

THE FUTURE of NURSING: *Leading Change, Advancing Health*

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TRANSFORMING PRELICENSURE NURSING EDUCATION:

Preparing the New Nurse to Meet Emerging Health Care Needs

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THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING joins a chorus of calls for transformation of prelicensure nursing education (Benner, Sutphen, Leonard, & Day, 2009). Citing the shift of significant responsibility to nurses for managing complex medical regimens, as well as the increasing complexity of community-based practices, Benner and colleagues concluded that nurses entering the field are not equipped with the essential knowledge and skills for today's practice nor prepared to continue learning for tomorrow's nursing (p. 31). They found: a) weak curricula in natural sciences, technology, social sciences, and humanities, and in developing cultural competency; b) weak classroom instruction and limited integration between classroom and clinical experiences; c) limited strategies in helping students develop habits of inquiry, raising clinical questions, seeking evidence for practices; d) faculty and student perception that students are ill prepared for their first job and dissatisfaction with the teaching preparation of current nursing faculty; and e) multiple pathways to eligibility for the licen-

sure examination, with tremendous variability in prerequisites, curricular requirements, and the quality of offerings.

The Carnegie study is one of many citing the inadequate preparation of nurses for today's practice in complex, acute care environments (Berkow, Virkstis, & Conway, 2008; Burritt & Steckel, 2009; Joint Commission on Accreditation of Healthcare Organizations [JCAHO], 2002; National Council of State Boards of Nursing [NCSBN], 2001). There is a growing body of evidence that confirms registered nurses are indeed essential to patient safety (Agency for Health Care Research and Quality, 2007) and experts warn of further compromise in patient safety and care quality as experienced nurses retire in droves and the ratio of new graduates-to-experienced nurses increases (Orsolini-Hain & Malone, 2007). While 84 to 88 percent of new graduates are employed in hospital-based practice for their first position (Kovner et al., 2007; NCSBN, 2006), increasing numbers of nurses have migrated to nonacute care settings. Currently only 60 percent of all nurses practice in hospitals while over 40 percent of nurses practice in nonacute care settings, such as ambulatory clinics, nursing homes, schools, and public health (Health Resources and Services Administration [HRSA], 2004). As care continues to shift from hospitals to community-based settings, as the population ages and care management in the community becomes more complex, and as new health care needs emerge, a new kind of nurse will be needed. Educational programs

must be redesigned to better prepare this nurse.

In addition to these quality issues, educational capacity issues must also be addressed. The projected shortage of nurses is well documented (Buerhaus, Auerbach & Staiger, 2009), and academic institutions have done a remarkable job of increasing enrollments (American Association of Colleges of Nursing [AACN], 2009; National League for Nursing [NLN], 2009a), but without further action, the supply of new nurses will fall well short of the demand as a result of serious limitations in educational capacity. In the 2006-2007 year, over 40 percent of qualified applicants for prelicensure programs did not gain admission (NLN, 2008), and in 2008-2009, approximately 40,000 qualified applicants were turned away from nursing programs (Kovner & Djukic, 2009). Principal causes for limitations in educational capacity were shortage of qualified faculty; insufficient number, quality, and type of sites for clinical education; and budgetary constraints (AACN, 2009, 2010; NLN, 2006, 2009a, 2009b).

In this paper, I offer three recommendations related to transformation of prelicensure education that address the quality and capacity issues and provide for the possibility of leveraging existing resources in order to make critical changes. I use models currently being tested in Oregon, the Oregon Consortium for Nursing Education (Gubrud-Howe et al., 2003; Tanner, Gubrud-Howe, & Shores, 2008), as well as in Hawaii and regions of California as exemplars of some of these recommendations.

Recommendation 1. Create new nursing education systems that use existing resources in community colleges and universities and that provide for common prerequisites, a competency-based nursing curriculum, and shared instructional resources.

RATIONALE Entry into practice at the bachelor's level, as recommended in the Carnegie report, has been on the profession's agenda since 1965. Few would argue against the notion that more education is better, and there is growing evidence that the level of education is strongly correlated with patient outcomes (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Torangeau et al., 2007). Yet, community colleges are a vital resource to meet educational capacity requirements. The roughly 1,000 community college nursing programs (NLN, 2009a) provide access to education in rural and underserved communities, educating approximately 60 percent of all new graduates each year (HRSA, 2004). The nearly 700 baccalaureate programs prepare approximately 31 percent of new graduates each year (AACN, 2010; HRSA). There are nearly 600 baccalaureate completion programs, many of which boast articulation agreements that smooth the transition from associate degree to the bachelor's, yet only 20.6 percent of associate degree graduates continue for the bachelor's degree (HRSA). The net effect of a disproportionately small pool of bachelor's degree graduates is simply fewer nurses who are eligible and likely to continue for the advanced education necessary to become faculty (Aiken, Cheung, & Olds, 2009).

