INTRODUCTION

After reading Dr. Bonchek’s editorial entitled And This, Too, Shall Change, which highlighted the revisions in the new Medical College Admissions Test (MCAT) that will become effective in 2015, we were fascinated by the concept of change and its inherent implications for both the medical and nursing professions. Like the challenge the Queen of Sheba presented to King Solomon’s court to produce a statement that could be uttered in all times and all places, the pre-Socratic Greek philosopher Heraclitus challenged his followers to contemplate these words: “Nothing is permanent but change.” As we reflect upon Dr. Bonchek’s comments, we note several parallels between the changes in education for the two professions of medicine and nursing education. And while some changes are immediate and readily apparent, others are slow to take place.

CHANGES IN NURSING EDUCATION

This article will highlight the changes and the educational challenges in nursing education in the 21st century, and—where relevant—will compare and contrast changes that have occurred or should occur in nursing education with those taking place in medical education. These include:

• criteria for acceptance into nursing school;
• critical analysis and reasoning skills;
• education level at entry into practice;
• curricular changes;
• teaching strategies;
• intellectually expanded diverse ways of knowing;
• holistic care;
• patient safety outcomes.

A. CRITERIA FOR ACCEPTANCE INTO NURSING SCHOOL

Profound changes in nursing practice call for equally profound changes in the way students are admitted into colleges of nursing. After noting Dr. Bonchek’s description of the forthcoming changes in what the Medical College Admission Test evaluates, we investigated the admission requirements for nursing education programs and found them to be quite inconsistent. Acceptance into an accredited baccalaureate nursing program usually requires a high school graduate to be in the top of his or her class, with some specified grade point average, and a specified score on either the SAT or ACT college entrance exams, but these vary. We also learned that letters of recommendation and writing samples are now optional in many institutions. We began to wonder if the current screening practices are the ideal method to obtain the best, and the best-suited candidates for the nursing profession, particularly in light of the fact that attrition during nursing school has reached as high as 50% both domestically and internationally.6,7 Additionally, attrition rates for newly hired graduate nurses have been reported to be as high as 61%, which is a problem that has a clearly adverse effect on the current shortage of nurses.6,7 We began to ponder the prospect of an admission test for nursing students—a test that would be the nursing equivalent of the MCAT and might be called the NCAT (Nursing College Admissions Test). Also, perhaps a tool could be developed that would predict the risk of attrition by determining if the student possessed the qualities necessary to become a nurse. These assessments could be applied to college students who have completed all the college courses that are required prerequisites for “acceptance” into the clinical nursing courses.

