

Enhancing the Capacity for Care of the Elderly by Advanced Practice Nurses: A Report of Colorado's Experience

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Abstract

The population of older adults (those 65 years and above) is expanding at the rate of 10,000 persons daily. The elderly will grow from the current 12% of the total population to 20% in 2030. Today, the number of providers competent to provide the range of primary health care services (health promotion, disease prevention, acute episodic and ongoing care for multiple chronic illnesses) is inadequate. Nationally there are currently an estimated 7128 geriatricians, and only 3% of all advanced practice nurses are certified in gerontology. National professional nursing organizations, the John A. Hartford Foundation, and the federal government took action to address the current and projected shortfall of competent providers. This manuscript describes a collaborative project funded by the Health Resources and Services Administration [HRSA] between the advanced practice nursing program [APRN] options at the University of Colorado, Anschutz Medical Campus and the University of Colorado, Colorado Springs. The aim of this collaboration is to increase the number of APRNs who acquire the requisite competencies to care for the complex needs of older adults. New curricula were developed and approved by the respective faculty groups after an extensive review of national standards and competencies, expanded health policy initiatives, and recommendations from former graduates currently engaged in providing primary health care in the community. Future plans include enhanced use of simulations; standardized patient scenarios; unfolding case studies and new evaluation methods are described.



America's older adult population is the fastest growing segment of the population. Currently, those

over age 65 years comprise 12% of the US population. In 2030, the numbers will double to about 70 million Americans 65 and older, or about 1 out of every 5 adults (Administration on Aging, 2011). Persons reaching age 65 have an average life expectancy of an additional 18.8 years (20.0 years for females and 17.3 years for males) (Administration on Aging, 2011). Today, 80% of elders have at least one chronic disease and 50% have two or more chronic diseases (Adams & Whall, 2008).

The Institute of Medicine [IOM] report, *Retooling for an Aging America: Building the Health Care Workforce*, (2008) cautioned that our nation is facing a health care crisis of an unimaginable magnitude. The complex health care needs of the elderly surpass the number of health care providers competent to provide these services. In 2008, there were an estimated 7,128 geriatricians, but the number is anticipated to increase only slightly (7,750) by the year 2030 when the older population is expected to double (Institute of Medicine, 2008). Only 2-3% of nurse practitioners specialize in geriatrics, yet the population of elderly is increasing exponentially (AANP, 2011). This imbalance of "supply and demand", underscores the need to strengthen the competencies of all nurses, who provide care to this emerging "silver tsunami" (Du Vanage, 2010).

Within the profession of nursing, the recognition of the need for increased competency in the provision of care to the older adult has resulted in a variety of initiatives. At the baccalaureate level, the American Association of Colleges of Nursing (AACN) and the Hartford Institute for Geriatric Nursing published *Recommended Baccalaureate Competencies and Curricular guidelines for the Nursing Care of Older Adults (2010)*. At the graduate level, the same alliance, along with the National Association of Clinical Nurse Specialists and the National Organization of Nurse Practitioner Faculties, has published *Adult-Gerontology Clinical Nurse Specialist Competencies (2010)* and *Adult-Gerontology Primary Care Nurse Practitioner Competencies (2010)*. Additionally, AACN has a Geriatric Nursing Education Consortium, demonstrating its commitment to the improvement of care for older adults (Wilson, 2010).

The purpose of this manuscript is to describe a collaborative project, funded by Health Resources and Services Administration (HRSA) between the graduate advanced practice nursing program options at the University of Colorado Anschutz Medical Campus and the University of Colorado Colorado Springs. The aim of the collaboration is to increase the number of Advanced Practice Nurses (APNs) that acquire the requisite geriatric knowledge and skills to provide comprehensive primary care to the ever-increasing elderly population in the state. This is the first such collaborative arrangement between the two institutions.