One approach to capitalizing on community college nursing program resources to increase the number of baccalaureate graduates is to allow community colleges to offer the bachelor's degree. Sixteen states have changed regulations to allow community colleges to offer baccalaureate degrees, and several have launched bachelor's in nursing programs (Community College Baccalaureate Association, 2008).

The current patchwork of educational programs is inefficient. Community college "two-year programs" typically take three or more years to complete. Prerequisites vary widely across programs; students who may meet the

course requirements for admission to one school's program do not meet those of another school. Nursing curricula, while containing similar content and meeting similar accreditation standards, are also quite variable in terms of sequence and credit hour allocation; program faculty vary in number from as few as four or five faculty in smaller programs to well over 50; each invest considerable time and resources in developing and maintaining their own program's curriculum and instructional resources. The variation in curricula creates additional challenges in clinical education: staff nurses who frequently provide supervision for students from multiple programs, at varying levels, and differing instructional goals, may end up very unclear about what students might be safely expected to do (MacIntyre, Murray, Teel, & Karshmer, 2009).

EXEMPLAR One model for addressing these inefficiencies and for improving access to baccalaureate education is a partnership between community college and university programs. The Oregon Consortium for Nursing Education (OCNE) was designed to increase capacity for baccalaureate education by making best use of scarce faculty, classrooms, and clinical education resources (Gubrud-Howe et al., 2003; Tanner et al., 2008). Eight community colleges and the five campuses of the public university school of nursing developed and implemented a shared, competency-based curriculum that culminates in a bachelor's degree. What sets this model apart from traditional articulation agreements is that the curriculum is standard across all partner campuses: nursing faculty from full partner schools developed and approved a common curriculum plan (including competencies, benchmarks, course titles, descriptions, credit hour allocation, and outcomes) as well as academic standards for student admission and progression. The potential for increasing faculty capacity and productivity is beginning to be realized, as faculty from one campus can fill in and teach a course on another campus, and as instructional materials (such as examinations, case studies, scenarios for simulations) are developed and made accessible to all faculty through a web-based, searchable database linked to the curriculum.

OCNE admitted its first class of students in fall 2006 and is engaged in a Robert Wood Johnson Foundation (RWJF)-funded evaluation study of outcomes, including student perfor-

mance measures and degree completion. Early results are encouraging; roughly 40 percent of graduates from community college partner schools have enrolled in the courses required for baccalaureate completion (Tanner et al., 2008). Needs for program improvements are being identified, including improved advisement and services for students transitioning from community college to the university, development and implementation of statewide, inter-professional educational experiences, and provision for ongoing faculty development. Similar statewide or regional university-college partnerships are being planned in at least five other states, with the Hawaii statewide consortium positioned to implement in fall 2010.

Recommendation 2. Convene one or more expert panels to develop a model prelicensure curriculum that a) can be used as a framework by faculty in community college-university partnerships for development of their local curriculum; b) is based on emerging health care needs and widely accepted nursing competencies as interpreted for new care delivery models; and c) incorporates best practices in teaching and learning.

RATIONALE Demands for a new kind of nurse have been abundant for the last two decades, fueled, in part, by vast changes in the nursing practice environment, including a tremendous increase in the complexity and acuity of patient care in the hospital setting, decreased lengths of stay and the shift of care and recovery to the home and community, explosion of new technologies, exponential growth of information and knowledge, clear identification of the "quality chasm" (Institute of Medicine [IOM], 2001) and recognition of the significance of nursing in patient safety (IOM, 2003). New competencies have been promulgated to address the quality chasm and patient safety goals (Cronenwett et al., 2007; IOM, 2003), geriatric care (AACN, 1998), clinical prevention and population-based care (Allan, Stanley, Crabtree, Werner, & Swenson, 2005), among many other areas, and incorporated into requirements for accreditation (Commission on Collegiate Nursing Education, 2009; National League for Nursing Accrediting Commission, 2008).

