

# Hawai'i's Health in the Balance:

*A Report on the State of  
the Nursing Workforce*

Charissa R. Raynor, RN, MHSA  
and the  
Hawai'i Nursing Shortage Taskforce

October 2004

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## **Hawai‘i Nursing Shortage Taskforce**

The Hawai‘i Nursing Shortage Taskforce, chaired by Julie E. Johnson, Dean of the University of Hawai‘i at Mānoa, School of Nursing and Dental Hygiene, is a coalition of nursing educators, healthcare administrators, provider and professional organizations, state and government agencies, and others committed to addressing Hawai‘i’s nursing shortage. A listing of Hawai‘i Nursing Shortage Taskforce members is included at the end of this report.

The Taskforce was formed in October 2003 to study and provide recommendations as to how Hawai‘i can work to reduce the nursing workforce shortage throughout the State. The problem will be further studied by the Hawai‘i State Center for Nursing and the healthcare industry. Support will be sought from State Government Officials in resolving this issue which is so important to the citizens of Hawai‘i.

## **Acknowledgements**

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The author wishes to thank Marla Acosta of the University of Hawai‘i at Mānoa School of Nursing and Dental Hygiene for overseeing publication of the report and Dr. John Packham of the University of Nevada for reviewing the report.

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# Hawai'i's Health in the Balance:

## *A Report on the State of the Nursing Workforce*

### Executive Summary

This report was commissioned by the Hawai'i Nursing Shortage Taskforce to (1) provide an overview of the nursing workforce, (2) describe the scope and magnitude of the nursing shortage including factors that underlie a shortage, (3) identify the impact the shortage has on the state's ability to provide health care services, and (4) recommend actions that can be taken to lessen the effects of the shortage and help avert future shortages.

#### *What is the problem?*

Hawai'i, along with most of the country, is experiencing a shortage of Registered Nurses (RNs) that is expected to quadruple in size by 2020. RNs are the largest group of health care providers and work across all health care settings providing hands-on care.

- ❖ Between 2000 and 2020, demand for RNs in Hawai'i is expected to grow by 55 percent, while supply of RNs is expected to grow by only 13.8 percent.
- ❖ During this period, demand for RNs is expected to increase by 4,554 new full-time equivalent (FTE) positions. At the same time, nearly 80 percent of today's nursing workforce, or 8,397, nurses are expected to retire. Thus, as demand increases dramatically, supply will remain relatively stagnant.
- ❖ In 2003, Hawai'i nursing schools graduated a total of 330 students. If graduation rates do not increase dramatically, there will not be enough new graduates to replace retiring nurses and meet new demand. In 2003, Hawai'i's nursing schools turned away 293 qualified nursing applicants because they did not have enough faculty positions to meet student demand.
- ❖ RN vacancy rates were 8 percent in Hawai'i's nursing homes in 2002 and 12 percent in hospitals in the Western region of the country in 2000. Economists consider a shortage to be present when vacancy rates exceed 5–6 percent over an extended period of time.

## *Factors Leading to a Nursing Shortage*

Today’s nursing shortage is widely considered to be “different” than all previous shortages because it is the result not of market dynamics, but an unprecedented demographic shift towards an older population. Hawai‘i is on the cusp of this “senior boom,” aging twice as fast as the rest of the country. Between 2000 and 2020, the number of people age 60 and over living in Hawai‘i will increase by almost 75 percent and people age 85 and older will increase by 121 percent. A rapidly aging society has two primary consequences for the nursing workforce: (1) health care demand will increase and (2) the current nursing workforce will contract dramatically as nurses age into retirement. In response, efforts to address the shortage should focus on increasing nursing supply. The following key factors should be addressed to bolster nursing supply and lessen the effects of the nursing shortage:

- ❖ **Nursing school capacity:** In 2003, Hawai‘i’s nursing schools turned away 293 qualified nursing applicants because they did not have enough faculty to enroll them. All of Hawai‘i’s public nursing schools report they need more faculty to meet student demand but lack the funds to add positions. Without expanded student enrollment, nursing supply growth in Hawai‘i will be severely limited. In addition, nursing schools report difficulty in finding clinical sites for students, a necessary part of nursing education. Lastly, there is a need to ensure that nursing education is current with practice, especially in geriatrics and technology dependent specialties, so that Hawai‘i not only has enough nurses but enough nurses qualified to meet Hawai‘i’s health care needs.
- ❖ **Work environment for nurses:** A recent national survey finds just 69.5 percent of all RNs are satisfied with their job. These satisfaction levels are low compared with 85 percent of all workers and 90 percent of professional workers who express satisfaction with their job. Concerns commonly associated with RN job dissatisfaction include: (1) inadequate staffing to perform work, (2) heavy workloads, (3) increased overtime, and (4) lack of sufficient support staff. Job dissatisfaction contributes to the increasing number of RNs who are leaving the profession.
- ❖ **Foreign nurse migration:** Hawai‘i depends heavily on foreign nurses who comprise an estimated 25 percent of the state’s nursing workforce compared with only 5 percent nationally. During today’s global nursing shortage, recruiting foreign nurses raises not only ethical questions about “stealing away” nurses from countries that desperately need them, but also how sustainable such exports will be amidst increasing global demand for nurses.

- ❖ **Direct care workers shortage:** There is no substitute for a RN. However, RNs routinely delegate nursing tasks to direct care workers, such as nursing aides. Hawai‘i, as with most of the country, has a shortage of direct care workers. Without enough direct care workers, RNs have to absorb these workers’ tasks as part of their own workload, increasing overall demand for RNs.
- ❖ **Wages and market dynamics:** Past nursing shortages have generally relied on market dynamics alone to bring the workforce back into balance. Nationally, growth in median RN earnings (adjusting for inflation) remained flat throughout the 1990s, but increased by 13 percent between 1997 and 2001. Recent research shows that RN wages would have to rise 55–69 percent between 2005 and 2016 to increase nursing enrollments and end the nursing shortage by 2020.
- ❖ **The role of state policy makers:** Supply and demand for nurses is greatly influenced by policy makers’ role in: (1) supporting higher education, (2) reimbursing health services, (3) regulating health services, and (4) establishing workforce development programs and policies. For example, higher education relies on state support. Inaction on the part of the Hawai‘i legislature to increase funding to nursing schools so they can expand student enrollment would severely limit nursing supply growth.

### *Impact on Public Health*

It is important to recognize that at risk is more than a shortage of workers. A shortage of RNs means a shortage of quality health care for the people of Hawai‘i. Research consistently shows what patients have long understood, RNs equal quality care. As the shortage of RNs grows, so too will the threat to public health.

- ❖ With a statewide shortage, it follows that health care providers will find filling vacancies more difficult and some positions may remain vacant for extended periods. In turn, providers may respond by: (1) continuing to provide services with fewer RNs, potentially reducing quality of care and/or (2) delaying or discontinuing services, reducing access to care.
- ❖ Research consistently finds a positive relationship between higher RN staffing levels and quality of care. A recent federal study of acute care hospitals concluded that a higher proportion of RN hours and a greater number of hours of care by RNs are associated with better care. Likewise, RN staffing in nursing homes is directly correlated with better resident outcomes, according to a landmark federal study in 2001.

- ❖ According to a 2001 national survey of acute care hospitals, the nursing shortage has “substantially” impacted providers’ ability to deliver quality care. Fifty-one percent of providers reported emergency room overcrowding, 26 percent closed the emergency department for four hours a week, 25 percent closed beds, 23 percent restricted admissions, 11 percent increased waiting time for surgery, and 6 percent reduced or eliminated services.

## ***Conclusion***

**H**awai‘i has a shortage of RNs, which is expected to quadruple in size by 2020. Increasing numbers of RN vacancies, and vacancies that remain unfilled for extended periods, can be expected to leave fewer RNs available to provide care—potentially undermining quality of care and access to care. The consequences for public health and safety will be significant. While no single intervention can fully address the shortage, it is clear that no combination of interventions will be successful without first addressing the shortage of nursing faculty. Without funding for additional faculty positions, nursing schools will continue to turn away qualified applicants, severely limiting Hawai‘i’s ability to increase nursing supply. Efforts on the part of providers, educators, policy makers, consumers, and labor should be collaborative and strategic, recognizing the complexity of bringing the workforce back into equilibrium and the risk of inaction. Investments made today will not only benefit Hawai‘i over the next 20 years, but begin to develop a proactive culture that will sustain a robust, qualified nursing workforce to meet Hawai‘i’s health care needs into the future.

## ***Call to Action***

**T**he recommendations listed below were developed and approved by the Hawai‘i Nursing Shortage Taskforce.

### **Priority Recommendation**

1. Provide funds to add more nursing school faculty positions so that nursing schools can expand student enrollment. (Legislature)

### **Other Recommendations**

2. Establish a consortium between providers and nursing educators to ensure that Hawai‘i not only has a sufficient supply of nurses, but a supply of nurses with the skills and competencies to meet Hawai‘i’s health care needs. (Affiliate Group, Providers, Educators, Hawai‘i State Center for Nursing)
3. Develop a statewide nursing workforce data collection system to support proactive workforce planning, including areas such as turnover, retention,

and vacancy rates, temporary nurse usage, county-level and military nursing supply, foreign nurse recruitment, nursing education capacity, and direct care worker supply. (Providers, Educators, Hawai'i State Center for Nursing)

4. Foster recruitment initiatives with special focus on groups underrepresented in nursing such as people of color and men. (Providers, Nursing Educators, Secondary Schools, Workforce Investment Board, Area Health Education Center, Private Business, and the Hawai'i State Center for Nursing)
5. Implement, evaluate, and disseminate strategies that will lead to higher levels of job satisfaction and improved retention among nurses, including strategies for career progression in nursing. (Providers, Nursing Educators, Labor, Hawai'i State Center for Nursing)

# Who Is the Nurse?

In this report, nurse refers to Registered Nurse, however the term “nurse” is often used loosely to mean Registered Nurse, Licensed Practical Nurse, and direct care worker. The following provides a general guide for differentiating between these providers by basic training and preparation, as well as scope of practice.

**Registered Nurses (RNs)** complete basic training in a **4-year baccalaureate program, a 3-year diploma program, or a 2-year associate degree program**. All graduates must pass a state licensing exam to be licensed as a RN. RNs are the largest group of health care providers and work across all health care settings providing hands-on care. Basic RN functions include patient assessment, administering therapeutic therapies, patient education, integrating complex care delivery, providing emotional support, and supervising support staff such as licensed practical nurses and direct care workers. RNs work to promote health, prevent disease, and help patients cope with illness. They are advocates and health educators for patients, families, and communities. Within patient care, nurses can move into a nursing specialty such as clinical nurse specialist, nurse practitioner, certified nurse midwife, or certified registered nurse anesthetist. These positions require about 2 years of graduate education leading to a master’s degree.