Background

The first advanced practice nursing program with a focus on the care of the elderly was established at Duke University in 1968 (Duke University School of Nursing, 2011). Decades later, geriatric nurse practitioners (GNPs) make up only 2.6% (n=3,250) of all nurse practitioners nationally (AANP, 2011). This number is woefully inadequate to provide for either the current or future health care needs of the elderly population. In addition, the nursing workforce is aging and nationally the average age of practicing nurse practitioners (NPs) is 48.2 years. Based on longitudinal data of graduate nursing student enrollment, it is unlikely that schools of nursing will produce sufficient numbers of new GNPs to fill this gap, particularly with the increased emphasis to prepare APNs for broader roles (Thornlow, Auerhahn, & Stanley, 2006). Despite national attention to the growing need and intentional recruitment efforts, few nurses are choosing to become GNPs. With fewer younger adults entering nursing and continuing on for graduate degrees, and an aging nursing and advanced practice workforce a critical shortage exists.

To fill this void, gerontological preparation for advanced practice nurses commenced through the vision and resources of private foundations and key professional organizations

across the United States (U.S.). The John A. Hartford Foundation [JAHF] has provided substantial funding for the establishment of the Hartford Institute for Geriatric Nursing at New York University. The first JAHF gerontological competencies for APRNs were published in 2004. More recently, the JAHF together with AACN funded and convened an expert panel to review and revise the existing gerontological competencies to be included across the adult-gerontological population foci. In July 2008, the APRN Consensus Work Group and the National Council of State Boards of Nursing (NCSBN) APRN Advisory Committee, published the Consensus Model for APRN Regulation: Licensure, Accreditation, Certification and Education (LACE) (2008). This document generated the following: a) definition of APRN practice; b) described the APRN regulatory model; c) identified the titles to be used by APRNs including the new AGNP; d) defined specialties within advanced practice nursing (including combining the ANP and GNP roles into the AGNP); and e) described the emergence of new roles and population foci associated with each APRN specialty and presented strategies for implementation of the APRN model, including the foundational requirements for licensure, accreditation, certification and education (National Council of State Boards of Nursing APRN Advisory Committee & APRN Consensus Work Group, 2008). In September 2009, the AACN and the National Organization of Nurse Practitioner Faculties (NONPF) surveyed directors of adult nurse practitioner (ANP) and gerontological nurse practitioner (GNP) programs to validate the proposed competencies. Additionally, in the fall of 2009, AACN took bold action and recommended the closure of all stand-alone GNP programs. In their place, AACN suggested integration of gerontological competencies into the curricula for adult, family and women's health APRNs, and further expanded the scope of adult APRNs to include the needs of the older adult, frail older adults, and those near the end of life (American Association of Colleges of Nursing, 2012).

In order to achieve integration of competencies, the AGNP, FNP and WHNP options required curricular revision and expansion to include the adult-gerontological competencies. A new certification exam for AGNPs is also being drafted and will be offered in 2013 by the American Nurses Credentialing Center (American Nurses Credentialing Center, 2009). This aggressive agenda is consistent with the goals of other national initiatives emphasizing improved gerontological competencies to include the newly proposed *Healthy People 2020* (Centers for Disease Control, 2010) and the Quality, Safety Education for Nurses [QSEN] work sponsored by the Robert Wood Johnson Foundation (Cronenwett et al., 2009; Van Leuven, 2012). Specifically the QSEN project has been influential in both undergraduate and graduate nursing education to

meet the IOM challenge to improve the quality and safety of healthcare for all Americans including older adults (Institute of Medicine, 2008).

Finally, the newly released IOM report on *The Future of Nursing: Leading Change, Advancing Health* (2010) calls for eliminating barriers for APRNs to be able to practice to the full extent of their education and scope of practice. Expansion of opportunities for advanced practice nurses will enable provision of the full range of primary health care services to the increasing number of older adults.

Colorado Specific Needs

Demographics of Aging

Demographic and health status profiles of Colorado portray a state with a geographically diverse population and terrain. The growth in older adults is anticipated to emulate that of the nation. Census data from 2010 for the U.S. indicated an increase of 15.1% in adults 65 years and older, 29.9% in the 85-94 year age group and 25.9% in the 95 year old and older group over the past decade (U.S. Bureau of the Census, 2011). Colorado statistics emulate those of the U.S. and exceed them in all categories. The percentage increases in Colorado were nearly double those nationally with a 32% increase in 65 years and older and 44.4% in the over 85-age group. Anticipated future growth in Colorado for the decade of 2011- 2020 include a 72% increase in 65 + year olds and an 82% increase in the oldest old (85 and older) (Colorado Blue Ribbon Commission for Health Care Reform, 2008; Colorado Center for Nursing Excellence, 2010).

