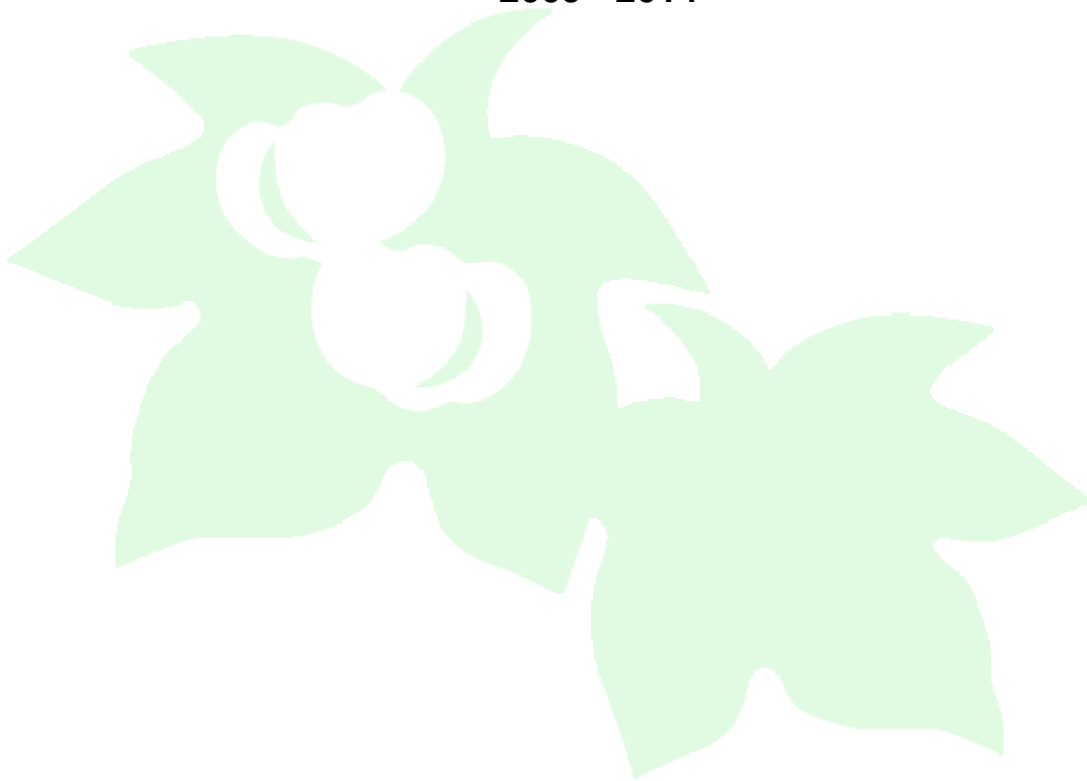




Hawai'i State Center for Nursing

**STRATEGIC PLAN FOR THE NURSING
WORKFORCE IN HAWAI'I
2009 - 2014**



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EXECUTIVE SUMMARY

The Hawai'i State Center for Nursing (HSCFN) was established by the Hawai'i State Legislature in 2003 to address nursing workforce issues. As an information resource the Center provides accurate and reliable data to inform workforce planning and decision making. The Center has provided an annual report on education capacity in 100% of the Hawai'i nursing programs; projections on the nursing workforce for 2005-2020; detailed supply data on the RN workforce including information on generational cohorts and specific to each island in our state. Additional data gathering projects include a 5-year longitudinal study of new graduate RNs, a survey on turnover of RNs.

Since 2005 the Center has established a variety of research initiatives to gather workforce data to help understand, plan, and address nursing workforce issues. This research provides valuable data which assists in projecting supply and demand over time, understanding workforce mobility, and issues concerning education capacity. Two Summits were held in March 2006 and December 2007 bringing nurses together from throughout the state to determine focal priorities. Nurses and other colleagues have worked with us to develop initiatives to improve educational capacity, nurse retention and development of best practices. All of these factors are essential to inform, plan and ensure a robust workforce in the State of Hawaii.

Projection data reveals over the next 15 years Hawai'i can expect a dramatic demographic shift related to its aging population which will occur at twice the pace of the rest of the country. This demographic shift is expected to increase the demand for RNs in Hawai'i by 28%, while supply of RNs is expected to grow by only 8.9% raising the shortfall in demand from about 11 percent to 24 percent. In 2006, Hawai'i experienced a shortage of 960 RNs, which is estimated to grow to approximately 2,220 by 2016 and 2,670 RNs by 2020.

Biennial surveying of all licensed registered nurses across the state indicates we have a large segment of our workforce which is older and moving toward retirement. The data reveals a demographic misdistribution by culture and gender indicating our nursing workforce is unrepresentative of the island communities served. The data indicates we have a mobile workforce that relocates, changes employment, and retires/leaves the profession.

Of the 88% *active* RNs in the State of Hawaii:

- 73% live and work in the City & County of Honolulu, 12% Hawaii County, 10% in Maui County, and 4% Kauai County. The workforce continues to disproportionately represent females and Caucasians.
- 62% are working in hospital settings, 6% long term care, 5% ambulatory care, and 7% in some other healthcare setting.
- 68% provide direct patient care services.
- Average age is 44.35 (± 11.3).
- 85% are working 30 or more hours per week.
- About 8.5% of *active* RNs are Veterans aged 60 years and older, 52.5% are Boomers 41 to 59 years of age, and 39% are GenXMs aged 40 years or younger.
- 50-65% of *active* RNs intend to retire and leave the profession in the next 10 to 15 years.
- 18% of *active* RNs are 'very likely' or 'somewhat likely' to leave their primary employer in the next 12 months. Reasons for leaving current employment include; dissatisfaction (36%), family / personal (5%), military or family relocation (5%), other (19%), relocation off island for better opportunities (14%), retirement (13%), and return to school (3%).
- About 10% of *active* RNs are male.¹
- About 19% of *active* RNs are Filipino, 16% Japanese, 11% mixed 2 or more races, 4% Native Hawaiian, 4% Chinese, 2% Hispanic, 1% Other Asian, .9% African-American, 1% Korean, 1% Samoan and other Pacific Islanders, and <1% some other race.

Annual education capacity surveys of our public and private nursing programs provide important information concerning our student populations and faculty. The nursing programs both public and private have significantly increased enrollments. However, the state continues to face a number of nursing education capacity challenges. These include difficulties filling faculty positions, followed by the lack of clinical sites for clinical placement for nursing students, and the lack of classroom space. In the 2004, 2005, and 2006 school years, a lack of faculty, clinical sites, and classroom space continue to impact enrollments.