**Licensed Practical Nurses (LPNs)** complete basic training in a **12–18 month program emphasizing technical skills**. Graduates must pass a state licensing exam to practice as a LPN. LPNs primarily provide direct patient care under the direction of a physician or RN including basic bedside care, taking vital signs such as temperature, blood pressure, pulse, and respiration, preparing and giving injections and enemas, monitoring catheters, applying dressings, treating bedsores, and assisting with personal care. In States where the law allows, they may administer prescribed medicines or start intravenous fluids. Experienced LPNs may supervise direct care workers.

**Direct Care Workers (DCWs)**, or paraprofessionals, include nursing assistants, home health care aides, and personal attendants. DCWs have only **minimal basic training, for example federal law mandates only 75 hours of training for nursing assistants** working in nursing homes. DCWs perform routine tasks under the supervision of nursing and medical staff. They answer patients’ call lights, deliver messages, serve meals, make beds, and help patients eat, dress, and bathe. Aides also may provide skin care to patients; take their temperatures, pulse rate, respiration rate, and blood pressure; and help patients get in and out of bed and walk. They escort patients to operating and examining rooms, keep patients’ rooms neat, set up equipment, store and move supplies, or assist with some procedures. Aides observe patients’ physical, mental, and emotional conditions and report any change to the nursing or medical staff.

# Hawai‘i’s Health in the Balance:

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### I. Introduction

**P**olicymakers, educators, health care providers, labor organizations, and consumer groups all play an important role in shaping the future of nursing in Hawai‘i. With such a diverse set of stakeholders, a shared understanding of the current state of nursing in Hawai‘i is essential. What factors shape nursing supply and demand? Does Hawai‘i have enough nurses now and in the future to meet demand? What are the consequences of a nursing shortage for quality of care and access to care? The purpose of this report is to build a common understanding of these and other key questions. From this reference point, decision makers can develop strategic policies and practices that together will help sustain a qualified nursing workforce to meet Hawai‘i’s health care needs.

We begin by outlining key trends characterizing Hawai‘i’s nursing workforce. This is followed by an overview of factors that influence the balance of supply and demand for nurses. Next, we discuss the implications of a nursing shortage for quality of care and access to care. Current efforts underway in Hawai‘i to address the nursing workforce shortage are then highlighted. Finally, we lay out a set of broad based recommendations to guide future action on the part of all stakeholders.

### II. Snapshot of Nursing Supply and Demand

***Hawai‘i currently has a shortage of RNs, which is expected to quadruple in size by 2020.***

**B**etween 2000 and 2020, demand for RNs in Hawai‘i is expected to grow by 55 percent, while supply of RNs is expected to grow by only 13.8 percent. (Figure 1 and Figure 2). Herein lies the basic premise for asserting that Hawai‘i has a shortage of RNs—demand that outstrips supply. During this period, demand for RNs is expected to increase by 4,554 new full-time equivalent<sup>1</sup> (FTE) positions.<sup>2</sup> Concurrently, nearly 80 percent of the current nursing workforce, or 8,397 RNs, is expected to retire, peaking between 2005 and 2010 (Figure 3).<sup>3</sup> Thus, as demand for RNs increases, supply will remain relatively stagnant. In 2003, Hawai‘i nursing schools graduated a total of 330 students (Figure 4).<sup>4</sup> If graduation rates do not increase dramatically, there will not be enough new graduates to replace retiring nurses and meet new demand.

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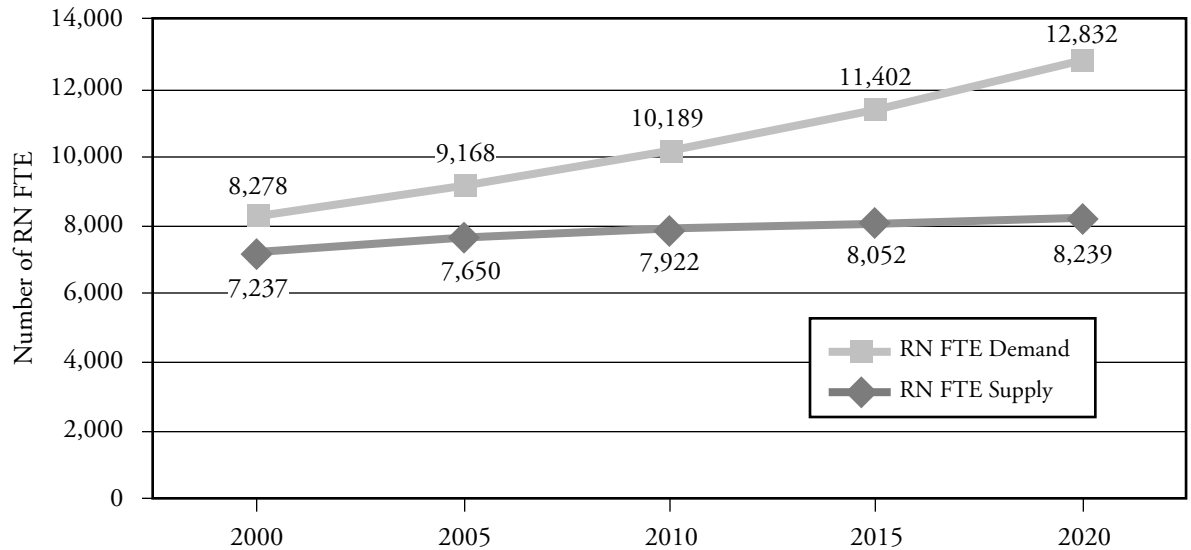
<sup>1</sup>Full-time equivalent (FTE) is a measure of the number of RNs demanded or supplied assuming everyone worked full-time, therefore it understates the number of RNs because some RNs do not work full-time.

<sup>2</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawai‘i Revisited,” April 2003, <http://bhprt.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

<sup>3</sup>B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, “Nursing Workforce Supply Data Trends in Hawai‘i,” *Hawai‘i Medical Journal* 62 (2003): 193–197.

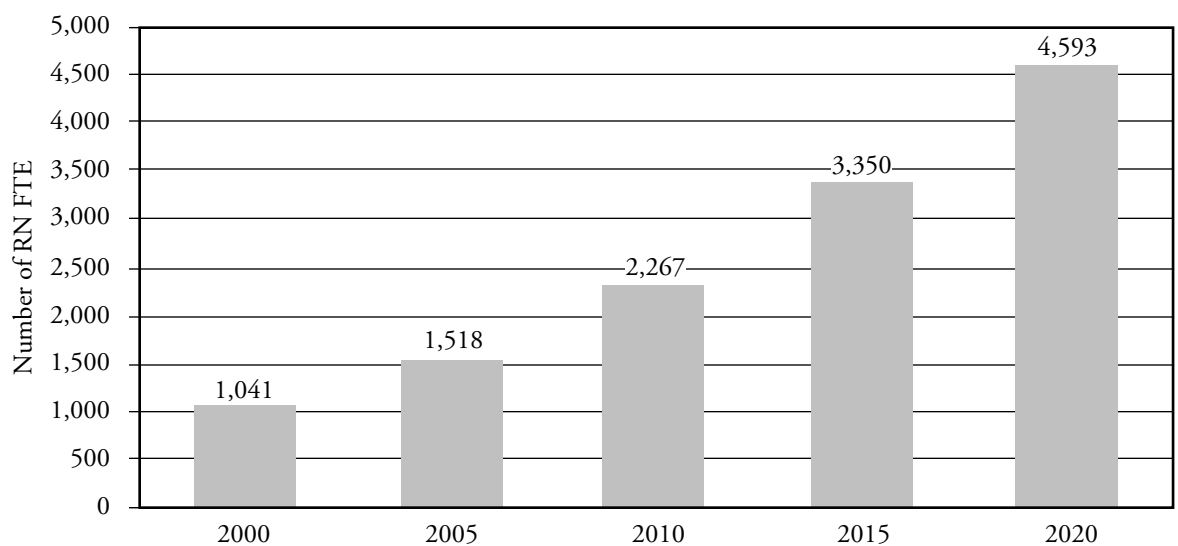
<sup>4</sup>Personal communication with the State of Hawai‘i, Board of Nursing, June 2004.

**Figure 1**  
**Projected Supply and Demand for Registered Nurse Full-Time Equivalents in Hawai'i, Selected Years 2000–2020**



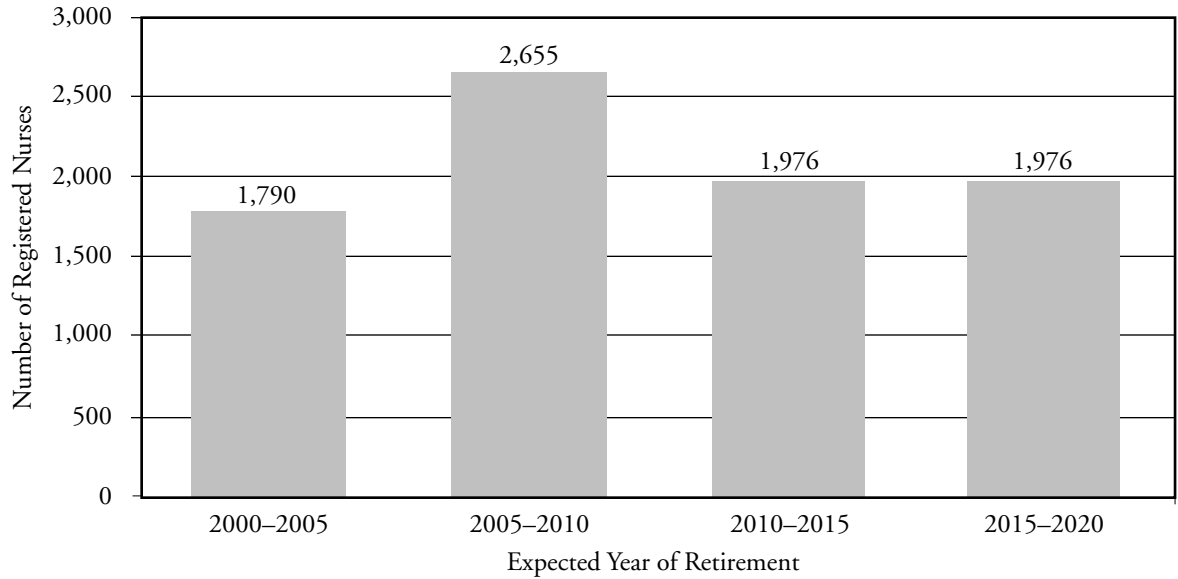
*Source:* Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawai'i Revisited,” April 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

