



ANSWERING THE CALL FOR A BACHELORS-PREPARED NURSING WORKFORCE: AN INNOVATIVE MODEL FOR ACADEMIC PROGRESSION

JEAN GIDDENS, PhD, RN, FAAN*, TERESA KELLER, PhD, RN†, AND
JUDY LIESVELD, PhD, PNP, RN‡§

Forces that have produced national reform of a fragmented, inefficient, and expensive health care services sector have also set the stage for reform of a fragmented, inefficient, and expensive system for nursing education. Changes in health care, health policy, education policy, and funding for public higher education have led to the development of new nursing education models designed to increase the number of baccalaureate-prepared nurses entering the workforce. This article describes the development and implementation of one such model that features a common concept-based curriculum and university–community college partnerships at its core. This plan increases access for nursing students across the state to earn a prelicensure bachelor of science in nursing degree and preserves the integrity and accessibility of associate degree nursing education. (Index words: Academic progression; Nursing education; Concept-based curriculum; Baccalaureate nursing) *J Prof Nurs 31:445–451, 2015. © 2015 Elsevier Inc. All rights reserved.*

RAPID AND COMPLEX changes in health care, health policy, education policy, and funding for public higher education have occurred during the last decade. These changes have had a profound influence on nurse educators to reconsider their education models and to seek new and innovative approaches to produce a more educated nursing workforce. Nurses must be prepared to meet the challenges of a complex health care environment, including the ability to address quality, cost, and accessibility of health care services. At the same time, nursing schools are being challenged to consider strategies and curricular designs

that maximize resources while maintaining quality programs of nursing education. This article describes an innovative, streamlined, and widely accessible system of nursing education for academic progression, with a specific emphasis on increasing access to prelicensure bachelor of science in nursing (BSN) degrees through university–community college partnerships.

Setting the Context for Innovation

Public policy and public authority have been primary forces pushing the need for change in the health care services sector and are therefore profoundly affecting the context for nursing education. Over the past two decades, progressive evidence has been presented in the health sciences literature that triggered dramatic change in health care delivery. A series of publications from the Institute of Medicine (IOM), starting with a landmark book *To Err is Human: Building a Safer Health System* (IOM, 2000), exposed the widespread incidence of medical errors within the United States health system. The consequences of these errors included preventable injuries and deaths (deaths estimated to be as high as 44,000 to 99,000/year) and significant societal costs. This document fueled a national call to action to develop a roadmap for a safer health care system. In a follow-up

* Dean and Professor, School of Nursing, Virginia Commonwealth University, PO Box 980567, Richmond, VA 23298-5174.

† Associate Professor, School of Nursing, New Mexico State University, PO Box 30001, MSC 3185, Las Cruces, NM 88003-8001.

‡ Associate Professor and Chair, College of Nursing, University of New Mexico, MSC09 5350.

§ Associate Professor and Chair, University of New Mexico, Albuquerque, NM 87131.

Address correspondence to Dr. Giddens: Dean and Professor, School of Nursing, Virginia Commonwealth University, PO Box 980567, Richmond, VA 23298-5174. E-mail: jgiddens@vcu.edu (J. Giddens), tkeller@nmsu.edu (T. Keller), jliesveld@salud.unm.edu (J. Liesveld) 8755-7223

publication, *Crossing the Quality Chasm: A New Health System for the 21st Century* (IOM, 2001), factors contributing to poor health outcomes were identified. Among those identified included an inefficient, fragmented, and complex health care system that often resulted in poor communication and the loss of key information necessary for providers to achieve quality care outcomes (IOM, 2001). A third IOM report, *Health Professions Education: A Bridge to Quality* (IOM 2003), suggested that health care providers lacked adequate preparation to deliver safe or quality care—and recommended that health professions education programs ensure student proficiency in patient-centered care, teams, evidence-based practice, quality improvement, and information technology.

Joining the call for health care systems improvement, the **Robert Wood Johnson Foundation (RWJF)**, a long-time champion for improving health care, commissioned the IOM to conduct a study on nursing. This study led to the landmark publication, *The Future of Nursing: Leading Change, Advancing Health* (IOM, 2011), that clearly articulated the need for changes in the profession of nursing, including the need for innovations in the delivery of registered nurse (RN) education. The collective impact of these reports on health care and health education has been significant. In response to the *Future of Nursing* report, a national initiative, *The Future of Nursing: Campaign for Action*, at the Center to Champion Nursing in America emerged to facilitate the implementation of the eight recommendations from the *Future of Nursing* report (Center to Champion Nursing in America, 2014). The national strategy included the formation of state Action Coalitions (AC); each AC selected one or more recommendations from the *Future of Nursing* report to address within their state.

