Nursing Education in Washington State

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Executive Summary

Goal
The goal of this paper is to update information on the state of nursing education in Washington in relationship to the health care needs of its residents. The accomplishments toward achieving the goals put forward in the 2007 paper on Nursing Education in Washington State will be identified. Furthermore this paper will examine the directions for nursing education that will be needed to support excellence in health care and address the demands of the Master Plan for Nursing Education in Washington State, the Patient Protection and Affordable Care Act, and the recommendations of the Institute of Medicine’s report The Future of Nursing: Leading Change, Advancing Health (2010).

Background
Health care cost and access are major concerns facing the United States as a whole and Washington State reflects that national concern. Along with cost and access, health care quality is increasingly being scrutinized. Nurses have been identified as key resources in improving access, cost containments, and quality. In order to meet its obligations to the public, nursing must continue to focus on high quality care that combines caring with knowledge and skill, the ability to synthesize knowledge from many sources, the ability use technology appropriately, and a focus on the client, family, and community. Nursing must collaborate with other health professionals in the focus on high quality care.

Reflecting a national pattern, the registered nurse supply in Washington State has increased as schools of nursing produced more new nurses and experienced nurses have postponed retirement. However, this is predicted to be a temporary plateau and by 2016 even more nurses will be needed to meet the health care needs of the residents of the state as the Patient Protection and Affordable Care Act draws previously uninsured individuals into the health care system. The shortage is likely to be more pronounced in very rural geographic areas and in the Puget Sound Region with its many large health care centers. Shortages are most likely in those practice areas requiring more education and skills such as critical care and primary care provided by advanced practice nurses (titled Advanced Registered Nurse Practitioners in Washington). Factors contributing to the future inadequacy of the nursing supply include the aging of the nursing workforce, adverse work-life environments for nursing, on-the-job injuries, negative workplace relationships, the image of nursing as an undesirable occupation, and the lack of effective programs for transition to practice for new graduates. Attrition through job change and predicted retirements affect the nursing supply in ways that have not yet been factored into future needs. The shortage will not be alleviated by the increase in new graduates that has already been achieved both through expansion of current programs and through the addition of new associate degree programs. New graduates are by definition novices in the field and the greatest demand will be for those nurses with greater expertise. While nurses educated in other countries contribute to meeting the nursing demand, their extensive orientation and education needs also require the use of resources.

Current State of Nursing Education
Nursing education in Washington State is based in the community and technical colleges, the two flagship public universities including their newer campuses, and seven private universities. One public university and a private university participate with Washington State University in their Intercollegiate Nursing Program. An additional public university is opening an registered nurse baccalaureate (RNB) completion program in fall 2013. These educational institutions provide high quality education based upon national standards and attested to by the consistently high rate of passing the nursing licensure examinations for the majority of programs. The overall state average passing percentage remains very high. An effective articulation between the various levels of nursing education was developed in 2002 through the Council for Nursing Education in Washington State (CNEWS). The current Master Plan for Nursing Education of the Washington Center for Nursing includes the expectation of formal articulation agreements between PN and AD programs and between AD programs and BSN programs. Dual enrollment in associate degree and baccalaureate degree programs in some cases makes the transition in education seamless. Many prelicensure programs have expanded and some new programs have opened since the first concerns about shortage began. Many programs have instituted major efforts at student retention. Data demonstrate that the number of qualified applicants to prelicensure nursing programs who are denied admission due to lack of space would be adequate to raise the number of nursing graduates to meet the need.

Challenges facing nursing programs are grounded in resource needs. State support for higher education has decreased substantially. Classroom space is at a premium; laboratory space and equipment are costly; clinical sites are full; and there is a shortage of nurses prepared at the graduate level for faculty roles given that salaries for faculty are not competitive in the marketplace and graduate tuition rates are high. Any plan for increasing numbers of new nursing graduates must address the need for more nursing faculty. Clinical agencies and faculty express commitment to the maintenance of “competency congruence” through collaborative efforts in order to assure that new graduates are prepared for the health care environment of the 21st century. The collaboration of clinical agencies is critical to success of all types of nursing education. The Washington Center for Nursing (WCN) along with the Washington State Nursing Care Quality Assurance Commission (NCQAC) play an active role in gathering data and supporting efforts toward planning for the future.
Planning for the Future
Planning for the future needs to take into consideration the current situation, the health care and nursing needs of the state, the various stakeholders in the process and the plans that have already been developed. The Master Plan for Nursing Education (2008) identified critical needs in the area of nursing supply and is regularly updated. The Higher Education Coordinating (HEC) Board’s 2008 Strategic Master Plan for Higher Education in Washington State addressed needs for increased capacity in higher education. As data support the effectiveness of nurses with baccalaureate and higher degrees in achieving improved patient outcomes, more nurses with those credentials will be needed. Additionally, associate degree nursing graduates will continue to be needed to meet the health care needs of the state and to move forward into baccalaureate and graduate education. Fiscal support through targeted high demand funds would provide the resources for expansion of nursing education.

Recommended Next Steps
Continue to implement the Master Plan for Nursing Education areas of focus.

1. Assuring the continued competency of nursing professionals:
   1.1 Support ongoing, effective collaboration between education and practice through CNEWS, Northwest Organization of Nurse Executives (NWONE), and nursing employers to facilitate competency congruence (the match between what is taught and the knowledge, skills, and attitudes needed in practice), faculty development, the transition of new graduates to effective participation in health care, and retention of nurses in the workforce through development of healthy work environments.

2. Continue to refine recommendations that focus on curriculum including:
   2.1 Support the maintenance of consistent pre-requisite requirements across all community college nursing programs and across all RNB programs.
   2.2 Identify an evidence-based recommendation for a minimum number of clinical hours for specialty areas at differing levels of nursing education.
   2.3 Develop curricula for nursing at all community college nursing programs that would facilitate the students’ ability to transfer from one program to another within the state when residence changes.
   2.4 Develop curricula that meet the nationally identified Quality and Safety Education for Nursing (QSEN) Competencies derived from the IOM Core Competencies.
   2.5 Use technology, such as simulation, effectively for nursing education programs and evaluate its impact on nursing education.

3. Continue to gather and analyze data relative to the locations where shortages are present and the types of nurses needed in those settings including those with graduate preparation as well as those entering licensure in order to target funding effectively.

4. Support both existing and newly-expanded nursing programs with resources, including capital needs, to enable them to develop strategies for effective nursing education and to sustain an effective nursing education system for the state’s nursing needs.

5. Support the regional mechanisms (consortia) that effectively allocate scarce clinical resources.

6. Develop partnership strategies to expand capacity especially in the critical area of preparing master’s and doctoral degree prepared nurses as educators.

7. Provide funding for salary improvements for nursing faculty.

8. Support the revision of the Community & Technical College faculty workload.

9. Enhancing educational access throughout Washington State:
   3.1 Establish goals for the overall number of nursing students at each nursing education level (PN, ADN, BSN) distributed appropriately throughout the state.
   3.2 Support existing strategies to facilitate the movement of associate degree nurses into baccalaureate nursing education and develop additional strategies as needed.

10. Promoting a more diverse profession:
    4.1 Develop and support strategies for increasing the diversity of the nursing applicant pool and ensuring the success of qualified nursing students from diverse backgrounds.

11. Promoting funding mechanisms through the legislature and other relevant agencies to support the ongoing implementation and updating of the Master Plan for Nursing Education.

12. Encouraging a culture of innovation, forward-thinking, risk-taking, and collaboration in addressing the many challenges and issues facing health care and specifically nursing/nursing education in the future.
Goal

The goal of this paper is to update information on the condition of nursing education in Washington State in relationship to the health care needs of the residents of the state. The accomplishments toward achieving the goals put forward in the 2007 paper will be identified. Further this paper will examine the directions for nursing education that will be needed to support excellence in health care and address the demands of the Patient Protection and Affordable Care Act (PPACA) and the recommendations of the Institute of Medicine’s report The Future of Nursing: Leading Change, Advancing Health (2010).

Background

Health care cost and access are major concerns facing the United States as a whole and Washington State reflects that national concern. Along with cost and access, health care quality is increasingly being scrutinized. Nurses have been identified as key resources in improving access, cost containment, and quality. In order to meet its obligations to the public, nursing must continue to focus on high quality care that combines caring with knowledge and skill, the ability to synthesize knowledge from many sources, the ability to use technology appropriately, and a focus on the client and family. Nursing must collaborate with other health professionals in the focus on high quality care.

Reflecting a national pattern, the registered nursing supply in Washington State has increased as schools of nursing produced more new nurses and experienced nurses have postponed retirement. In response to the economic downturn and the availability of experienced nurses, health care employers have restricted their hiring of new graduates leading to these new graduates experiencing difficulties in obtaining a position. In the last year, some nursing programs have decreased their number of new admissions. However, this is predicted to be a temporary plateau and by 2016 even more nurses will be needed to meet the health care needs of the residents of the state as the Patient Protection and Affordable Care Act draws previously uninsured individuals into the health care system. The shortage is likely to be more pronounced in very rural areas and in the Puget Sound Region with its many large health care centers. Shortages are most likely in those areas requiring more education and skills such as critical care and primary care provided by advanced practice nurses. Factors contributing to the future inadequacy of the nursing supply include the aging of the nursing workforce, adverse work-life environments for nursing, on-the-job injuries, workplace relationships, the image of nursing, and the lack of effective orientation of new graduates. Attrition through job change and predicted retirements are additional factors that will affect the nursing supply. The shortage will not be alleviated by the increase in new graduates that has already been achieved both through expansion of current programs and through the addition of new programs. New graduates are by definition novices in the field and the greatest demand will be for those with greater expertise. While internationally educated nurses contribute to meeting the nursing demand, their extensive orientation and education needs also require the use of resources.

Health Care Cost and Access

The cost of health care and the ability to access care when needed are major concerns whenever issues surrounding health are discussed. Nationally, according the Centers for Medicare and Medicaid Services, health care spending as a percentage of gross domestic product has increased from 5.1 percent in 1990 to 17.9% in 2009 and is expected to rise to 19.6% by 2021 (CMS, National Health Expenditures 1960-2021).

The Patient Protection and Affordable Care Act (PPACA) has been implemented on a gradual basis as more provisions have taken effect. As these provisions are fixed into place more individuals are provided with access. One of the earliest groups to gain access was the young adult up to age 26 who could be continued on their parents’ health insurance plans. By the end of 2011, an estimated 62,000 young adults had gained health insurance through this mechanism. Lifetime limits on insurance coverage were lifted. Strict controls were placed on use of premium dollars by health insurance plans. A pre-existing health problem insurance plan was instituted for those who were previously unable to obtain health insurance due to their health status. Preventive care was included in all health plans. In the fall of 2013, the state insurance health exchanges will be instituted to provide an avenue to health insurance coverage for those who would otherwise be unable to afford coverage. (Healthcare.gov, 2013)

The full impact of the PPACA is still to be seen but clearly there will be a need for more health care providers to meet the needs of those who are finding access. The population of the state increased by 14% in the years from 2000 (5,894,121 total population) to 2010 (6,724,540 total population). Along with this increase in numbers was a change in the ethnic distribution of the population. The proportion of the population identifying themselves as an ethnic minority, or of Hispanic background, increased by 20.6%. Thus the population increase has been accompanied by an increasingly ethnically diverse community (OFM, 2010.) This, too, has challenges for health care providers as they strive to provide quality care to a larger and more diverse community.