**Figure 2**  
**Projected Shortfall of Registered Nurse Full-Time Equivalents in Hawai'i, Selected Years 2000–2020**



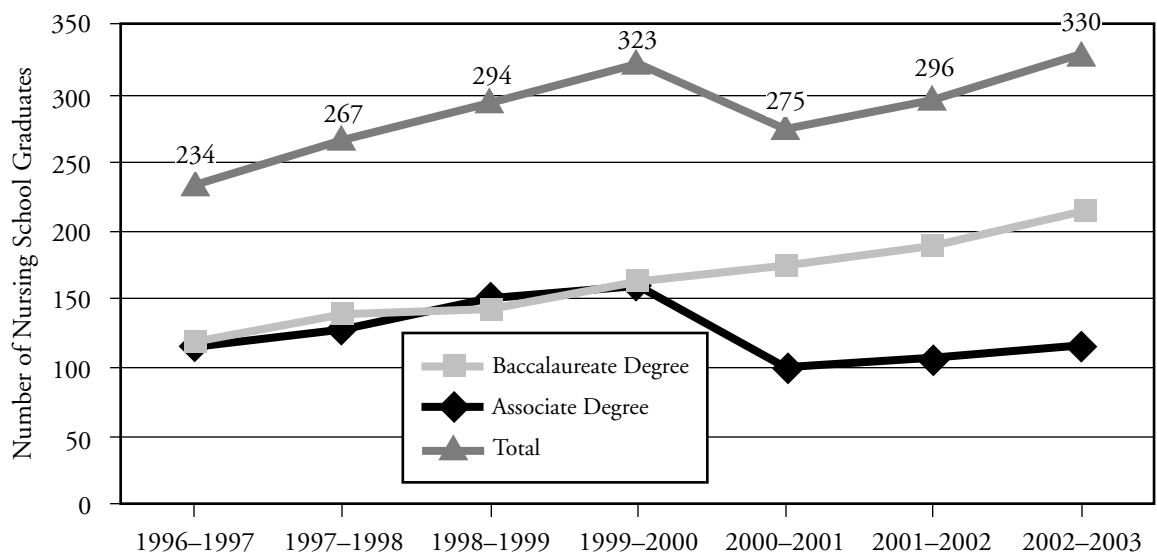
*Source:* Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawai'i Revisited,” April 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

**Figure 3**  
**Hawai'i RNs in 2000 by Expected Year of Retirement, Selected Years 2000–2020.**



Source: B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, “Nursing Workforce Supply Data Trends in Hawai'i,” *Hawai'i Medical Journal* 62 (2003): 193–197.

**Figure 4**  
**Hawai'i Nursing School Graduates, 1996–2003.**



Source: 1996–2001 data source is B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, “Nursing Workforce Supply Data Trends in Hawai'i,” *Hawai'i Medical Journal* 62 (2003): 193–197. 2001–2003 data source is Personal communication with the State of Hawai'i, Board of Nursing, June 2004.

### ***Increasingly, nurses are working in non-nursing positions.***

In Hawai'i, about 1 out of every 6 RNs does not work in nursing, slightly less than the national average. Nationally, some 27 percent of these nurses are working, just not in nursing and the trend appears to be growing.<sup>5</sup> Between 1992 and 2000, the number of nurses working in non-nursing positions increased by almost 36 percent nationwide. Even more striking is the increase in the number of new nurses who are not working in nursing. During the same period, the percentage of new male nurses not employed in nursing increased nearly three fold, while new female nurses increased by more than half.<sup>6</sup>

Nationally, 65 percent of nurses not working in nursing are unemployed and are not looking for nursing employment. About 70 percent of these nurses are age 50 years old or older, while a smaller percentage are younger nurses who are married and have preschool age children at home.<sup>7</sup>

### ***RN supply has increased over the last 20 years, but Hawai'i has fewer employed RNs per 100,000 residents than the national average.***

Hawai'i's nursing supply increased by nearly 7,000 RNs between 1980 and 2003. A significant dip in supply can be seen in the late eighties during the nation's last major nursing shortage (Figure 5). Currently, 14,676 RNs are licensed to practice in Hawai'i. Of these, 10,533 live in Hawai'i.<sup>8</sup> Further breakdown shows that Hawai'i has 703 employed RNs per capita, lower than the national average of 782 per capita. Per capita ratios vary widely, for example, Massachusetts has a 1,194 per capita whereas California only has 544. The western region of the country as a whole tends to have fewer RNs for their population than the rest of the country.<sup>9</sup>

County level data comparing number of RNs employed per capita are not available. However, county comparisons can be made by looking at the number of RNs living in each county per 50,000 residents. This comparison ranks O'ahu as having the highest ratio of RNs per capita followed by Kaua'i, Maui, and Hawai'i respectively (Figure 6).<sup>10</sup> These figures overstate supply because they do not account for nurses not working in nursing and nurses working part-time, among other variables. County and island level data are especially important for Hawai'i because as an island state, nurses cannot easily commute from county to county or state to state, as they can on the mainland.

### ***The average RN in Hawai'i is female and white.***

Females have long dominated the nursing profession. In Hawai'i, females make up 94 percent of the nursing workforce despite the fact that they make up only 49 percent of the population. However, new nursing school enrollments show a trend toward recruiting more males. Males comprised 12 percent of Hawai'i Pacific University's recent enrollment and 20 percent of the University of Hawai'i at Mānoa's enrollment. Ethnicity also presents a workforce disparity with 48 percent

<sup>5</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "The Registered Nurse Population: Findings From the National Sample Survey of Registered Nurses," March 2000, <http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/default.htm> (16 January 2004).

<sup>6</sup>J. Sochalski, "Nursing Shortage Redux: Turning the Corner on an Enduring Problem," *Health Affairs* 221, no.5 (2002): 157-164.

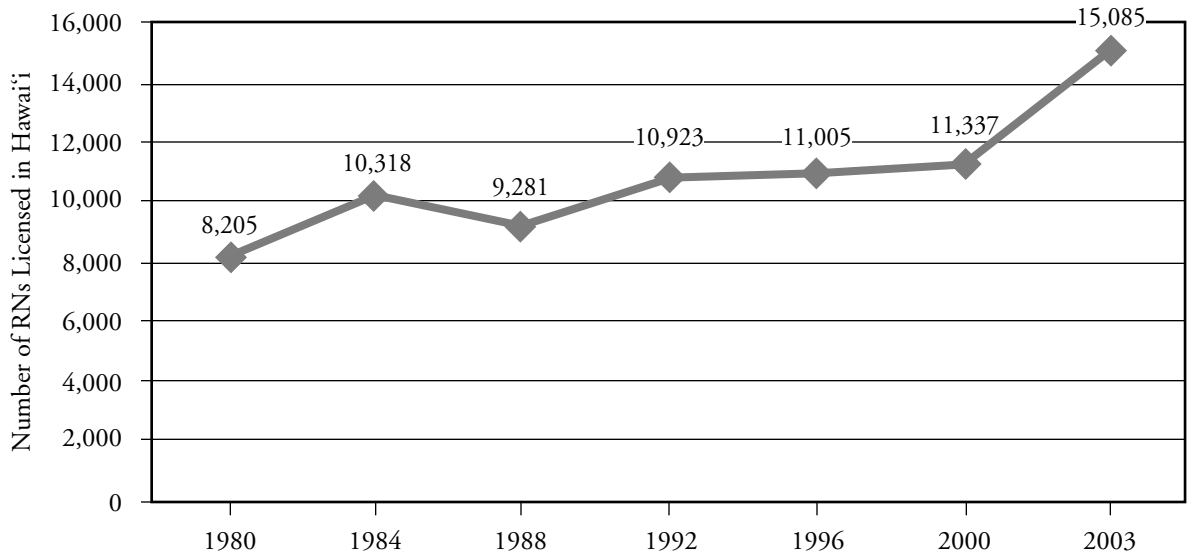
<sup>7</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "The Registered Nurse Population: Findings From the National Sample Survey of Registered Nurses," March 2000, <http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/default.htm> (16 January 2004).

<sup>8</sup>Personal communication with the State of Hawai'i, Board of Nursing, June 2004.

<sup>9</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "The Registered Nurse Population: Findings From the National Sample Survey of Registered Nurses," March 2000, <http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/default.htm> (16 January 2004).

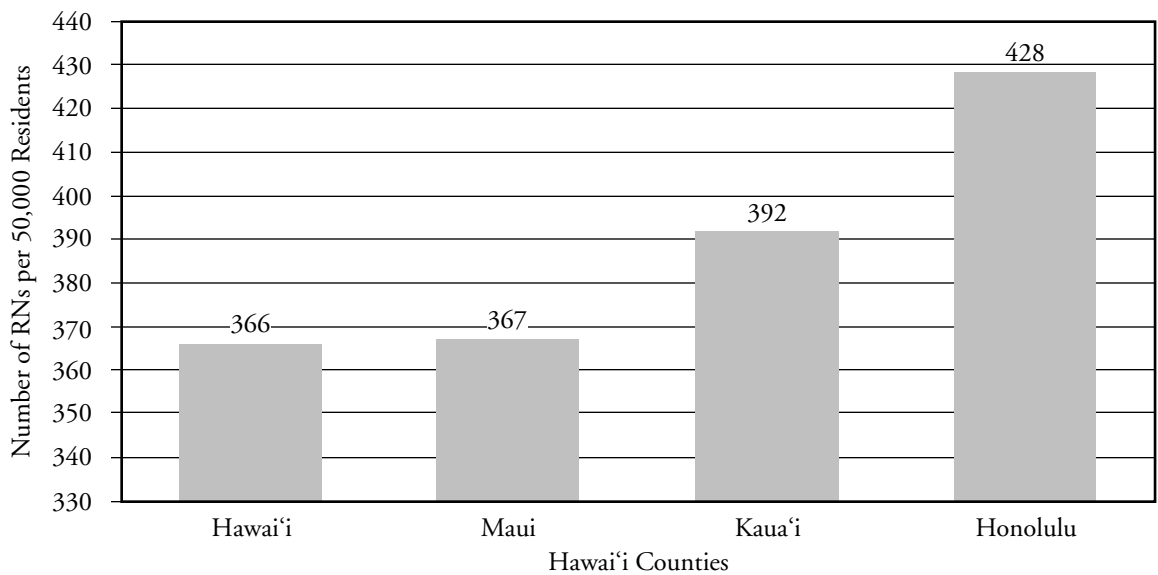
<sup>10</sup>Personal communication with the State of Hawai'i, Board of Nursing, June 2004.

**Figure 5**  
**Supply of Registered Nurses Licensed in Hawai‘i, 1980–2003.**



Source: Personal communication with the State of Hawai‘i, Board of Nursing, June 2004.