¹ The U.S. Census Bureau annual population estimates by sex, race, and ethnicity show the following percentages for Hawaii in 2006: 50 percent male, 50 percent female, 26.3 percent white, 2.2 percent black or African American, 39.9 percent Asian, 0.3 percent American Indian or Alaskan Native, 8.7 percent Native Hawaiian or other Pacific Islander, 1.1 percent 'Some other race', 21.5 percent 'Two or more races', and an estimated 7.8 percent Spanish, Hispanic or Latino. The sum of percentages for race equals more than 100 percent because individuals may report more than one race.

In 2006 the Hawaii State Legislature supported funding for seventeen additional faculty positions for UH nursing programs which increased faculty and aided in increasing enrolments by approximately 30%. However further policy measures and strategies are required to adequately address the growing nursing shortage in Hawaii.

During the next five years the Center identifies both long term and short term strategies need to be put into place to ensure that the nursing workforce is adequate to meet the needs of the people of Hawai'i. Key to the success of these endeavors is building strong and effective partnerships to bring multiple individuals, organizations and community members together. Leveraging intellectual, financial, policy and political capital is necessary to accomplish our objectives. In the current healthcare environment, a strategic plan needs to be dynamic and responsive to multiple stakeholders and rapid changes. The following plan is developed with this in mind and is meant to be general enough to provide a "roadmap" and flexible enough to allow yearly definition of specific goals and objectives. The plan addresses the four legislative mandates as well as other key strategies.

Build, develop and sustain statewide partnerships among organizations, the business community, philanthropy, education and government/policy makers. Utilizing our role as a credible and independent resource, convene key stakeholders and groups to address workforce needs throughout the healthcare continuum

1. Collect, analyze, prepare and disseminate written reports and recommendations regarding the current and future status and trends of the nursing workforce
2. Research, analyze, and report data related to retention, best practices and quality outcomes
3. Develop a plan for implementing strategies to recruit and retain nurses

The Hawaii State Center for Nursing

The Hawai'i State Center for Nursing (HSCFN) was established by the Hawai'i State Legislature in 2003 to address nursing workforce issues. The Center's functions include:

- 1) Collect and analyze data and to prepare and disseminate written reports and recommendations regarding the current and future status and trends of the nursing workforce
- 2) Conduct research on best practices and quality outcomes
- 3) Develop a plan for implementing strategies to recruit and retain nurses
- 4) Research, analyze, and report data related to the retention of the nursing workforce

Operational since 2005, the Center has focused on bringing groups and individuals together to focus on addressing the nursing shortage. Significant accomplishments have included serving as an information resource to provide workforce data to a wide range of stakeholders, increasing education capacity, retention programs for new graduate nurses and experienced nurses and strategic planning for workforce development.

Serving as an information resource has enabled the Center to provide accurate and reliable data to inform planning and decision making. The Center has provided an annual report on education capacity in 100% of the Hawai'i nursing programs; projections on the nursing workforce for 2005-2020; detailed supply data on the RN workforce including information on generational cohorts and specific to each island in our state. Additional data gathering projects include a 5-year longitudinal study of new graduate RNs, a survey on turnover of RNs.

The Nursing Shortage in Hawai'i

Forecast data indicate Hawai'i can expect a dramatic demographic shift related to its aging population over the next 15 years, and it will occur at a pace twice that of the rest of the country. Between 2000 and 2020, the number of people aged 60+ living in Hawai'i will increase by almost 75%. People aged 85 and older will increase by 121%. By 2020, one out

of every four people will be 60 years or older and one out of 40 people will be 85 years or older.²

This aging phenomenon will directly impact Hawai'i's nursing workforce. As revealed in the 2007 Hawai'i Registered Nurse Survey³, >60% of active RNs are moving into their 50s and 60s and will gradually retire from the workforce over the next 15 years. This loss of nurses will be proportionally greater on the neighbor islands (Hawai'i, Maui, & Kauai). If current trends continue, demand for RNs in Hawai'i by 2020 is expected to grow by 28%, while growth in supply of RNs is expected to be smaller at 8.9%.⁴ This represents a shortage of approximately 2,670 registered nurses which is equivalent to the loss of all RNS at the two major health centers - Hawai'i Pacific Health and The Queen's Medical Center.

Workforce Data Gathering Efforts by the Center

To develop a statewide understanding of the nursing workforce issues a variety of data gathering initiatives have been established by the Center since 2005. This research provides valuable data which assists in understanding workforce mobility, education capacity, and projecting supply and demand over time using forecasting models. Biennial surveying of all licensed registered nurses in the state provides workforce data concerning the representativeness of our workforce to the community populations, profession roles and the healthcare sectors where RNs predominantly work. The data reveals the mobility of our nurses in the state including intentions to relocate, turnover, and retire/leave the profession. Annual education capacity surveys of our public and private nursing programs across the state also provide us with important information concerning our student populations and faculty. Nursing programs also identify the barriers to increasing educational capacity. All of these factors are essential to inform workforce planning.

A. The Projection of Hawai'i FTE RN Shortage using Nursing Supply Model (NSM) & Nursing Demand Model (NDM)

Projecting workforce supply and demand are analytic methods that take into account only certain variables and are based on available data at the national and state level. Despite thinking to the contrary, projection modeling is unable to account for current economic forces, market cycles, and seasonal demand. To date, no demand model for nursing has

² Executive Office on Aging. (2007). *Hawaii State plan on aging 2008-2011* Honolulu: State of Hawaii.

³ LeVasseur, S. A. (2008) *Registered Nurse Survey 2007*, Hawaii State Center for Nursing, Honolulu, HI

⁴ LeVasseur, S. A. (2007). *Projected Registered Nurse Workforce in Hawaii 2005-2020*, Hawaii State Center for Nursing, Honolulu, HI

been produced without flaws.⁵ However, this does not negate the importance of preparing for our future and ensuring relevant steps are taken to avoid a crisis in the nursing workforce. The two independently developed NSM and NDM models with their inherent limitations continue to provide the best means of generating longitudinal estimates of FTE RN shortfall essential for workforce planning.

i. Previous Projections of FTE RN Shortage

A number of forecast projections have been carried out at the national level using the state level data captured from the 1996 and 2000 National Sample Surveys of Registered Nurses (NSSRN). However, as highlighted by the developers of the models, the smaller populated states are highly likely to display error in estimates due to small sample sizes.