B. CRITICAL ANALYSIS AND REASONING SKILLS

The MCAT’s new focus on “Critical Analysis and Reasoning Skills” is not new to nursing as they are already the focus of nursing curricula. The significance of these skills in all specialty areas of nursing is continually highlighted throughout the curricula. It is disconcerting to learn that the writing component is being deleted from the MCAT exam, as this section could assess and validate the candidate’s abilities in critical analysis, empathy, and reasoning skills. In comparison, the National Council Licensing Examination for nurses (RN-NCLEX) is currently in the process of revising the examination format...
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<th>Foundation</th>
<th>Course Title</th>
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<tr>
<td>Foundations of Nursing Practice (3 credits)</td>
<td>Introduces the profession of nursing across the life span with emphasis on foundational nursing principles and skills. The nursing process is introduced as a method that uses critical thinking skills to assess, plan, and implement nursing interventions and evaluate outcomes. Concepts of nursing, legal, ethical, communication, health, assessment, nutrition, holism, community and teaching/learning are introduced. Principles of pharmacology and selected drug groups are presented as part of nursing responsibilities for the safe preparation and administration of medications.</td>
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<tr>
<td>Foundations of Nursing: Clinical Laboratory (2 credits)</td>
<td>Students experience the profession of nursing and health across the life span through clinical practice that incorporates theoretical content.</td>
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<td>Families Within the Community (7 credits)</td>
<td>Provides theoretical knowledge necessary to interact holistically with families in a variety of settings. Students examine concepts that promote health throughout the lifespan with a special focus on childbearing, childrearing, and family. Concepts of assessment, nutrition, pharmacology, growth and development, teaching/learning, community, and health are integrated into course content. Emphasis is on the development of skills in organization, critical thinking, problem solving, and clinical judgment.</td>
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<td>Care of Clients with Acute and Chronic Health Problems: Clinical Laboratory (4 credits)</td>
<td>Focuses on concepts and principles underlying nursing care for acute and chronic health problems across the life span in a variety of settings. Extends and refines knowledge from previous course work using a body systems approach including respiratory, skin, cardiovascular, musculoskeletal, endocrine, neurological, gastrointestinal, immunological, renal and reproductive systems. Concepts of assessment, pharmacology, nutrition, health, community, holism, and teaching/learning strategies are related to specific pathophysiological processes. Emphasis is on skills in organization, critical thinking, problem solving and clinical judgment.</td>
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<tr>
<td>Acute and Chronic Health Problems (7 credits)</td>
<td>Focuses on concepts and principles underlying nursing care for acute and chronic health problems across the life span. Clinical experience extends and refines the knowledge and skills acquired in previous courses. Concepts of assessment, pharmacology, nutrition, health, holism and teaching/learning strategies are integrated as they relate to clients experiencing pathophysiological processes. Emphasis is placed on developing skills in organization, critical thinking, problem solving and clinical judgment. Utilizing the nursing process, students will provide care to clients and families in a variety of healthcare settings.</td>
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<td>Crisis and Complex Health Problems (7 credits)</td>
<td>Expands upon and refines the medical surgical content to clients experiencing multidimensional health problems. Advanced concepts and principles are related to the care of clients across the life span experiencing emergency and acute healthcare issues. Principles of hemodynamics, mechanical ventilation, renal dialysis, blood transfusions and advanced monitoring technology are presented. In addition, students enhance previously learned communication skills while acquiring knowledge of the pathophysiology and nursing care of clients with mental health issues. Concepts of assessment, nursing process, critical thinking, clinical judgment, pharmacology, nutrition, health, holism, community and teaching/learning strategies are integrated as they relate to specific mental health and medical surgical pathophysiological processes.</td>
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<td>Crisis and Complex Health Problems: Clinical Laboratory (5 credits)</td>
<td>Provides students with planned clinical experiences to meet the physical and psychosocial needs of clients with multidimensional health problems. Students are challenged to use the nursing process, therapeutic communication, pharmacology, critical and creative thinking, while providing nursing care to complex clients in a variety of healthcare settings across the lifespan. Emphasis is placed on refining organizational and leadership skills, clinical judgment and group dynamics in the healthcare environment, on the professional socialization process, and on successful entry into the practice domain.</td>
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<td>Conceptual Foundations of Nursing Practice (3 credits)</td>
<td>Examines the historic events that impact the evolution of nursing practice. The concept of professionalism and the role of baccalaureate education in the development of a professional are discussed. Theories of nursing as they impact nursing practice are explored.</td>
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<td>Human Diversity and Healthcare (3 credits)</td>
<td>Offers a variety of anthropological theories and concepts which enhance understanding of various cultures and marginalized groups. Strategies for providing culturally competent nursing care to meet the healthcare needs of various groups are explored.</td>
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<td>Teaching and Learning for the Nursing Professional (3 credits)</td>
<td>Prepares the nurse to educate patients and peers. Students will examine characteristics of learners, adult learning principles, teaching methodologies, strategies for implementation, and evaluation methods. Barriers to learning including readiness to learn and literacy concerns will be discussed.</td>
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<td>Nursing Leadership and Management (3 credits)</td>
<td>This course focuses on leadership and management theory and provides practical applications that include management skills including problem solving, decision making, team building, communication, facilitating change, and conflict resolution. Concepts related to interdisciplinary collaboration and application of management strategies in diverse settings are addressed. Strategies for managing stresses within today’s healthcare environment as well as strategies for building a professional nursing career are incorporated.</td>
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<td>Nursing in a Global Society (3 credits)</td>
<td>Focuses on the role of research as it informs professional nursing practices. Provides the student an opportunity to analyze, critique, and interpret nursing research. Serves as a means to incorporate evidenced-based practice in the evaluation and modification of current clinical practice. Students will work in small groups to develop a research proposal based on a nursing problem within their area of interest.</td>
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<td>Introduction to Nursing Capstone (1 credit)</td>
<td>This one credit course prepares the student to explore the meaning, benefits and components of service learning. Students will explore potential ideas for development of a service-learning project which will be implemented prior to completion of the curriculum.</td>
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<td>Nursing Capstone (3 credits)</td>
<td>This culminating project is designed to allow students to creatively analyze, synthesize, and evaluate learning across the curriculum. Students were introduced to a service learning project in Introduction to Nursing Capstone. The current capstone project integrates that project with coursework, knowledge, skills and experiential learning across the program of study. Students will communicate learning from the experience via a written paper and oral presentation.</td>
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Changes in Nursing