The population continues to age with the over 65 years as the fastest growing age group. Older adults as a share of the population of Washington State was 12% in 2012 and is expected to be 21% by 2040 (OFM, 2012). Older adults use more health care services and thus those over 65 have the highest average annual costs. (Kaiser Family Foundation, 2012). As the percentage of older adults in the population continues to rise, the need for health care services of all kinds will continue to rise.
Health Care Quality

Despite the expenditure in 2010 of 17.9% of its gross domestic product on health care, the health of the population as measured by World Health Organization standards is less than that of most other developed countries (Kaiser Family Foundation, 2012).

The Institute of Medicine has developed an approach to quality of care in which quality encompasses receiving the health care needed, not receiving unneeded health care, receiving care safely, and receiving care in a timely manner. Additionally, the IOM states that quality care is patient centered, efficient, and equitable. (Institute of Medicine, 2001). These standards are being used as a basis for quality outcome measures being developed to rate health care delivery.

The Rand Corporation, in cooperation with other organizations and government agencies, developed two tools for measuring health care quality. The first tool, the Quality Assessment Tool, is designed to measure the health of children and adults. The second, the ACOVE (Assessing Care of Vulnerable Adults), is designed to assess older adults who are at high risk of functional decline. In reporting on areas of preventive, acute, and chronic care, these tools revealed that fewer than 60% of the quality measures were attained (McGlynn, Asch, Adams, et al. 2003). Quality of care for older adults was the poorest with standards for preventive care met only 43% of the time, although standards for treatment were met 80% of the time (Ibid.).

Preventive care includes attention to preventing complications for those with chronic conditions as well as preventing illness from developing. The addition of preventive care to all health plans including the management of chronic conditions is designed to change these measures and to decrease costs. Preventive care is a strength that professional nursing brings to health care.

With the increasing ethnic diversity in the population, concerns regarding quality as related to ethnicity arise. According to the National Healthcare Disparities Report (2004), inequality in care between majority and minority populations exist. There is differential access to care. Even when care is accessed, opportunities for preventive care may be missed and the quality of care is lower. The reasons for these disparities are not clearly identified but must be addressed to provide quality of care for all. In 2004, the Institute of Medicine released a report expanding on the compelling need for diversity in the health care workforce (IOM, 2004). The Washington Center for Nursing has prepared the Diversity Briefing Paper (WCN, 2009) to support understanding of the need for diversity in the Washington nursing workforce, identify barriers to meeting that need, and propose avenues of action.

The Role of Nurses in Providing Quality Health Care

Nurses have been identified as a key resource in assuring patient safety and improving patient outcomes. Nurses improve access, cost containment, and quality. For example, accessibility of nurses through telephone consultation has been a key strategy of many health care plans. When individuals and families have the opportunity to consult with a qualified registered nurse, they are less likely to use emergency rooms and more likely to receive timely care for emergent concerns. Thus, increased access can actually decrease cost. In many other ways nurses are effective in improving health care outcomes at manageable costs.

An effective work environment for nurses was identified by the Institute for Medicine as having a significant effect on patient outcomes (IOM, 2004). The importance of the work environment for nurses underlies the successful Magnet Hospital program of the American Nurses Credentialing Center. Achieving magnet designation requires that hospitals establish the conditions for effective nurse participation in achieving desired patient outcomes. Three Washington hospitals (University of Washington Medical Center, Seattle Children’s Hospital and Providence St. Peter-Olympia) have received this designation and others are in the Magnet process.

“Nursing-Sensitive Quality Indicators (NSQI) reflect the structure, process and outcomes of nursing care.” (ANA, n.d.) These indicators include outcomes such as number of patient falls, nosocomial infection rate, incidence of complications, nurse satisfaction, patient satisfaction with pain management, educational information, and overall care, as well as process indicators such as staffing mix, nursing hours per patient day, RN education and certification, and nursing turnover. Numerous studies of identified outcomes have been conducted and they all respond positively to higher nursing staffing levels and environments in which nurses are supported in providing excellent care (ANA, 2004). The shortage of nurses jeopardizes the achievement of these outcomes.

The American Organization of Nurse Executives revised its original Guiding Principles for Future Patient Care Delivery (AONE, 2010). The document leads off with an overall statement regarding the nature of nursing in the future: “Nurses practicing in the care delivery system of the future will need to be skilled in conducting and using research, utilizing advanced technology, communicating and relating skillfully, and leading effectively.” (Ibid, p.1) This new document identifies many nurse leadership roles in the patient care delivery system. It also supports the baccalaureate degree as the minimum credential for nursing practice in the health system of the future.

As the population has become more ethnically diverse, the make-up of the nurses serving that population has not changed at the same rate. Nurses from a varied ethnic backgrounds contribute to the effectiveness of the health care delivery system both through their direct interactions with patients from their own background and through sensitizing the entire system to the differences that must be respected for health care to be effective. Efforts to increase the numbers of ethnic minorities and men in nursing will support development of a more responsive health care system.

The Institute of Medicine (IOM, 2010) report identified the need for more nurses with baccalaureate and higher education as they
take on leadership roles in the evolving health care system. The biggest pool for creating nurses with higher credentials lies in those associate degree graduate RNs who have not gone on in higher education. Finding ways to support and motivate them to engage in further education will be essential to increase the pool to the IOM desired target of 80% of RNs having a baccalaureate or higher degree by 2020. The Tri-Council (a coalition of the NLN, ANA, and AACN) issued a policy statement emphasizing the need for nurses with higher degrees and called on all partners in nursing education to address the issue through engaging nursing students as well as practicing nurses in efforts at life-long learning with an emphasis on moving on in higher education toward degree attainment (Tri-Council, 2010). Research continues to support that patient outcomes are improved when the hospital employs a higher number of nurses with baccalaureate degrees (Blegen, Good, et al, 2013).

The Nursing Supply in Washington State

In 2002, the Washington Nursing Leadership Council (WNLC) developed a strategic plan for nursing (Nursing Leadership Council, 2002). A major recommendation was the establishment of a Washington Center for Nursing that could oversee implementation of the strategic plan. The Washington Center for Nursing (WCN) came into being in 2003 with legal incorporation. Since that time, the Washington Center for Nursing has led the collection, analysis, and reporting of nursing workforce data, as well coordinating work with multiple stakeholders examining the nursing supply and nursing needs in the state, providing materials and information to improve the image of nursing, facilitating and ensuring the implementation of the MPNE, working with practice leaders, and funding work to enhance diversity in nursing at all levels.

The WCN has supported the analysis and publication of data regarding licensed practical nurses, registered nurses, and advanced practice nurses that are available through licensure records. These data include address, age, and gender but do not include other demographics such as race/ethnicity or employment status. (WCN, 2011a,b,c)

Licensed Practical Nurses (LPNs)

In 2000, there were approximately 12,400 LPNs in Washington State. In 2006, there were 14,629 LPNs with active Washington Licenses. By 2011, the numbers had decreased to 12,669. LPNs are not evenly distributed across the state ranging from a high of 324 per 100,000 people in Workforce Development Area 6 (Pierce County) to a low of 124 per 100,000 people in Workforce Development Area 11 (Benton & Franklin Counties) (WCN, 2011b). (See Appendix A for ratios in all Workforce Development Areas). This difference may relate to the difference in distribution of practical nursing education programs throughout the state and the employment opportunities available. Additionally, there has been an emphasis on increasing the numbers of LPNs advancing their education to become RNs. The mean age of LPNs in Washington State is 48.1 which is an increase from 47 in 2008. In 2011, 12.2% of LPNs in Washington were men. This is an increase from 8.5% in 1999. The percentage of male LPNs has been considerably higher in Washington than in the country as a whole. The U.S. data for 2004 identified that 5% of LPNs were men. (WCN, 2011b)

Registered Nurses (RNs)

While the registered nursing supply has increased steadily since 2000, it showed a steep increase between 2004 and 2011 as increased admissions to nursing programs began resulting in increased graduations and increased numbers achieving initial licensure. Sustaining the numbers of new licensees will be necessary. (This will be discussed more fully in the section on Nursing Programs.) Loss of nurses comes from those who move out of state, retire, and leave nursing as a profession.

In 2000, there were approximately 51,000 registered nurses. In 2011, there were 67,379 registered nurses with active licenses residing in the state, some of whom are not practicing. There are a total of 80,615 active licenses, but for purposes of this paper, the assumption is made that only those residing in this state are the ones working in this state. Although some active in Washington may reside across state borders that number may balance with those residing in this state but working across a state border. Using estimates of the number of RNs practicing in Washington, the 2011 data reflect an improved ratio of 1001 nurses to 100,000 residents (WCN, 2011c). A question has been raised about the area immediately south of the Canadian border in western Washington. Because of higher salaries in the U.S. than in Canada, Canadian nurses do immigrate into the United States. Less clear is whether any maintain residence in Canada and cross the border for employment.

Pre-licensure Educational Preparation: Data from the Washington Nursing Care Quality Assurance Commission on newly licensed graduates (NCQAC, 2011) indicate that for the 2011 graduation year there was a total of 2503 graduates. Of these 1603 (64%) graduated with an associate degree, 808 (32%) graduated with a BSN, and 92 (4%) as graduate entry. This is an increase in the percentage of new nurses with either BSN or graduate entry. With increasing evidence of the need for more highly educated nurses, addressing this need while maintaining overall numbers of nurses is a significant challenge. The number of those with an associate degree who go on to earn a bachelor’s or master’s degree is not clear and may make an important contribution to increasing the overall educational preparation of nurses in the workforce.

State-wide Distribution: The supply also varies throughout the state, from a high of 1,330 per 100,000 in Workforce Development Area 12 that includes Spokane County to a low of 791 per 100,000 in Workforce Development Area 9 that includes Yakima and south central Washington (WCN, 2011c). Thus, the nursing supply and shortage are not the same throughout the state. See Appendix A for ratios in all Workforce Development Areas. While numbers of RNs in specific areas are significant, the preponderance of large
Age and Gender: The mean age of RNs in 2011 was 48.9 years. This has shown a slow but steady increase from 46.4 years in 1999. In Washington, 9.4% of nurses are men. This is an increase from 6.3% in 1999. Data from the entire U.S. is available for 2008 that showed 6.6% men in the registered nursing pool (WCN, 2011c). Washington State appears to be making progress in increasing the number of men in nursing, but they are still a minority.

Racial-Ethnic Diversity: National figures provide some indication of racial/ethnic diversity in the nursing workforce as a whole. According to the findings of the 2008 Sample Survey of Registered Nurses (USDHHS, HRSA, 2010) “of the nurses who indicated their racial/ethnic background in 2008, 83.2% were white while 16.8% were non-white and Hispanic.” This is an increased minority percentage from 23.8% in 2000. There has been progress in recruiting and retaining more minority nurses but the numbers do not yet match the general population.

The WCN supported a study of the racial and ethnic make-up of the RN workforce in Washington State (Skillman, 2008.) This study found that only 9.2% of the Washington RN workforce were of minority background. Of these 8% were African Americans; 4.7% were Asian, Native Hawaiian & Pacific Islander; 2% were Hispanic/Latino; 0.4% were American Indian; and 3.3% were of 2 or more races—non-Hispanic.

According to the Workforce Education and Training Board for Washington State, there is a lack of diversity in the health care workforce. This exacerbates health disparities among ethnically diverse populations. Ethnically diverse populations are also the fastest growing labor pool in the state. (Workforce Education and Training Board, 2007a) In 2004, the Sullivan Commission (Institute of Medicine, 2004) urged the federal government and accrediting agencies to take aggressive action to increase the number of underrepresented minorities in the health care professions. A key recommendation was that institutions should evaluate their own settings as a climate for diversity. Both financial and nonfinancial obstacles that form a barrier to participation of minorities must be addressed in order to encourage greater involvement of underrepresented minorities in health care delivery.