In Colorado, 16% of the population or 1 out of 6 are without health insurance coverage, with 1.5 million Coloradoans being uninsured or underinsured (Colorado Health Institute, 2011). The Colorado Blue Ribbon Commission published recommendations for Health Care Reform [CBRCHCR] in 2008 with the following recommendations: (a) Extend coverage to persons without insurance; (b) improve access to care by minimizing barriers for APRN's and physician assistants to provide services to the fullest extent allowed by their licensure, education and training; (c) improve chronic disease management; (d) improve end of life care; (e) provide delivery of services for vulnerable populations; (f) provide case management services for the disabled and the elderly; and (g) encourage and reward prevention and personal responsibility for individual health (Colorado Blue Ribbon Commission for Health Care Reform, 2008).

Geographic Diversity

In addition to the population dynamics, Colorado has a unique geographic terrain. Colorado has few large metropolitan areas except along a major north-south interstate corridor. In addition, the state is split longitudinally by the Rocky Mountains forming the Continental

Divide. East of the Divide, land is flat, dry and largely used for agriculture or livestock. West of the Divide is forested mountainous areas.

Colorado is primarily a rural state. Over 73% of Colorado's 64 counties are designated as rural or frontier (less than 6 people per square mile); 89% of physicians practice in an urban area which leaves 11% of physicians for 73% of the state (Colorado Area Health Education Center [CAHEC], 2009). Four of the 64 counties have no primary care provider, and only four counties are not designated as Health Professional Shortage Areas (HPSA). Although the six metropolitan counties surrounding Denver have the largest number of older adults, many rural counties have a greater percentage of older adults per capita. Approximately 1 out of 4 residents are over the age of 60 in south central and southeastern areas of the State. These rural counties have considerably fewer resources to provide care to older adults who wish to remain in their homes as they age (CDHS, 2011). These individuals represent those who, in many cases, have relatively acute primary health care (PHC) needs, but little to no access to care.

Workforce Issues

The trend for a greater percentage of elderly, coupled with the difficulties in recruiting primary care physicians, safety net providers (i.e., such as APRNs) and programs to areas of the state and populations with access issues are greatly needed (Colorado Health Professions Workforce Policy Collaborative, 2009).

The geriatric-prepared APRN nursing workforce in Colorado is likely no different from the national scene. While the Colorado State Board of Nursing does not publish data concerning the exact number of GNPs, the national ratio of GNPs to total NPs can be used as a guide. For example, based on 3,536 APRNs registered in Colorado, it is estimated that there are only 91 GNPs (3%) in the state to care for a burgeoning aging population (Administration on Aging, 2008).

There is also a significant nursing shortage in most areas of Colorado. The current and anticipated population explosion of older adults has resulted in a heightened need to educate RNs and APRNs to provide competent, safe and quality primary care services to older adults in both rural and urban areas. In the most recent *The Nursing and Health Care Workforce in Colorado* (Colorado Center for Nursing Excellence, 2010), a rather alarming picture is portrayed about the future demand for nurses in Colorado. Colorado has an aging nursing workforce with 32% (22,000) of the nursing workforce over the age of 55. In addition to the need for annual replacement of retiring nurses (2,000 nurses expected to retire annually), there is the need for

additional nurses due to population growth. This growth is projected to be 1,300 nurses per year to keep up with population expansion for a total need of 3,300 new nurses annually (Colorado Center for Nursing Excellence, 2010).

With the growth of Colorado's over-65 population by 72% as of 2020, demand for health care service will escalate. In 2009 there were more than 12 nurses to every over 65-year-old Colorado resident. Without meaningful change in the nursing workforce, this ratio will drop by 50 percent to six nurses for every older Colorado resident by 2025. The state's need for nurses to support health care will continue to outstrip the supply of nurses, unless there is concerted action taken by public, private and educational institutions (Colorado Center for Nursing Excellence, 2010).