to include various test question styles that include an essay. There are also thoughts of incorporating a practicum as a way of evaluating the graduate's critical analysis and reasoning skills.

C. Education Level at Entry into Practice

While the AAMC (Association of American Medical Colleges) is calling for a differently educated workforce by altering the preferred background for entry into medical school, the American Association of Nurse Executives and Nursing Chief Officers (AONE) is calling for a better-educated nursing workforce. This would mean that nurses will enter the profession from the baccalaureate level, and the curriculum would be reframed to lead to the degree of Bachelor of Science in Nursing (BSN). AONE’s 2006 Position Statement on Nursing Education (pg.3) recommends “the educational preparation of the nurse of the future should be at the baccalaureate level. This level of educational preparation will prepare the nurse of the future to function as an equal partner, collaborator, and manager in the complex patient care journey.” Although AONE presented this recommendation in 2006, and other groups had done so even before then, this change has been very slow to take place.

The Lancaster General College of Nursing & Health Sciences (LGCN & HS) has been ahead of the curve in being responsive to the ever changing needs of its students, and in supporting lifelong development of all healthcare professionals. This is evidenced by its initial transition from diploma to associate degree-granting status, and, since 2009, baccalaureate degree-granting status. More than 4,000 nurses have graduated from the diploma and associate degree programs at Lancaster General. After graduation many seek baccalaureate degrees in nursing for various reasons including personal and professional development, employer requirements, and the requirement that Magnet-designated hospitals have RNs with advanced education.

D. Curricular Changes

The Associate in Science in Nursing (ASN) degree provides the student with a foundational knowledge in the liberal arts and an initial exposure to a collegiate/practice environment which prepares the student for entry level practice in the nursing profession. In contrast, the RN-BSN curriculum provides an educational opportunity for nurses who already have an RN degree to integrate practice and scholarship, which results in an increased depth and breadth of knowledge that is applicable to practice. It is postulated that this broader base of knowledge will enhance the professional growth of registered nurses. The benefits will derive from a broader understanding of the characteristics of the nursing profession, which will come from increased depth and breadth of knowledge in the liberal arts; opportunities to solve problems and think critically; and a forum for the study of values and ethical principles as they relate to the physical world. The table on page xxx provides a comparison of course offerings for the traditional ASN degree and the program for transition from RN to BSN.

The table below highlights some of the core performance standards for the program.

Core Performance Standards

Healthcare is a practice discipline, requiring abilities and skills in critical thinking and communication, as well as tasks involving the psychomotor, affective, sensory and behavioral domains. The following Performance Standards identify essential eligibility requirements for participation in the LGCNHS programs. Candidates are expected to function in an independent manner; however, reasonable accommodations may be made for some disabilities. LGCNHS programs, on an individual basis, will determine reasonable accommodations for disabilities.