After the release of the report '*Projected Supply, Demand and Shortages of Registered Nurses: 2000-2020*' in July of 2002. Hawai'i State representatives reported concerns with the accuracy of the projections. After discussions, the estimates for growth in Hawai'i supply were revised downward after adjustments for migration and initial graduates.⁶ However, RN demand was left unchanged from previous projections. These projections were also reported in the "*Hawai'i Health in the Balance: A Report on the State of the Nursing Workforce*".⁷

The 2004 data reflect baseline FTE RN supply and demand projections. Both the NSM and NDM models, in this scenario, use NSSRN to estimate the number of RNs employed in the base year. The NSM uses the 2000 NSSRN to estimate supply of RNs by age, education level, and state. While the NDM uses the 1996 NSSRN to estimate FTE RNs by setting and state. Both baseline projections use the U.S. Census Bureau population data which constitutes a key determinant of projected demand for FTE RNs in the baseline scenario. These estimates reveal the greatest FTE RN shortage over time.⁸

⁵ Terry, A. J. (2008). Localization of a demand for nursing model at the grassroots level. *Nursing Economics*, 26(3):167-173.

⁶ HRSA, *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020*.

⁷ Raynor C. R. *Hawaii health in the balance: A report on the state of the nursing workforce*. Honolulu, Hawaii: University of Hawaii at Manoa, 2004.

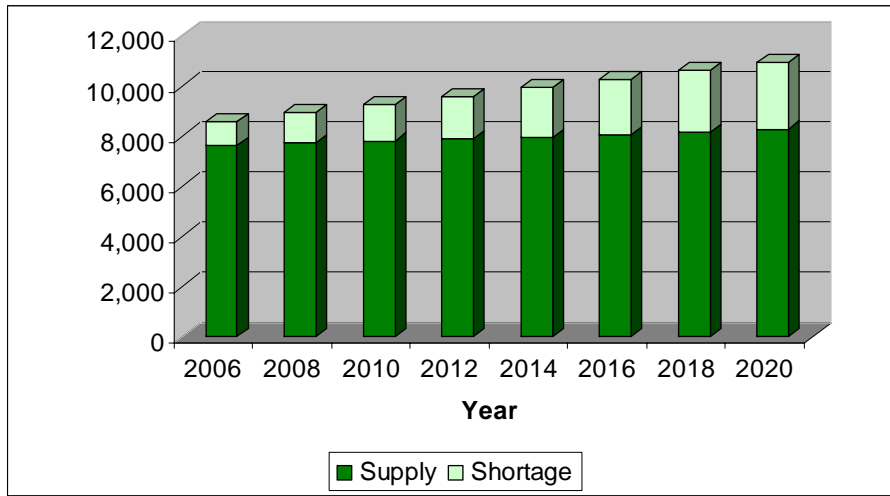
⁸ Biviano, M., et al. (2004). *What is behind HRSA's projected supply, demand, and shortage of registered nurses?* Washington DC: HRSA.

The current 2006 estimates use 2004-05 survey data of new RN graduates from statewide nursing programs and estimates of licensed nurses in the state (1996-2006). In addition to CDC projections that reflect a smaller growth in Hawai'i's population. The data continues to demonstrate that nursing supply will grow slowly. However nursing demand is less than previously projected.

B. Estimates of Registered Nurses Supply and Demand

Utilizing data generated from NSM and NDM it was possible to project estimates of FTE RN shortage from 2006 to 2020. Figure 1 shows that in 2006, Hawai'i experienced a shortage of 960 RNs, which is estimated to grow to approximately 2,220 by 2016 and 2,670 RNs by 2020.

Figure 1 Projected Hawai'i FTE RN Shortages, 2006-2020



C. Projected FTE Registered Nurses Supply, Demand and Shortages

Between 2006 and 2020, demand for RNs in Hawai'i is expected to grow by 28%, while supply of RNs is expected to grow by 8.9%. In relative terms, the shortfall in demand will increase from about 11 percent to 24 percent as shown in Table 1.

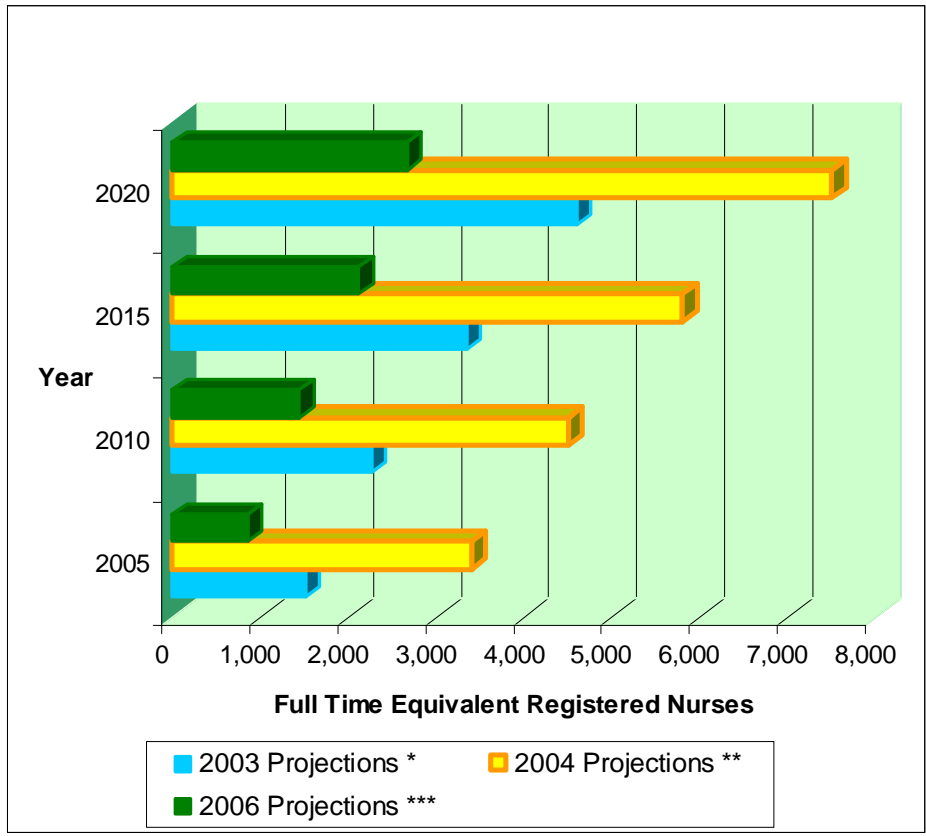
Table 1 Projected Hawai'i FTE RN Supply, Demand, and Shortages

| | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 |
|-----------------|-------|-------|-------|-------|-------|--------|--------|--------|
| Supply | 7,611 | 7,715 | 7,813 | 7,877 | 7,943 | 8,038 | 8,154 | 8,286 |
| Demand | 8,571 | 8,926 | 9,260 | 9,574 | 9,927 | 10,260 | 10,607 | 10,955 |
| Shortage | 960 | 1,211 | 1,447 | 1,697 | 1,984 | 2,222 | 2,453 | 2,669 |

The 2006 estimates used the 2004-05 educational capacity survey data of new RN graduates from statewide nursing programs and estimates of licensed nurses in the state (1996-2006) in addition to CDC projections that reflect a smaller growth in Hawai'i's population. The data continues to demonstrate that nursing supply will grow slowly. However, nursing demand is less than previously projected.

