Nursing and Health Sciences (2005), **7**, 221–225

Education Article

Educating nurses for the 21st century

Jean E. Bartels, PhD, RN, Chair/Professor, President
School of Nursing, Georgia Southern University, Georgia, USA

Abstract The current and projected demand for nurses and nursing services worldwide, coupled with dramatic changes in the delivery of health care, require nurses with more knowledge, more education, and more skills. Issues facing nursing require a reconceptualization of the approach and expectations for nursing practice and for the educational models and processes that lead to reformed nursing practice. New initiatives such as the Clinical Nurse Leader and the Doctor of Nursing Practice may lead the transformational process that is needed.

Key words advanced nursing practice, clinical nurse leader, doctor of nursing practice, nursing competencies, nursing education.

The current and projected international demand for nurses and nursing services is unprecedented. In the USA alone, the projected supply of nurses is anticipated to increase slowly through 2007, plateau, and then decline rapidly as more nurses begin to retire each year. However, the demand for nurses will accelerate through to 2020, creating an ever-larger gap between supply and demand: ≈ 150 000 too few in 2005; 275 000 in 2010; 507 000 in 2015; and 808 000 in 2020. Unfortunately, these current and projected shortages of nurses are creating political and economic forces insistently focused on the need for producing more nurses instead of on the need to prepare better-educated nurses. Perhaps at no time in nursing's history have the words of Isabel Maitland Steward, spoken more than 50 years ago, rang more true:

> It is evident that leadership in nursing . . . is of supreme importance at this time. Nursing has faced many critical situations in its long history, but probably none more critical than the situation it is now in which the possibilities, both of serious loss and of substantial advance, are greater. What the outcome will be depends in large measure on the kind of leadership the nursing profession can give in planning for the future and in solving stubborn and perplexing problems (Stewart, 1953; p. 326).

Correspondence address: Jean E. Bartels, School of Nursing, Georgia Southern University, Box 8158, GA 30460–8158, USA. Email: jbartels@georgiasouthern.edu
Received 21 June 2005; accepted 28 June 2005.

Dramatic changes in health care – an aging population, growing diversity, biomedical advances – all require nurses with more knowledge, more education, and more skills. Nursing today is rapidly moving into the path of a perfect storm, much like that experienced by the crew of the fishing vessel, the Andria Gail, who left Gloucester, Massachusetts, in 1991 for the North Atlantic Ocean. The Andria Gail had a hardworking crew trying to deliver a product to market. Nursing is a hardworking profession trying to deliver a service. The Andria Gail was at sea in an ill-equipped vessel that was aged and malfunctioning. Nursing works in an aged health-care delivery system functioning with a problematic infrastructure. The Andria Gail headed towards an unknown disaster of storm conditions that would challenge the crew's ability to sustain the elements and subsequently threatened their viability. By contrast, nursing is heading towards a known disaster – shortages, decreased reimbursement, increased demand, growing dissatisfaction on the part of patients and practitioners – all factors that threaten our ability to deliver safe, quality care (M. Wiggins, unpubl. data, 2004).

Today's nurses work in health-care organizations and environments that are 20-fold more complex that the typical general business or manufacturing organization. As an example, nurses practicing in an average hospital, working an 8 h shift, are faced with the most staccato-paced care delivery environment in our history. Shadowing the nurse for an 8 h period, researchers found that, on average, each nurse cared for six patients, completed 160 tasks, each taking ≈2.48 min. The nurse ex-

perienced an average of 4.7 interruptions and 6.5 significant problems/shift, spending only 35% of the nurse's time in providing direct care (A. Tucker, unpubl. data, 2001). The situational constraints of today's workplace act as obstacles to performance by preventing nurses from fully translating their abilities, knowledge, and motivation into performance. The costs of these constraints include excessive time spent on problems, delays to patient care, increased risk for patient safety, and interruptions and frustrations for nurses.

Today's health-care delivery systems desperately need to change if we are to reduce the system failures that are consuming precious time and resources. Today's nurses also need to change. We can no longer ask, "What can we do for you, the patient?" We cannot do it all in so short a time with so few resources. We need to ask, "What difference can we make? What can we do to maximize the greatest value, reduce the most risk, and ensure the best outcomes for each patient we care for?" We are rapidly leaving the Industrial Age and moving towards the Information Age. The age of doers is shifting to the age of thinkers. The question is this: Are we, as a profession, prepared for this new world?