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<td>Critical Thinking</td>
<td>Critical thinking ability adequate for clinical decision making.</td>
<td>The ability to make appropriate clinical decisions by evaluating data, medication calculations, and nursing care plan.</td>
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<tr>
<td>Communications</td>
<td>Effectively interact with others via verbal and written form.</td>
<td>The ability to collect data, initiate health teaching, perceive nonverbal communications, documents and interpret actions and patient responses.</td>
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<td>Affective</td>
<td>Interpersonal abilities sufficient to interact with individuals from a variety of social, emotional, cultural and intellectual backgrounds.</td>
<td>The ability to establish therapeutic rapport with patients and colleagues.</td>
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<td>Behavioral</td>
<td>Compassion, integrity, interest and motivation, interpersonal skills, ability to function effectively in stressful situations.</td>
<td>The ability to display flexibility, adapt to rapidly changing environments, and interact appropriately with others.</td>
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nursing baccalaureate education should encompass a complex variety of skills and knowledge with emphasis on “patient safety, patient education, health promotion, rehabilitation, self-care, alternative methods of healing, and palliative care while maintaining the concern for acute and tertiary care.” Society expects and deserves no less! Like those who educate medical students, nursing educators have an obligation and responsibility to provide a curriculum that prepares students as professionals who uphold their responsibilities to the patient as noted by the core competencies established by many baccalaureate accrediting agencies. The table below identifies the nine essential competencies for baccalaureate education in preparing the graduate for the nursing profession.12

Just as the medical curriculum requires revision, so too does the baccalaureate nursing curriculum need to be re-worked due to the differences and gaps between education and practice. According to Benner et al,10 redesigning nursing education is an urgent societal agenda as “a major gap exists between today’s nursing practice and the education for that practice. Simply requiring more education will not be sufficient; the quality of nursing education must be uniformly higher.” The profound changes in science, technology, and the nature and setting of nursing practice have reshaped the educational curricula. Recent studies9 have found that, like graduates from medical colleges, graduates from nursing colleges are required to practice in fast, sophisticated technical environments and work in areas where there is a great diversity of patients to serve. Without the proper education, all of these changes make it challenging for healthcare providers to uphold and transmit their core professional values of keeping patients safe and free from suffering. College curricula have lagged behind in adapting these necessary changes, often citing the shortage of nurses and nursing faculty as the rationale for not changing.10 It is time for educators to acknowledge that all aspects of healthcare are evolving at warp speed; therefore, in order to meet the challenges of the 21st century, educational initiatives for healthcare professionals must change. These changes as noted by the National League for Nursing (NLN)9 needs to include a radical transformation in curricula, technology and how students are educated. The changes occurring in both professions will have profound implications with regard to the ways we teach our students.

E. TEACHING STRATEGIES

Several experts2,4,10,11 in the profession of nursing have recognized that the current way of teaching students is not effective with regard to nursing science, natural science, social sciences, technology, and humanities. Learning in the classroom tends to be passive and not active. Nursing education calls for “ongoing dialogue between information and practice, between the particular and the general, so that students build an evidence-base for care and learn to individualize the care for the particular patient.”10 What takes place in

The 2008 Essentials of Baccalaureate Education for Professional Nursing Practice12