Not surprisingly, academic progression for nurses was a goal common to nearly all ACs in the country and, thus, has become one of the most significant priorities for national implementation. Findings from a study evaluating four academic progression models to increase the number of BSN-prepared nurses (Pittman, Kurtzman, & Johnson, 2014) influenced the focus of grant funding to support such efforts. Funding was made available by RWJF to support academic progression in nursing projects based on one of four promising models: (a) competency-based curricula (to enhance articulation between Associate Degree in Nursing (ADN) and BSN programs), (b) shared statewide or regional curriculum among associate degree programs (to enhance articulation between community colleges and enhance consistency and efficiency for ADN-to-BSN education), (c) community colleges offering RN-BSN degree programs, and (d) RN-Masters Degree in Nursing (MSN) programs (Gerardi, 2014). The common feature of each of these models is enhancing BSN attainment through postlicensure education. Although each of these models provides a unique path for ADN-prepared RNs to earn a BSN or graduate degree, the rate of change within the workforce has been slow, and there is little chance that the goal for an 80% BSN-prepared workforce by 2020 will be achieved, as evidenced by the minimum change in workforce statistics (Center to Champion Nursing in America,

2014). For these reasons, additional approaches to accelerate the efforts must be explored.

Rise of the Academic Progression in Nursing Movement in New Mexico

For over a decade, New Mexico nurse educators have shared a common concern about the impact of the overall nursing shortage and worsening faculty shortage on an already-challenged state health care system. Several years before the publication of the *Future of Nursing*, state educators began discussing ways to streamline nursing education to increase the number of nurses and to develop a pipeline for nurses to advance their degrees. Articulation agreements between community colleges (for Licensed Practice Nurse (LPN) to ADN and ADN to ADN programs) and between community colleges and 4-year nursing programs (for ADN to RN-BSN programs) were developed. Specifically, these articulation agreements addressed general education courses, admission requirements, and credit transfer.

New Mexico's nurse educators were motivated to extend the collaborative arrangements further, with several factors fueling this interest. The publication of *The Future of Nursing* was one such factor. Another factor that enhanced urgency for action was the recommendations of a special state taskforce (called to address the ongoing shortage of nurses and nursing faculty in the state) for the development of a statewide curriculum for nursing (New Mexico Center for Nursing Excellence, 2009). Another driving factor is the change in employer hiring practices. In a survey of hospital-based nursing leaders, Pittman, Bass, Hargraves, Herrera, and Thompson (2015) found a significant increase in the percent of employers requiring a BSN degree or higher (from 9% in 2010 to 19% in 2013). An increase in preferential hiring practices for BSN-prepared nurses also occurred in New Mexico, triggering increased student demand for prelicensure BSN education programs, far outstripping capacity at the two state universities offering prelicensure BSN degrees. In addition, it was clear that the articulation agreements to enhance academic progression from associate degree to RN-BSN education was insufficient to substantially increase baccalaureate-prepared graduates in New Mexico, particularly considering the large volume of associate degree graduates continually being added to the workforce. In other words, the community colleges were graduating associate degree-prepared nurses faster and in greater numbers than RN-BSN programs could accommodate. Only 37% of the state's nursing workforce had a BSN degree or higher, and only 25% of new nursing graduates were earning a baccalaureate degree (New Mexico Board of Nursing, 2011). Thus, with 75% of new nurses earning an associate degree and only six schools offering RN-BSN education and only two schools offering prelicensure BSN education, it was clear that New Mexico lacked capacity to increase the number of BSN-prepared nurses—in fact, without action, the percentage of BSN-prepared nurses would decline further. This was especially alarming considering national estimates that only 21% of nurses educated at the associate degree level go on for further formal education because of time and expense (Orsolini-Hain, 2008).