The Washington Center for Nursing has developed and supported a Diversity Initiative that is directed at increasing the number of ethnic and racial minorities in nursing. The initiative notes that retention of minority students in nursing programs is as important as the recruitment of minorities. The various aspects of this initiative can be found on their website at www.wacenterfornursing.org under “Current Projects”.

Advanced Registered Nurse Practitioners (ARNPs)

In Washington State, ARNP licensure includes those who practice as nurse practitioners, nurse anesthetists, and nurse midwives. In Washington, only those Clinical Nurses Specialists (CNS) in the area of mental health practice are designated ARNPs. This is in contrast to some other states where all of those with a CNS credential are eligible for advanced practice status. (Note: This is currently being reviewed in rules by NCQAC). All ARNPs must also hold active RN licenses. An ARNP is required to hold at least a master’s degrees (unless grandfathered from an earlier license), have completed an appropriate educational program in the advanced practice specialty, pass nationally standardized examinations in their particular specialty, and limit practice as an ARNP to the designated specialty. ARNPs are sometimes referred to as part of the group “midlevel” practitioners who provide an extension of medical services, although many ARNPs would state that their practices are uniquely informed by their role as nurses, and in Washington State ARNPs are allowed to practice independently without physician supervision. Washington State has a higher proportion of ARNPs relative to the population than many other states. This may be due to Washington being an early adopter of the advanced practice nurse role, and providing support for expanded practice as early as the 1970s. Just as with other licensed nursing professionals, ARNPs are not evenly distributed across the state. For example WDA 12 (Spokane) has approximately one third as many ARNPs (27 per 100,000) compared to the number (77 per 100,000) found in WDA 5 (King County). The mean age of ARNPs, 50.2 years, is greater than the mean age of registered nurses as a group. In 2011, 13.7% of ARNPs licensed in Washington were men. This percentage has risen only somewhat since 1999 when it was 12.7%. (WCN, 2011a)

Nurses Prepared for Faculty Roles (MSN/ MN to Doctoral Degrees)

A master’s degree in nursing is the minimum credential required for teaching nursing at the associate degree and baccalaureate level. It is at the graduate level that individuals specialize in areas of clinical expertise and gain background for advanced leadership, education, and research. A doctoral degree is required for tenure track positions in the university nursing programs and is required by accrediting bodies for the director s of RNB programs in community colleges. While the universities prefer to hire faculty with a doctorate, many clinical faculty in those institutions hold the master’s degree. In order for individuals to be prepared to move into doctoral study, the master’s degree is a ordinarily a requirement. Therefore, the number of nurses prepared at the master’s degree level is critical to addressing the supply of nursing faculty at all levels. The majority of ARNP nurses currently prepared at the master’s degree level are focused on direct clinical practice although some do move into nursing education and/or administrative roles.

A shortage of nursing faculty exists on the national level. A survey by the American Association of Colleges of Nursing (AACN, 2012) revealed a 7.6% faculty vacancy rate in baccalaureate and higher degree programs. 53.7% of those positions required a doctoral degree. There are no reliable data that would reveal the number of nurses in Washington who hold graduate degrees other than the numbers who are licensed as ARNPs. The graduate programs of the two flagship universities of the state attract and graduate many individuals from other parts of the country as well as people from within the state. While a large percentage of these may stay in Washington,
the exact number is not clear. More of the individuals attending the private colleges and universities and the newer campuses of the state universities may intend to remain within the state, but again this is based on conjecture rather than data. Gathering data regarding this important resource would facilitate planning. Between 2001 and 2011, the number of master’s prepared graduates more than doubled. The number of doctoral graduates who are prepared for tenure track positions in universities has more than tripled between 2006 and 2011 (NCQAC, 2011). Nationally, qualified applicants are being turned away from both master's and doctoral programs because of a shortage of faculty (AACN, 2012). This creates a circular problem in which not enough faculty are prepared and more faculty cannot be prepared without more faculty. On the state level, most of the universities could accommodate an increase in master’s students although the data regarding precisely how many more could be accommodated if there was significant additional funding to support increased numbers of faculty is not clear.

**Factors Affecting the Nursing Supply**

The RN supply is affected both by those entering the workforce and those leaving the workforce. Nurses enter as new graduates, immigrants from other countries, and migration from across the United States. Nurses leave as they resign to seek other types of employment, move to other parts of the United States, and retire. One of the efforts of the Washington Center for Nursing, working with the University of Washington Center for Workforce Studies, has been to analyze and track the nursing supply in Washington State in order to create projections regarding the future supply of nurses (Skillman et al., 2011).

**Aging of the Workforce**

Across the nation and within Washington, the mean age of nurses has been gradually increasing (WCN, 2011). The age of the nursing workforce has implications for loss through retirement and the effect of factors affecting resignation. In the 2008 National Sample Survey of RNs, of the 14% of RNs not working 33.8% left for retirement although they maintain RN licensure (NSSRN, 2010). As nurses age, decisions about retirement are affected by issues such as the ability to continue with the physically demanding requirements of direct care. The advent of 12 hour shifts, while meeting some goals of both individual nurses and employers, may adversely affect the ability of individuals to continue working as they age and confront more physical limitations. Additionally, as nurses age they may not be able to meet the physical demands even before they reach the general retirement age of 65. These nurses may resign and seek other employment because of an inability to meet the demands of the job such as requirements for lifting a set number of pounds, being on their feet for a 12 hour shift, or the long term effects of muscle and joint strain from lifting and transferring patients. Employers will need to respond to these issues affecting nursing supply through strategies that lessen the physical demands of nursing positions and through a flexible approach to nursing shift length. The average age at graduation from a basic nursing program showed continuous rise until 2000. From then until the 2004 national survey, it showed a slight drop (NSSRN, 2005). After that, it plateaued through the 2008 study. A continuation of this trend could ease the problem of the aging workforce. In Washington State the mean age of working RNs is 49 as compared to a national mean age of 46 years.

The nursing faculty workforce is older than the general nursing workforce. The average age of nursing faculty in Washington is over 50 (WCN, 2012). Thus, the ability to prepare more nursing faculty is in jeopardy.

**Adverse Work-life Environment**

As a national nursing shortage affects the ability of employers to fill nursing positions, deficits in staffing increasingly are implicated as creating an adverse work-life environment. Fatigue of nurses, created by long shifts, many shifts in a row, a lack of days off, and negative relationships in the workplace have continued to be identified as significant factors in patient safety and in nurse satisfaction (Rogers, Wang, Scott, et al. 2004; Kovner, Brewer, et al, 2006; & Brewer, Kovner, et al, 2012). With fewer nurses, the nurses present must work harder, faster, and longer to meet the needs of the patients. Without adequate staffing, patient safety is compromised. Individuals may leave nursing for other occupations because of the work demands of clinical nursing roles and also because of the psychological effect of feeling that they are not providing care at the standard they believe is needed. Chronic stress is particularly found in areas such as critical care and those areas with high patient mortality. This too, contributes to burnout.

The Institute of Medicine produced a report on “Keeping Patients Safe: Transforming the Work Environment of Nurses” (IOM, 2003). As part of a broad approach to safety, the report provided recommendations related to management practices, work design, and what an organizational culture of safety should be like. The report suggested that actions by both state and federal governments are needed to accomplish the desired goals of a safe work environment for nurses. Other parties who affect the work environment, including employers and nursing organizations, also need to take an active role in shaping a healthy work environment that supports excellence in nursing.

**On-the-Job Injuries and Violence**

Data regarding on-the-job injuries for those in direct care positions demonstrate that nursing is a hazardous occupation. The Bureau of Labor Statistics (2011) reports injury rates of 6.8 per 100 in hospital settings which is down from 8.8 per 100 in 2002 (Bureau of Labor Statistics, 2002). Many initiatives, such as lifting policies and safety needles, have been undertaken to increase safety and decrease injury in hospitals. The injury rate in the nursing home setting is 7.8 per 100 compared to 13.5 per 100 in 2002 (Bureau of Labor Statistics, 2002). While new injuries have decreased, many nurses are still injured. Violent behavior has decreased, however, there are many nurses in practice who have already experienced injuries that may continue to interfere with their lives. Fragala and Bailey (2003) aggregated over 80 studies and identified that the lifetime prevalence of back injuries...
Washington State Nurses Association

Effective Orientation of New Graduate

The quality of orientation or transition programs for new graduates affects early attrition of new graduates who leave the nursing workforce because they cannot cope with the expectations. In a profession requiring life and death decision making, the expectation that a new graduate can be independent immediately after graduation is unrealistic. With the high acuity of patients, the complexity of health care regimens, and the potential for harm as well as good in available therapies, new graduates should not be expected to perform at the level of experienced RNs. New graduates may be asked to take on responsibility before they are ready. The shortage of nurses changes the workplace so that there are fewer experienced individuals to serve as mentors or preceptors.

In a large national study Brewer, Kovner, et al, (2012) identified that organizational commitment to new RNs increases their intent to remain in their jobs. The National Council of State Boards of Nursing reports that “health institutions with transition programs have seen a marked drop in attrition” of new graduates (NCSBN, 2010). Promoting effective orientation can enhance the nursing supply through preventing attrition. Nationally there is growing evidence and support for structured transition programs to increase retention, job satisfaction, and outcomes.

The Master Plan for Nursing Education includes recommendations for formal, structured transition to practice programs for new graduates of all types of nursing programs. The Washington Center for Nursing has led an initiative regarding Transition-to-Practice, engaging employers and educators in designing a Transition-to-Practice Tool-kit, and identifying strategies that will facilitate this process (WCN, 2010).

Internationally Educated Nurses

Throughout the United States, the recruitment and immigration of internationally educated nurses has been one avenue used by those trying to address the nursing shortage. As the supply of new graduates has increased, there has been a reduced number of these internationally educated nurses brought to the U.S. A discussion of all the issues surrounding their recruitment, orientation and education needs, and their employment are beyond the scope of this paper. However, it is appropriate to note that once in the United States, internationally educated nurses...
nurses need carefully structured programs to help them adjust to the differences in practice patterns and expectations of registered nurses in the United States compared to those they were accustomed to in their countries of origin. Without effective transition programs for those internationally educated nurses recruited, this strategy for increasing the nursing supply will be ineffective. Because of the many costs and barriers, recruiting internationally educated nurses is unlikely to make a significant impact on the future nursing shortage in Washington State.

Nursing Needs in Washington State

The shortage of nursing personnel to meet health care needs continues as a primary concern. While nursing education programs have almost doubled the production of new registered nurses in Washington over the last ten years, the state still lags in the number of registered nurses relative to the population with 798 per 100,000 as opposed to the national 874 (Kaiser Family Foundation, 2011). As health care reform progresses and more previously uninsured individuals moved into the health care system, more health professionals of all types will be needed. While hospitals report 3% vacancies (Skillman, 2011), recruiting is aimed as experienced nurses, those in specific specialties, and those with baccalaureate and higher degrees. Because of the economic downturn current nurses have deferred retirement, moved from part time to full time, and routinely work extra shifts. Data reveals that 90% of all registered nurses in the state are currently employed (Skillman et al, 2011); thus, recruitment efforts tend to move RNs from one position to another and do not add to the number employed. As the economy recovers and the “baby boomers” move toward retirement, these measures that have kept the vacancy rate low will disappear. As the move to use nurses to their highest level of practice continues, the demand for nurses in many different roles will increase. Nurses are moving into roles such as case manager and medical home coordinator that require additional education and experience. Research has shown that increasing the education of nurses at the bedside in hospitals improves patient outcomes. Based on these increasing needs the Institute of Medicine has called for 80% of nurses to have baccalaureate or higher degrees by 2020, while in Washington only 51% of nurses have this level of education (Skillman et al, 2011).