Figure 2 demonstrates variation and range in the projected shortages of FTE RNs in 2003, 2004 and 2006.

Figure 2 Comparison in Hawai'i's Projected Shortage of FTE Registered Nurses in 2003, 2004, & 2006



D. Biennial Population Based Survey of Registered Nurses (RNs)

In 2007, the Hawaii State Center for Nursing conducted the first biennial population based survey of registered nurses (RNs) required to renew their license in Hawaii. This survey allowed more detailed and robust information on supply of nurses by collecting data on their geographic distribution, age, employment status, intentions to stay in the profession, work setting, practice role, education, gender, racial/ethnic background. The survey also included items to examine intention to stay in current work setting in the next twelve months and the reasons that led to decisions to leave current nursing employment.

Responses from an online survey and mailed survey were combined and analyzed. In 2007, the total number of nurses listed with the Board of Nursing was 18,075 registered nurses. Out of this number 7,236 (40%) completed the survey.

Key findings from the 2007 survey⁹ show that:

- 79% report their current residential address as here in the State of Hawaii.
- For those licensed and residing in Hawaii, 88% report that they are *active* in nursing and working in a position requiring an RN license/ knowledge, 4.9% are retired, 3.6% working in non-nursing jobs, and 3.4% unemployed.

Of the 88% *active* RNs:

- 73% live and work in the City & County of Honolulu, 12% Hawaii County, 10% in Maui County, and 4% Kauai County. The workforce continues to disproportionately represent females and Caucasians.
- 62% are working in hospital settings, 6% long term care, 5% ambulatory care, and 7% in some other healthcare setting.
- 68% provide direct patient care services.
- Average age is 44.35 (± 11.3).
- 85% are working 30 or more hours per week.
- About 8.5% of *active* RNs are Veterans aged 60 years and older, 52.5% are Boomers 41 to 59 years of age, and 39% are GenXMs aged 40 years or younger.
- 50-65% of *active* RNs intend to retire and leave the profession in the next 10 to 15 years.
- 18% of *active* RNs are '*very likely*' or '*somewhat likely*' to leave their primary employer in the next 12 months. Reasons for leaving current employment include; dissatisfaction (36%), family / personal (5%), military or family relocation (5%), other (19%), relocation off island for better opportunities (14%), retirement (13%), and return to school (3%).
- About 10% of *active* RNs are male.¹⁰
- About 19% of *active* RNs are Filipino, 16% Japanese, 11% mixed 2 or more races, 4% Native Hawaiian, 4% Chinese, 2% Hispanic, 1% Other Asian, .9% African-American, 1% Korean, 1% Samoan and other Pacific Islanders, and <1% some other race.

⁹ LeVasseur, S.A. (2008). Registered Nurse Survey 2007. Hawaii State Center for Nursing, Honolulu: HI.

¹⁰ The U.S. Census Bureau annual population estimates by sex, race, and ethnicity show the following percentages for Hawaii in 2006: 50 percent male, 50 percent female, 26.3 percent white, 2.2 percent black or African American, 39.9 percent Asian, 0.3 percent American Indian or Alaskan Native, 8.7 percent Native Hawaiian or other Pacific Islander, 1.1 percent 'Some other race', 21.5 percent 'Two or more races', and an estimated 7.8 percent Spanish, Hispanic or Latino. The sum of percentages for race equals more than 100 percent because individuals may report more than one race.

E. Representativeness of RN Workforce to Community Populations

Tables 2–5 provide comparative estimates of the representativeness of the RN workforce to the population in each County according to US Census Bureau 2006 data. In Table 2, the RN workforce has a greater percentage of females compared to the population. Asian and Caucasian representation is larger than population figures. Native Hawaiian and Pacific Islanders are proportionally lower than the community.

Table 2 Comparison of Honolulu City & County RN Workforce Data and 2006 US Census Bureau Population by Gender and Racial / Ethnicity

| Honolulu City & County | | |
|------------------------------------|--------------------------------|------------------------------|
| Population Characteristics | RN Workforce Number (%) | Population Number (%) |
| Gender | | |
| Female | 3,241 (88.5%) | 454,812 (50%) |
| Male | 422 (11.5%) | 455,051 (50%) |
| Race/Ethnicity | | |
| African-American | 43 (1.2%) | 25,103 (3%) |
| Caucasian | 1,249 (34.1%) | 201,795 (22%) |
| Asian | 1,717 (46.9%) | 402,365 (44%) |
| Native Hawaiian & Pacific Islander | 188 (5.1%) | 72,053 (8%) |
| Am. Indian/ Native Alaskan | 13 (0.4%) | 2,969 (.3%) |
| Two or More Races | 388 (10.6%) | 195,606 (22%) |
| Some Other Race | 11 (0.3%) | 9,972 (1.1%) |
| Hispanic or Latino | 51 (1.4%) | 63,312 (7%) |

Table 3 reveals that in Hawaii County the RN workforce has a greater percentage of females compared to the population. Caucasian's represented in the RN workforce is greater than the county population. Asian, Native Hawaiian, and Pacific Islanders are proportionally lower than the community.

Table 3 Comparison of Hawaii County RN Workforce Data and 2006 US Census Bureau Population by Gender and Racial / Ethnicity

| Hawaii County | | |
|------------------------------------|--------------------------------|------------------------------|
| Population Characteristics | RN Workforce Number (%) | Population Number (%) |
| Gender | | |
| Female | 552 (91%) | 85,105 (50%) |
| Male | 56 (9%) | 86,086 (50%) |
| Race/Ethnicity | | |
| African-American | 2 (.3%) | 1,415 (0.8%) |
| Caucasian | 347 (57.2%) | 61,228 (36%) |
| Asian | 119 (19.6%) | 47,762 (28%) |
| Native Hawaiian & Pacific Islander | 46 (7.6%) | 18,055 (11%) |
| Am. Indian/ Native Alaskan | 2 (0.3%) | 614 (0.4%) |
| Two or More Races | 78 (12.9%) | 39,258 (23%) |
| Some Other Race | 3 (0.5%) | 2,589 (1.5%) |
| Hispanic or Latino | 10 (1.6%) | 18,448 (11%) |

Table 4 reveals that in Kauai County the RN workforce has a greater percentage of females compared to the population. Caucasian's represented in the RN workforce is greater than the county population. Asian, Native Hawaiian, and Pacific Islanders are proportionally lower than the community.