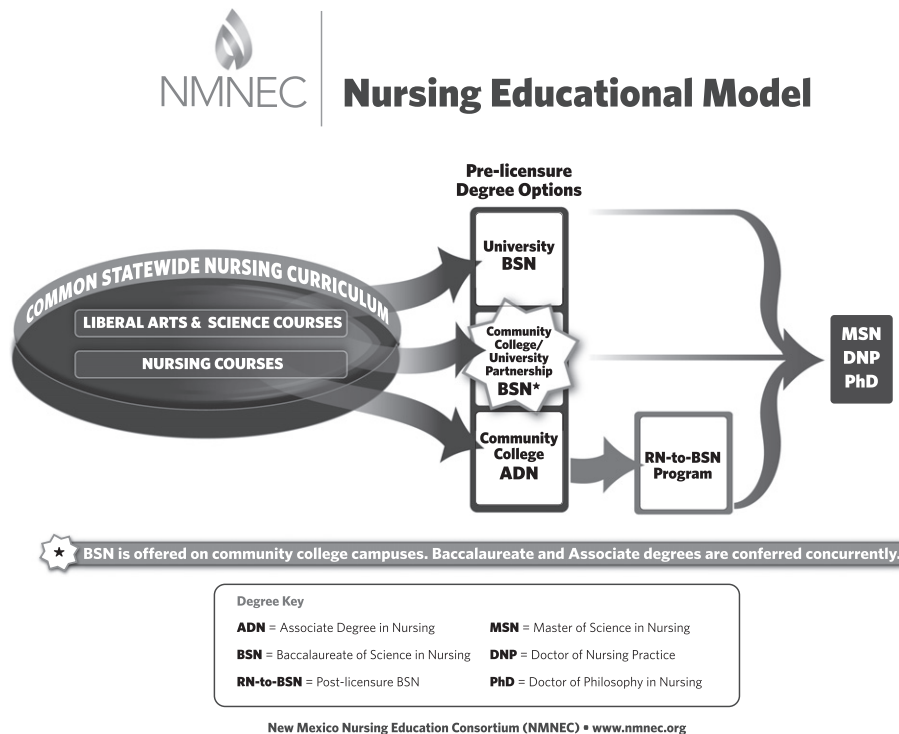


Figure 1. The NMNEC model.

The New Mexico Nursing Education Consortium Model: An Innovative Approach to Academic Progression

Faced with the reality that previous efforts to facilitate academic progression through enhanced articulation from associate to baccalaureate degree programs ultimately would not lead to substantive changes in the percentage of BSN-prepared nurses in the workforce, nurse educators formed the New Mexico Nursing Education Consortium (NMNEC), one of the signature projects of the New Mexico Action Coalition. The overarching goals identified for the consortium were to create a new model for nursing education that would increase the number of BSN-prepared nurses, create a more diverse workforce, and improve nursing education efficiency through a common curriculum plan.

The fundamental premise of the NMNEC model is a prelicensure baccalaureate education option in the community college setting through university and community college partnerships. The emphasis on an initial prelicensure BSN degree is one of the distinguishing features of this model compared to the other academic progression models previously described. According to *The Registered Nurse Population* workforce survey, there is a strong correlation between the initial nursing education degree and highest nursing degree achieved. Among nurses initially educated at the associate-degree level, 8.9% go on to earn a nursing or nursing-related graduate degree. In contrast, among nurses initially educated at the baccalaureate degree, 21.7% eventually earn a nursing or nursing-related graduate degree (U.S. Health and Human Services, 2010).

Parallel Degree Tracks

In the NMNEC model, an academically eligible student attending a community college can apply to one of two parallel degree tracks: a prelicensure ADN track or a prelicensure BSN track (Figure 1). Students who select the BSN track are co-admitted and co-enrolled at a designated partner university. All courses (lower division and upper division) are completed at the “home” school site. Lower division courses are offered as community college courses and taught by the community college faculty. Upper division (university) nursing courses are taught at the community college site either by community college faculty (hired to teach the university course) or by the university faculty through face-to-face or distance education technologies. In other words, the student remains in the community college site and registers for a combination of community college and university courses within the same semester. The BSN degree is awarded by the university because community colleges do not have bachelor degree-granting authority in New Mexico. To avoid losing students to the workforce before completing the BSN degree, the ADN degree is not awarded to students along the curriculum trajectory. Instead, community colleges award an associate degree of health science (or equivalent nonnursing degree) to students at a predetermined point during the program of study or award the ADN degree at the time of graduation from the BSN program. These measures maintain graduation rates for the community colleges (an important measure that drives legislative funding).