| Essential I: Liberal Education for Baccalaureate Generalist Nursing Practice. A solid base in liberal education provides the cornerstone for the practice and education of nurses. |
| Essential II: Basic Organizational and Systems Leadership for Quality Care and Patient Safety. Knowledge and skills in leadership, quality improvement, and patient safety are necessary to provide high quality health care. |
| Essential III: Scholarship for Evidence Based Practice. Professional nursing practice is grounded in the translation of current evidence into one’s practice. |
| Essential IV: Information Management and Application of Patient Care Technology. Knowledge and skills in information management and patient care technology are critical in the delivery of quality patient care. |
| Essential V: Health Care Policy, Finance, and Regulatory Environments. Healthcare policies, including financial and regulatory, directly and indirectly influence the nature and functioning of the healthcare system and thereby are important considerations in professional nursing practice. |
| Essential VI: Interprofessional Communication and Collaboration for Improving Patient Health Outcomes. Communication and collaboration among healthcare professionals are critical to delivering high quality and safe patient care. |
| Essential VII: Clinical Prevention and Population Health. Health promotion and disease prevention at the individual and population level are necessary to improve population health and are important components of baccalaureate generalist nursing practice. |
| Essential VIII: Professionalism and Professional Values. Professionalism and the inherent values of altruism, autonomy, human dignity, integrity, and social justice are fundamental to the discipline of nursing. |
| Essential IX: Baccalaureate Generalist Nursing Practice. The baccalaureate graduate nurse is prepared to practice with patients, including individuals, families, groups, communities, and populations across the lifespan and across the continuum of healthcare environments. The baccalaureate graduate understands and respects the variations of care, the increased complexity, and the increased use of healthcare resources inherent in caring for diverse patients. |
the classroom does not complement nor enhance what is seen in practice; the end result is a conflict in professional values. Educators must step out from behind their outlines and PowerPoint screens and engage students actively in real-life like learning situations utilizing simulated learning. Only then will students learn how to be problem solvers and critical thinkers by being exposed to innovative and creative teaching strategies. They will then have the tools to be successful in their chosen profession.

F. INTELLECTUALLY EXPANDED DIVERSE WAYS OF KNOWING

Dr. Bonchek’s editorial noted that “being a good doctor is about more than scientific knowledge, it also requires an understanding of people.” Both medical and nursing professions acknowledge that devotion to a broad and “intellectually expansive” competency-based liberal arts education is necessary to fully understand a patient’s behavior and how it dramatically affects their health. It is recognized that there is a need for greater emphasis on the quality of the nursing science, natural and social sciences, and the humanities currently offered. Nursing and medical curricula must shift to include a balance of scientific information as well as social and behavioral sciences. Historically, both medicine and nursing have predominantly exalted scientific knowledge, even while philosophers such as Plato, Aristotle, Descartes, and Kant (to name but a few) have emphasized the value of other significant forms of knowledge. As far back as 1978, Carper in nursing posited that there are four fundamental patterns of knowing in nursing:

- Empirical, the science of nursing;
- Esthetic, the art of nursing;
- Personal, the interconnected behavior of knowing with others;
- Ethical, the moral compass of nursing.

Additionally, nursing experts have recognized intuitive knowing to be a valid form of knowledge that complements and works alongside scientific knowledge, and they have assessed this premise in research protocols. So it is timely for both professions to embrace alternative ways of knowing as acceptable and useful alongside scientific, rational ways of knowing.

G. HOLISTIC CARE

The American Nurses Association included holism as an integral component of nursing for many years. Medical practice is now also employing the significant impact of holistic care on the well-being of the patient. The American Holistic Nurses Association (AHNA) contends that holistic nursing takes a biopsychosocial (body-mind-spirit) approach to the practice of traditional nursing and is based on a body of knowledge, evidence-based research, sophisticated skill sets, defined standards of practice, and a philosophy of living and being that is grounded in caring, relationships, and interconnectedness.

H. PATIENT SAFETY OUTCOMES

Nurses and physicians must continue to find ways to symbiotically focus on interdisciplinary, collaborative efforts, and care for patients together to enhance quality patient outcomes. One intervention that has been found to improve patient satisfaction as well as positively impact patient safety outcomes is purposeful, proactive physician–nurse rounding.

CONCLUSIONS

Both medical and nursing professions need to strategize about what is currently possible while continuously changing and evolving. We need to entertain the notion that the chaotic and uncertain worlds of today and tomorrow present tremendous opportunities for educators to influence the future of both professions. It is change that will keep our professions moving forward, and staying proactive rather than reactive. Professional healthcare educators must strive for excellence and not accept the status quo. Educators must be challenged to put into action Heraclitus’ beliefs and embrace change, rather than attempting to obliterate it.

REFERENCES

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