In Washington State fewer LPNs appear to be hired into hospital settings than nationally. Nursing educators have noted that most licensed practical nursing graduates are primarily working in long term care environments. Some have expressed concern that their LPN graduates are being asked to perform beyond what they were prepared to do and in ways that may be beyond their legal scope of practice. Using LPNs beyond their scope of practice is often related to the difficulty that long term care facilities have in recruiting registered nurses. In 2013, the practicing LPN supply does not meet the LPN demand, although the numbers licensed as LPNs would meet the demand if all were working. The projections for demand for LPNs show a steadily increasing demand. Therefore, an increasing number of newly licensed LPNs will be needed to meet this demand. The projections for supply and demand showed that even 200 additional graduates per year would not meet demand by 2026. No new programs are being developed and the number of graduates of PN programs has stayed constant from 2006-2011 at a level lower than that used in the 2007 projections (NCQAC, 2011). This means that by 2026 the supply of LPNs will be approximately 28% lower than the demand (All data regarding LPN supply and demand are from Skillman et al, 2009). Another factor affecting LPN supply is that many newly licensed LPNs are already enrolled in “step” programs and plan to complete their education to become registered nurses. Thus, their availability to the LPN market may be short. Encouraging LPNs to advance their education to become RNs enhances the number of RNs while decreasing supply of LPNs.

Assuring Adequate Numbers of Nursing Faculty

Nursing programs in Washington report serious difficulty in hiring qualified faculty. Despite nationwide advertising, some nursing programs may receive only two or three qualified applicants for full time positions and often have no qualified applicants for part-time positions. Most programs have received few applications from ethnic or racial minority individuals and only 12.9% of current faculty members are from ethnic minorities (WCN, 2010) and only 9% are men (NCQAC, 2011). This, however, does reflect a greater percentage of minorities than are found in the overall RN population. Recruiting into the Puget Sound region is further hampered by the high cost of housing relative to wages in the area. The NCQAC has granted many waivers allowing associate degree programs to hire baccalaureate prepared nurses rather than master’s prepared nurses because they were unable to fill faculty positions. The nursing faculty has a higher average age than the clinical nursing population with programs reporting that 16% of faculty will retire in the next five years (NCQAC, 2011).

There is a nationwide shortage of nursing faculty as documented by the AACN in their 2012 survey (AACN, 2012) of their member baccalaureate and higher degree programs. Nationally 56.9% of U.S. nursing schools cited unfilled full-time faculty positions as well as an additional 15.6% of schools that indicated that they needed more faculty positions. The national picture for associate degree programs is similar to Washington with the NLN reporting that one fifth of associate degree programs reported unfilled faculty positions while 9% of BSN programs reported unfilled positions. (NLN, 2011) Nationally many of these colleges have programs in place to provide financial and time support for these individuals to attain their master’s degrees. They are “growing their own” in the face of the shortage.

One important concern that affects recruitment of faculty involves the failure to clearly identify and recognize the actual workload required. Faculty must prepare and evaluate curricula. Agreements
may require that they must be available to students outside of the formal classroom environment for discussion, mentoring, and advising. In service to their respective educational institutions, faculty work load includes additional meetings and project work that may not be reflected in the specific class load that the public equates with teaching. These are similar to the requirements for all full-time academic faculty. Additionally nursing faculty help to arrange for clinical placements, travel to clinical sites, and spend a great deal of time working with facility staff to ensure that students have an appropriate learning environment. Intensive academic counseling of students in relationship to clinical performance, the evaluation of clinical performance (which relates more to employee evaluation than typical academic evaluation) and the demands of assisting struggling students to prevent attrition all take time. National accreditation provides support for excellence but creates additional demands for comprehensive evaluation plans, data collection and analysis, and constant attention to curricular updating. Nursing faculty work may be understated by those not familiar with its demands. These faculty members usually have requirements for service to the institution and in universities there are additional expectations for scholarship and research.

Below market rate faculty salaries both in universities and in community colleges further impact the ability to recruit new faculty members. According to LaRocco (2006), only three-fourths of nursing doctoral graduates state they are seeking faculty positions. Because of stagnation in academic salaries, there have been no raises for faculty in Washington state universities and most community colleges for four years, many qualified nurses seek employment in clinical settings where salaries are significantly higher, or to compensate for stagnated wages at the academic level, faculty nurses may work an additional job, thus adding to the burden of stress and burnout. The NCQAC Program Reports Summary for 2010-2011 reported that 6% of faculty leaving nursing education were doing so based on better salaries outside of education. When recruiting new faculty, programs reported a total of 22 individuals who were offered full-time positions and 16 who were offered part-time positions turned them down due to the low salary (NCWAC, 2011). The University of Washington indicates they would be able to hire well qualified faculty if the salaries were competitive with California. Faculty members frequently are asked to teach evenings and weekends. While for nurses in the clinical setting working evenings, nights, or weekends would result in premium pay, there is no differential pay in the educational setting. There has been no movement to significantly increase faculty salaries at any level in state supported schools of nursing. Private universities are also facing budget limitations. Therefore, the disparity in salaries between education and service institutions is expected to continue.

The hourly rate for a part-time clinical instructor is another concern in maintaining a consistent faculty. In most nursing programs, part-time faculty are paid an hourly rate based class hours. This may appear to compete with the hourly rate for a clinical nursing position, but the clinical position is completed during the assigned paid hours. The clinical faculty member has many additional hours of planning learning experiences, interfacing with the clinical staff, grading clinical paperwork of students, counseling with and evaluating students and meeting with other program faculty. While exact data are not available, anecdotal conversations with part time faculty indicate that they spend at least one hour of additional work for each hour of student contact. In fact, this additional work load is often why part-time faculty members leave teaching and return to clinical practice.

The legislature has not increased (or unfrozen) higher education faculty salaries nor provided cost-of-living adjustments in recent years. These salaries are evaluated by nurses as they consider a faculty position. In some states nursing faculty salaries have been increased. For example, a contact with an Illinois community college revealed a contract with a top faculty salary of $72,000 (for a 9 month contract) in an area where the average home price was $150,000. While faculty salaries do differ from one college to another, in the Puget Sound region where finding a home for less than $300,000 is a challenge, the top community college faculty salary based in their contracts is rarely much over $65,000 (for a 9 or 10 month contract for someone with a doctoral degree).

Attempting to increase the size of nursing programs by hiring part time faculty creates a different recruitment problem. In most instances, part time faculty members are hired for one term at a time at wages considerably below those of full time faculty. Unless the person teaches at least 50%, they are not usually eligible for health care benefits or retirement plans. Some individuals seek part-time positions hoping to become full time. However, adding full time faculty line items is often very difficult with the overall budget constraints of community and technical colleges. Most of the state and private universities have similar constraints in regard to adding of full-time faculty positions. Increasing numbers of part-time faculty also increases the demands on the remaining full-time faculty members to manage the entire program and meet other demands as well as provide mentoring and direction for the part-time faculty members.

In at least one state, legislators thought to ease the nursing faculty shortage by reducing the educational requirements for faculty. Both the nursing and educational communities opposed this approach because of its potential to decrease the quality of the education provided and the risk to accreditation that this poses. Relieving shortages by decreasing needed qualifications may ultimately decrease the quality of care available to the citizens of the community.

Meeting the Nursing Workforce Shortage

Washington State is currently graduating enough new nurses to meet the demand for registered nurses. The UW Center for Workforce Studies (Skillman et al. 2011) estimates that by 2016 the current rate of graduation will not meet the demand for nurses. Modest increases in numbers
of new graduates of 10% by 2016 and then a further increase to 20% by 2020 will still not meet the demand after 2016. While programs have significantly increased graduates in the past ten years, further increasing graduation numbers will need a variety of strategies. The demands of health care reform as well as the retirement rate of nurses may be greater than current estimates. Unless educational output is increased the gap between supply and demand will continue to be significant. The gap between supply and demand will widen even if additional students are admitted immediately because of the length of education.

Increasing the racial and ethnic diversity of all health care workers, including nursing, has been recommended for the purpose of improving care to ethnic minority groups. Recruitment of ethnic minorities by nursing programs poses some challenges because of the state limitation on using race or ethnicity as a factor in admission. Retaining racial and ethnic minority students to graduation may be the most effective strategy for increasing their numbers in the nursing workforce. The Washington Center for Nursing is currently spear-heading an initiative aimed at providing mentoring and support for racial and ethnic minority nursing students.

Current State of Nursing Education
There are 40 nursing programs in Washington State; some with multiple types of programs and tracks for student progression within those programs. Twenty-three programs provide practical nursing education. For a current list of Commission-approved programs, check http://goo.gl/tawbnO.

Setting Standards for Nursing Education
Nursing programs in Washington have used a variety of state and national references and standards to assure that they are preparing students effectively for nursing roles. Using these standards keeps nursing programs in touch with national expectations for excellence and gives students and the public assurance that programs are effective. Many programs in the state have chosen to use nationally standardized testing and remediation services to assist students in success and to support their program evaluation efforts. These programs do add a significant cost for students.

Community and Technical College Programs
The community and technical colleges in Washington State are all part of a coordinated system under the direction of the State Board of Community and Technical Colleges (SBCTC). All new programs must be approved first at the local college level and then by the SBCTC before specific planning is undertaken. Nursing programs must then be approved by the Washington State Nursing Care Quality Assurance Commission (NCQAC) in order for graduates to be eligible to take the licensing examinations.

Credits and clinical experiences vary considerably among the various programs of each type. The Washington Center for Nursing organized the data from the various programs to provide specific information on both clinical hours and types of experiences. These data are contributing to the analysis of clinical placements and may lead to more effective distribution of scarce clinical resources for nursing education.

Practical Nursing
Twenty-three community and technical colleges provide preparation for licensed practical nursing. Six programs are located in Eastern Washington while 16 are located in Western Washington. The Puget Sound region has a concentration of programs with 11 located in the area from Olympia north through Everett. An additional practical nursing program is located in a private college. Two of these LPN programs in Western Washington prepare only practical nurses. Twenty community college practical nursing programs are currently “ladder” or “step” programs. In these programs, all students are prepared for practical nursing licensure in the first year of the program and are then provided an opportunity for progression to a second year to complete the associate degree preparation for registered nurses (NCQAC, 2011.)

Associate Degree Nursing
There are 28 associate degree programs located in community and technical colleges that prepare registered nurses. This represents an approximate 23% increase in the numbers of associate degree programs since 2001. In addition to the new programs, existing programs have increased their enrollments significantly (NCQAC, 2011.)

Community College nursing programs prepare entry level graduates to provide direct patient care, and to use this foundation for further professional development and formal education. These programs vary in credits and clinical hours, however, all require more than the minimum 90 credits for the associate degree. All provide some type of option for licensed practical nurses to become registered nurses through completing the associate degree program. The “step” programs (in which their own students are admitted to the first year practical nursing component, complete that year and meet program criteria, and then progress on to complete the associate degree) may admit other LPNs to the second year on a space available basis. One community college has developed a rural outreach nursing education (ROKE) program that provides a mechanism for LPNs in rural areas to attain their associate degree and become RNs while remaining in their home communities.

Universities
Universities provide baccalaureate and higher degree programs in nursing. There are two major state universities with nursing programs both on their main campuses and on newer campuses. These account for seven locations where nursing education occurs at state universities. This state also has seven private universities that provide baccalaureate nursing education.