A designated university serves as a consistent partner or “hub” for the community college; because there are more community colleges than universities in New Mexico, each

Table 1. Elements of Institutional Partnership

Element	Description
Admission	<ul style="list-style-type: none"> • Standardized admission criteria (including grade point average and courses that must be completed) for the BSN track. • The university and community college confirms eligibility of applicant pool. • Faculty at each school select applicants from the confirmed eligible applicant pool. The university honors admission decisions of the community college partner and co-admits students in the BSN-track.
Registration and tuition	<ul style="list-style-type: none"> • Students register for community college courses through the community college registration system and for university courses through the university registration system. Tuition is paid at time of registration to school offering the course.
Financial aid/scholarship	<ul style="list-style-type: none"> • Community college BSN-track students designate the community college as their home school. Financial aid and scholarships are managed by the home school; prorated financial aid is shared by the community college and university to offset tuition based on the number of credit hours taken.
Academic policies	<ul style="list-style-type: none"> • Standard of academic policies adopted pertaining to nursing program progression and course grading policies. All other academic policies align within the home institution. • Academic policies in the university allow for seamless acceptance of community college courses into the program of study.
Sharing teaching resources	<ul style="list-style-type: none"> • Faculty are encouraged (but not required) to share teaching resources (such as classroom learning activities, simulation, class assignments, tests, grading rubrics) with faculty teaching same course in other schools.
Sharing space	<ul style="list-style-type: none"> • University courses are taught in the community college space; the community college makes the space available for the university courses.

university has multiple community college partners. A standardized memorandum of understanding is established for each university–community college partnership. This arrangement includes agreements about admission, registration, academic policies, tuition management, and financial aid/scholarship, sharing resources, space, and faculty (see Table 1). Many community colleges have faculty with the necessary expertise to teach the university courses; when this is the case, the university pays the community college to teach the course. This provides the community college funds to hire additional faculty to cover the increased teaching assignments. When the community college does not have enough faculty or faculty expertise to teach a university course, the partnering university provides on-site faculty or offers the course through distance technology.

Community colleges will continue to offer the ADN degree to accommodate students who choose an ADN program or are academically unable to meet admission requirements for the BSN degree. Graduates earning the ADN are encouraged to return to school in an RN-BSN degree completion program. Because of the large number of ADN-prepared nurses and because the community colleges will continue to have ADN graduates, the currently operating RN-BSN degree programs will continue to serve a vital role for years to come.

Shared Curriculum

Another unique feature of the NMNEC model is a shared curriculum for both degree tracks and used by all NMNEC schools. The program goals and curriculum were initially developed as a BSN curriculum and then modified to align with associate degree education standards. Thus, the BSN track meets the standards for accreditation with the Commission on Collegiate Nursing Education and the ADN track meets Accreditation Commission for Education in Nursing standards. The BSN and ADN curricula literally share nursing courses; another way to think about this is

that the ADN curriculum is a subset of the BSN curriculum. Efficiency is gained because courses are simultaneously used for students in both degree tracks. It would not be feasible from a resource perspective for the community college to manage two completely different curricula.

Nearly all nursing courses in the ADN curriculum are also found in the BSN curriculum; the primary difference is fewer total credits in nursing and general education courses in the ADN curriculum. As an example, first semester students in both the ADN and BSN track take two courses together: introduction to nursing concepts and principles of nursing practice (offered as community college courses). In addition, the BSN track students take evidence-based practice (offered as a university course). Important to note, students attending the university and enrolled in the BSN program are taking the very same three courses (introduction to nursing concepts and principles of nursing practice and evidence-based practice) and in the same semester as the students in the community college BSN track. Content from the courses found in both BSN and ADN curricula (such as infection control, communication, culture, gas exchange, safety) is reflective of concepts expected in both degree tracks and thus explains how courses can be shared.

A conceptual approach for the curriculum, instruction, and learning was embraced by the faculty because of a recognized need for preparing graduates with advanced skills in thinking, application, and information management. The general curriculum structure and approach is similar to other concept-based curricula and best practices reported in the literature (Giddens & Brady, 2007; Giddens & Morton, 2010; Giddens, Wright, & Gray, 2012; Erikson, 2002). A hallmark of concept-based curriculum and conceptual learning is the formation of conceptual links to other situations. The development of conceptual thinking skills helps students recognize certain aspects of a situation with a general understanding of what to do. Developing conceptual thinking skills is critical for health care

professionals of the future. Because of the explosion of information and the rapid changes in technology and care delivery, it is impossible for nursing programs to deliver all relevant content. A focus on concepts provides a broader cognitive foundation for organizing information, information management, and developing the skills necessary for clinical reasoning and clinical judgment in nursing practice (Giddens, Caputi, & Rodgers, 2015).