**Figure 6**  
**Ratio of Registered Nurses per 50,000 Residents by Hawai‘i County, 2004.**



Source: RN supply source is personal communication with the State of Hawai‘i, Board of Nursing, June 2004. County population source is US Census Bureau, “Hawai‘i Quick Facts,” 2003, <http://quickfacts.census.gov/qfd/states/15000.html> (16 January 2004).

of Hawai'i's nurses identified as caucasian although caucasians make up only 25 percent of Hawai'i's population (Figure 7).<sup>11</sup>

***Between 2002-2012, RNs will experience the largest job growth of any occupation.***

Between 2002 and 2012, RNs for the first time are expected to have the largest job growth of any occupation, according to the US Bureau of Labor Statistics. This demonstrates the magnitude of RN growth relative to other occupations considered to be in high demand (Figure 8). Furthermore, among health care providers in Hawai'i, RN job growth between 2000–2010 is more than three times greater than any other health occupation including physicians and nursing aides (Figure 9).<sup>12</sup>

RN rate of job growth will be greatest in home health and nursing homes, however demand will remain greatest in hospitals. Between 2000–2020, home health will have the greatest rate of RN job growth, followed by nursing homes (Figure 10). These increases can be directly attributed to an aging society and a trend toward earlier hospital discharges.<sup>13</sup> During the same period, hospitals will continue to be the primary work setting for RNs, employing about 60 percent of all RNs, followed by nursing homes and home health respectively (Figure 11).<sup>14</sup>

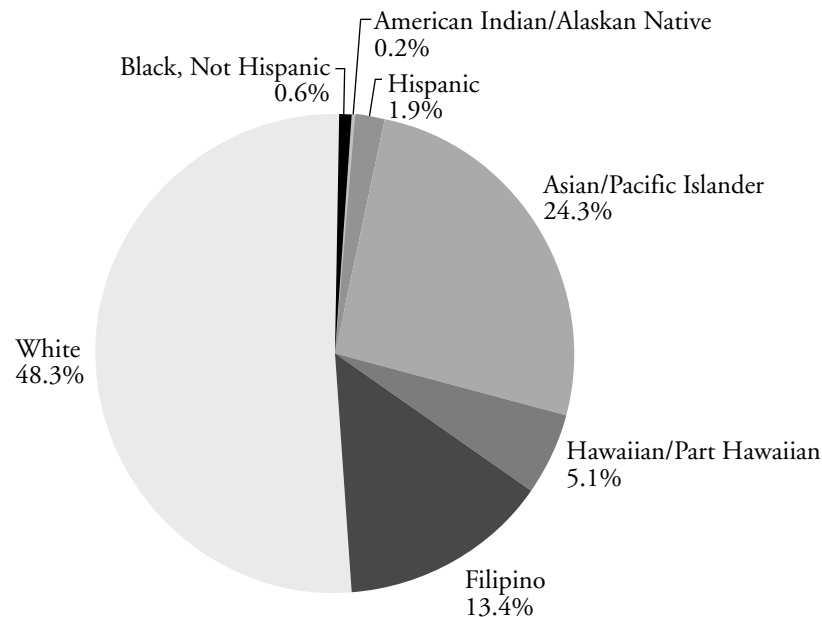
<sup>11</sup>B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, "Nursing Workforce Supply Data Trends in Hawai'i," *Hawai'i Medical Journal* 62 (2003): 193–197.

<sup>12</sup>Bureau of Labor Statistics, US Department of Labor, "Occupational Employment Projections to 2012," 2004 February, <http://www.bls.gov/opub/mlr/2004/02/art5full.pdf> (16 January 2004).

<sup>13</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "Changing Demographics: Implications for physicians, nurses, and other health workers," 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/default.htm> (16 January 2004).

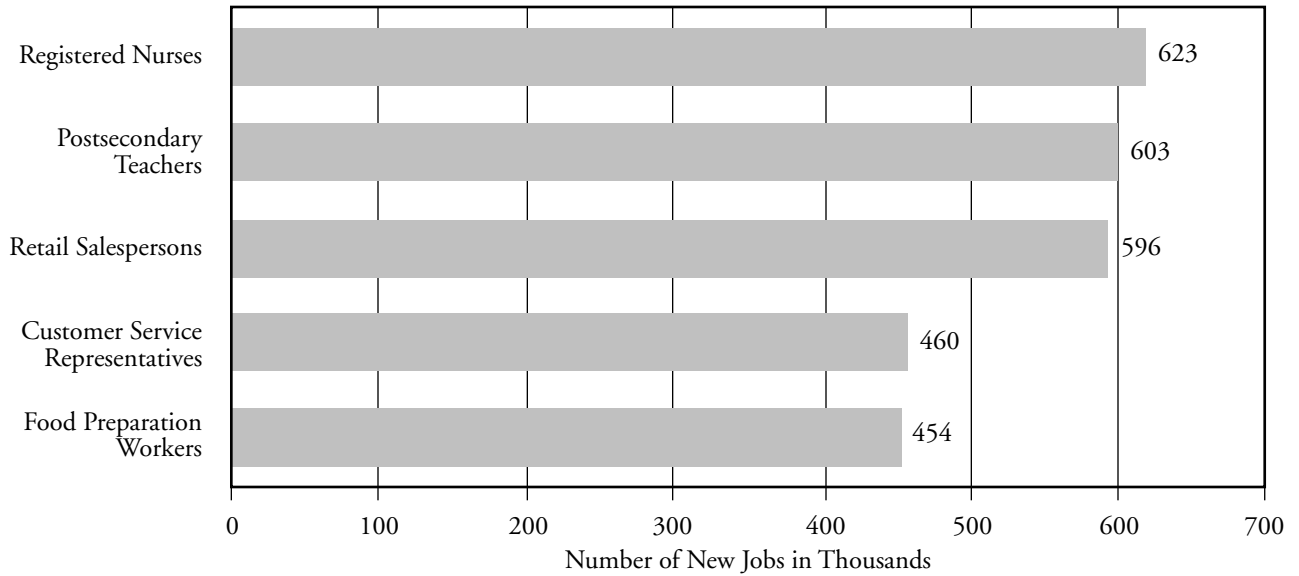
<sup>14</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawai'i Revisited," April 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

**Figure 7**  
**Ethnic Distribution of Registered Nurses in Hawai'i, 2001.**



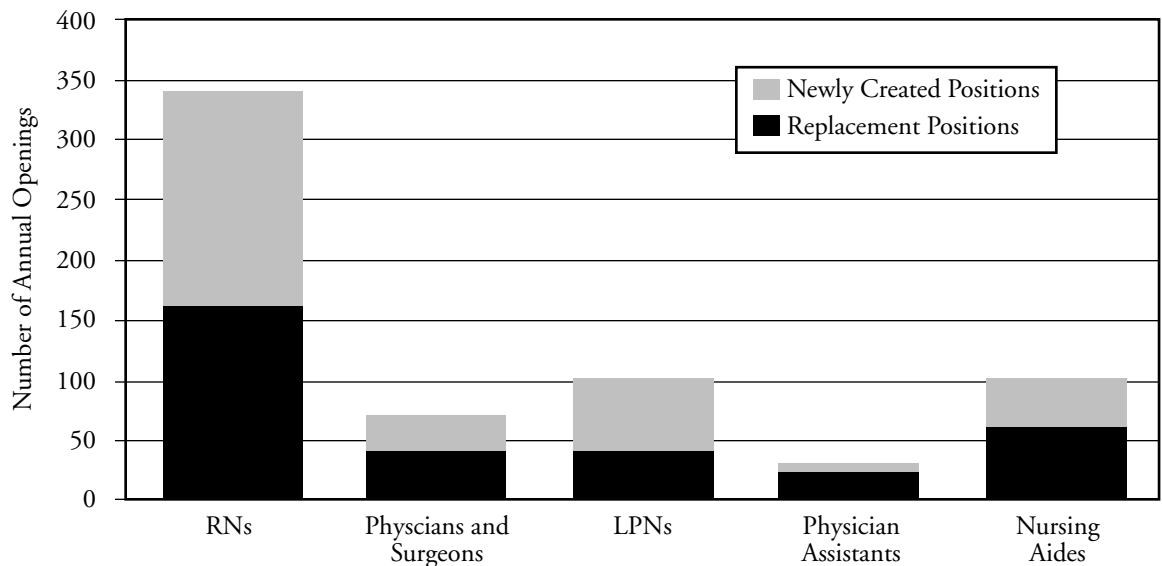
Source: B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, "Nursing Workforce Supply Data Trends in Hawai'i," *Hawai'i Medical Journal* 62 (2003): 193–197.

**Figure 8**  
**Top Five Job Occupations in the US by Projected Job Growth, 2002–2012.**



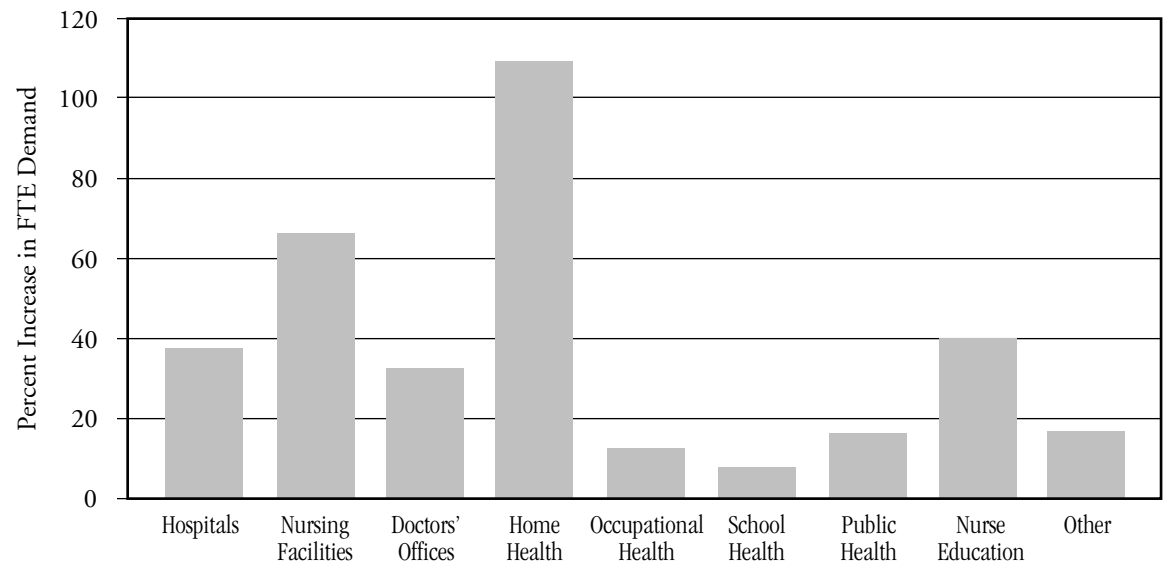
Source: Bureau of Labor Statistics, US Department of Labor, “Occupational Employment Projections to 2012,” February 2004, <http://www.bls.gov/opub/mlr/2004/02/art5full.pdf> (16 January 2004).