Baccalaureate Degree Programs
Nine generic (pre-licensure) baccalaureate in nursing programs provide preparation for registered nurse licensure plus they require a more extensive body of general education than an associate degree and additional nursing courses primarily in the areas of community health, leadership/care coordination, quality improvement, and the use of re-
search in practice than an associate degree. This broader background provides for an expansive approach to nursing and the preparation for graduate education. While many entry level registered nurse positions do not differentiate between new graduates with associate degrees and those with baccalaureate degrees, many employers expect that those with baccalaureate degrees will be better prepared to move into leadership roles and independent decision making. Hospitals seeking Magnet status are encouraged to increase their baccalaureate-prepared nursing workforce and so may preferentially hire BSN prepared nurses when they have a choice. Increasing evidence supporting the effect of more BSN prepared nurses on improving patient outcomes is also driving the move to increase the hiring of BSN prepared RNs.

The two main campuses of the state universities and one branch campus provide pre-licensure (generic) baccalaureate in nursing programs to prepare individuals for registered nurse licensure. Six private universities provide this pre-licensure baccalaureate education. One of these formerly provided baccalaureate education for associate degree RNs only but has now expanded to provide generic baccalaureate entry education as well. Most of the others have increased their class sizes to increase the number of basic students prepared at the baccalaureate level. Available data are limited but it appears that in spite of some increases in generic baccalaureate program size, Washington has a lower ratio of generic RN academic spaces to associate degree spaces than many other states.

**RNB Programs**

Eleven campuses provide for baccalaureate education for the registered nurse with an associate degree. These are referred to as RNB programs. These include both private universities and the branch campuses of the flagship universities. One RNB program is in an expanded community college that now offers several baccalaureate degrees. The RNB programs have provided an opportunity for advancing education and improved preparation for delivery of complex care for many nurses. This has resulted in the large number of practicing nurses that hold the baccalaureate degree. There are no current data on how soon after becoming RNs the majority of these individuals return to school. One private university provides an LPN to BSN pathway.

Two additional RNB programs, one at a private university and another at a state institution, have been launched and will admit students in Fall 2013; another community college also will accept its first RNB student in the Fall of 2013 while an additional community college is in the planning phase for an RNB program.

Mechanisms for encouraging the movement of associate degree RNs into RNB programs can provide for increasing the supply of more highly educated nurses. Although this will not contribute to the overall nursing supply, data would support that increasing the educational level of the nursing workforce will improve patient outcomes and may enhance the retention of nurses in the workforce. It will also increase the employability of associate degree RNs as more employment settings seek nurses with the BSN.

In some settings, employers support educational advancement through tuition reimbursement and flexible scheduling once the individual is admitted to a program. State employees (such as those at Harborview and University of Washington Hospitals) are allowed to enter tuition exemption programs at state educational institutions. However, these programs were designed to allow state employees to take classes on a “space available” basis. Classes needed may fill thus limiting this is an option. Classes taken under this option do not count toward the college's required FTE (full-time equivalent students) nor are any funds provided for their support. Because of the costs of accommodating these students, many programs have found it necessary to eliminate this option for their nursing programs. The current high demands on staff nurses for working extra shifts and overtime and the increases in tuition may be barriers to nurses moving into further education. Most of the RNB programs have been designed with the working nurse in mind with part time options available and class times and even places planned for greater accessibility for the working nurse.

Online programs for educational advancement are another option to encourage registered nurses to continue their education. One state university has developed an online RBN program, which is a hybrid program. This program allows greater flexibility and opportunities for those who are place bound in areas where RNB programs are not located. Because this is a state university, tuition costs are comparable to all onsite programs. This program is growing in numbers of students served. While online RNB programs from a wide variety of private colleges across the country are available, the high costs of these programs (and the large amount of debt incurred by students) are a barrier to many. The online Western Governors University is less expensive than most other online options but requires a high degree of autonomy. An additional barrier to many online programs is the requirement that students procure their own clinical sites and preceptors to meet the clinical requirements of the program.

**Master's Degree Programs**

The preparation of individuals with graduate nursing degrees both at the master's and doctoral levels is essential to meeting the needs for faculty and leadership positions in nursing. All of the universities providing undergraduate nursing education, including branch campuses, provide master's degree programs. Most of these graduate programs provide education that supports the nursing faculty role and the nurse administrative or policy role. All of these programs have tracks that prepare people for advanced practice as nurse practitioners. There is one program preparing for the nurse midwife role and one preparing for nurse anesthetists (although this program is housed in an education department rather than a nursing department.) There are also many online university programs from throughout the country offering the master's degree and even the PhD in nursing.

While the traditional pathway to a master's degree in nursing is to first complete the bachelor's degree in nursing, there are now alternative pathways. These include the master's entry program and the associate degree to master's pathway for those with other bachelor's degrees.
Two universities have inaugurated graduate level entry programs (NCQAC, 2011). These programs admit individuals with bachelor’s degrees in fields other than nursing and provide preparation for licensure in the first five quarters and then move the students onward in a path toward an advanced practice nurse master’s degree. The NCQAC refers to these as Master’s Entry programs. Most students in these programs are moving into ARNP preparation.

Many of the universities now provide for an associate degree to master’s degree pathway for those with an associate degree in nursing and a baccalaureate degree in another field. These pathways recognized the value of previous education and provide an effective method to increase the numbers of nurses prepared at the graduate level. Some of these students are moving into teaching and leadership roles while others are entering nurse practitioner tracks.

Doctoral Programs

The development of the Doctorate of Nursing Practice (DNP) is creating a change in graduate preparation in nursing. The DNP is a clinical degree (similar to the PharmD for pharmacists) that prepares nurses for practice in advanced practice nurse roles, such as a nurse practitioner, nurse midwife, or clinical nurse specialist, with a basis in practice inquiry. There will be course work with an education focus available. Three Washington universities offer the nursing practice doctorate at this time (NCQAC, 2011). This is a national trend and major universities are expected to move from the master’s degree for advanced practice nurse roles to the DNP.

Both major state universities also provide a traditional academic Doctor of Philosophy (PhD) in Nursing. The PhD supports academic education and research in nursing; these are essential for the future of the profession. There are also doctoral degrees in fields such as the EdD in higher education leadership that can be adapted to teaching in nursing. The University of Washington Tacoma has such a program in place.

Applicants to Nursing Programs

All nursing programs in Washington State report more qualified applicants than they can accept. However, anecdotal evidence indicates that many students applied to more than one program. Therefore, accurate information on the “real” number of applicants has not been available. This limited the data upon which to make decisions regarding recruitment.

The Washington Center for Nursing developed a prototype method of determining the real total applicant statewide. Its method included collecting data on the number of qualified candidates then subtracting the number of admissions to determine the number of qualified but not accepted applicants. The admitted students were then polled by their program directors as to how many additional programs to which they had applied. After these numbers of additional applications are deducted from the number of qualified but not accepted applicants, a more accurate view of the real number of qualified applicants being turned away could be determined. Data from the WCN suggests that there may be an approximately 25% overlap in applications.

Washington State needs to graduate approximately 713 more RN graduates annually by 2031 to address the workforce issues. It appears that the number of qualified applicants not accepted would greatly help to meet this need. An analysis of the programs’ waiting lists to determine if those applicants mirror the background both academically and experientially of the accepted students, would provide deeper information on the potential student pool.

As previously mentioned, there is a lack of diversity in the health care workforce. This exacerbates health disparities among ethnically diverse populations. Recruitment of men and minorities will continue to be important if the nursing programs are to meet the needs of the citizens of the state. Ethnically diverse populations are also the fastest growing labor pool in the state. While state law prohibits any differential admissions based on ethnicity or gender, the numbers of minority admissions will rise as the applicants from those groups rise.

Retention / Attrition / Graduation Rates

Once qualified individuals are admitted, retaining them to graduation enhances the nursing supply. When a student leaves a nursing program before graduating, that potential addition to the nursing workforce is permanently lost. Another student cannot be added to an advanced level to replace the one who left. Many factors that educational institutions do not control affect attrition. These include student language difficulties, study skills deficits, personal crises, health issues, financial difficulties, and decisions about career directions.

Many successful strategies that have been instituted to address retention are based in grant funding and cannot be sustained with only standard financial support. Some of these strategies have included special language support for the non-native speaker, counseling regarding individual personal/family issues, special study skills help, and additional financial aid. Developing reliable funding for these strategies would increase retention especially for low income and minority students. Sharing information regarding successful strategies that improve retention would be valuable to all programs.

Both the Commission on Collegiate Nursing Education (CCNE) which accredits only baccalaureate and higher degree programs and accredits all of the baccalaureate and higher degree programs in the state and the Accreditation Commission for Education in Nursing (ACEN) that accredits nursing programs at all levels and accredits 22 of the associate degree programs in the state, require that graduation rates be calculated and used as part of program evaluation. ACEN was formerly titled the National League for Nursing Accrediting Commission (NLNAC).

All nursing programs calculate graduation rates as part of their self-evaluation processes. With the impact of their varied student make-up, many programs are hesitant to share this information widely where it might not be understood. Because the information is important both to educators and policy makers, standardized methods for calculating graduation rates and the reporting of graduation rates along with other data about student demographics and characteristics are important to decision-makers.
The ACEN provides a specific formula for calculating graduation rates in order to be able to aggregate data. The ACEN definition of graduation rate is “the number of students (individuals matriculated and on the formal class roster) who complete the program within 150% of the time of the stated program length (the length of the program adjusted to begin with the first required nursing course)” (NLNAC, 2006a, p.80). The purpose of using the 150% is that it takes into consideration the majority those who “stop out” for personal reasons such as health, family issues, pregnancy, and financial constraints but who do return and complete. Those who return after a time out longer than 50% of program length are not included in completion statistics using this method.

In its 2011 report to constituents, aggregate data collected by ACEN indicates that in 2010 the mean graduation rate across the nation in practical nursing programs was 73.2%, in associate degree programs 73.6%, and in pre-licensure baccalaureate programs 79.5% (NLNAC, 2010) These means have varied little over the ten year period from 2001-2010. These bench marks can be used by programs for self evaluation. Improvement in these numbers should be a stated goal of all programs.

**Success on Licensure Examinations**

Washington's nursing programs are very successful in preparing individuals for basic PN and RN licensure. The national success rate on the RN licensure examination (NCLEX-RN) has been stable and was 90.34% in 2012 (NCSBN, 2013). In Washington, the average success rate on the NCLEX-RN was 92.46%. The pass rates of specific programs vary from year to year but the overall state picture remains remarkably consistent. When a program does drop below the 80% regulatory requirement for one year, that program has usually returned to a higher pass rate the following year. However, averages mask the fact that some programs have frequently fallen below national average pass rates. In 2012, the licensure examination pass rate for first time attempters for LPNs was 93% in Washington and 83.78% nationally (NCSBN, 2013). See Table 1.

**TABLE 1**

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<td>National Pass Rate</td>
<td>86.7%</td>
<td>88.42%</td>
<td>87.41%</td>
<td>87.89%</td>
<td>90.34%</td>
</tr>
<tr>
<td>Washington Pass Rate</td>
<td>88.3%</td>
<td>90.1%</td>
<td>89.7%</td>
<td>90.2%</td>
<td>92.46%</td>
</tr>
</tbody>
</table>

*National Council of State Boards of Nursing, NCLEX Pass Rates (by year).*

Graduates of nurse practitioner programs must pass examinations in their area of focus in order to be eligible for the ARNP license. Because those examinations are given by professional nursing organizations, the data regarding pass rates for those individuals are not as available from the NCQAC. However, programs in the state report their pass rates for their accrediting groups and graduates consistently pass those examinations after graduation.