Table 4 Comparison of Kauai County RN Workforce Data and 2006 US Census Bureau Population by Gender and Racial / Ethnicity

| Kaua'i County | | |
|---------------------------------------|------------------------------------|----------------------------------|
| Population Characteristics | RN Workforce Number (%) | Population Number (%) |
| Gender | | |
| Female | 191 (94%) | 29,211 (50%) |
| Male | 13 (7%) | 29,252 (50%) |
| Race/Ethnicity | | |
| African-American | 1 (0.5%) | 177 (0.3%) |
| Caucasian | 95 (46.6%) | 17,255 (30%) |
| Asian | 62 (30.4%) | 21,042 (36%) |
| Native Hawaiian & Pacific Islander | 16 (7.8%) | 5,334 (9.1%) |
| Am. Indian/ Native Alaskan | 1 (0.5%) | 212 (0.4%) |
| Two or More Races | 26 (12.7%) | 13,938 (24%) |
| Some Other Race | 1 (0.5%) | 505 (0.9%) |
| Hispanic or Latino | 2 (1.0%) | 4,803 (8.2%) |

Table 5 reveals that in Maui County the RN workforce has a greater percentage of females compared to the population. Caucasian's represented in the RN workforce is greater than the county population. Asian, Native Hawaiian, and Pacific Islanders are proportionally lower than the community.

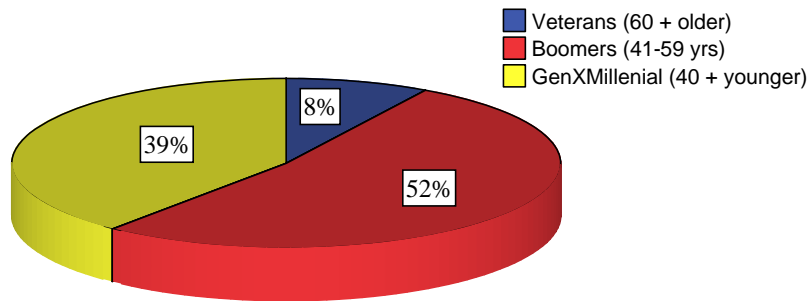
Table 5 Comparison of Maui County RN Workforce Data and US Census Bureau Population by Gender and Racial / Ethnicity

| Maui County | | |
|------------------------------------|--------------------------------|------------------------------|
| Population Characteristics | RN Workforce Number (%) | Population Number (%) |
| Gender | | |
| Female | 473 (92.5%) | 63,765 (50%) |
| Male | 5 (7.5%) | 64,329 (50%) |
| Race/Ethnicity | | |
| African-American | 2 (0.4%) | 509 (0.4%) |
| Caucasian | 282 (55.2%) | 43,421 (34%) |
| Asian | 149 (29.2%) | 39,728 (31%) |
| Native Hawaiian & Pacific Islander | 15 (2.9%) | 13,730 (11%) |
| Am. Indian/ Native Alaskan | 2 (0.4%) | 479 (0.4%) |
| Two or More Races | 45 (8.8%) | 28,484 (22%) |
| Some Other Race | 3 (0.6%) | 1,743 (1.4%) |
| Hispanic or Latino | 13 (2.5%) | 10,050 (7.8%) |

F. Generational Cohorts: Registered Nurses by Generational Cohort

Based on the age of the RN respondents, the current RN workforce is estimated to be made up of 8.4% (420) Veterans aged 60 years and older, 52.4% (2,613) Boomers 41 to 59 years of age, and 39% (1,947) GenXM aged 40 years or younger.

Figure 3 Registered Nurses Working in Hawaii by Generational Cohort



G. Generational Cohorts: Generational Cohort of Registered Nurses by County

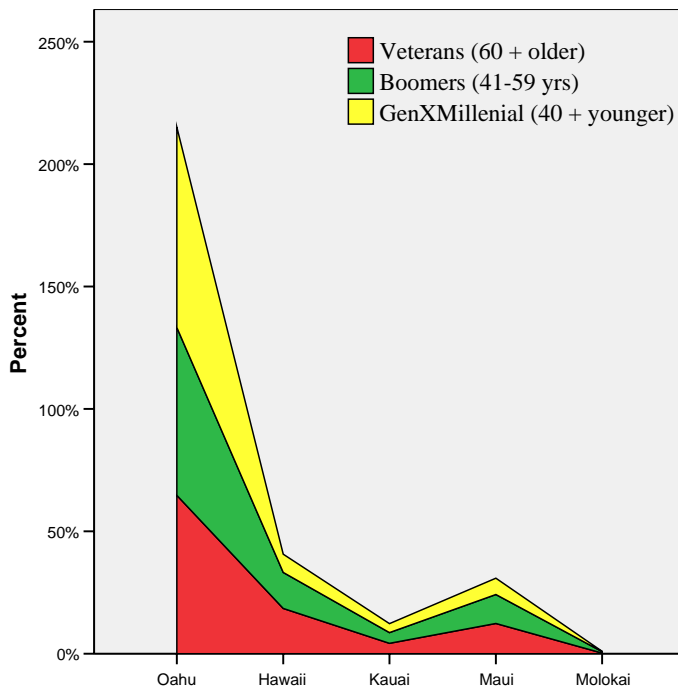
Table 6 reveals that 8.4% of the workforce is made up of Veteran nurses. Although 65% of the Veteran cohort reside in the City and County of Honolulu this cohort only represents 7.5% of the RN workforce on Oahu. On the other islands, Veteran nurses represent an estimated 13% of the nursing workforce in Hawaii County, 9% in Kauai County, 11% Maui, and 5% Molokai. The Veteran nurses are expected to leave/ retire from the profession in the next 3 to 5 years.