**Figure 9**  
**Average Annual Job Openings for Health Professions in Hawai‘i, 2000–2010.**



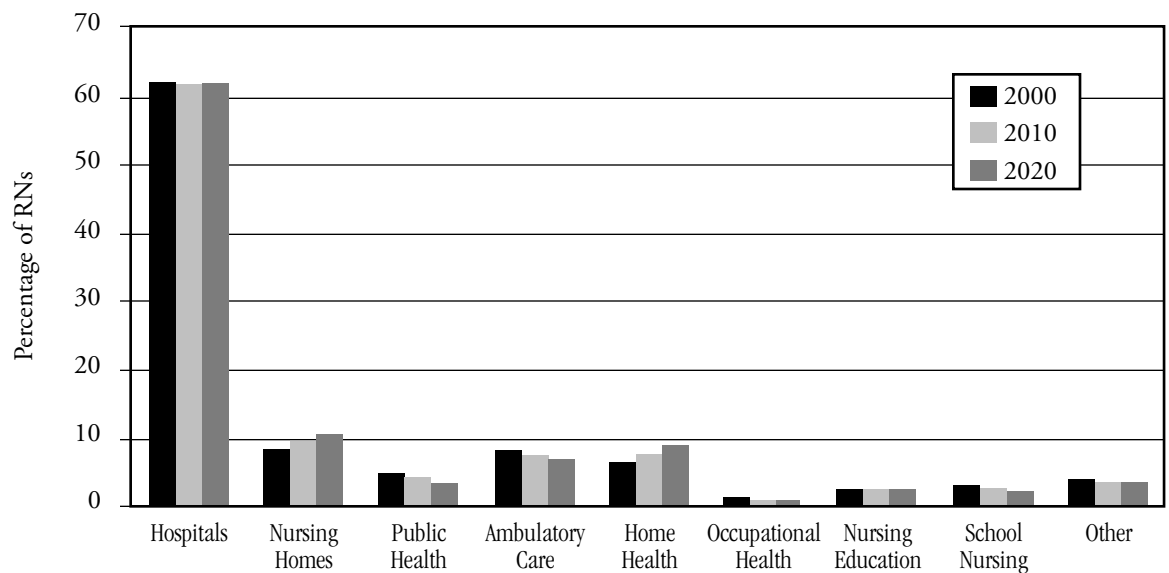
Source: State of Hawai‘i, Department of Labor and Industrial Relations, *Average Annual and Total Job Openings, 2000–2010* (Honolulu, HI: State of Hawai‘i Department of Labor and Industrial Relations).

**Figure 10**  
**Percent Increase in FTE Nurse Demand Nationally by Employment Setting, 2000–2020**



*Source:* Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers,” 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/default.htm> (16 January 2004).

**Figure 11**  
**Percentage Distribution of RNs by Employment Setting Nationally, 2000, 2010, 2020**



*Source:* Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawaii Revisited,” April 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

## *Hawai‘i’s hospitals and nursing homes are experiencing high vacancy and turnover rates.*

Vacancy rates are commonly used to indicate the presence and severity of a nursing shortage. Economists consider a shortage to be present when vacancy rates exceed 5–6 percent over an extended period of time.<sup>15</sup> In 2002, RN vacancy rates in Hawai‘i’s nursing homes were an estimated 8 percent. This is low compared to nearly 47 states reporting rates exceeding 10 percent, 25 of which report rates 15 percent and higher.<sup>16</sup> While vacancy rates for hospitals in Hawai‘i are not available, the rate for the Western region of the country averaged 12 percent in 2000, the highest in the country. Critical care nurse vacancies were highest followed by medical/surgical and emergency room nurses.<sup>17</sup>

Nurses in hospitals and nursing homes often cope with high vacancy rates and high turnover rates simultaneously. In 2002, Hawai‘i’s nursing homes reported an estimated RN turnover rate of 39 percent. Ten states reported turnover rates in excess of 60 percent.<sup>18</sup> Nationally, RN turnover in hospitals was 21 percent in 2000.<sup>19</sup>

<sup>15</sup>P. Prescott, “The Enigmatic Nursing Workforce,” *Journal of Nursing Administration* 30, no.2 (2000): 59–65.

<sup>16</sup>American Health Care Association, Health Services Research and Evaluation, “Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes,” February 2003, [http://www.ahca.org/research/rpt\\_vts2002\\_final.pdf](http://www.ahca.org/research/rpt_vts2002_final.pdf) (16 January 2004).

<sup>17</sup>American Organization of Nurse Executives, “Acute Care Hospital Survey of RN Vacancy and Turnover Rates in 2000,” 2002, <http://www.wha.org/workForce/pdf/aone-surveyrnvacancy.pdf> (16 January 2004).

<sup>18</sup>American Health Care Association, Health Services Research and Evaluation, “Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes,” February 2003, [http://www.ahca.org/research/rpt\\_vts2002\\_final.pdf](http://www.ahca.org/research/rpt_vts2002_final.pdf) (16 January 2004).

<sup>19</sup>American Organization of Nurse Executives, “Acute Care Hospital Survey of RN Vacancy and Turnover Rates in 2000,” 2002, <http://www.wha.org/workForce/pdf/aone-surveyrnvacancy.pdf> (16 January 2004).

<sup>20</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Projected Supply, Demand, and Shortages of Registered Nurses: 2000–2020. Hawai‘i Revisited,” April 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/> (16 January 2004).

<sup>21</sup>US Census Bureau, Economics and Statistics Administration, US Department of Commerce and US National Institute on Aging, National Institutes of Health, US Department of Health and Human Services, “An Aging World: 2001,” November 2001, <http://www.census.gov/prod/2001pubs/p95-01-1.pdf> (16 January 2004).

<sup>22</sup>Executive Office on Aging, State of Hawai‘i, “Profile of Hawai‘i’s older adults,” May 2003, <http://www2.state.hi.us/ea/information/stats/profile2003.pdf> (16 January 2004).

## III. Factors Influencing RN Supply and Demand

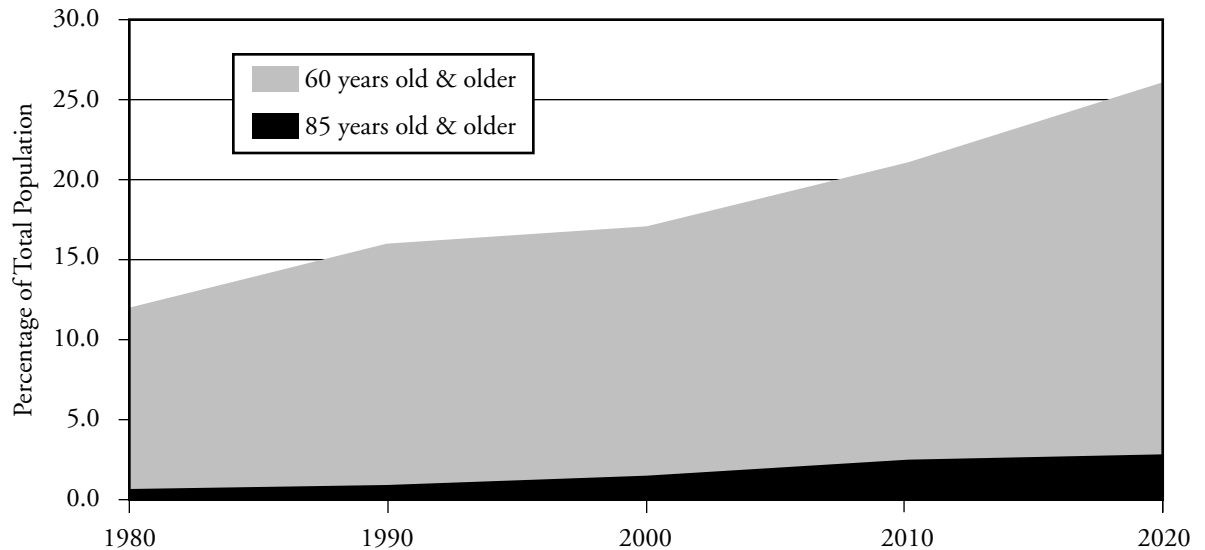
### *a. An Aging Population: The New Variable*

Hawai‘i’s population is projected to grow 33 percent between 2000 and 2020—one of the top 5 fastest growing in the nation.<sup>20</sup> This unprecedented demographic shift is the overarching factor fueling today’s nursing shortage. Largely attributable to a spike in post-World War II births, known as the “baby boom,” this unprecedented increase in older adults can be seen in most developed and many developing countries throughout the world.<sup>21</sup> In 2011, the first baby boomers will turn 65 and by 2030 all baby boomers will have aged into the 65 years and older population.

Hawai‘i is on the cusp of this “senior boom,” aging twice as fast as the rest of the country. Between 2000 and 2020, the number of people age 60 and over living in Hawai‘i will increase by almost 75 percent. Moreover, the so-called oldest old in Hawai‘i, people age 85 and older, will increase even more dramatically by 121 percent (Figure 12). By 2020, 1 out of every 4 people living in Hawai‘i will be 60 years or older and 1 out of every 35 people will be age 85 years or older.<sup>22</sup>

Five phenomena, with implications for the nursing workforce, are expected to emerge from this unprecedented demographic shift: (1) demand for health care and long-term care services will increase, (2) the nursing workforce itself will rapidly age into retirement, (3) health care will face greater competition as it recruits future nurses from a smaller workforce pie, (4) informal caregiver support may diminish, giving way to increased demand for formal (paid) long-term care services, and

**Figure 12**  
**Hawai'i Population 60 years Old and Older as a Percentage of Total Population, Selected Years, 1980–2020.**



Source: Executive Office on Aging, State of Hawai'i, "Profile of Hawai'i's older adults," May 2003, <http://www2.state.hi.us/eoa/information/stats/profile2003.pdf> (16 January 2004).

(5) a smaller tax base may force health care financing changes that reduce demand for RNs.

- (1) **Increased demand for health care and long-term care services:** Use of healthcare services increases with age due to greater incidence of chronic disease and disability. Persons age 65 and older currently use 23 percent of the nation's ambulatory care visits, 48 percent of hospital days, 69 percent of home health visits, and 83 percent of nursing home visits.<sup>23</sup> As Hawai'i ages, demand for health and long-term care services is expected to increase, triggering heightened demand for RNs.
- (2) **Mass retirements among current nurses:** A 2001 Hawai'i survey shows that nearly 80 percent of the current nursing workforce plans to retire within the next 20 years, at a time when their experience and knowledge will be most needed.<sup>24</sup> The workforce gap left by retiring nurses is exacerbated by a trend towards older nursing graduates, limiting new nurses' "work life." Currently, the average nursing graduate is about 31 years old.<sup>25</sup> These trends can be explained, in part, by a dramatic decline in the number of young women interested in nursing as a career over the last two decades, likely due to expanding career options for women.<sup>26</sup> However, these trends appear to be changing. Nursing school enrollments in 2003

<sup>23</sup>C.T. Kovner, M. Mezey, and C. Harrington, "Who Cares for Older Adults? Workforce Implications of an Aging Society," *Health Affairs* 21, no.5 (2002): 78–89.

<sup>24</sup>B.M. Kooker, C. Winters-Moorhead, M. Acosta, and S. Hobbs, "Nursing Workforce Supply Data Trends in Hawai'i," *Hawai'i Medical Journal* 62 (2003): 193–197.