The reality of our educational system for nurses is that, to this point, much of what nurses learn in their current educational programs requires patients to stay in their care long enough to get it. We are still teaching nurses to work in settings where they might not be working in the future, preparing them for work they soon might not be doing. Nurses can no longer identify themselves by the things or tasks they do. Nurses must make a difference, which they need to do in demonstrated outcomes, both for their patients and their profession.

The good news is that nursing has the answers to the predominant health-care dilemmas of today and the future. As researchers and clinicians, nurses understand and are well-prepared to address the problems associated with normal human development, particularly aging. Nurses understand and are well-prepared to manage chronic illness in all ages. They are advocates against health disparities associated with socioeconomic dislocations. They are well-versed in strategies for health promotion and disease prevention. It is clear, however, that professional nursing education and health-care practice must inevitably and powerfully change if we are to adequately prepare the next generation of nurses to participate as full partners in shaping an improved health-care delivery system. We desperately need quality nurses who are prepared for clinical leadership and are extremely skilled in outcomes-based practice. We need quality nurses who will remain in and contribute to the profession, practicing at their fullest scope of education and ability and, most importantly, we need quality nurses who will create and manage systems of care that will be responsive to the evolving health-care needs of society.

The profession of nursing is replete with exciting new opportunities for nurses to assume a pivotal role in improving the health status of the public and ensuring safe, effective, quality care. We have the potential, as well as the responsibility, to create the future for our patients, for our profession, and for the health of the public. However, as Albert Einstein once said, "The significant problems we have cannot be solved at the same level of thinking at which we created them" (Harris, 1995).

The issues that face the future of nursing education require a reconceptualization of the approach and expectations for nursing practice. How can we effectively and efficiently use nurses based on their level of knowledge, education, and skills? How do we configure our nursing workforce to meet ever more demanding patient-care outcomes? How do we enhance the knowledge base for nursing through our educational systems? The time seems right to consider new models for preparing professional nurses. However, reconceptualizing nursing education will bring significant demands for change on multiple fronts. Reconceptualized nursing education will create a need for new practice models, as well as a need for new education and practice partnerships. The possible result, however, holds promise that we can create a workforce that is able to address the complex health-care needs of society and serve as the surveillance system in health care.

The American Association of Colleges of Nursing (AACN) has renewed its commitment to the baccalaureate degree as the minimal preparation for practice and to the PhD (Doctor of Philosophy) in nursing as the terminal degree for nurse scholars and educators. At the same time, the AACN is championing new roles and educational opportunities that reconceptualize the nursing roles and competencies needed for high-quality patient care to meet the needs of society, now and in the future. One experiment involved the Master's degree-prepared Clinical Nurse Leader (CNL) (American Association of Colleges of Nursing, 2004a). At the time of this writing, almost 90 education–practice partnerships in 35 states in the USA and Puerto Rico are working together to develop Master's degree programs to prepare CNLs, to integrate this clinician into the health-care system, and to evaluate the outcomes of this educational role change for nurses.

In a reconceptualized role in a reformed practice environment, the CNL will champion innovation, improve patient outcomes, serve as a lateral integrator, and reduce health-care costs. Nurses in this new role

will be able to integrate emerging nursing science into practice and elevate the entirety of nursing practice. This nurse will be a recognized, credible leader in all practice settings, serving as an advocate for reform in the health-care delivery system while putting best practices into action.

The education of a CNL requires a curriculum focused on nursing leadership, clinical outcomes management (including illness/disease management, knowledge management, health promotion/risk reduction, evidence-based practice, outcome management), care environment management (including team coordination, health-care finance/economics, health-care technologies), health-care systems and organizations (including unit-level health-care delivery and microsystems care, complexity theory), health-care policy, quality and risk management, and informatics. Clinical Nurse Leaders will be educated with the end program competencies to become:

1. Client advocates who:
   - Effect change through advocacy for the profession, the interdisciplinary health-care team, and the client.
   - Communicate effectively to achieve quality client outcomes and lateral integration of care for a cohort of clients.
2. Members of a profession who:
   - Actively pursue new knowledge and skills as the CNL role, needs of clients, and the health-care system evolve.
3. Team managers who:
   - Properly delegate and utilize the nursing-team resources (human and fiscal), and serve as leaders and partners in the interdisciplinary health-care team.
   - Identify clinical and cost outcomes that improve safety, effectiveness, timeliness, efficiency, quality, and the degree to which they are client-centered.
4. Information managers who:
   - Use information systems and technology at the point of care to improve health-care outcomes.
5. Systems analysts/risk anticipators who:
   - Participate in systems review to critically evaluate and anticipate risks to client safety to improve the quality of client care delivery.
6. Clinicians who:
   - Assume accountability for health-care outcomes for a specific group of clients within a unit or setting, recognizing the influence of the mesosystems and macrosystems on the microsystem.
   - Assimilate and apply research-based information to design, implement, and evaluate client plans of care.

Educating a CNL will require greater attention to the context and development of leadership skills throughout the entire curriculum. The educational experiences of a CNL must include opportunities for the student to isolate and describe clinical populations and to learn how to compare outcomes with standards. Learners will need to develop skills in knowledge acquisition and its dissemination at the system level. They will be required to justify clinical actions based on evidence, challenge current policies and procedures in practice environments, and then incorporate evidence into practice and the education of others. They will need opportunities to diagnose, educate, treat, and evaluate the care of clients using technology, an enhanced experience with new sciences, health literacy education principles, and teaching/learning theory.

Clinical Nurse Leaders will need to be prepared in environments that role-model interdisciplinary communication and create opportunities for students to work with other professions and nursing staff. They will need well-honed skills in communication and interaction modalities, as well as an understanding of information systems and standardized languages. They will need to use these skills to create improvement in clinical practice and outcomes. Most importantly, they will need a functional, applied understanding of basic business skills and organizational theory that prepares them for the fiscal context in which they are practicing and enables them to identify the high cost/high volume activities associated with care delivery. Lastly, CNLs, as a prelude to their role in policy formation at the systems level, must have opportunities to work with clinical populations and whole communities that are suffering health disparities.

Clinical Nurse Leaders will make the transition into practice only after extended clinical experiences implementing the full CNL role and following a mentorship by an experienced CNL. Their educational experience will provide them with opportunities to practice in a wide variety of chosen health-care environments, equally engaged in changing and reconceptualizing practice models.

A second initiative to help shape the future of nursing education is the Doctor of Nursing Practice (DNP) (American Association of Colleges of Nursing, 2004b). The AACN has adopted a new position that recognizes the DNP degree as the highest level of preparation for clinical practice. Over past years, there has been an increased interest in developing a viable alternative to research-focused degrees for those individuals desiring a career in advanced nursing practice. Programs designed to offer practice-focused doctoral degrees have existed since 1979 in the USA. At the time of this

writing (and following the position taken by the AACN membership), almost 50 DNP programs already operate or are being developed.

According to an extensive review by an AACN task force on the clinical doctorate, existing programs at the PhD, Doctor of Nursing Science (DNS, DNSc, DSN), and clinical or practice doctorate levels demonstrated discernable differences between the practice-focused and research-focused programs (American Association of Colleges of Nursing, 2004b). Programs that are practice-focused included:

- Less emphasis on theory and meta-theory.
- Considerably less research methodology content, with the focus being on the evaluation and use of research rather than the conduct of research.
- Different dissertation requirements, ranging from no dissertation to theses or final projects that must be grounded in clinical practice and designed to solve practice problems or to inform practice directly.
- An emphasis on practice in any research requirement.
- Clinical practica or residency requirements.
- An emphasis on scholarly practice, practice improvement, innovation and testing of interventions and care-delivery models, evaluation of health-care outcomes, and expertise to inform health policy and leadership in establishing clinical excellence.

The core content in practice-focused doctoral programs were found to have common foci (American Association of Colleges of Nursing, 2004b):

- Advanced clinical practice, including both patient and practice management.
- Organizations, systems, and leadership skill development.
- Evidence-based research methods, including the accrual and use of evidence to improve practice.
- Basic scientific underpinnings for practice, including emerging areas of science, such as genetics and psychoneuroimmunology.
- Informatics, as well as the use of technology and information.