**Articulation**

The various levels of nursing programs (LPN, ADN, BSN, Master’s degree) in Washington State have a long history of collaborative effort. Through the Council for Nursing Education in Washington State (CNEWS), the deans and directors of all programs at all levels meet together twice yearly to advance nursing education and find solutions to their common concerns. Working together in CNEWS and building on individual articulation agreements already in place, an articulation plan for the state was developed and then published in 2002 (CNEWS, 2002). Since that time additional work has been done between individual programs and some programs have developed dual enrollment for students completing the associate degree and moving into the baccalaureate degree. Dual enrollment creates a seamless transition for students and encourages their educational progression. All across the state there are opportunities for individuals to advance their education on site both through main and branch campuses as well as through online options.

Through collaborative efforts, the community colleges have adopted a common set of pre-requisite courses that more effectively support the pathway to the BSN. The AAS-T degree (Associate in Arts and Sciences-Transfer) is now available to students in associate degree programs leading to even more consistent articulation with universities that are part of the transfer agreement system within the state.

One development by universities was the plan for assisting associate degree registered nurses with a bachelor’s degree in another field to enter directly into graduate nursing programs without first requiring that the student complete an RN B program. This has created a shorter path with less redundancy for those associate degree graduates with degrees in other fields whose interests lie in advanced nursing roles.

More recent developments have been the intensive or accelerated graduate entry programs. These allow individuals holding bachelor’s degrees in fields other than nursing to enter into the graduate nursing level, achieve RN licensure part way through the program, and then continue on to complete the master’s degree. These programs require a very high time commitment and are costly due to being self-supporting with all credits being at the graduate level. Thus they are useful to a select segment of the potential nursing student population. State support for these programs in the state universities would make them attractive to more students.

Traditional master’s in nursing programs including those with a focus on nursing education would be able to admit more qualified students if they had the qualified applicants. However, applicants often investigate and learn that there are few full-time positions with benefits for new nurse educators. The majority of expansion (while not all) has relied heavily on the use of part-time faculty. This may deter individuals from applying to these graduate programs. The effort and cost of the graduate education would not be rewarded financially. Recruitment of individuals into master’s programs with the assurance that appropriate positions are available upon gradu-
Improving the Nursing Supply Through Increasing Nursing Students

A significant effect on the nursing supply has been the development of new nursing programs as well as increased enrollment in other programs. In the last six years, three community/technical colleges that formerly prepared only practical nurses expanded to prepare associate degree candidates for RN licensure. Several associate degree programs added an additional admission class to the academic year. Some programs were able to add more students to their basic admission class. Table 2 shows the steady increase in enrollment in all types of nursing programs since 2000. In 2009 there was a drop in enrollment from 2008 but enrollment returned and has continued to increase (see Table 2.)

**TABLE 2** Fall Term Enrollment in RN Prelicensure Programs and Trend in Numbers

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2,503</td>
<td>N/A</td>
</tr>
<tr>
<td>2002</td>
<td>3,579</td>
<td>43% increase from 2000</td>
</tr>
<tr>
<td>2005</td>
<td>4,403</td>
<td>76% increase from 2000; 23% increase from 2002</td>
</tr>
<tr>
<td>2006</td>
<td>4,683</td>
<td>87% increase from 2000; 6% increase from 2005</td>
</tr>
<tr>
<td>2007</td>
<td>5,582</td>
<td>123% increase from 2000; 19% increase from 2006</td>
</tr>
<tr>
<td>2008</td>
<td>5,367</td>
<td>114% increase from 2000; 4% decrease from 2007</td>
</tr>
<tr>
<td>2009</td>
<td>4,823</td>
<td>91% increase from 2000; 2% decrease from 2008</td>
</tr>
<tr>
<td>2010</td>
<td>5,887</td>
<td>135% increase from 2000; 22% increase from 2009</td>
</tr>
<tr>
<td>2011</td>
<td>5,135*</td>
<td>105% increase from 2000; 9% decrease from 2010*</td>
</tr>
<tr>
<td>2015 (projected enrollment)</td>
<td>6422</td>
<td>156% increase from 2000;</td>
</tr>
</tbody>
</table>

Washington State Nurses Association White Paper: Nursing Education in Washington State
is still inadequate capacity in the pre-licensure BSN programs resulting in many qualified students being placed on waiting lists.

Challenges Facing Nursing Education

A major challenge for nursing programs is acquiring resources needed both for maintenance and for expansion. Nursing education requires a variety of resources for effective operation. While increasing the size of programs and adding new programs both increase the demand on resources, new programs place greater demands on the system. Each new program requires administrative costs, infrastructure for classrooms, new laboratories, and new library resources as well as costly effort in developing curriculum. A new program must establish new clinical relationships and community support. With the constraints of funding for educational systems, it would appear that focusing expansion on increasing the size of existing programs would be more cost-effective.

Classroom Space

Classroom space is an important resource for all nursing programs. Within many colleges, classroom space has been an obstacle to expansion. In today's heavily impacted colleges, the unavailability of classroom space may be a barrier to expansion of existing classes. To address space needs, thirteen community colleges were funded for new or renovated buildings for health education programs between 1997 and 2007 (Price, 2007.) Within that same time period, both state universities have had updated facilities for nursing education either on newer campuses or on the main campus. However, many associate degree nursing programs still find space issues of great concern and a deterrent to increasing class size. Many programs are at the limits of the spaces currently available to them. Classrooms will not hold more students and additional classrooms are not possible given the competing demands within the institution.

The private universities have all updated and/or expanded their nursing education facilities within that same time period. This is not to imply that the changes have met the needs. Often the changes are improving the education of existing students, but have not made space for additional students.

Laboratory Space / Equipment

Space and equipment needs for nursing skills laboratories are considerable. Teaching modern health care techniques and strategies requires laboratories that reflect current clinical environments. These laboratories are costly to set up and maintain.

Many programs are instituting the use of computerized simulation models to increase student skills and problem solving abilities before they enter clinical environments. CNEWS has been able to arrange for a discounted group purchasing opportunity to enable the purchase of computerized simulation equipment. However, even discounted, these systems remain very expensive. These simulation models have challenges relating to the learning needs of faculty, the time involved in developing appropriate scenarios, and teaching the small groups (usually 4 or 5) who can comfortably work with a computerized patient simulator at one time. WSU has been a part of the National Council of State Boards of Nursing research study on simulation in nursing education (https://www.ncsbn.org/2094.htm). Phase I of this study was completed in June of 2013. This and other research efforts will help to clarify the role of simulation in nursing education. In the spring of 2007, the National League for Nursing announced a collaboration with Laerdal Corporation (a manufacturer of one type of computerized patient simulation system) to provide an online educational program for faculty learning to use the computerized systems and a forum for faculty across the country to share simulation scenarios that they have developed. There is also an online forum where nursing faculty who have developed scenarios for use in simulation may share their work with others. Professional journals that focus on simulation in nursing education are now published and there is an annual national conference on simulation in nursing education. These are helpful resources for nursing programs, but do require significant faculty time and funding for education and professional development. Clinical simulations have many values but students will still need to have significant clinical experiences with real patients and interactions with real health care colleagues.

Clinical Sites

Clinical sites for student experiences are essential for all levels of nursing programs. Almost all programs use long term as well as acute care settings and many have expanded their use of community out-patient sites. Twenty of the 40 nursing programs reporting stated that they are experiencing difficulty in identifying adequate clinical sites (NCQAC, 2011.) With the large numbers of programs in the Puget Sound region, having adequate clinical sites appear to be most problematic there. While some individuals outside of nursing education have suggested that simply using additional hospital shifts would ease the pressure, the data do not support that approach. Programs are already using evenings, nights, and weekends as well as many community health settings. Some have added summer quarters to enable the use of clinical sites during that time (NCQAC, 2011) Patients need to sleep at night and facilities do not want larger numbers of people on site who might further disturb patient rest. Many clinics, special procedural areas, and ambulatory sites either close or operate at greatly reduced volume on the weekends. Even traditional in-patient units often have decreased census on the weekends. Nevertheless, some programs have experimented with using preceptorships on night shifts (adding only one person to a unit) and at least one is focusing on weekend hours with selected experiences on week days. The institution of clinical consortia devoted to scheduling student experiences in major regions throughout the state has resulted in a more effective way for programs to access available sites. The consortia are also helping clinical agencies to systematize their orientation and record keeping requirements for students to decrease the workload for all involved.
Some of the barriers to use of clinical sites for additional shifts include:

- The reluctance of facilities to have students involved in care of the same patients on multiple shifts and days. This can impact patient satisfaction due to changing care givers and the perception that patients are always subjects of student learning. Patient satisfaction is now a required outcome measure by the Centers for Medicaid and Medicare Services and low patient satisfaction rates can affect reimbursement.
- The stress on clinical agency staff of relating to large numbers of students (especially when students are at differing levels of preparation and from different schools) while maintaining quality of care for patients. This changes their work patterns and patient relationships and challenges their time management.
- The difficulty of finding faculty if clinical sections are assigned permanently to undesirable schedules such as weekends. (While staff nurses are paid premiums for evening and weekend work, no such incentive is available for nursing faculty.)
- Clinical sites in the areas of obstetrics, pediatric, and psychiatric/mental health nursing are in especially short supply and great demand.

The NCQAC noted that in general the number of clinical hours required increases with the level of the program. However, within that are some outliers in which LPN programs require more clinical hours in a specialty than the average for baccalaureate programs. A coordinated plan by nursing programs in cooperation with the NCQAC for the distribution of clinical hours within the program based on the level of the program would require curricular and faculty changes for many programs but could result in a more systematic and effective use of this valuable resource.

Faculty
Finding adequate, qualified faculty continues to be a challenge for nursing programs. The need for nurse educators is particularly acute and essential to the ability to meet the needs for basic preparation for licensure. Nursing programs preparing students for registered nurse licensure seek faculty with advanced degrees in order to support accreditation standards education. Barriers to recruitment include salaries which were discussed previously and the lack of individuals with graduate degrees in nursing.

Many associate degree programs have had to request waivers from the NCQAC to hire clinical faculty with bachelor’s degrees because there were no applicants with master’s degrees. Some programs have developed strategies for sharing faculty and others have developed mechanisms to share qualified individuals with clinical agencies. The issues around faculty salary and faculty workload were discussed earlier in this paper. Many programs are expanding by hiring more part-time faculty. Individuals with master’s degrees are often seeking full-time positions with benefits and a career path. Increasing the number of part-time positions versus full-time positions may make it more difficult to recruit. An approach being explored by at least one university is the development of an educator/clinician role in which the individual works part of the time for the university and the other part of the time for the clinical agency and is eligible for promotion and tenure as would be a full-time faculty member.

The NCQAC regulations require a ratio of not more than 10 students to 1 instructor in the clinical area. This may be decreased if either patient acuity or level of students would indicate this is necessary. Nationally, nursing programs report 6.3 to 9.4 students per instructor in the clinical setting (NCSBN, 2006). Many states require a maximum of 8 students per instructor. Many clinical agencies are now requiring a ratio of 8 students to 1 instructor in order to provide adequate supervision in the highly complex environment of the modern health care setting.