<sup>25</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "The Registered Nurse Population: Findings From the National Sample Survey of Registered Nurses," March 2000, <http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/default.htm> (16 January 2004).

<sup>26</sup>P.I. Buerhaus, D.O. Staiger, and D.I. Auerbach, "Implications of an Aging Registered Nurse Workforce," *Journal of the American Medical Association* 283, no.22 (2000): 2948–2954.

were up 16.6 percent over the previous year according to a national survey, indicating renewed interest in nursing as a career.<sup>27</sup>

- (3) **Greater competition for a smaller workforce:** America as a whole is expected to see a downturn in labor growth over the next 20 years as baby boomers reach retirement age and a smaller cohort of workers is available to replace them. Between 2000 and 2020, the labor force in America is expected to grow by only 16 percent, a marked decrease from the 50 percent growth experienced between 1980 and 2000. Furthermore, this small margin of growth is expected to rely solely on people aged 55 or over and immigrants, with no new labor growth expected among American born persons age 25 to 54.<sup>28</sup> Health care providers can expect increased competition from all industries as they recruit future nurses from a shrinking workforce pie.
- (4) **Reduced reliance on informal caregiving:** Long-term care is predominantly provided not by nursing homes and home care services but by unpaid family members, also known as informal caregivers. Fourteen-percent of all adults in Hawai'i are informal caregivers.<sup>29</sup> Informal caregivers help with bathing, eating, dressing, using the toilet, transportation, and other every day activities that persons with chronic illness and disability cannot manage by themselves.<sup>30</sup>

As society ages, demand for long-term care, and thus informal caregivers, is expected to rise. At the same time, fewer family members may be available to provide care because: (1) baby boomers had fewer children than their parents (3.7 children in the mid-1950s compared to 1.7 in the mid-1970s), (2) baby boomers have higher divorce rates than their parents and children of divorced parents are less likely to provide care for their parents, and (3) women, who provide the bulk of informal care, are more likely to be working than they were 20 years ago and have less time to provide care. Compared to the nation as a whole, Hawai'i baby boomers have fewer children, higher rates of divorce and remarriage, and women are more likely to work.<sup>31</sup>

Nationally, with over 78 percent of long-term care recipients relying exclusively on informal care, even a modest downturn in family caregiving is likely to result in a surge in demand for paid long-term care services and an increase in demand for RNs to help provide these services.<sup>32</sup>

- (5) **Changes in healthcare financing:** Medicare and Medicaid are the primary payors of health and long-term care services for older adults. As society ages, these public programs are expected to face increased demand and subsequently increased cost. At the same time, increasing costs will rely on the contributions of a smaller tax base. It is projected that by 2005, the ratio of workers to retirees will be 5:1, falling to 2.75:1 by 2050. Some observers

<sup>27</sup>American Association of Colleges of Nursing, "Nursing Shortage Fact Sheet," March 2004, <http://www.aacn.nche.edu/Media/FactSheets/NursingShortage.htm> (16 January 2004).

<sup>28</sup>D. Ellwood, *Grow Faster Together or Grow Slowly Apart: How will America Work in the 21st Century?* (New York, NY: The Aspen Institute Domestic Strategy Group, 2003).

<sup>29</sup>Executive Office on Aging, State of Hawai'i, "2002 Statewide Survey on Caregiving," March 2003, [http://www2.state.hi.us/eoa/pdf/Caregiving\\_Survey.pdf](http://www2.state.hi.us/eoa/pdf/Caregiving_Survey.pdf) (16 January 2004)

<sup>30</sup>Ibid.

<sup>31</sup>H.S. Karel, K. Braun, and V. Tanji, *Baby Boomer Data: Hawai'i 2000* (Honolulu, HI: State of Hawai'i, Executive Office on Aging, 2000).

<sup>32</sup>L. Thompson, *Long-term Care: Support for Family Caregivers* (Washington, DC: Georgetown University, Long-Term Care Financing Project, March 2004).

believe that these lower “dependency ratios” will not sustain current health service reimbursement rates and consequently will result in reduced benefits, narrowed eligibility for services, increased out-of-pocket costs for beneficiaries, and reduced reimbursement to health care providers.<sup>33</sup> In response, consumers may limit health care consumption if it becomes cost prohibitive and providers may ration or discontinue some services because they cannot afford to operate at lower reimbursement. The implication is that demand for RNs may be diminished, however there is no evidence that such changes would end the nursing shortage.

### *b. Nursing School Capacity*

Nursing educators are the gateway to the “nursing pipeline.” Imagine if future nurses apply to a nursing program, but are turned away because the program does not have sufficient capacity to enroll them. Now, imagine this scenario during a nursing shortage and the danger of inadequate nursing education capacity is clear. This scenario is playing out in Hawai‘i today, with 293 qualified nursing applicants turned away in 2003 because schools did not have the capacity to enroll them.<sup>34</sup> Notably, the number of applicants turned away is equal to 90 percent of the number of nursing students graduated in 2003. Key factors to consider when assessing nursing education capacity include: (1) supply of qualified faculty willing to work as educators, (2) adequacy of clinical sites to provide meaningful practice opportunities for students, and (3) curricula and pedagogies needed to prepare future nurses to meet the population’s dynamic health needs.

- (1) **Too few faculty:** A recent survey shows that Hawai‘i nursing schools are turning away future nurses primarily because they do not have enough faculty. All of Hawai‘i’s public nursing schools reported needing more faculty to meet demand, but lacked the funds to add these positions. Hawai‘i’s two private schools did not report these needs, indicating greater flexibility to add faculty because they are privately funded. Furthermore, over the past 2 years, all of Hawai‘i’s nursing schools reported difficulty filling vacant faculty positions, primarily because salaries were too low, not because there was a shortage of qualified applicants. Nationally, a master’s prepared nurse can make an average of \$80,697 working in a hospital, compared to \$60,357 as nurse faculty.<sup>35</sup>

Most nursing educators today, like clinical nurses, are nearing retirement age. Nationally, the average nursing educator is about 53 years of age and is expected to retire in 10 years. Low enrollment in graduate programs that prepare nurses to become educators, indicates that these faculty retirements may not be easily replaced. Without sufficient numbers of new nursing faculty to replace them, mass retirements will severely limit efforts to expand student enrollment and increase overall nursing supply.<sup>36</sup>

<sup>33</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, “Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers,” 2003, <http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/default.htm> (16 January 2004).

<sup>34</sup>Hawaii Center for Nursing, *2004 Hawai‘i Nursing Education Survey* (Honolulu, HI: University of Hawai‘i at Mānoa School of Nursing and Dental Hygiene, unpublished).

<sup>35</sup>American Association of Colleges of Nursing, *Faculty Shortages in Baccalaureate and Graduate Nursing Programs: Scope of the Problem and Strategies for Expanding Supply*, May 2003, <http://www.aacn.nche.edu/Publications/WhitePapers/TFFFWP.pdf> (16 January 2004).

<sup>36</sup>Ibid.

- (2) **Shortage of clinical practice sites:** According to the same survey, a shortage of clinical practice sites is the second leading barrier to enrolling qualified nursing school applicants in Hawai‘i, especially on O‘ahu and Hawai‘i.<sup>37</sup> Nursing students must have clinical experiences to hone their nursing skills, familiarize themselves with new technologies, and apply critical thinking skills. Anecdotal evidence suggests that health care providers, already experiencing the nursing shortage’s effects, are finding it difficult to provide clinical opportunities for students because staffing is too strained.
- (3) **Competency Mismatch:** While a shortage of RNs is commonly defined by numbers of nurses, it can also be assessed by the ability of nurses to meet the population’s health care needs. Health care needs change and nursing schools respond by updating curricula and training methods to ensure education is current with practice. When education and practice do not correspond, a competency mismatch occurs. For example, changes in technology across all settings, especially hospitals and home health, require nurses to have new competencies to stay current. In Hawai‘i, new technologies are enabling children to be cared for at home, instead of institutions. However, providers report difficulty in recruiting nurses qualified to use these new technologies, creating a shortage of nurses for this specialty practice.

Unlike new technologies, which typically have consequences for a specific practice setting, a rapidly aging population represents an overarching shift in the population’s health care needs and has implications for nearly all health care settings. As Hawai‘i’s population ages, health care providers will care for an increasing number of older adults, requiring nurses to have basic competency in geriatrics. Geriatrics is a cross-cutting competency, important for nearly every nursing specialty from intensive care units to psychiatric wards to home health to public health, not just nursing homes.

Health care needs of older adults are significantly different than younger adults. “The average 75-year-old person has three chronic medical conditions and regularly uses about 5 prescription drugs, as well as multiple over-the-counter drugs.” Memory loss, depression, incontinence, disability, differences in the way symptoms of disease present, changes in the body’s absorption of medications, all can add layers of complexity to caring for older adults.<sup>38</sup> Research is beginning to confirm the importance of geriatric training for quality of care. One study finds that patients cared for by nurses trained in geriatrics are less likely to be restrained, have fewer hospital admissions, and are less likely to be inappropriately transferred to a hospital.<sup>39</sup>

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<sup>37</sup>Hawai‘i Center for Nursing, 2004 *Hawai‘i Nursing Education Survey* (Honolulu, HI: University of Hawai‘i at Mānoa School of Nursing and Dental Hygiene, unpublished).

<sup>38</sup>Alliance for Aging Research. Medical Never-never Land: Ten Reasons Why America is Not Ready for the Coming Age Boom,” 2002, [http://www.agingresearch.org/advocacy/geriatrics/02016\\_aar\\_geriatrics\\_text.pdf](http://www.agingresearch.org/advocacy/geriatrics/02016_aar_geriatrics_text.pdf) (16 January 2004).

<sup>39</sup>C.T. Kovner, M. Mezey, and C. Harrington, “Who Cares for Older Adults? Workforce Implications of an Aging Society,” *Health Affairs* 21, no.5 (2002): 78–89.