Creating Collaboration for Success and Gaining Stakeholder Support

A key element for success in the development of the NMNEC model was the true collaboration that occurred across the state on many levels. The largest stakeholder group necessary to support this effort was the nursing faculty within the schools. Statewide faculty committees, with representation from multiple nursing programs, were formed to develop various elements of the collaborative model. A powerful bond developed among faculty from across the state and led to collective ownership of the work. Several committees worked on various components of curriculum development; one committee focused on curriculum design, another focused on concept development, and yet another focused on clinical education and simulation. A faculty development committee worked to enhance the quality and consistency of conceptual teaching by faculty across the system. A program evaluation committee brought educators from multiple schools together to discuss strategies for evaluating effectiveness of the model. A statewide group of academic advisors worked to create consistent approaches for academic advising, admissions, and academic policies. A diversity committee was charged to promote diverse student populations in NMNEC schools and to increase diversity within the nursing workforce in New Mexico.

Garnering support among many influential stakeholders (including leaders within health care organizations, senior leadership at the institutions of participating nursing schools, and state government officials) was also necessary. Nurse leaders from health care delivery organizations assisted NMNEC by informing, educating, and engaging nurses at all levels including chief nursing officers, nurse managers, and RNs in clinical practice. Engagement from these groups was important to gain support not only for the new model of education proposed but also with development and implementation of the curriculum. Clinical education in the new curriculum was designed to integrate conceptual learning in patient care areas; thus, practicing nurses, particularly those serving as clinical preceptors, needed to understand how clinical activities would change. Support also came from nursing leaders ensuring that students enrolled in the NMNEC collaborative would have priority for clinical placements.

Progress and Outcomes to Date

The first cohort of students was admitted in January 2014 to the first community college/university NMNEC partnership; additional cohorts have been admitted to additional community college/university partnerships

each semester since that time. Additional partnerships with student cohorts will be gradually implemented to meet a 2017 that all publically funded schools of nursing in New Mexico will have students enrolled in the NMNEC curriculum plan.

Political Interest

This multiinstitution innovation in nursing education has generated political interest, including the attention of the New Mexico governor, Suzanna Martinez. In her 2014 State of the State address, the Governor highlighted the work of NMNEC as a model for designing efficient academic programs that promote seamless student transferability among institutions (RWJF, 2014). She urged all New Mexico nursing schools to implement the curriculum expediently. The New Mexico Higher Education Department and the state legislature drafted policy changes in the state's funding formula for higher education to provide a financial incentive for associate degree programs to participate in the NMNEC plan. With these changes, dual enrollment of students in community college/university partnerships allows both institutions to count these students for enrollments purposes. These students will also count as degree completions for each institution.

Challenges

As can be expected, unanticipated challenges occurred during the first year of implementation including a misunderstanding and subsequent miscommunication of admission criteria, necessitating additional clarification across schools in the implementation phase. For example, school advisors across the system found that they needed to closely communicate with each other to avoid gaps in information and communication “drops” that result in advising errors. Another example was the establishment of “home school” designation for financial aid. The home school has the responsibility to oversee the distribution of student awards, and this needed to be negotiated between community college and university partners. It was agreed that the home school designation is the community college until the student reaches the second half of the junior year whereby the university partner assumes this responsibility.

Academic Outcomes

There are a number of ways to measure success in a project like this. The obvious goal is an increase in the number of BSN-prepared nurses in New Mexico. A second and longer-term outcome is an increase of nurses seeking graduate degrees in nursing, representing an important pipeline for graduate nursing education. Graduate-prepared nurses are needed for nursing faculty, executive nursing leadership positions in health care organizations, and as primary care providers in advanced nursing practice, particularly in the rural communities of New Mexico.