Colorado Center for Nursing Excellence (2010) warned that Colorado can no longer rely on other states to educate our nurses, as it has in the past, but must develop sufficient internal capacity to meet the needs of Colorado residents. Compounding this statewide shortage, national health care reform is anticipated to increase the demand for nurses, especially in the areas of geriatrics, chronic disease management and models for care transitions. Using 2007-08 figures as an example, there were 2,400 Colorado nursing school graduates, or a shortfall of 27% (900 nurses) of what is required to fill this gap. If the state is to maintain its current capacity to deliver healthcare services, let alone expand it to meet a growing population and the demands of national healthcare reform, we must significantly expand the pipeline of new nurses at the undergraduate and graduate levels.

Plans to Meet the Challenges

The nursing faculties at the University of Colorado Anschutz Medical Campus (UCAMC) and the University of Colorado Colorado Springs (UCCS) have recognized the opportunity to be at the forefront of this shift in preparing APRNs. Both schools of nursing currently offer AGNP or ANP/GNP and FNP options

In July 2010, federal funding was awarded to UCAMC College of Nursing with a subcontract for the UCCS Beth-EI College of Nursing and Health Sciences to review, revise, and implement enhanced gerontological nursing content across five APRN options at both colleges (3 at UCAMC and 2 at UCCS). The purpose and overall goal of this grant was to significantly increase the number and diversity of advanced practice nurses who are prepared with gerontological knowledge and skills to provide quality, safe, and culturally competent primary health care services to the rural underserved elderly population in Colorado.

Expanded curricular content in gerontology in the ANP, FNP, and WHNP options at UCAMC and ANP/GNP and FNP options at UCCS would provide graduates with expertise in health promotion, preventive services, management of acute and chronic health problems, palliative and end-of-life care. Graduate QSEN competencies aimed at incorporating informatics and interprofessional care in order to provide patient-centered, evidenced-based, quality and safe care is to be incorporated throughout the curriculum.

This funding enables the doubling of graduates adequately prepared to provide comprehensive primary care services to older adults in Colorado. This is particularly cogent since much of existing primary health care is provided by APRNs prepared as ANPs, FNPs, and WHNPs.

This grant ensures that both current and future AGNPs will be eligible to sit for the new proposed certification exam to be implemented in 2013. The partnership between the two schools of nursing builds on the academic strengths of both institutions and capitalizes on their long history of providing state-of-the-art distance learning technologies to promote nursing education in rural and remote areas.

All UCCS graduate programs are on-line. UCAMC offers all foundational graduate nursing courses online. Most specialty courses are provided to rural students via Interactive Television [ITV] sites in the four rural Area Health Education Centers [AHECs] throughout the state. A few specialty option courses require limited travel, but these courses are offered in the form of intensives. Current travel barriers will be reduced through the enhanced use of distance education technologies to encourage APN students to remain in the rural area in which they live.

What Has Been Done

The first step was review each of the curricula to determine what competencies (AACN, NONPF, and QSEN) were currently incorporated into the curriculum. At UCCS, there was a curricular review of the geriatric content of both the undergraduate and graduate programs in 2008-09. This review was completed prior to the release of the new standards by AACN (2010). With the release of the new standards and the funding of this HRSA project, faculty in both programs (UCCS and UCAMC) once again reviewed overall program outcomes, course objectives, and course content relative to these changes. Syllabi were solicited from all faculty and each reviewed individually by the authors. Mapping assisted in determining what critical material was being taught and in what course/s or if there were gaps or repetition. This information was then presented to faculty in each of the schools and programs for their input

and comment. The initial curricular review document was revised and utilized as the basis for curricular changes to be made in each of the schools.