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Yet, while the need to develop nursing competency in geriatrics is clear, what remains to be defined is how best to get there from here. For example, while all US nursing schools require a pediatrics rotation, similar consensus has not been reached for geriatrics. In Hawai'i, a stand-alone geriatrics course is offered in only two of eight nursing schools, while others integrate geriatrics into adult health curricula.<sup>40</sup> These low numbers are not surprising, given that in 2000 only 23 percent of the country's baccalaureate nursing programs required students to take a nursing geriatrics course. In 1999, only 4 percent of nursing programs met the gold-standard for geriatric nursing education which includes a stand-alone geriatric nursing course, multiple clinical practice opportunities in geriatrics, and at least one full-time faculty member certified in geriatrics.<sup>41</sup>

### *c. Work Environment for Nurses*

According to a 2002 report by the American Hospital Association, "most health care workers entered their professions to 'make a difference' through personal interaction with people in need. Today, many in direct patient care feel tired and burned out from a stressful, often understaffed environment, with little or no time to experience one-on-one caring."<sup>42</sup> A recent national survey of RNs confirms this observation reporting that just 69.5 percent of all RNs are satisfied with their job and that male nurses are less satisfied than female nurses. According to the report, nurses working in hospitals and nursing homes are the least satisfied with only 67 and 65 percent reporting satisfaction, respectively. Nurse satisfaction levels are low compared with 85 percent of all workers and 90 percent of professional workers who express satisfaction with their job.<sup>43</sup>

Concerns commonly associated with nursing dissatisfaction include:

(1) inadequate staffing to perform work, (2) heavy workloads, (3) increased overtime, and (4) lack of sufficient support staff.<sup>44</sup> In a large survey of RNs working in acute hospitals in Pennsylvania, only 33 percent of nurses reported there were enough RNs to provide quality care and enough staff to get the work done, only 29 percent reported that their administration listened and responded to nurses' concerns, and only 43 percent reported they had enough support staff. Twenty-two percent reported they planned to leave their job in the next year while 33 percent of nurses age 30 or younger planned to leave.<sup>45</sup> A 2000 national survey of RNs found 45 percent of RNs who left nursing for another occupation did so, in part, because they find their current position more professionally rewarding.<sup>46</sup>

Efforts to improve working conditions for nurses may not only help retain employed nurses but also encourage nurses not working in nursing to re-enter the workforce and build interest in nursing as a career choice.<sup>47</sup>

<sup>40</sup>Personal communication with Hawai'i nursing schools, June 2004.

<sup>41</sup>C.T. Kovner, M. Mezey, and C. Harrington, "Who Cares for Older Adults? Workforce Implications of an Aging Society," *Health Affairs* 21, no.5 (2002): 78–89.

<sup>42</sup>R. Steinbrook, "Nursing in the Crossfire," *New England Journal of Medicine* 346, no. 22 (2002): 1757–1766.

<sup>43</sup>Page, A. *Keeping Patients Safe: Transforming the Work Environment of Nurses* (Washington, DC: The National Academies Press, 2003).

<sup>44</sup>Ibid.

<sup>45</sup>R. Steinbrook, "Nursing in the Crossfire," *New England Journal of Medicine* 346, no.22 (2002): 1757–1766.

<sup>46</sup>Bureau of Health Professions, Health Resources and Services Administration, US Department of Health and Human Services, "The Registered Nurse Population: Findings From the National Sample Survey of Registered Nurses," March 2000, <http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/default.htm> (16 January 2004).

<sup>47</sup>A. Page, *Keeping Patients Safe: Transforming the Work Environment of Nurses* (Washington, DC: The National Academies Press, 2003).

### *d. Foreign Nurse Migration*

Easing the nursing shortage is not only a factor of how many new nurses can be introduced into the workforce, but also how fast they can be introduced. Nursing's response to increased demand is less elastic than other occupations because it usually takes 3 to 4 years to complete basic nursing education. Over the past 50 years, providers have weathered this lag effect by recruiting foreign nurses (nurses who received their basic nurse training outside of the US) to bolster the workforce while it is adjusting to market forces. However, recent evidence suggests that providers are now relying on this foreign pool even in times of nursing surplus. During 1988, the last major nursing shortage, the US licensed 3.7 foreign nurses per every 100 US-trained nurses. By 1996, a time of relative nursing surplus, this ratio increased to 5.1 foreign-trained nurses per every 100 US-trained.<sup>48</sup> Hawai'i depends heavily on foreign nurses who comprise an estimated 25 percent of the nursing workforce,<sup>49</sup> compared with only 5.1 percent nationally.<sup>50</sup>

The US affords foreign nurses better pay, educational opportunities, and practice environments. For example, in the Philippines a nurse makes about \$2,400 annually, far less than what could be earned in America. Filipinos continue to dominate the foreign nurse population at 52 percent, followed by nurses from Canada and Korea. Recruitment also targets nurses in sub-Saharan Africa, Southeast Asia, and the Caribbean.<sup>51</sup>

It is not clear how sustainable foreign RN importation will be in the midst of a global nursing shortage. US recruiters will face increased competition from other countries with nursing shortages, such as the United Kingdom and Ireland. Furthermore, host countries themselves are forecasting nursing shortages. Many host countries have fragile health care systems that could be dismantled by nurse exportation. For example, the Philippines, which is the primary exporter to the US, reportedly has 30,000 unfilled nursing positions.<sup>52</sup> Recruiting foreign nurses therefore raises not only ethical questions about "stealing away" nurses from countries that desperately need them, but also how sustainable such exports will be amidst increasing global demand.

### *e. Wages and Market Dynamics*

Past nursing shortages have generally relied on market dynamics alone to bring the workforce back into balance. Employers raised wages, and without other systematic interventions, the nursing shortage abated. Today, most observers believe that wage increases alone will not resolve the current shortage because the expected magnitude and duration of the shortage is too great.<sup>53</sup> These observers argue that instead of focusing on wages alone, concomitant measures are needed. Others, while agreeing with this point contend that the shortage cannot be resolved without at least some attention to wages.

<sup>48</sup>B.L. Brush, J. Sochalski, and A.M. Berger, "Imported Care: Recruiting Foreign Nurses to US Health Care Facilities," *Health Affairs* 23, no. 3 (2004): 78–87.

<sup>49</sup>Personal communication with the State of Hawai'i, Board of Nursing, June 2004.

<sup>50</sup>B.L. Brush, J. Sochalski, and A.M. Berger, "Imported Care: Recruiting Foreign Nurses to US Health Care Facilities," *Health Affairs* 23, no. 3 (2004): 78–87.

<sup>51</sup>Ibid.

<sup>52</sup>L.H. Aiken, J. Buchan, J. Sochalski, et al. "Trends in International Nurse Migration," *Health Affairs* 23, no.33 (2004): 69–77.

<sup>53</sup>C.S. Brewer, "The Roller Coaster Supply of Registered Nurses: Lessons From the Eighties," *Research in Nursing and Health* 19 (1996): 345–357.

Wage enhancements have typically been used to increase supply by luring part-time workers into full-time work, and to a lesser degree by increasing nursing school enrollments. However, it is not clear to what extent wage enhancements prevent nurses from leaving for more lucrative occupations. For example, a recent national survey found that only 18 percent of nurses who were considering leaving nursing wanted more money.<sup>54</sup> However, a 2000 national sample survey of nurses found that wages played a more important role with 35 percent of RNs leaving nursing, in part, because of wages.<sup>55</sup>

Today, there is already some evidence that employers are responding to the shortage by increasing wages. Nationally, growth in median RN earnings (adjusting for inflation) remained flat throughout the 1990s, but increased by 13 percent between 1997 and 2001. Likewise, entry wages for RNs increased 5.7 percent between 2000 and 2002. As employers consider the efficacy of economic interventions, it is interesting to assess the feasibility of this option by examining just how high wages would have to go to ease the shortage. Recent research shows that RN wages would have to rise 55–69 percent between 2005 and 2016 to increase nursing enrollments and end the nursing shortage by 2020.<sup>56</sup> This would more than double RN labor costs. In Hawai'i, this would mean an increase in average annual RN salary from \$58,490<sup>57</sup> today to between \$90,000 and almost \$99,000 by 2020. It is unlikely that salary increases would be sustainable at these levels.

## ***f. Direct Care Worker Shortage***

There is no substitute for a RN. However, RNs routinely delegate nursing tasks to direct care workers.<sup>58</sup> Direct care workers, also known as paraprofessionals, are those nursing aides, home care aides, orderlies, personal care aides, and attendants that provide direct care in hospitals, nursing homes, private homes, and out-patient settings. They take vital signs such as blood pressure, help people with physical disabilities carry out activities of daily living like bathing, and provide emotional support to millions of older adults and younger persons with chronic illness and disability. Across all health care settings, direct care workers support RNs, especially in long-term care settings where direct care workers provide 8 out of every 10 nursing home hours of care and every hour of non-skilled nursing service in home care.<sup>59</sup>

Evidence suggests that the direct care workforce is in crisis. Long plagued by limited training, physical and emotionally taxing work, low pay, and flat career growth, direct care workers have high turnover and vacancies rates. Nationally, nursing homes report nursing assistant turnover rates ranging from 45 percent to 105 percent, while home health rates are significantly lower at 10 percent.<sup>60</sup> In 2002, turnover rates for nursing assistants were an estimated 21 percent in Hawai'i nursing homes.<sup>61</sup> In a 2003 survey of state Medicaid agencies, Hawai'i reported that the shortage of direct care workers is a "serious workforce issue."<sup>62</sup> Without enough

<sup>54</sup>A. Page, *Keeping Patients Safe: Transforming the Work Environment of Nurses* (Washington, DC: The National Academies Press, 2003).

<sup>55</sup>J. Spetz, and R. Given, "The Future of the Nurse Shortage: Will Wage Increases Close the Gap?," *Health Affairs* 22, no.6 (2003): 199–206.

<sup>56</sup>Ibid.

<sup>57</sup>Bureau of Labor Statistics, US Department of Labor. "Occupational Employment and Wages, 29-1111 Registered Nurses," May 2003, <http://www.bls.gov/news.release/pdf/ocwage.pdf> (16 January 2004).

<sup>58</sup>P. Prescott, "The Enigmatic Nursing Workforce," *Journal of Nursing Administration* 30, no.2 (2000):59–65.

<sup>59</sup>R.I. Stone, S.L. Dawson, and M. Harahan, *Why Workforce Development Should be Part of the Long-term Care Quality Debate* (Washington, DC: Institute for the Future of Aging Services, American Association of Homes and Services for the Aging, October 2003).

<sup>60</sup>R. Stone, and J. Wiener, *Who Will Care for Us: Addressing the Long-Term Care Workforce Crisis* (Washington, DC: Institute for the Future of Aging Services, American Association of Homes and Services for the Aging, 2001).

<sup>61</sup>American Health Care Association, Health Services Research and Evaluation, "Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes," February 2003, [http://www.ahca.org/research/rpt\\_vts2002\\_final.pdf](http://www.ahca.org/research/rpt_vts2002_final.pdf) (16 January 2004).

<sup>62</sup>Paraprofessional Healthcare Institute and the North Carolina Department of Health and Human Services, Office of Long-term Care, *Results of the 2003 National Survey of State Initiatives on the Long-term Care Direct Care Workforce* (Raleigh, NC: North Carolina Office of Long-term Care, March 2004).

direct care workers, RNs have to absorb these tasks as part of their workload, increasing overall demand for RNs.

### *g. The Role of State Policymakers*

State policymakers play an integral role in shaping nursing in Hawai‘i. Supply and demand for nurses is greatly influenced by policymakers’ role in: (1) supporting higher education, (2) reimbursing health care services, (3) regulating health care services, and (4) establishing workforce development programs and policies.<sup>63</sup> Furthermore, policymakers are responsible for the health and welfare of citizens and are interested in the impact a nursing shortage has on the public’s health.