Table 6 Frequency Distribution of RN by County

| | Missing n (%) | Veterans n (%) | Boomers n (%) | GenXM n (%) | Total n (%) |
|-----------------------------------|------------------|-------------------|------------------|----------------|----------------|
| Hawai'i County | 0 | 78 (12.8%) | 384 (63.2%) | 146 (24.0%) | 608 (100%) |
| Kaua'i County | 1 (0.5%) | 18 (8.8%) | 113 (55.4%) | 72 (35.3%) | 204 (100%) |
| Maui County | 0 | 52 (10.6%) | 310 (63.0%) | 130 (26.4%) | 492 (100%) |
| Moloka'i | 0 | 1 (5.0%) | 15 (75.0%) | 4 (20.0%) | 20 (100%) |
| Honolulu City & County | 5 (0.1%) | 271 (7.5%) | 1,791 (48.9%) | 1,595 (43.5%) | 3,662 (100%) |
| Total | 6 (0.1%) | 420 (8.5%) | 2,613 (52.4%) | 1,947 (39.0%) | 4,986 (100%) |

Out of the Veteran cohort, the City & County of Honolulu has the greatest proportion of Veterans with 65% of our veteran nurses retiring in the next 5 years. On the other islands, 19% will retire in Hawaii County, 12% in Maui and 4% in Kauai

Figure 4 Percent of Veteran Registered Nurses on Oahu, Hawaii, Kauai, Maui and Molokai Intending to Retire in the Next 5 Years



H. Nursing Education Programs

In Hawai'i, we have eight nursing education programs that together produce approximately 400 new graduates each year. While many graduates want and choose to remain in Hawai'i, mainland employers are beginning to recruit heavily in the state. Anecdotal data indicates increasing numbers of graduate nurses leave Hawai'i to accept positions in California, Washington, and Texas. The geographic isolation of Hawai'i makes it difficult for us to fill vacancies resulting in dependence on contract nurses, particularly in specialty areas and long-term care.

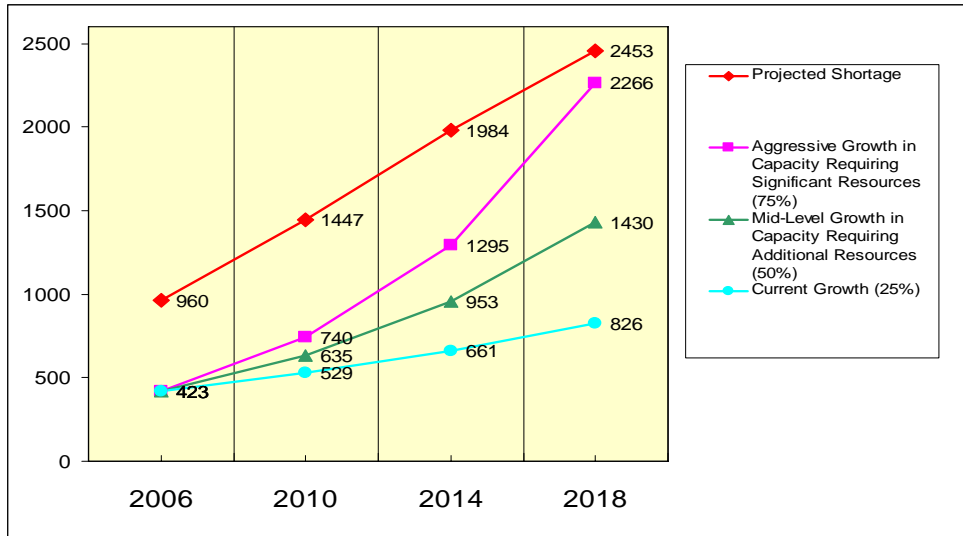
In 2005 the Hawaii State Legislature supported funding for nine additional faculty positions for UH nursing programs and \$20,000 in scholarships and loans for students. Comparisons between 2004-05 school year and 2005-06 year indicate the number of qualified applicant not offered a slot in the BS programs have dropped however remain high in AS programs.

There continues to be more qualified applicants who are not being enrolled into programs. The exception is the BS programs offering the RN to BS program, which report fewer applicants than slots available. The ladder programs report not only more qualified applicants than the number of admission slots, but also that a number of available slot go unfilled. A number of factors may contribute to difficulties filling admission slots in the ladder and RN to BS programs. These may include factors related to the immediate capacity of the program (e.g., lack of availability of faculty, facilities, or clinical placement sites to support the approved admission slots), to factors related to the applicants (e.g., too few qualified applicants, affordability of the program for the applicant, enrollment of the applicant in another program), or to a combination of factors. The explanation may differ for different education institutions.

Between 2006 and 2018, demand for RNs in Hawaii is expected to grow by 24%, while supply of RNs is expected to grow by 7.1%. In relative terms, the shortfall in demand will increase from about 11% to 23%. The supply of registered nurses is said to be dependent upon the number of new nursing graduates entering the profession, and the number of existing nurses remaining in the workforce.⁸ Projected RN workforce figures for Hawaii 2005 – 2018 indicate the state has a current shortage of 960 nurses. This is projected to climb to 1,447 by 2010, 1,984 by 2014, and 2,453 by 2018. As Figure 5 demonstrates, nursing programs are going to have to experience an aggressive growth in capacity to produce enough graduates to significantly impact the shortage.¹¹

¹¹ LeVasseur, S.A. (2007). Nursing Education Programs 2005-2006. Hawaii State Center for Nursing, Honolulu: HI.

Figure 5 Projected Shortage & Growth in Educational Capacity to Meet Need



The University of Hawai'i nursing programs and Hawai'i Pacific University have significantly increased enrollments. However, the state faces a number of nursing education capacity challenges. These include difficulties filling faculty positions (63%), followed by the lack of clinical sites for clinical placement for nursing students (63%), and the lack of classroom space (50%). In the 2004, 2005, and 2006 school years, a lack of faculty, clinical sites, and classroom space continue to impact enrollments. Programs continually report difficulties in filling faculty positions with specialty expertise such as pediatrics 38%, obstetrics 25%, and mental health 25%. Survey findings related to faculty in Hawaii's nursing programs indicates that 68% of fulltime faculty are 50 years or older and the vacancy rates for fulltime faculty positions in nursing education programs are 15%.

Programs such as BS in nursing over the last few years have seen an increase in the number of students enrolled and graduating. However, in the 2005-06 school year, the number of qualified student applicants not being enrolled continues to be significant. According to the aggregate data available for the nursing education programs at these institutions:

- LPN programs report 62% (131) of qualified applicants were not enrolled.
- Ladder programs report 60% (122) of qualified applicants were not enrolled.
- ADN programs report 70% (210) of qualified applicants were not enrolled.

- Pre-licensed BSN programs report 27% (45) of qualified applicants to public institutions were not enrolled.
- MSN programs report 29% (29) of qualified applicants were not enrolled.
- PhD programs report 31% (5) of qualified applicants were not enrolled.

In 2006 the Hawaii State Legislature supported funding for seventeen additional faculty positions for UH nursing programs. This further increase in faculty will aid in increasing enrolments by approximately 30%. However further policy measures and strategies are required to adequately address the growing nursing shortage in Hawaii.