Demographic changes alone demand a different focus in prelicensure programs. The number

of older adults in the United States will almost double between 2005 and 2030, presenting multiple challenges for the health care system (He, Sengupta, Velkoff, & DeBarros, 2005). The majority of older adults suffer from at least one chronic health condition. The fastest growing segment of the population is the “over 85” age group, and it is estimated that a minimum of 50 percent of this group will require help with activities of daily living (He et al.; IOM, 2008). Direct care workers are the primary providers of paid hands-on care to older adults, and together with families, provide the majority of care for adults in community-based care settings. Registered nurses in community-based settings have responsibility for guiding, teaching, and/or supervising these caregivers, yet have little training or experience in how to work effectively with them.

While the amount of geriatric/gerontologic content and experiences in prelicensure programs has increased in the last decade, it is still uneven, and effective teaching is hampered by lack of faculty expertise. (Berman et al., 2005; Gilje, Lacey, & Moore, 2007; Ironside, Tagliareni, McLaughlin, King, & Mengel, 2010). Most curricula are organized around traditional nursing specialties (e.g., maternal-child, pediatrics, medical-surgical, or some slight variation in name such as adult health), and clinical experiences are largely centered in acute care settings (McNelis & Ironside, 2009). Clinical education focused on geriatrics occurs principally in nursing homes (with some noteworthy exceptions) and often in the first year of the nursing program, when students may fail to appreciate the complexities of providing care to older adults (Ironside et al.). Although interprofessional geriatrics education has been promoted and geriatrics competencies are similar across disciplines (Mezey, Mitty, Burger, & McCallion, 2008), most health profession education continues to occur in silos (Barnsteiner, Disch, Hall, Mayer, & Moore, 2007).

Curricular changes over the last decade have tended to be additive, rather than transformative, that is, adding content or circumscribed courses as new competencies appear in the literature (Ironside, 2004; NLN, 2003). The majority of nurse educators first learned to be nurses in content-laden, highly structured curricula, and few have received advanced formal preparation in curriculum development, instructional design, or performance assessment. Faculty, tending to

teach as they were taught, focus on covering content (Duchscher, 2003), a practice reflected more recently in the Carnegie study; they see curriculum mandates as barriers to creating engaging, student-centered learning environments within their schools (Schaefer & Zygmunt, 2003).

O’Neil (2009) makes a compelling argument for a major overhaul of nursing curricula. He suggests that traditional nursing competencies such as care management, patient education, public health intervention, and transitional care will dominate in a reformed health care system, as it inevitably moves toward emphasis on prevention and management over acute care. But he points out that “these traditional competencies must be reinterpreted for students into the settings of the emergent care system, not the one that is being left behind. This will require faculty to not only teach to these competencies but also creatively apply them to health environments that are only now emerging” (p. 318). It is critical that we revisit possible and optimal expectations for entry-level nurses, based on population needs and likely changes in care delivery models, then align prelicensure and residency programs accordingly. Revamping curricula collaboratively with other health professions schools (Mezey et al., 2008) provides opportunity for meaningful interprofessional collaboration.

Advances in the science of learning also support curriculum overhaul. While nursing education research is sparse, a growing body of research on learning from a variety of other fields supports the need for active engagement of the learner and a focus on deep learning of the discipline’s most central concepts (Bransford, Brown, & Cocking, 2000; Weimer, 2002). As pointed out in the Carnegie study, the typically content-laden nursing curriculum results in superficial coverage of content, a failure to engage students in rehearsing for clinical practice by grappling with real-life clinical situations, and a failure to integrate across knowledge, clinical reasoning, skilled know-how, and ethical comportment. Faculty complain about the demand to cover content, fearing that students will not pass their licensure examination (Schaefer & Zygmunt, 2003) and, as the Carnegie study suggests, faculty need guidance in what is essential content in the curriculum, as well as how to teach it in a way that engages students. Bain (2004), from his study of expert teachers,

describes this practice: “Teachers in our study...believe that students must learn facts while learning to use them to make decisions about what they understand or what they should do. To them, ‘learning’ makes little sense unless it has some sustained influence on the way the learner subsequently thinks, acts, or feels. So they teach the ‘facts’ in a rich context of problems, issues and questions” (p. 29).

