and outcomes of variation in the certification eligibility requirements among credentialing organizations?
- What effect do different recertification methods have on ensuring that behavioral and knowledge standards are maintained?

Standards

Linked to Credential and Outcomes

- Does holding a certification improve performance?
- Does holding a certification influence the performance of colleagues?
- Does the certification of a nurse improve patient outcomes within the organization?
- If certification examinations require a minimum of baccalaureate education, what is the effect of the baccalaureate degree at the unit, organizational, and system levels?
- How do years of experience interact with education and certification to affect healthcare quality and outcomes?
- What are the personal health and well-being of nurses with and without certification in terms of self-management and self-regulation?
- How do certification processes link to improved competency and lifelong learning?
- How do lifelong learning, certification, and professional education interact to affect healthcare quality and outcomes?

Credentialing research at the individual level. One question that arose during the summit was ―What factors influence a nurse to become certified?" This descriptive question might be addressed quantitatively using a survey that assesses personal, professional, and job-related motivators. If the certification were related to practice in an acute care setting, a hospital sample would be used. Survey items might reflect organizational structure, such as financial support for certification and professional practice and advancement characteristics, as well as personal and professional motivators. Alternatively, a qualitative approach might use interviews to explicate the meaning of certification to an acute care staff nurse. These two examples examine the *environment* and *credential* concepts within the model.

Questions about individual certification may also be posed at the organizational level. For example, a research study might examine the relationship between patient outcomes and the proportion of certified nurses in a unit (e.g., operating room) or in a healthcare organization. Other environmental and intervening variables would likely be necessary to address confounding factors.

A policy-oriented study on individual credentialing could examine how state advanced practice regulations influence certification standards and credentialing. Such a study might require a grounded theory approach and include the development of typologies of state regulations with linkages to the type and frequency of nurse certification in particular states.

Table 3. Examples of Research Questions: Organizational Credentialing

Environment

Linked to Credential

- What are the predictors of an organization becoming credentialed in nursing?
- What characteristics differentiate credentialed organizations?

Standards

Linked to Credential

- Which standards predict patient outcomes? Do standards in the Magnet model, for example, serve as an organizational framework for improving patient outcomes?
- Which standards have empirical evidence? Which standards need more evidence?
- How do clinicians perceive the experience of working in a credentialed organization? Do their perceptions differ from those working in non-credentialed organizations?

Linked to Outcomes

- Which variables (standards) influence which outcomes?
- What is the contribution of different components of the credentialing standards to financial, healthcare, and other outcomes?
- Is there an independent effect of credentialing on patient outcomes at the unit or organizational level?

Credentialing research at the organizational level. As previously discussed, many studies that compared Magnet to non-Magnet organizations have found better outcomes for nurses in the Magnet organizations on job satisfaction, burnout, and emotional exhaustion. Few studies have explicitly examined the influence of particular Magnet standards on outcomes. For example, both Dunton et al. (2007) and Lake et al. (2010) found lower patient fall rates in Magnet organizations. Which Magnet standards are most likely to account for these results? Similar studies focused on either the credential or the standards might be undertaken for Accreditation in continuing nursing education or the Pathway to Excellence recognition program. More research linking organizational credentialing standards to outcomes will improve understanding of the impact different credentialing variables have on outcomes and also provide evidence for revising the standards in the future.

In summary, the newly designed model for credentialing research is expected to provide a starting point for testing relationships. The model will be revised and improved as more research identifies significant variables.

Credentialing Research Issues

Methods and Measurements

Table 4 poses several methods and measurement issues that deserve attention in order to advance the research on credentialing. Expanding methodological approaches and the available measurement instruments for research purposes is a critical objective for health services research (Hearld, Alexander, Fraser, & Jang, 2008). For credentialing research, new measures are needed to reflect the concepts of credentialing standards that are logically related to outcomes of interest.

Moreover, because seeking a credential is a voluntary act—as it is for specialty practice nurses who seek certification and for organizations that apply for Magnet recognition, Pathway to Excellence recognition, or Accreditation of continuing nursing education—the lack of a credential cannot be assumed to indicate that an individual or organization does not meet the standards of a credentialing program. Non-credentialed organizations may be very similar to credentialed organizations on relevant dimensions (Kovner, Brewer, Green, & Fairchild, 2009). Directly measuring the degree to which characteristics exemplified by credentialing standards are present among all of the individual or organizational subjects in a research study will help clarify the relationships between particular standards and particular outcomes.