Nursing programs cannot increase current production without continuing to increase nursing faculty and develop and implement measures that redesign how we do business. One such measure in response to education capacity issues is the University of Hawaii statewide nursing consortium. The undergraduate nursing curriculum and learning strategies is being redesigned to increase flexibility and accessibility across the UH system. How this initiative will impact capacity and the supply of nurses requires evaluation on implementation.

Statewide Data informs Planning

By 2020, the Hawai'i State Center for Nursing projects a shortage of 2,670 FTE RNs in Hawai'i. National forecast projections reveal there will be a shortfall of 340,000 FTE RNs by 2020.¹² A broad set of complex and interwoven factors will continue to drive the shortage impacting healthcare at a micro and macro level. These drivers include:

¹² Auerbach, D. I., Buerhaus, P. I., & Staiger, D. O. (2007). Better late than never: Workforce supply implications of later entry into nursing. *Health Affairs*, 26(1):178-185.

- An aging population that will require more RN managed/guided care^{13,14,15},
- An aging nursing workforce that will find it difficult to meet the physical demands of employment^{16,17,18}
- An uncertain supply pipeline of new nurses created by future changes in the economy, immigration policy, educational subsidies or incentives, wages, delivery of health care, and educational capacity¹⁹
- A poor image of nursing as a professional career option, particularly for men^{20,21,22,23}
- Difficulty retaining nurses in work environments perceived as unattractive and unsupportive^{24,25,26}

Trends indicate demand as well as supply factors contributing to the RN shortage will deepen as the baby boom generation consumes greater portions of healthcare services and the aging nursing workforce retires from the profession. Both immediate and long-term policy development is required to address this growing nursing shortage.

We need to address the limited educational capacity issues faced by our nursing programs; to attract and ensure educational opportunities for people to the nursing profession. The advantage of such policies is that they add new nurses year after year. Thus, while the

¹³ Department of Health and Human Services. (2003). *The future supply of long-term care workers in relation to the aging baby boom generation: Report to Congress*. Washington D.C.: Department of Health and Human Services. (Retrieved from <http://aspe.hhs.gov/daltcp/reports/ltcwork.pdf> December 14, 2006).

¹⁴ Hwalek, M. & Essenmacher V. (2005). *Older workers in direct care: A labor force expansion study*. A Better Jobs Better Care Project of the Robert Wood Johnson Foundation and the Atlantic Philanthropies. Detroit, Michigan: SPEC Associates (Retrieved from <http://www.bjbc.org/content/docs/OperationABLEFinalReport112905.pdf>) December 14, 2006).

¹⁵ *National Commission on Nursing Workforce for Long-Term Care. Act Now for Your Tomorrow*. (2005). Final Report of the National Commission on Nursing Workforce in Long-term-care. (Retrieved from http://www.ahca.org/research/workforce_rpt_050519.pdf December 14, 2006).

¹⁶ Hatcher B. J. et al., ed. (2006). *Wisdom at work: The importance of the older and experienced nurse in the workplace*. Princeton, New Jersey: Robert Wood Johnson Foundation. (Retrieved from <http://www.rwjf.org/files/publications/other/wisdomatwork.pdf> Dec 2006).

¹⁷ Miles TP, Furino A, eds. (2005). *Aging health care workforce issues*. New York: Springer Publishing Company.

¹⁸ Spetz J. (2005). The aging of the nurse workforce recent trends and future challenges. In: Miles TP, Furino A, eds. *Annual Review of Gerontology and Geriatrics Aging Health Care Workforce Issues*. New York: Springer Publishing Company.

¹⁹ American Association of Colleges of Nursing. (2003). *Faculty Shortages in Baccalaureate and Graduate Nursing Programs: Scope of the Problem and Strategies for Expanding the Supply*. Washington D.C.: American Association of Colleges of Nursing (Retrieved from <http://www.aacn.nche.edu/Publications/WhitePapers/TFFFWP.pdf> December, 2006).

²⁰ Grainger P, Bolan C. (2006). Perceptions of nursing as a career choice of students in the baccalaureate nursing program. *Nurse Education Today*, 26:38-44.

²¹ Hart K. (2005). Study: Who are the men in nursing? *Breakthrough to Nursing*. Nov/Dec (Retrieved from http://www.nсна.org/pubs/imprint/novdec05/imp_nov05%20breakthrough.pdf. Dec, 2006):32-34

²² Stott A. (2004). Issues in the socialization process of the male student nurse: implications for retention in undergraduate nursing courses. *Nurse Education Today*. 24:91-97.

²³ Whittock M. & Leonard L. (2001). Stepping outside the stereotype. A pilot study of the motivations and experiences of males in the nursing profession. *Journal of Nursing Management*. 11:242-249.

²⁴ Aiken LH, Clarke SP, Sloane DM, et al. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*. 20(3):43-53.

²⁵ Buerhaus PI & Staiger DO. (2000). Implications of an aging registered nurse workforce. *Journal of the American Medical Association*. 283(22):2948-2954.

²⁶ Ulrich BT, Buerhaus PI, & Donelan K. (2005). How RNs view the work environment. *JONA*. 35(9):389-396.

increase in any one year may be modest, the cumulative effect can be significant. Other factors such as reducing net annual out-migration and turnover rates; and attracting more people to nursing will have an accumulative effect

Policies that affect participation within the existing pool of nurses may have a limited long-term impact while increasing the supply of nurses in the short term. Delaying time until retirement, reducing career changes and increasing the percentage of nurses working full time as opposed to part time are examples of such policies.

Data suggests that no individual policy is likely to alleviate the nursing shortage. Rather, eliminating the nursing shortage requires a series of policy initiatives targeted to ensuring nursing supply. The most effective strategy may be one that stimulates supply among existing nursing workforce to address the current shortage and simultaneously increase supply through nursing education to address the longer term need and minimize future shortages.

Policies and Programs

A variety of innovative policies and programs will be required to meet the need in Hawai'i for a well educated and competent nursing workforce. Based on current data, some generic recommendations include the following:

1. Promote and support the integration of nurse education and practice

Nursing is a practice based profession. Programs that integrate education and practice may be the tipping point to generating new resources, improving education and addressing the myriad of quality and patient safety issues in the work environment.

2. Link educational opportunities and resources across the State of Hawai'i

A regional educational linkage integrated to the practice community offers providers greater opportunity for innovation. Simulation learning, shared information technology, a single uniform curriculum and shared faculty are some of the conceptual ideas proposed to revolutionize nursing in Hawai'i.