The integrative teaching described in the Carnegie study is in stark contrast to the belief and related practices that “students cannot learn to think, to analyze, to synthesize, and to make judgments until they ‘know’ the basic facts” (Bain, 2004, p. 29). A recent example illustrates ways in which content can be reduced in order to provide for pedagogies of integration and engagement. In separate studies, Giddens (2007) and Secrest, Norwood, and Dumont (2005) showed that only one fourth to one third of approximately 120 health assessment techniques typically taught in the standard health assessment course are used routinely by nurses in practice across settings. They suggest that this content could be significantly reduced, teaching fewer techniques well, and adding others only as they relate to specific situations and can be taught in the context of clinical judgment. Changes like this could result in a significant reduction of content overall, providing opportunity for the integrative teaching and learning that is so aptly illustrated in the Carnegie study.

The content-laden curriculum, and resulting ineffective teaching practices, is a long-standing problem that is likely to be exacerbated as practices change and new competencies are mandated. It is a problem that is unlikely to be successfully resolved by the individual faculty in the more than 1,700 nursing programs across the county. Guidance from an expert panel, proposing curriculum models that meet the growing list of competencies, with processes for rapid cycle changes in curriculum content, will be necessary to lead essential changes in prelicensure curricula.

EXEMPLAR The curriculum developed and implemented by OCNE partners is based on assumptions such as these above. Faculty assumed that their students would practice in an environment vastly different from the current one, one in which there would be fewer RNs; by equipping RNs with expanded skills related to delegation, coordinating care, community-based and population-based practice, use of data to

affect outcomes and collaborative team management, better use can be made of RNs' full scope of practice, skills, and expertise. In this curriculum, fundamentals of nursing have been redefined as evidence-based practice, culturally sensitive and relationship-centered care, and leadership and clinical judgment, with these concepts and others introduced early in the context of health promotion and spiraled throughout the curriculum. Through a two-year faculty development program, faculty leaders in the OCNE partner programs applied advances in the science of learning by intentionally reducing content, to focus principally on the most prevalent health problems and practices. Instructional approaches have been dramatically altered toward case-based instruction, integrating simulation and drawing on best practices in the development of these approaches. In this competency-based program, the faculty role is shifting from the delivery of content to the development of learning activities that will lead students to competent performance. The RWJF study of the OCNE program includes measures of classroom teaching fidelity that allow for study of teaching practices linked with learning outcomes.

Recommendation 3. Invest in a national initiative to develop and evaluate new approaches to prelicensure clinical education, including a required postgraduate residency under a restricted license.

RATIONALE Prelicensure clinical education has remained essentially unchanged for at least 40 years (Tanner, 2006). As a derivation of hospital-based apprenticeships, students are placed in clinical settings, mostly acute care, and assigned to provide care for one or more patients. They learn through providing care to these patients, while being supervised by clinical faculty, with varying degrees of support by staff nurses employed by the clinical agency (Chappy & Stewart, 2004; McNelis & Ironside, 2009). Because the experience is organized around individual patients, students may be rarely engaged with the full scope of nursing decision-making, including linking patient outcomes with larger systems issues (MacIntyre et al., 2009) or population-based care management. The nature and quality of students' clinical experience is highly dependent on events that occur during the time

of placement, leaving to chance such experiences as interdisciplinary teamwork, managing crisis situations, and working with families in the provision of care (Gubrud-Howe & Schoessler, 2008). Because the focus of learning is necessarily on acute care, there is little practical experience in strategies for management of chronic conditions, health behavior change, or coordinating care across settings. There is scant empirical literature supporting the traditional model of clinical education; indeed, the evidence that graduates feel unprepared for practice (Benner et al., 2009) and that first-line managers are dissatisfied with the level of preparation suggests that the model is not effective (Berkow et al., 2008).

Importantly, the pervasive use of this approach as the primary clinical education model results in limited capacity; the number of clinical sites is cited as a major barrier to enrollment expansions (AACN, 2010) and effective clinical teaching (McNelis & Ironside, 2009). While the use of high-fidelity simulation has been proposed as a solution to these limitations in capacity, and early studies about its effectiveness are promising (Harder, 2010), there is little evidence that it expands faculty capacity, and little guidance about what portion of clinical experience can be replaced with simulation.

The required number of clinical hours varies widely from one program to another, and most state boards of nursing do not specify a minimum number of clinical hours in prelicensure programs (NCSBN, 2008a). It is likely that many of the clinical hours do not result in productive learning. Students spend much of their clinical time doing routine care tasks repeatedly, which may not contribute significantly to new learning. Faculty report spending most of their time supervising students in hands-on procedures, leaving little time focused on fostering development of clinical reasoning skills (McNelis & Ironside, 2009).