The academic data gathered will provide the most accurate assessment of NMNEC project impact. An academic survey will be conducted to gather student data for ADN, BSN, and RN-BSN programs (admissions,

progression, attrition, graduation rates, student transfers, National Council Licensure Examination for RNs pass rates, and student attributes) and faculty data (number of full-time and part-time faculty, vacancies, mean salary of faculty, gender, race/ethnicity). These data will be used to track the success of BSN implementation in the community colleges and the impact of this effort in those settings. A baseline survey with these measures was collected in 2013; follow-up surveys are planned for 2016 and 2020.

Measures planned to evaluate the quality of education include student satisfaction surveys (conducted during the academic program and at graduation), employer satisfaction surveys, student assessment measuring achievement of student learning outcomes and competencies, and focus groups with faculty to capture their feedback regarding the NMNEC curriculum and processes. The formative evaluation strategies will capture information about curriculum and course delivery and address deficits as they arise.

Lessons Learned and Recommendations

The NMNEC initiative has moved from the initial phase of program and curriculum development to implementation and evaluation. Thus, it is possible to look back and formulate some initial lessons learned from these collaborative activities.

Promoting transparency and inclusion in decision making and assuring clear, accurate, and timely communication across the system was necessary for a collaborative network to emerge. As NMNEC moves forward with statewide implementation, these same principles and practices will be necessary to hold the coalition together and assure consistency of the plan across the state. Membership meetings are open forums where any member school can contribute to the discussion. A standardized agenda for every meeting assures that members are receiving current and accurate information. The leadership council, composed of members from two BSN programs, four ADN programs, and one RN-BSN program, reports on coalition business, including budget updates, the results of membership voting decisions, and the need for member input into concerns and issues.

Other coalition practices are meant to support transparency and inclusion. One of the first coalition actions was to establish an NMNEC Web site (<http://www.nmneec.org/>) where meeting information, minutes, agendas, committee membership, and committee work products are posted. Updates and coalition news are consistently e-mailed to all members. The development of by-laws to govern operations was a group activity in which all member schools were invited to participate. A “one school/one vote” policy assured that all membership schools had an equal say in coalition voting. Dedicated staff members devoted to the day-to-day operation of NMNEC have been essential to support transparency and inclusion by maintaining the NMNEC Web site, organizing meetings, assuring agendas and minutes for meetings, and serving as the first point of

contact for stakeholders seeking information or action from NMNEC members and committees.

Effective communication is fundamental to any collective change effort, especially one of these magnitudes over a multiyear time frame. Messaging strategies for large-scale change must foster transparency and inclusion in both tangible and intangible ways. For example, the literature developed to promote the NMNEC “brand” always refers to partnerships and the advantages of community colleges and universities working to together to serve the larger interests of the state and the stakeholders for nursing education. The crafting of inclusive messaging means the feedback received might be negative, distrustful, and lack clarity; sometimes, it is so disparate that the feedback message is difficult to interpret. An important lesson learned from messaging and coalition communications is that concerns are important to some part of the membership and deserve to be heard and considered. Professional and public acknowledgement of the concerns voiced by membership builds trust and supports inclusion.

A final lesson learned was the importance of communication with stakeholders and champions. Nursing deans and directors are important stakeholders but so are the academic administrators at all member schools. The messaging to this group of stakeholders had to address their concerns about the effect of the initiative on their own institutions. The messages for these administrators emphasized the collaborative nature of the work, the importance of maintaining the integrity of community college nursing programs, and the increased ability to share important resources such as faculty expertise. Some highly visible and powerful champions that contributed to the success of the NMNEC coalition and curriculum plan included the New Mexico governor, the New Mexico Department of Higher Education and the New Mexico legislature, the New Mexico Board of Nursing, the New Mexico Action Coalition, and the RWJF. Stakeholders and champions, when brought into coalition work early, are invaluable for success.

Summary

The forces that have produced national health care reform have also set the stage for nursing education reform. Perhaps the momentum generated by the IOM report and the resulting Campaign for Nursing Action across the nation propelled an emerging movement in New Mexico to organize a better education system. Or perhaps the example of other state initiatives that built collaborative education structures was inspiration enough for the nurse educators in New Mexico. Regardless, the NMNEC model represents a new and promising alternative to increase the education of the nursing workforce and has already been replicated in another state and region. This project has been a grand experiment in the unknown and an engaging journey of discovery in which disparate schools have found common purpose and strength in numbers—and that it is possible to forge a new foundation for nursing education through collective will.

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