Costs to Students
Many have expressed concern about the rising tuition and fees for nursing education. These rising costs are putting financial stress on students and families. Another factor in the cost of education is the decreasing availability of financial aid. Pell Grants have not kept up with rising costs. Both low and middle income students are affected by changes in loan availability and interest rates. As costs rise many students work more hours or drop out temporarily to earn money to continue. This affects the retention to graduation that is so important to graduating as many nursing students as possible. Table 4 illustrates the rise in higher education costs.

| TABLE 4 Tuition and Fees for Public Colleges & Universities in Washington State* |
|-----------------------------------------|-------------------|-------------------|
| Level of Education                      | Total Annual Tuition & Fees |
|                                        | 2002-2003          | 2012-2013         |
| Community College*                      | $1,982             | $4,000            |
|                                        | 102% increase in 10 years |
| State universities offering nursing education through resident undergraduate programs | $4,636             | $10,574           |
|                                        | 66% increase in 10 years |
| State universities offering nursing education through resident graduate programs | $6,758 Tier II which includes Nursing May vary | $14,679 117% increase in 10 years |
|                                        |                                       |
| Fees are required are locally determined and may differ among community colleges and universities. Fees as posted online. |

Competency Congruence
“Competency congruence” is the fit between the competencies with which new graduates enter the workplace and the needs and expectations of the workplace. This has been a growing issue as the supply of nurses relative to needs has decreased and the health care environment continues to change. With high demand for nurses, employers want new graduates who can move rapidly into nursing roles after graduation. Unfortunately, this sometimes translates into expectations...
The Institute of Medicine has identified Core Competencies for all graduates of the various types of graduate education in nursing. Employing agencies have obligations to address issues of transition to their environments and integration into professional practice.

Concerned that nursing education programs create sound nursing education programs and produce graduates prepared for today’s health care environments, a variety of nursing organizations, including the American Association of Colleges of Nursing (AACN), National League for Nursing (NLN), and the Quality and Safety Education in Nursing Institute (QSEN), have developed sets of competencies for graduates of nursing programs at various levels. These offer some help to faculty as they develop curriculum and when addressing the issue of ability to transfer among different programs. However, the multiplicity of stated expectations can prove confusing and raise concerns about identifying what is essential. When examined, many similarities exist among these various statements.

**AACN Statements**

In its document *The Essential of Baccalaureate Education in Nursing*, the AACN addresses competencies of the graduate of baccalaureate program (AACN, 2008). Essential I speaks to the foundation of baccalaureate education in the context of a broad liberal education. Essentials II through IX relate to preparation for needed competencies of graduates in the areas of:

- Basic Organizational and Systems Leadership for Quality Care and Patient Safety
- Scholarship for Evidence Based Practice
- Information Management and Application of Patient Care Technology
- Health Care Policy, Finance, and Regulatory Environments
- Interprofessional Communication and Collaboration for Improving Patient Health Outcomes
- Clinical Prevention and Population Health
- Professionalism and Professional Values
- Generalist practice that includes individuals of all age levels, families, groups, and multiple settings.

In addition, the AACN developed statements of competencies for graduates of all the various types of graduate education in nursing including both master’s and doctoral programs.

**IOM Core Competencies and the QSEN Competencies**

The Institute of Medicine has identified Core Competencies for all health care professionals. They are divided into five major categories:

- provide patient centered care,
- work in interdisciplinary teams,
- employ evidence based practice,
- apply quality improvement,
- utilize informatics.

The Quality and Safety Education for Nursing: The QSEN Institute has taken the IOM five core competencies and used them as the basis for developing a systematic approach to the more specific outcomes required of nurses as they enter practice (QSEN Institute, n.d.). Addressing these competencies in all pre-licensure nursing programs will be essential for preparing new nurses to work in the health care system of the future.

**National League for Nursing Competencies**

The NLN has developed detailed competencies of the graduates of practical nursing, associate degree, diploma, baccalaureate, and various graduate programs. The NLN Education Competencies Model includes core values, integrating concepts, and program outcomes. Using the NLN model, it is possible to examine competencies as they differ across all levels. Integrating concepts include:

- Context and environment
- Knowledge and science
- Personal professional development
- Quality and safety
- Relationship-centered care
- Teamwork

The outcomes for every level are grouped under four major headings:

- Human flourishing
- Nursing judgment
- Professional identity
- Spirit of inquiry

**Competencies Across Program Types**

In Washington State CNEWS developed a set of competencies related to practical, associate degree, and baccalaureate graduates that were completed in 2002 (CNEWS, 2002). These seminal competencies served to encourage nursing education programs across the state to examine their curricula and strive for greater symmetry across program types. These have not been updated and with the more recent development of competencies by national groups identified above, CNEWS has put its energies into the Master Plan for Nursing Education administered through the Washington Center for Nursing. WCN initiated and has continued to work on the Nurse of the Future competencies, bringing multiple stakeholders together to achieve consensus on the knowledge, skills and attitudes needed by RNs in the future.

**National Organization of Nurse Practitioner Faculties**

This organization has developed a set of competencies relative to nurse practitioner practice (NONPF, 2012). Within the state of Washington, regulations governing the practice of advanced registered nurse practitioners have allowed ARNPs to practice to the full extent of their education. In this area, Washington has moved in advance of many other states.
Advisory Committees

One avenue that programs have used to maintain competency congruence is the use of advisory committees from clinical agencies, employers, and nursing organizations. These committees are required by the State Board of Community and Technical Colleges for all professional-technical programs and are in place for every community college. Many of the universities also employ advisory committees to assist them.

Faculty Assignment Patterns

In all Washington pre-licensure nursing programs, the predominant pattern of full-time faculty assignment is for faculty to teach in both the classroom and in the clinical setting. Thus the faculty members teaching in the classroom are faced with the realities of the health care system, the patient population, and the needs of individual patients each week as they supervise students in clinical experiences. This helps faculty members to evaluate curriculum content against the real needs of the students as they provide care.

Faculty Employment and Professional Development

Another avenue programs use to maintain competency congruence is the employment of faculty in clinical agencies. Many faculty members hold part-time positions and work week-ends, holidays, and summers for clinical agencies. The individual faculty member bears the burden of this process and in most instances the educational institution has no provision for recognizing these efforts. Systematizing this practice to enable joint appointments presents an option for supporting faculty in maintaining their clinical expertise. Professional development opportunities are essential to ongoing faculty competence. Supporting professional development through both educational opportunities and opportunities to be engaged in the clinical area will assure that nursing programs continue to prepare students for the needs of the health care system.

Simulation Experiences

Computerized patient simulators and patient care scenarios can allow students to experience specific patient situations and achieve skill competence. Simulation experiences may provide the ability to develop important competencies. As discussed previously, simulation equipment is costly and the development of expertise in operating such equipment is essential to effective use. Collaborative efforts may make this more possible.

Student Clinical Experience

Adequate clinical experiences are essential for students to develop the competencies needed upon graduation. With more and more pressures on clinical agencies and the difficulties of finding appropriate learning environments, addressing the issue of clinical placements is crucial. The person-to-person interaction in the clinical environment remains essential to developing interpersonal and collaborative skills as well as the ability to respond to subtle changes in the patient situation.

Curriculum Transformation

Transformation of curricula to educate for future roles of nurses and to educate using different approaches has emerged as a major focus in nursing education. The National League for Nursing has engaged faculty in a variety of workshops and conversations around these issues. Nursing students must learn effective approaches to evidence-based decision-making. Strategies for teaching critical thinking for this purpose are being integrated into all levels of nursing education.

Oregon has undertaken a transformation of its nursing education system including such varied approaches as dual acceptances into both associate degree and baccalaureate education to alteration in the pattern of teaching concepts and skills. One aspect of curriculum transformation in Oregon has been the development of curriculum across community colleges that allows for students to transfer institutions when they move residence. The nature of the students attending community colleges means that some find themselves moving through necessity. Currently, transfer between community colleges in Washington is possible but often requires additional quarters of education because of the wide differences in curriculum structure. As one example, step programs provide part of the instruction in the care of childbearing families in the first year and then return to that area of nursing again in the second year to introduce more complex care. In most of the generic associate degree programs, care of the childbearing family occurs solely in the second year. A student transferring between these types of programs would find themselves either repeating material or taking an extra course in order to attain all the required competencies.

WCN Projects

The Washington Center for Nursing supported a project to analyze what other states have done in regard to the issue of competency congruence. The results of this project (Haynes & Tieman, 2006) have provided input to CNEWS as it developed the Master Plan for Nursing Education. Recommendations from that project to CNEWS for its consideration include:

- Provide provisional licensure for new graduates to provide a transition period of practice
- Extend focused practicum through simulations or preceptors
- Enhance faculty availability by using currently employed nurses at the clinical site as clinical instructors
- Provide information and support regarding the need funding for high fidelity simulation abilities.
- Expand the congruency taskforce to include all levels of nursing education and service providers.
- Adopt the Benner Novice to Expert (Benner, 2001) model for competency measurement.

In 2010, the WCN convened a series of focus groups across the state to discuss the implications of the changes in the health care system and the needs of patients, families, and communities for the "Nurse of the Future". The discussion started with the broad competencies for all health care professionals found in the IOM report (IOM, 2003) that identified five major areas of focus: provide patient centered care, work in interdisciplinary teams, employ evidence-based practice, apply
Planning for the Future of Nursing Education

Planning for the future requires consideration of the current situation in nursing education, the nursing needs of the state, movements occurring on a national level in regard to nursing education, various stakeholders in the process and the plans that have already been developed.

Stakeholders in the Future

There are many stakeholders to be considered in planning to meet the nursing needs of the residents of Washington. As WCN and CNEWS continue their work on the Master Plan for Nursing Education, other organizations, groups, and commissions are simultaneously considering aspects of the current shortage. Important stakeholders include state nursing organizations, such as WSNA, CNEWS, and WCN as well as their respective national nursing organizations that often set standards and policies. Labor organizations, such as SEIU Healthcare 1199 NW and the WSNA collective bargaining arm, representing nurses are important in decision making. Relevant governmental entities such as the Nursing Care Quality Assurance Commission, the Department of Social and Health Services, the Washington Student Achievement Council, and legislators all have a role in addressing nursing issues. Interfacing with these organizations/groups and considering their viewpoints is essential to the success of the Master Plan.

Nursing organizations at the national level have an interest in the integrity of nursing and nursing education across the country. Nurses are mobile and licenses may be easily moved to different states. Decisions about nursing education that conflict with national expectations are unlikely to be supported.

The Washington Student Achievement Council is a state level group formed in 2012 with members representing the K-12 system, community and technical colleges, state universities, private universities, students, and the public at large. The purpose of this group is to address meeting the needs for individuals with appropriate levels of education in a global way beginning with readiness to enter kindergarten and progressing through high school graduation, readiness for post high school education, and movement into the workforce. Key challenges in the areas of student readiness, affordability, institutional capacity, technology and funding have been identified. A 10-year roadmap to direct action is being prepared. (WSAC, 2012) Education of individuals to enter the health care workforce will be a part of the entire picture that the Council is addressing. Whether it will provide specific support for directions in nursing education is yet to be seen. Increasing the number of associate degree graduates will provide needed health care and also provide individuals to move forward into baccalaureate and graduate education. Increasing the number of baccalaureate prepared nurses through both pre-licensure baccalaureate and RNB programs will provide a greater number of individuals having a broader background to promote the health of the citizens of the state. Evidence exists that increasing the educational level of nurses increases the quality of care (Blegen, Goode, Shin-Hye, Vaughn, & Spetz, 2013). Given the current success of the associate degree programs in the state, measures that would facilitate coordination between enrollment in community college nursing and enrollment in bachelor’s degree completion would have the greatest potential for meeting the identified need.