There have been some advances in clinical education, resting on strong academic-service partnerships. Preceptorships are widely used, and a recent integrative review suggests that they are at least as effective as traditional approaches (Udlis, 2006), while conserving scarce faculty resources. The Dedicated Education Unit (DEU) is receiving increasing attention as a viable alternative for expanding clinical education capacity (Moscato, Miller, Logsdon, Weinberg, & Chorpensing, 2007). In

this model, units are dedicated to instruction of students from one program. Staff nurses who want to teach as clinical instructors are prepared for this role, and faculty expertise is used to support the development and comfort of the staff nurse as clinical teacher. Early results suggest the DEU can dramatically increase capacity and have a positive effect on student and nursing staff satisfaction; a multisite study funded by the RWJF is currently under way to evaluate outcomes of the DEU model. A variety of other clinical partnerships have been designed to increase capacity in the face of a nursing faculty shortage (Baxter, 2007; DeLunas & Rooda, 2009; Kowalski et al., 2007; Kreulen, Bednarz, Wehrwein, & Davis, 2008; Kruger, Roush, Olinzock, & Bloom, 2010).

There is an expanding body of evidence supporting the cost-effectiveness of postgraduate residencies. In 2002, JCAHO recommended the development of nurse residency programs, a recommendation most recently endorsed by the Carnegie study. Successful programs have been launched by Versant (Beecroft, Kunzman, & Krozek, 2001; Beecroft, Kunzman, Taylor, Devenis, & Guzek, 2004; Beecroft, Santner, Lacy, Kunzman, & Dorey, 2006); the AACN and University Health System Consortium developed a model for post-baccalaureate nurse residencies (Goode & Williams, 2004; Krugman et al., 2006; Williams, Goode, Krsek, Bednash, & Lynn, 2007); and AACN recently adopted accreditation standards for these programs (Commission on Collegiate Nursing Education, 2009). The NCSBN has developed a regulatory model for transition-to-practice programs, recommending that state boards of nursing enforce a transition program through licensure (2008b, 2009).

Residency programs are predominantly supported in hospitals and larger health systems, with a focus on acute care. Indeed, this has been the area of greatest need as most new graduates gain employment in acute care settings (Kovner et al., 2007) and the proportion of new hires (and nursing staff) that are new graduates is rapidly increasing. It is clear that even the best nursing programs cannot adequately prepare new graduates to work in the current acute care environment (Goode, Lynn, Krsek, & Bednash, 2009).

It is essential that programs outside of acute care settings be developed and evaluated. Given the demographic changes on the horizon, the shift of care from hospital to community-based

settings, the need for nursing expertise in chronic illness management, and the care of the older adult in home settings and in transitional services, nurses need to be prepared for new roles outside the acute care setting. It follows that new types of residency programs appropriate for these types of roles need to be developed and become part of the regulatory framework.

In sum, in order to increase educational capacity, improve educational outcomes, and better prepare graduates for the seismic shifts likely to occur in practice, there is an urgent need to develop and test new prelicensure clinical education models, including postgraduate residencies.

EXEMPLAR One model is currently being implemented and evaluated by OCNE programs. It is funded by the Department of Education, Fund for Improvement of Postsecondary Education (Gubrud & Schoessler, 2009) and includes some of the following desired features (Tanner, 2006):

- Focus on learning outcomes, rather than on placements and completion of clock hours, considering essential competencies such as the development of clinical judgment, ethical comportment, interprofessional teamwork, technical proficiency, and new competencies required in contemporary professional practice.
- Contain a variety of learning activities designed to achieve specific learning outcomes and taking into account the level of the student, the acuity of the patient, the complexity of the desired learning, and the skill of the faculty.
- Incorporate research on learning and best practices identified by the Carnegie study pointing to: a) the type of preparation the student would do in anticipation of the clinical learning; b) the


interaction between faculty and student to support learning (e.g., questioning, guiding); c) the type of debriefing used to help the student learn the major lessons of the activity; d) approaches to assessing student learning; and e) guidance provided to the student for reflecting on the activity.

- Include integrative or immersion experiences that recognize and incorporate the growing body of literature about apprenticeships and situated learning (e.g., Lave & Wenger, 1991), deliberate practice (e.g., Ericsson, 2004), development of expertise in practice (Benner, Tanner, & Chesla, 2009), preceptorships, and academic-service partnerships.

