Use of Technology in North Dakota Nursing Education Programs

Patricia Moulton, Ph.D. and Brent King, Ph.D., Center for Rural Health, School of Medicine and Health Sciences, University of North Dakota

North Dakota will see one-third of its active nursing workforce retire within the next nine years (Three-Year Comparison of North Dakota Nurses: Results and Implications, King & Moulton, 2005). One approach to increasing the number of qualified graduates is the application and coordination of technological programs that maximize the limited faculty, clinical placements, and financial resources available in North Dakota nursing programs.

The North Dakota Board of Nursing directed the Center for Rural Health at the University of North Dakota to conduct a statewide assessment of technology use across the nursing programs in the state as part of the North Dakota Nursing Needs Study.

For this study, eight programs volunteered to participate and were interviewed by phone during the Spring and Summer of 2005. These programs included: Dickinson State University (Dickinson, ND), University of North Dakota (Grand Forks, ND), University of Mary (Bismarck, ND), North Dakota State College of Science (Wahpeton, ND), United Tribes Technical College (Bismarck, ND), Tri-College University Nursing Consortium (Fargo, ND and Moorhead, MN), Minot State University (Minot, ND), and Med Center One College of Nursing (Bismarck, ND). A full report of the results is available on the Center for Rural Health website at medicine.nodak.edu/crh.

All eight programs offer traditional face-to-face courses; five programs offer distance education through internet courses; six programs offer some distance education via video-conferencing; one program has used video streaming for a single semester while another program will be implementing video streaming in 2006; and seven programs use simulations in clinical education.

Nursing programs in North Dakota have demonstrated that technology can be effectively employed in nursing education. Through distance education and clinical simulations, some of the programs have increased the number of students they serve and the area of the state that they serve. Most programs interviewed indicated a specific desire to utilize technologies that will improve their programs and increase the number of students they can educate.

Programs indicated that lack of funding and lack of time to educate faculty were the major barriers to meeting their goals of increasing the use of technology in nursing education. Other barriers identified were student readiness, lack of resources for specific special populations, and the rurality of the state (lack of high speed internet and cable television).

An essential step to increasing the use of technology in North Dakota nursing education will be to identify which technologies are most effective for the limited funding that is available. This may be best accomplished on a program-by-program basis, building on the existing technologies at those institutions and combining resources with other programs in those institutions. Additionally, time efficient methods for educating faculty and students on the use of the technologies should be investigated.

Seventy-one percent of the programs reported that the largest hurdle in nursing education and technology is learning to balance the reliance on technology and the face-to-face clinical experience that is required. Many respondents suggested that technology cannot replace the face-to-face education that is already delivered, but that it could augment it if implemented in the correct manner. This suggests that an investigation of how to best employ technology in a clinical setting should be pursued.

The state could adapt a policy of equivalent connectivity technology across the state. Currently, according to some of the interviewed programs, there are areas of the state that lack high-speed Internet access. The individuals who live in these areas are not capable of taking advantage of the distance education opportunities that are offered. The program representative spoke of having to turn students away who desired nursing education not because they lacked the skills to be nurses, but because they lived in rural areas where they could not gain access to the needed technology.

Third, eighty-eight percent of programs indicated that they did not have a current technology partnership with any health care facility. Technology exists that allows for easy document sharing and clinical experiences between education programs and medical facilities. However, the programs in North Dakota are not taking advantage of these programs and are thus missing out on opportunities that other states, such as Oregon and Washington, utilize to augment their students experiences. Program or state policies that foster these types of relationships should be pursued.

Finally, eighty-eight percent of the programs have a strategic plan that includes increased use of technology. However, most of these programs indicated that this increased use of technology was leading to an increased burden on their faculty members due to the lack of funding or resources to train these faculty members or students on how to use the new technology. Program or state policy should be adapted that rewards programs and faculty members that train on new technologies. A number of the individuals interviewed offered very innovative ideas on how to use technology, yet they do not have the time to follow these ideas to their fruition. By not adapting policies that push innovation and inventiveness North Dakota's nursing programs are losing opportunities to add models that will serve larger populations of students.

Questions about this study or other components of the North Dakota Nursing Needs Study can be addressed to Dr. Patricia Moulton at 701-777-6781 or at pmoulton@medicine.nodak.edu.