There are numerous ways in which states influence RN supply and demand and are not limited to the following examples. First, higher education relies on state support. Thus, inaction on the part of states to increase funding so nursing schools can expand student enrollment would limit nursing supply growth. In Hawai‘i such inaction would severely limit growth. Second, states control Medicaid reimbursement. Reducing Medicaid reimbursement rates may reduce demand for RNs. Third, states regulate private insurance. Mandating that health plans provide a new health service may increase demand for RNs.<sup>64</sup> Lastly, federal labor programs, such as the Workforce Investment Act, provide funds to states to address workforce shortages through training and development initiatives. Targeting these funds for nursing workforce development may bolster supply.<sup>65</sup>

Increasingly, states are supporting the infrastructure needed to collect and analyze nursing workforce data and develop statewide nursing workforce development strategies. In 2003, state legislation established such an infrastructure with the Hawai‘i State Center for Nursing, housed within the University of Hawai‘i at Mānoa School of Nursing and Dental Hygiene, heralding an important milestone for nursing’s future in Hawai‘i.

## **IV. Public Health Stakes: Quality and Access**

As the shortage of RNs grows, so too will the threat to public health. With a statewide shortage, it follows that employers will find filling vacancies more difficult and some positions may remain vacant for extended periods. In turn, providers may respond by: (1) continuing to provide services with fewer RNs, potentially reducing quality of care and/or (2) delaying or discontinuing services, reducing access to care. While providers may experience the squeeze of a statewide nursing shortage at different points in time and to different degrees, it is certain that all are likely to feel its effect and many will be forced to respond by making decisions that negatively impact the public’s health.

<sup>63</sup>E. Salsberg, *Making Sense of the System: How States Can Use Health Workforce Policies to Increase Access and Improve Quality of Care* (New York, NY: Milbank Memorial Fund, 2003).

<sup>64</sup>*Ibid.*

<sup>65</sup>C. Raynor, *Federal Workforce Development Programs: A New Opportunity for Long-term Care Workers* (Washington, DC: Institute for the Future of Aging Services, American Association of Homes and Services for the Aging, 2003).

## Quality of Care

Registered nurses serve on the frontlines of patient care in hospitals, nursing homes, home health, out-patient settings, and community health programs. Nurses continuously assess patient status, identify downturns in health, communicate changes to other providers, plan and initiate interventions to restore health, and re-assess. A break in this ongoing process of assessment, communication, planning, intervention, and re-assessment can result in adverse events for patients, some life threatening. As a “last line of defense” for patient care, nurses detect not only patient decline, and initiate interventions to “rescue” patients, but also intercept medication errors.<sup>66</sup> One report finds that nurses are responsible for intercepting over 80 percent of all medication errors.

Research consistently confirms this “last line of defense” image showing that as RN staffing goes down, adverse events go up. Thus, the role of RNs in preventing adverse events is clear. However, what remains ambiguous is how far the RN frontline can be stretched before it begins to break, leaving patients vulnerable. A recent study shows that RNs are 3 times more likely to make significant medical errors when working 12.5 hour or longer shifts. This same study suggests that use of overtime and extended shifts has increased significantly as hospitals try to adapt to the nursing shortage.<sup>67</sup> Furthermore, research consistently finds a positive relationship between higher nursing staffing levels and quality of care. A recent federal study of acute care hospitals concluded that a higher proportion of RN hours and a greater number of hours of care by RNs are associated with better care. According to the study, low RN staffing is associated with hospital-acquired pneumonia, gastric bleeding, urinary tract infections, and death.<sup>68</sup> Likewise, RN staffing in nursing homes is directly correlated with better resident outcomes, according to a landmark federal study in 2001. Skin ulcers, urinary tract infection, and electrolyte imbalance were among the quality measures impacted by low staffing. This study established minimum staffing thresholds under which quality of care is compromised. According to the study, RN staffing in 90 percent of nursing homes across the country falls below this minimum threshold.<sup>69</sup>

<sup>66</sup>A. Page, *Keeping Patients Safe: Transforming the Work Environment of Nurses* (Washington, DC: The National Academies Press, 2003).

<sup>67</sup>A. Rogers, A. W. Hwang, Aiken, L., et al, “The Working Hours of Hospital Staff Nurses and Patient Safety,” *Health Affairs* 23, no.4 (2004): 202–212.

<sup>68</sup>J. Needleman, Buerhaus, P. I., A. Mattke, et al., *Nurse Staffing and Patient Outcomes in Hospitals* (Washington, DC: Health Resources and Services Administration, US Department of Health and Human Services; February 2001).

<sup>69</sup>Centers for Medicare and Medicaid, US Department of Health and Human Services, *Report to Congress: Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes Phase II Final Report* (Washington, DC: Centers for Medicare and Medicaid, 2001).

## Access to Care

As vacancies go unfilled for extended periods of time, providers may find that providing services not only jeopardizes quality of care, but that providing care becomes impossible because there are just too few RNs. Nationwide, hospitals are already reporting service delays and closures due to the nursing shortage. According to a 2001 national survey of acute care hospitals, the nursing shortage “substantially” impacts providers’ ability to deliver quality care. Fifty-one percent of providers reported emergency room overcrowding, 26 percent closed the emergency department for four hours a week, 25 percent closed beds, 23 percent restricted admissions, 11 percent increased waiting time for surgery, and 6 percent reduced or

eliminated services.<sup>70</sup> As the shortage worsens, access to service across all health care settings will be threatened.

## V. Hawai‘i’s Efforts to Address the Nursing Shortage

In 2003, Hawai‘i passed legislation establishing the Hawai‘i State Center for Nursing (the Center), housed within the University of Hawai‘i at Mānoa School of Nursing and Dental Hygiene. The Center is charged with (1) collecting and analyzing statewide nursing workforce data, (2) conducting research on best practices and quality outcomes and (3) developing reports and recommendations on their findings. The Center’s efforts build upon previous work by the Community Initiative on Nursing of Hawai‘i (CINH), funded by the Robert Wood Johnson Foundation, which since 1997 has conducted a bi-annual survey of RNs living in Hawai‘i assessing supply characteristics such as age, ethnicity, education, and retirement plans. The Center is a major milestone, providing the infrastructure needed to bridge the various worlds of practice, policy, and research to support strategic, statewide workforce development. In addition to the Center, the Hawai‘i state legislature created a nursing education loan program in 2003 granting \$10,000 per student per year from a special fund.

Efforts on the part of providers and educators are also underway. CINH and the Hawai‘i Area Health Education Center, in an effort to build interest in nursing as a career among youth, have distributed coloring books titled “What do nurses do?” to primary schools and a video, aimed at youth underrepresented in nursing, to high schools. Nursing educators have established accelerated baccalaureate nursing programs for students who already have a bachelors degree and have completed nursing prerequisites. These programs graduate future nurses in 18 months, instead of the traditional 4-year timetable. And, in May 2004, Queen’s Medical Center announced a \$2.5 million endowment to expand the Queen Emma Nursing Institute, established in 1981. The institute will focus on training and practice strategies to develop a qualified nursing workforce.

## VI. Call to Action

The recommendations listed below were developed and approved by the Hawai‘i Nursing Shortage Taskforce.

### *Priority Recommendation*

1. Provide funds to add more nursing school faculty positions so that nursing schools can expand student enrollment. (Legislature)

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<sup>70</sup>American Organization of Nurse Executives, “Acute Care Hospital Survey of RN Vacancy and Turnover Rates in 2000,” 2002, <http://www.wha.org/workForce/pdf/aone-surveyrnvacancy.pdf> (16 January 2004).

### ***Other Recommendations***

2. Establish a consortium between providers and nursing educators to ensure that Hawai'i not only has a sufficient supply of nurses but a supply of nurses with the skills and competencies to meet Hawai'i's health care needs. (Affiliate Group, Providers, Educators, Hawai'i State Center for Nursing)
3. Develop a statewide nursing workforce data collection system to support proactive workforce planning including areas such as turnover, retention, and vacancy rates, temporary nurse usage, county-level and military nursing supply, foreign nurse recruitment, nursing education capacity, and direct care worker supply. (Providers, Educators, Hawai'i State Center for Nursing)
4. Foster recruitment initiatives with special focus on groups underrepresented in nursing such as people of color and men. (Providers, Nursing Educators, Secondary Schools, Workforce Investment Board, Area Health Education Center, Private Business, and the Hawai'i State Center for Nursing )
5. Implement, evaluate, and disseminate strategies that will lead to higher levels of job satisfaction and improved retention among nurses, including strategies for career progression in nursing. (Providers, Nursing Educators, Labor, Hawai'i State Center for Nursing )

## **VII. Conclusion**

**B**etween 2000 and 2020, the number of people age 60 and over living in Hawai'i will increase by almost 75 percent. In turn, demand for health and long-term care services and thus, RNs, will increase. At the same time, nearly 80 percent of the current RN workforce will be aging into retirement at a rate far exceeding what nursing schools can currently replace. While it is risky to pin a number on the shortage, these trends—increasing demand and decreasing supply—suggest that Hawai'i will face a significant shortage of RNs over the next 20 years. Current projections indicate that Hawai'i's nursing shortage will quadruple in size to a 4,500 shortfall by 2020.

Within the context of an economic equation, the nursing shortage can be resolved by increasing supply or decreasing demand. While some observers suggest that demand may be tempered by possible changes in health care financing, there is no evidence that this would be significant enough to resolve the shortage. Therefore, efforts to combat the shortage should focus on increasing supply with an immediate need for the legislature to fund additional nursing faculty positions so that nursing schools do not continue turning away qualified applicants. While no single intervention can fully address the shortage, it is clear that no combination of interventions will be successful without first addressing the shortage of nursing

faculty. Without funding for additional faculty positions, nursing schools will continue to turn away qualified applicants, severely limiting Hawai'i's ability to increase nursing supply. Other efforts should focus on improving the nursing work environment, developing statewide recruitment initiatives, collecting and disseminating workforce data, securing clinical training sites for students, and building relationships between providers and educators to ensure education and training stay current with practice.

Finally, a shortage of RNs must be viewed through the lens of patient care. Increasing numbers of RN vacancies, and vacancies that remain unfilled for extended periods, can be expected to leave fewer RNs available to provide care—potentially undermining quality of care and access to care. The consequences for public health and safety will be significant. Efforts on the part of providers, educators, policy makers, consumers, and labor should be collaborative and strategic, recognizing the complexity of bringing the workforce back into equilibrium and the risk of inaction. Ultimately, the objective should not be to just increase nursing supply, but to address factors that consistently undermine a qualified, stable workforce. These underlying factors, described within, can be masked by a poor economy or a time of static demand, but quickly emerge when economic forces shift to create a shortage—giving way to the cyclical nature of nursing shortages. Hawai'i has an opportunity to leverage current concern among all stakeholders in an effort to redefine nursing in Hawai'i, not just attempt “quick fixes.” Investments made today will not only benefit Hawai'i over the next 20 years but begin to develop a proactive culture that will sustain a robust, qualified nursing workforce to meet Hawai'i's health care needs into the future.

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