Curriculum Change

At UCCS and UCAMC, faculty has the authority for the curriculum. At UCCS this authority is a charge of each department within the college. At UCAMC program steering committees are charged with the curricular changes in each specific program and then referred to the Curriculum Committee. Representatives of each department or, if needed, the entire department meet to determine the continuity and flow of curricula across educational and programmatic levels. Findings of the curricular reviews were presented to each of the CON undergraduate and graduate program committees for discussion and recommendations. From here curricular and course changes were made to add specific content. At UCAMC a 2 credit geriatric course was added to the BS curriculum and at the graduate level a geriatric course (3 creditsW) that had been an elective previously, became required for the AGNP students and elective for the FNP and WHNP students. Geriatric emphasis was infused throughout the master's curriculum (pathophysiology, pharmacology, physical assessment, gynecologic health care, and diagnosis and management courses) and redundancy removed preventing unnecessary repetition throughout the curriculum.

At UCCS, two courses were developed and added to the adult-geriatric nurse practitioner curriculum within the Department of Graduate Nursing: Foundational Principles for Care of Older Adults, a two credit course with one credit of on-line didactic content and one credit of practicum; and Geriatric Clinical Syndromes is three credits of on-line didactic content and one credit of practicum. There has also been significant content added and integrated into the family nurse practitioner curriculum relative to the care of older adults.

Focus Groups

Simultaneously with the curricular changes focus groups were initiated consisting of former NP students from the ANP and FNP programs at both universities. The purpose of the focus groups was to identify gaps in the curriculum from NPs that were now working in the community in regard to geriatric content. Overall findings from former students supported what faculty had identified based on national competencies.

Faculty Development

With the approved changes made in curricula and courses it was determined that faculty development was necessary to assist faculty in making the transition. A clinical workshop was planned through the continuing education department aimed at increasing the knowledge of

faculty and advanced practice nurses in the college and community. The one-day conference included interprofessional clinical faculty specializing in geriatrics from across both campuses addressing the following issues: demographics of the aging population, physiology of aging, Teaching Strategies

In conjunction with the IOM Task Force on Teaching, brown-bag luncheons were designed to assist faculty with development of new and creative means of teaching on-line and in-class. This was not limited to courses infused with new geriatric content but for all faculty courses. Topics included problem-based learning, use of online simulated learning, diagnostic reasoning exercises (DxR[®]), and the use of unfolding case studies (Benner, 2012).

Clinical Simulations

High fidelity simulation has been used increasingly at the undergraduate level for training and evaluative purposes, as well as to augment and target specific clinical experiences. It was determined that standardized patient (SP) scenarios could be used to provide these clinical experiences that potentially might not be experienced in clinical placements. The first scenario was a teaching situation for students giving “bad news” regarding a diagnosis of Alzheimer’s to the wife of an elderly couple. Both AGNP and FNP students were included and prior to class given readings specific to the topic. The student evaluations were extremely positive.

Future simulations will include scenarios assisting families in making end-of life-decisions, dealing with ethical decision-making, and training of physical exam skills specific to the older adult with specific chronic conditions. In addition, SPs will be used to evaluate the acquisition of clinical skills at various points in their clinical practicum hours. Many of the students at both universities live at a significant distance from the campuses. This involves site visits that are both time and labor intensive as well as costly. In the coming year the UCAMC campus will institute objective SP scenarios to test competencies at each of four levels within the advanced practice program (after 135 hours, 270 hours, 530 hours, and finally at 630 hours) beginning with the AGNP and FNP students. Students would be required to take a history on an elderly patient, perform the appropriate exam (enhanced with the use of Ventrilosopes[®] recently purchased to simulate normal and abnormal heart, breath and bowel sounds), and document their findings in an electronic medical record. Grades would be generated from key competencies that must be achieved with increasingly complex geriatric problems at each level.

Conclusions

This is the beginning of an ongoing and innovative program involving two distinct nursing colleges that are part of the same university system. The grant has assisted in carrying both

programs to a new level of education of AGNP students in accordance with national directives. With increased recruitment of both AGNP and FNP students and infusing the curriculum with geriatric knowledge and skills throughout, the numbers of practitioners in Colorado who have competence in the care of the older adult will increase. There remains much continued work and evaluation to be done in this collaborative effort, but the future of nursing in Colorado is being positioned for a significant role in the provision of quality primary care for the growing elderly population in our state.

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