Table 4. Methods and Measurement Issues

- What validated research instruments are needed to measure the key dimensions of credentialing standards?
- What are the best outcome measures to assess the impact of credentialing standards for individuals?
- What are the best outcome measures to assess the impact of credentialing standards for organizations?
- Are the best credentialing-sensitive measures different for studying organizational, clinician, and patient outcomes?
- How can different methodologies be applied to the study of a credentialing topic to more fully understand it?
- Which methods are most effective for which topics?

Policy

Table 5 lists some credentialing research issues relevant to the policy arena. Health policy decision-makers use the findings from health services research on broad issues such as credentialing to elucidate population health issues related to disease prevention, health promotion, and healthcare delivery. Policymakers rely not only on a body of research to inform decisions but also on the ability to credibly interpret and apply the findings to the healthcare policy under consideration.

Table 5. Policy Issues

- What are the most critical questions facing nursing practice for which policymakers need research evidence to inform decision-making?
- How effectively is credentialing evidence translated to inform policy decision-making?
- How do consumers rely on credentials to inform their healthcare decisions?
- How do changing practice responsibilities for clinicians impact the need for enhanced or additional credentialing?
- What is the role of the federal government in advancing the impact of nurse credentialing on performance improvement and patient outcomes?

Credentialing Research Approaches

Researchers choose the design and methods for a study based on the study's purpose, aims, questions, and hypotheses. Credentialing research approaches and methods will vary, ranging from qualitative to quantitative and including mixed methods. For example, if the purpose of the research is to explore the motivations of individuals to attain a certification, a qualitative approach might be best. If researchers also want to relate the motivations of individuals in seeking certification to their work situation, a mixed-methods approach might be useful. For many studies, bringing in perspectives from other disciplines, such as sociology or economics, may enhance the conceptual model.

Thus far, credentialing research in nursing has relied overwhelmingly on cross-sectional survey studies, which are limited in that they are correlational and cannot test causal relationships. The research would benefit from applying a greater diversity of methods and measures. Robust methods such as hierarchical and longitudinal models should be considered to capture the complexity of healthcare work environments. Developing measures for relevant variables should also help determine what effect credentialing has on patient, population, community, organization, and nurse outcomes. As the dialogue grows about credentialing research, other factors that need to be considered will be added to the list of researchable questions.
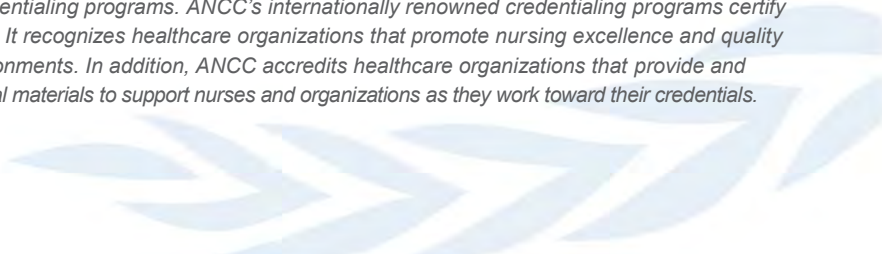
Summary

This report offers a national agenda for credentialing research in nursing. The agenda encompasses both individual and organizational credentialing and includes a model that recognizes structural variables, intervening process variables, outcomes, and environmental factors. It offers common definitions for key terms and allows research questions to be derived from the model.

ANCC has an active interest in stimulating credentialing research in nursing and intends to serve as a leader in defining the national agenda for such research. However, credentialing research should be led by independent researchers. Credentialing bodies have an inherent conflict of interest to conduct the research. ANCC will serve as a convener and a facilitator to promote research that tests the links between credentialing and excellence in nursing and health care.

ANCC's vision is that the future will have an increasingly large body of high-quality research that tests the links between credentialing and excellence in nursing and health care. The next steps are to invite discourse and stimulate thought while structuring and encouraging the field of credentialing research. To this end, ANCC invites comments in response to this report.

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Appendix A

Participants, December 2010 ANCC Credentialing Research Summit

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