- Integrate simulation as a complement to “hands-on” clinical experience using best available evidence to plan scenarios and incorporate into the clinical education curriculum (Harder, 2010).
- Recognize the need to vary student-faculty ratio and time on task, depending on the nature of the learning activity, the level of the student, and the patient population.
- Support clinical nursing staff in clinical instruction, without overtaxing clinical resources and at a level appropriate for the level of the student and the patient population.

Summary Implicit in these recommendations is the need for significant investment in nursing education research and in faculty development. While there is obvious need for research in nursing pedagogies, there is also a critical need for evaluation of the multiple pathways to nursing licensure. For example, fast-track curricula for students with second degrees have increased exponentially in the last five years, with very little evidence of their effectiveness, and virtually

no study of curricular structures and instructional methods appropriate for this population of students (Cangelosi & Whitt, 2005). Yonge and colleagues (2005), reviewing nursing education research spanning 1991-2000, found that 80 percent had no identified funding source. Broome (2009), in calling for investment in the science of nursing education, points to the link between quality of research and funding. It seems implausible that the replacement of half of the nursing workforce during the next decade can be effectively addressed without building a stronger scientific basis for nursing education. Similarly, faculty development is critical in order to bring about the magnitude of changed recommended here and in the Carnegie study.

Taken together, these recommendations echo those of the Carnegie Foundation study, calling for transformation of prelicensure education. It will require partnership across all levels of nursing education and health systems, redirecting Medicare funding from hospital-based prelicensure programs to postgraduate residency and advanced practice programs, expanding Title VIII funding, and other federal resources for support of educational reform. The return on investment would be improved educational capacity and a better prepared nursing workforce, responsive to emerging health care needs and rapidly changing health care delivery systems. 

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TRANSFORMATIONAL PARTNERSHIPS IN NURSING EDUCATION

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ALTHOUGH THE NURSING CARE ENVIRONMENT HAS CHANGED SIGNIFICANTLY OVER THE PAST 30 YEARS, *little has changed in the educational methods used to prepare new nurses. Since the 1930s, most clinical education in nursing has been structured with a faculty member supervising a small group of students on one or more inpatient units. Students usually move to new settings for each clinical rotation. This traditional model is heavily dependent on nursing faculty and often requires students to wait for direct faculty supervision. Students often are "strangers" to the registered nurses providing patient care in these settings. This arrangement can compromise the cohesiveness of the nursing team and limit opportunities for building professional relationships between students, registered nurses, and other members of the health care team. Developing a more structured and cohesive partnership between the registered nurse and the student,*

both of whom are providing care to the same patients, has the potential to revitalize clinical education in nursing.

Background Since Buerhaus, Staiger, and Auerbach (2000) first documented the nursing shortage facing the United States, educational institutions have been challenged to increase capacity. The most commonly cited reasons for lack of nursing school capacity are a shortage of nursing faculty and availability of clinical sites (American Association of Colleges of Nursing, 2005). Over the last decade new partnership models have developed to finance the creation and expansion of nursing programs, create access to nursing education at all levels, expand and support faculty members, and increase capacity and experiences at clinical sites for students.

As early as 1993, the Robert Wood Johnson Foundation provided stimulus grants through Colleagues in Caring, a grassroots, state-by-state initiative to bring together health care administrators, academics, state regulators, and legislators. This early dialogue prompted states and health care providers to broaden financial support for colleges of nursing, develop joint simulation training centers, and create new approaches to placing nursing students in clinical settings. The initial support from a major philanthropic organization evolved into centers for nursing workforce expansion in a number of states. The number of

graduates has increased, but is still not sufficient for future workforce needs (Buerhaus, Auerbach, & Staiger, 2009). New models for accelerated doctoral programs are key to producing more nursing faculty, and innovative partnerships are imperative to the success of these programs.

Prelicensure nursing education is a costly endeavor. While health care organizations have contributed to existing schools, others have acquired nursing schools as part of broader hospital acquisitions. Feeling the pressure of nursing shortages as they plan future organizational growth, large health systems have forged partnerships with private universities to open additional schools of nursing. Institutions such as DeVry, Kaplan, the University of Phoenix, and Western Governors University have business models that can respond to market needs with rapid expansion. The International University of Nursing in St. Kitts, West Indies, is the first off-shore US-based college of nursing. This sector can be expected to grow, especially as states and local communities respond to budget shortfalls in a downturn economy.

Innovations Across the nation, innovative academic-service partnerships are reenvisioning the role of the registered nurse as clinical teacher and facilitating 1:1 relationships between nurses and students over extended periods of time (Allen, Schumann, Collins, & Selz, 2007; Joynt

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