Conclusions

As health care becomes more complex, the need for a well prepared nursing workforce grows. Nurses educated at all levels contribute in a wide variety of ways to the health of the public. There are shortages of registered nurses at all levels (associate degree to doctoral degree) with a serious shortage of master’s prepared nurses available to allow the expansion of nursing education. The diversity of the population needs a corresponding diversity in the nursing workforce. Avenues to increase diversity in applicant pool will be significant. While the recruitment of foreign educated nurses may assist in alleviating the shortage, this process also requires an effective educational program to enable appropriate transition to the U.S. health care system. Nursing education in Washington State has demonstrated success in preparing individuals for licensure and employment at all levels in the health care system. Articulation planning has created effective avenues for nurses to move from one level to the next. Nursing programs are committed to educating more nurses to enter the profession at every level. Nevertheless, without addressing capacity issues nursing programs cannot increase enrollments to meet growing demand regardless of the number of applicants. Capacity issues are driven by fiscal support, space constraints, the availability of faculty, and clinical site availability.

Preparation of new nurses requires collaborative efforts between educational institutions and health care agencies. Both must be committed to planning for clinical education and for the transition of new graduate to professional practice.
Filling faculty positions will require attention to the issues of the availability of graduate education as well as issues related to the desirability of faculty roles. Addressing faculty salaries, mechanisms for faculty to maintain expertise, and work life issues for all nurses will be essential.

Many stakeholders must be acknowledged in any planning for the future.

### Recommended Next Steps

1. **Assuring the continued competency of nursing professionals:**
   
   1.1 Support ongoing, effective collaboration between education and practice through CNEWS, Northwest Organization of Nurse Executives (NWONE), and nursing employers to facilitate competency congruence (the match between what is taught and the knowledge, skills, and attitudes needed in practice), faculty development, the transition of new graduates to effective participation in health care, and retention of nurses in the workforce through development of healthy work environments.

   1.2 Continue to refine recommendations that focus on curriculum including:
      
      1.2.1 Support the maintenance of consistent pre-requisite requirements across all community college nursing programs and across all RNB programs.
      
      1.2.2 Identify an evidence-based recommendation for a minimum number of clinical hours for specialty areas at differing levels of nursing education.
      
      1.2.3 Develop curricula for nursing at all community college nursing programs that would facilitate the students’ ability to transfer from one program to another within the state when residence changes.
      
      1.2.4 Develop curricula that meet the nationally identified Quality and Safety Education for Nursing (QSEN) Competencies derived from the IOM Core Competencies.
      
      1.2.5 Use technology, such as simulation, effectively for nursing education programs and evaluate its impact on nursing education.
      
      1.2.6 Support innovative models of both didactic and clinical education in nursing.

2. **Assuring an adequate supply of nursing professionals:**

   2.1 Continue to gather and analyze data relative to the locations where shortages are present and the types of nurses needed in those settings including those with graduate preparation as well as those entering licensure in order to target funding effectively.

   2.2 Support both existing and newly-expanded nursing programs with resources, including capital needs, to enable them to develop strategies for effective nursing education and to sustain an effective nursing education system for the state’s nursing needs.

   2.3 Support the regional mechanisms (consortia) that effectively allocate scarce clinical resources.

   2.4 Develop partnership strategies to expand capacity especially in the critical area of preparing master’s and doctoral degree prepared nurses as educators.

   2.5 Provide funding for salary improvements for nursing faculty.

   2.6 Support the revision of the Community & Technical College faculty workload.

3. **Enhancing educational access throughout Washington State:**

   3.1 Establish goals for the overall number of nursing students at each nursing education level (PN, ADN, BSN) distributed appropriately throughout the state.

   3.2 Support existing strategies to facilitate the movement of associate degree nurses into baccalaureate nursing education and develop additional strategies as needed.

4. **Promoting a more diverse profession:**

   4.1 Develop and support strategies for increasing the diversity of the nursing applicant pool and ensuring the success of qualified nursing students from diverse backgrounds.

5. **Promoting funding mechanisms through the legislature and other relevant agencies to support the ongoing implementation and updating of the Master Plan for Nursing Education.**

6. **Encouraging a culture of innovation, forward-thinking, risk-taking, and collaboration in addressing the many challenges and issues facing health care and specifically nursing/nursing education in the future.**
References


Commission on Collegiate Nursing Education (CCNE) (2003). Standards for Accreditation of Baccalaureate and Graduate Nursing Programs. American Association of Collegiate Nursing Programs.


Licensed practical nurses (LPNs) in Washington are licensed through the State Department of Health. The following Washington statistics were calculated based on data from these license files, which contain licensee name, mailing address, age, and gender.

### Licensed LPNs per 100,000 Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Washington</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
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<td>2013</td>
<td>173</td>
<td>—*</td>
</tr>
<tr>
<td>2011</td>
<td>188</td>
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</tr>
<tr>
<td>2008</td>
<td>209</td>
<td>—*</td>
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<tr>
<td>2007</td>
<td>212</td>
<td>—*</td>
</tr>
<tr>
<td>2006</td>
<td>211</td>
<td>—*</td>
</tr>
<tr>
<td>2001</td>
<td>—*</td>
<td>211</td>
</tr>
</tbody>
</table>

* Data not available.

### Number of LPNs with Washington Licenses and Washington Addresses from 1999 to 2013

- 1999: 12,282
- 2000: 13,313
- 2001: 13,488
- 2002: 13,751
- 2003: 13,751
- 2004: 13,751
- 2005: 13,751
- 2006: 13,751
- 2007: 12,669
- 2008: 11,833

### Characteristics of LPNs with Washington Licenses by Workforce Development Area (WDA), 2013

<table>
<thead>
<tr>
<th>WDA*</th>
<th>Licensed LPNs</th>
<th>2012 Population</th>
<th>LPNs/100,000 Population</th>
<th>Average LPN Age</th>
<th>% Male LPNs</th>
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<tbody>
<tr>
<td>1</td>
<td>210</td>
<td>356,675</td>
<td>59</td>
<td>55.6</td>
<td>13.3%</td>
</tr>
<tr>
<td>2</td>
<td>272</td>
<td>488,670</td>
<td>56</td>
<td>52.6</td>
<td>14.0%</td>
</tr>
<tr>
<td>3</td>
<td>236</td>
<td>416,725</td>
<td>57</td>
<td>52.8</td>
<td>11.1%</td>
</tr>
<tr>
<td>4</td>
<td>282</td>
<td>722,900</td>
<td>39</td>
<td>51.0</td>
<td>9.9%</td>
</tr>
<tr>
<td>5</td>
<td>1,641</td>
<td>1,957,000</td>
<td>84</td>
<td>47.6</td>
<td>10.1%</td>
</tr>
<tr>
<td>6</td>
<td>443</td>
<td>808,200</td>
<td>55</td>
<td>50.5</td>
<td>12.6%</td>
</tr>
<tr>
<td>7</td>
<td>238</td>
<td>538,325</td>
<td>44</td>
<td>51.5</td>
<td>13.1%</td>
</tr>
<tr>
<td>8</td>
<td>120</td>
<td>263,575</td>
<td>46</td>
<td>51.8</td>
<td>16.7%</td>
</tr>
<tr>
<td>9</td>
<td>166</td>
<td>319,375</td>
<td>52</td>
<td>49.5</td>
<td>22.3%</td>
</tr>
<tr>
<td>10</td>
<td>135</td>
<td>208,225</td>
<td>65</td>
<td>51.0</td>
<td>21.5%</td>
</tr>
<tr>
<td>11</td>
<td>137</td>
<td>262,500</td>
<td>52</td>
<td>49.6</td>
<td>24.1%</td>
</tr>
<tr>
<td>12</td>
<td>474</td>
<td>475,600</td>
<td>100</td>
<td>51.1</td>
<td>22.6%</td>
</tr>
</tbody>
</table>

* Location determined by license mailing address. Counties comprising WDAs: 1 = Clallam, Jefferson, Kitsap; 2 = Grays Harbor, Mason, Thurston, Pacific, Lewis; 3 = Whatcom, Skagit, Island, San Juan; 4 = Snohomish; 5 = King; 6 = Pierce; 7 = Wahkiakum, Cowlitz, Clark; 8 = Okanogan, Chelan, Douglas, Grant, Adams; 9 = Skamania, Klickitat, Yakima, Kittitas; 10 = Ferry, Stevens, Pend Oreille, Lincoln, Whitman, Walla Walla, Columbia, Garfield, Asotin; 11 = Benton, Franklin; 12 = Spokane.
Appendix B: Registered Nurses Snapshot

Registered nurses (RNs) in Washington State are licensed through the State Department of Health. The following Washington statistics were calculated based on data from these license files, which contain licensee name, mailing address, age, and gender.

### Licensed RNs per 100,000 Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Washington</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,010</td>
<td>—*</td>
</tr>
<tr>
<td>2011</td>
<td>1,001</td>
<td>—*</td>
</tr>
<tr>
<td>2008</td>
<td>962</td>
<td>997</td>
</tr>
<tr>
<td>2007</td>
<td>946</td>
<td>—*</td>
</tr>
<tr>
<td>2006</td>
<td>925</td>
<td>—*</td>
</tr>
<tr>
<td>2004</td>
<td>—*</td>
<td>991</td>
</tr>
</tbody>
</table>

* Data not available.

### Number of RNs with Washington Licenses and Washington Addresses from 1999 to 2013

### Characteristics of RNs with Washington Licenses by Workforce Development Area (WDA), 2013

<table>
<thead>
<tr>
<th>WDA*</th>
<th>Licensed RNs</th>
<th>2012 Population</th>
<th>Number of RNs/100,000 Population</th>
<th>Average RN Age</th>
<th>% Male RNs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3,762</td>
<td>356,675</td>
<td>1,055</td>
<td>51.3</td>
<td>8.6%</td>
</tr>
<tr>
<td>2</td>
<td>4,589</td>
<td>488,670</td>
<td>939</td>
<td>49.7</td>
<td>10.6%</td>
</tr>
<tr>
<td>3</td>
<td>4,070</td>
<td>416,725</td>
<td>977</td>
<td>50.7</td>
<td>8.4%</td>
</tr>
<tr>
<td>4</td>
<td>7,053</td>
<td>722,900</td>
<td>976</td>
<td>48.4</td>
<td>9.1%</td>
</tr>
<tr>
<td>5</td>
<td>21,129</td>
<td>1,957,000</td>
<td>1,080</td>
<td>47.7</td>
<td>9.8%</td>
</tr>
<tr>
<td>6</td>
<td>7,661</td>
<td>808,200</td>
<td>948</td>
<td>47.7</td>
<td>10.0%</td>
</tr>
<tr>
<td>7</td>
<td>5,004</td>
<td>538,325</td>
<td>930</td>
<td>48.1</td>
<td>9.8%</td>
</tr>
<tr>
<td>8</td>
<td>2,283</td>
<td>263,575</td>
<td>866</td>
<td>48.6</td>
<td>11.2%</td>
</tr>
<tr>
<td>9</td>
<td>2,516</td>
<td>319,375</td>
<td>788</td>
<td>48.3</td>
<td>10.6%</td>
</tr>
<tr>
<td>10</td>
<td>2,168</td>
<td>208,225</td>
<td>1,041</td>
<td>49.3</td>
<td>11.4%</td>
</tr>
<tr>
<td>11</td>
<td>2,238</td>
<td>262,500</td>
<td>853</td>
<td>46.5</td>
<td>9.5%</td>
</tr>
<tr>
<td>12</td>
<td>6,406</td>
<td>475,600</td>
<td>1,347</td>
<td>48.8</td>
<td>12.2%</td>
</tr>
</tbody>
</table>

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