Additional findings from the AACN task force on the clinical doctorate identified that:

> The growing complexity of health care, burgeoning growth in scientific knowledge, and increasing sophistication of technology have necessitated master's degree programs that prepare Advanced Nurse Practitioners [i.e. Certified Nurse Midwife (CNM), Certified Registered Nurse Anesthetist (CRNA), Clinical Nurse Specialist (CNS), Nurse Practitioner (NP)] to expand the number of didactic and clinical clock hours far beyond the requirements of master's education in virtually any other field (American Association of Colleges of Nursing, 2004b; p. 7).

Faculty members, as well as Master's-prepared advanced practice nurses themselves, identified that additional knowledge is critically needed for practice at the highest level of advanced practice.

In October 2004, based on the findings of the task force, the membership of AACN voted to move the current level of preparation necessary for advanced nursing practice from the Master's degree to the doctorate level by the year 2015. The task force identified (American Association of Colleges of Nursing, 2004b), and the membership supported, the belief that the benefits of practice-focused doctoral programs would make a significant contribution to the development of the profession by:

- Developing needed advanced competencies for increasingly complex clinical, faculty, and leadership roles.
- Enhancing knowledge to improve nursing practice and patient outcomes.
- Enhancing leadership skills to strengthen practice and health care delivery.
- Better matching program requirements and credits, and time with the credential earned.
- Providing an advanced educational credential for those who require advanced knowledge but do not need or want a strong research focus.
- Creating parity with other health professions, most of which have a doctorate as the credential required for practice.
- Enhancing the ability to attract individuals to nursing from non-nursing backgrounds.
- Increasing the supply of faculty members for clinical instruction.
- Improving the image of nursing.

The recommendation accepted by the AACN membership identified the practice-focused doctoral program as a distinctive model of doctoral education (with one degree title: Doctor of Nursing Practice) that provides an additional option for attaining a terminal degree in nursing. Practice-focused doctoral programs will prepare graduates for the highest level of nursing practice beyond the initial preparation in the discipline.

Practice-focused doctoral nursing programs, as envisioned for the future, are to include seven essential areas of content (American Association of Colleges of Nursing, 2004b):

- Scientific underpinnings for practice.
- Advanced nursing practice (with the development of expertise in at least one area of specialized advanced nursing practice).

- Organization and system leadership/management, quality improvement and systems thinking.
- Analytic methodologies related to the evaluation of practice and the application of evidence for practice.
- Utilization of teaching and information for the improvement and transformation of health care.
- Health policy development, implementation, and evaluation.
- Interdisciplinary collaboration for improving patient and population health-care outcomes.

Individuals holding a DNP degree will possess advanced competencies for increasingly complex clinical, faculty, and leadership roles. The DNPs will use enhanced knowledge to improve nursing practice and patient-care outcomes and enhanced leadership skills to strengthen practice and health-care delivery. They will transform practice by serving as the natural allies of researchers for the full implementation of evidence-based practice.

In conclusion, it is clear that today's health-care systems desperately need quality nurses who are prepared for clinical leadership and who are extremely skilled in outcomes-based practice. We need quality nurses who will remain in and contribute to the profession, practicing at their fullest scope of education and ability. We need quality nurses who will create and manage systems of care that will be responsive to the health-care needs of society. Nurse leaders in education and practice alike must step forward to ensure that the health-care needs of worldwide citizens are met. Improving the quality and reconceptualizing the focus of nursing education in order to meet these demands, challenges and opportunities will require internal motivation, a collaborative culture, and the determination to use a continuous cycle of evaluation to improve our education and practice systems. Transforming health-care delivery in the 21st century will depend on the success of the nursing profession in designing educational models that create expanded nursing roles and reformed practice environments that provide the context in which nurses with expanded roles can work to their fullest potential to improve care delivery.

REFERENCES

American Association of Colleges of Nursing. *Working Paper on the Role of the Clinical Nurse Leader.* Washington DC: American Association of Colleges of Nursing, 2004a.

American Association of Colleges of Nursing. *AACN Position Statement on the Practice Doctorate in Nursing.* Washington DC: American Association of Colleges of Nursing, 2004b.

Harris K. 1995. Available from URL: http://rescomp.stanford.edu/~cheshire/EinsteinQuotes.html.

Stewart IM. *The Education of Nurses*. New York: Macmillan, 1953.