3. Develop and implement new graduate nurse residency programs

There is a growing body of evidence demonstrating that new nurses are not competent to work independently immediately after graduation. Evidence suggests new nurses that participate in residency programs after graduation transition into their professional role with less negative impact, are happier in their role, and are more likely to be retained by the facility and in the profession.

4. Develop strategies that promote the retention of mature nurses

Create a system to develop and apply evidence based criteria for best practices focused on the retention of our aging nursing population. Strategies could include shortened working hours, adaptation of the work environment, and assignment to less physically demanding positions.

5. Design and support career pathways for nurses

Nursing is a profession with very diverse career opportunities over the lifetime of a practicing nurse. Beginning with new nurses, career pathways could be identified and individuals could be encouraged, supported and nurtured to remain actively engaged in their profession. Opportunities for formal education, continuing education, specialty practice and certification and moving among healthcare sectors are viable solutions for a long term career. Retired nurses can be actively engaged as mentors and teachers.

STRATEGIC PLAN 2009-2014

During the next five years, both long term and short term strategies need to be put into place to ensure that the nursing workforce is adequate to meet the needs of the people of Hawai'i. Key to the success of these endeavors is building strong and effective partnerships to bring multiple individuals, organizations and community members together. Leveraging intellectual, financial, policy and political capital is necessary to accomplish our objectives. In the current healthcare environment, a strategic plan needs to be dynamic and responsive to multiple stakeholders and rapid changes. The following plan is developed with this in mind and is meant to be general enough to provide a "roadmap" and flexible enough to allow yearly definition of specific goals and objectives. The plan addresses the four legislative mandates as well as other key strategies.

Build, develop and sustain statewide partnerships among organizations, the business community, philanthropy, education and government/policy makers

- Identify existing programs, structures and resources to maximize efficiency and success
- Identify diverse sources of funding to ensure sustainability of efforts through community engagement and participation in addressing the nursing shortage
- Continue to build partnerships with Hawai'i State Offices of Business Economic Development and Tourism, Department of Labor, and Industrial Relations and pursue funding for projects of mutual benefit

Utilizing our role as a credible and independent resource, convene key stakeholders and groups to address workforce needs throughout the healthcare continuum

- Facilitate development of models of nursing practice for the continuum of care including increasing emphasis on the community settings
- Foster efforts that enhance collaboration among Hawaii's nursing education and practice organizations
- Increase community awareness of the role and value of Advance Practice Registered Nurses and facilitate their integration into the healthcare delivery system to meet patient care needs

1. Collect, analyze, prepare and disseminate written reports and recommendations regarding the current and future status and trends of the nursing workforce

- Conduct supply and demand surveys
- Conduct annual education capacity survey

2. Research, analyze, and report data related to retention, best practices and quality outcomes

- Utilize current literature to inform implementation of retention efforts
 - Conduct, maintain, and disseminate a literature review and synthesis of best practices for nurse retention
- Collect, analyze, and report retention data on new graduates, frontline managers and experienced nurses
- Promote and support programs to evaluate retention and best practices in the community
- Facilitate the development of evidence-based practice (EBP) across the state of Hawaii
 - Provide leadership and resources to develop knowledge and skill in EBP
 - Sponsor a presentation by Dr. Marita Titler, renowned expert in EBP, with a focus on creating a culture of EBP at the organizational level.
 - Solicit healthcare organization support for staff nurse attendance at an EBP pre-conference workshop
 - Submit a conference grant to the Agency for Healthcare Research & Quality specifically designed to support staff nurse attendance at the pre-conference EBP workshop
 - Submit a Robert Wood Johnson Foundation grant to support staff nurses' efforts to implement evidence-based practice at the bedside
- Explore the application of CalNOC, NDNQI or other data sets relevant to nursing care delivery in order to standardize the measurement of quality outcomes across the state
 - Develop a nursing outcomes data base to measure patient quality, patient safety and the work environment
- Explore and investigate the role of the advanced practice registered nurse (APRN) in increasing access to care within a multidisciplinary system

3. Develop a plan for implementing strategies to recruit and retain nurses

- Develop and implement a plan to promote the image of nursing as a desirable and valued profession
 - Design and implement a recruiting plan that targets elementary, middle and high school students as well as those underrepresented groups within the workforce
- Build educational capacity
 - Participate in the National Education Capacity Summit and develop a strategic plan for building education capacity for Hawai'i, an initiative sponsored by Robert Wood Johnson Foundation; Center to Champion Nursing; U.S. Department of Labor, Employment and Training Administration; AARP; and the U.S. Department of Health and Human Services, Health Resources and Service Administration
 - Redesign nursing education by focusing on technology based learning including on-line programs, distance education and simulation
 - Increase access to BSN, MSN and PhD degrees for neighbor island populations
 - Increase diversity in the nursing programs and the workforce by increasing the number of men and that of underrepresented ethnicities as compared with Hawai'i's population
 - Build strong partnerships between education and practice
 - Increase graduate education capacity by increasing the number of faculty for nursing programs
 - Maximize statewide capacity within system of nursing education to meet the increased needs for clinical placement of student nurses
- Build partnerships and programs to assure a successful transition to practice for new graduate registered nurses
 - Develop preceptors and mentors by offering the Nurse Internship Program package to health care organizations across the state and evaluating its impact on retention
 - Explore available graduate residency programs and their potential implementation in Hawai'i
 - Expand career options for new graduate practice to include all sectors

- Develop a Leadership Academy in partnership with academia, employers, and the community to assure a succession of nursing leadership at all levels
 - Design and implement programs which focuses on staff nurse leaders and frontline nurse managers
 - Offer leadership workshops for charge nurses twice a year
 - Explore the adoption of a national model and implementation of a nurse manager workshop
 - Design and implement programs which focus on executive level nurses
 - Foster succession planning for nursing leaders
- Build partnerships and programs to retain experienced nurses
 - Increase innovative programs to address career pathways
 - Identify and support retention programs which improve the work environment
 - Identify and support retention programs focused on the experienced nurse

Conclusion

Our five year plan is envisioned as a roadmap to point us in a general direction. It must be flexible, dynamic and responsive to the frequent changes in the healthcare environment. Specific goals and objectives must be developed for each year with statewide colleagues to assure responsiveness to community needs and changing innovation and best practices.

The HSCFN will continue to serve in a convening role to build strong and effective partnerships that bring multiple individuals, organizations and community members together. This effort must involve the entire community including academia, the healthcare industry, business, philanthropy, and policy makers in both the public and private sectors. Building partnerships and coalitions that leverage the intellectual, financial, policy and political capital necessary to accomplish our long and short term objectives will ensure a robust healthcare environment for the people of Hawai'i.

