HAWAI'I STATE CENTER FOR **NURSING**

Connecting Nurses. Transforming Healthcare.

Nursing Education Program Capacity

2011-2012

Written by:
Dr. Sandra A. LeVasseur, PhD, RN
Associate Director, Research Hawaii State Center for Nursing
University of Hawaii at Manoa, Honolulu, Hawaii
Phone: (808) 956-0894
Email: sandraal@hawaii.edu

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**Introduction**

Nursing is the top healthcare occupation in terms of employment growth with an expected twenty-six percent increase in demand for registered nurses over the next decade.(Bureau of Labor Statistics, 2012) Factors driving the increase in demand for nurses include population growth, aging of our population and health care reform. However, a significant barrier in meeting the demand for nurses will be the loss of Baby Boomer nurses expected to retire and exit the workforce over the next decade. The loss of nursing faculty will particularly be felt in the tertiary education sector where 62% of full time faculty are 51 years or older.(AACN, 2012b) Approximately two-thirds of nursing schools offering baccalaureate programs have identified faculty shortages as a reason for not accepting all qualified applicants.(AACN, 2012a) A lack of qualified faculty will compound the negative impact on enrollment of qualified applicants into nursing programs.(National Advisory Council on Nurse Education and Practice, 2010)

The purpose of the annual nursing education capacity survey by the Hawaii State Center is to collect data to track and trend applicant rates, enrollments, student and faculty demographics, and faculty vacancy rates to inform workforce planning and policy at the state and regional levels.

Nine nursing education programs exist in the State of Hawaii. Three are private institutions and six are part of the University of Hawaii public system. Nursing programs are located on the islands of Oahu, Maui, Hawaii, and Kauai. The University of Hawaii System, School of Nursing and Dental Hygiene, Nursing in the College of Arts and Sciences Hilo and four Community Colleges, approves the maximum number of pre-licensure students that may be enrolled (i.e., admission slots) in programs that offer a licensed practical nursing (LPN) diploma or certificate, an associate's degree in nursing (AS), a bachelor of science in nursing (BS in Nursing), or master's entry program in nursing (MEPN). All programs experience enrolment difficulties if they lack teaching faculty, facilities, or clinical placement sites to support the number of admission slots. They also may not fill admission slots if there are fewer qualified applicants, or if admitted applicants do not enroll because of financial or personal reasons or acceptance to another educational program.

In 2011-12, Hawaii's nursing programs continued to turn away qualified applicants from the LPN programs 64% (50), Ladder LPN to AS programs 52% (115), Associate Degree (AS) programs 77% (348) and 41% (319) Bachelor's Degree (BS) programs. Qualified applicants turned away from graduates programs included 81% (161) from the MEPN, 16% (14) Master's in Nursing clinical track, and 40% (6) PhD programs.

Nursing programs capacity to accept students is influenced by the availability of faculty, facilities, and clinical placement opportunities. Our 2011-12 survey findings reveal:

- Racial/ethnic maldistribution of faculty to student population with a distribution of faculty being Caucasian, Asian American, and Native Hawaiian/Pacific Islander.
- Fifty-eight percent of full-time faculty members are older than 50 years.
- Vacancy rates for full-time faculty positions in nursing were 3% and .5% for part time adjunct faculty positions.

When asked about issues of concern for their nursing program, programs frequently reported ongoing difficulties in filling full-time faculty positions, the lack of clinical sites for student placements and faculty for clinical placements. Of the nine nursing programs surveyed:

- 56% reported difficulty filling full-time faculty positions with a particular emphasis on specialty areas; medical/surgical, pediatrics, and mental health.

Nursing programs across the state continue to seek innovative ways to address factors limiting their educational capacity. The University of Hawaii introduced the statewide nursing consortium in fall 2010. The undergraduate nursing programs at UH Manoa, Maui and Kauai utilize a redesigned nursing curriculum and learning strategies to increase students' educational flexibility and accessibility. Other initiatives such as the expanded use of simulation across the state aid in alleviating some of the issues concerning lack of faculty in clinical settings and accessibility of clinical placement sites.

The online Centralized Clinical Placement System (CCPS) assists nursing programs and health care organizations determine the availability of clinical sites to improve educational capacity. The organizational partnerships involved in the utilization of CCPS includes Chaminade University, Hawaii Pacific University, Kapiolani Community College, University of Hawaii at Manoa, University of Phoenix, Castle Medical Center, Hawaii Pacific Health (Kapiolani Medical Center for Women & Children, Pali Momi Medical Center, and Straub Clinic and Hospital), Kaiser Permanente Hawaii, The Queen's Medical Center and Tripler Army Medical Center.

**Types of Nursing Program**

Nursing programs provide a variety of ways to obtain a nursing certificate or degree in the State of Hawaii (Table 1).

Many of the educational institutions surveyed offer more than one type of nursing education program, survey respondents were asked to mark all that apply. A single education institution may be counted multiple times in Table 1. For example, one institution may be counted in the number of LPN programs, ladder programs, and LPN to AS programs if it offers the opportunity to complete curriculum requirements through each of these types of programs. Similarly, a single education institution may be counted in the BS programs, the LPN to BS programs, and the RN to BS programs if each of these options is available.

Educational institutions offering nursing programs within each of the major program classifications (i.e., LPN, AS, BS, MSN, and PhD) show that during the 2011-2012 school year,
- Four institutions offered some form of licensed practical nursing (LPN) program (a LPN program and/or a ladder program),
- Two institutions offered licensed practical nursing (LPN) program to bachelor of science in nursing (BS) program,
- Four institutions offered some form of program that awards an associate's degree in nursing (AS),
- Five institutions offered some form of a bachelor of science in nursing (BS) program,
- One institution offered a master's entry program in nursing
- Three institutions offered some form of a master's degree in nursing (MS) program, and
- Two institutions offered a PhD in nursing.

Survey respondents were asked if their institution offered a certificate program beyond a baccalaureate or master's degree in any of the areas below. The data revealed;
- Two institutions offered certificate programs in advanced practice (nurse practitioner and clinical nurse specialist), one institution offered a certificate program in nursing education, Two institutions offered a certificate program in nursing administration,
- None offered a certificate in clinical nurse specialist education, and
- None offered a certificate program in nursing informatics.

**TABLE 1: Nursing Programs in Hawaii by Location, 2011 – 2012**

| | Nursing programs |
|---|---|
| **Non-Baccalaureate Programs** | |
| **Licensed Practical Nurse (LPN)** – program requires at least one year of full-time coursework and awards a diploma or certificate of completion as a practical nurse. | • Hawaii Community College<br>• Kapi'olani Community College |
| **"Ladder" Program: Licensed Practical Nurse (LPN) combined with an Associate's degree in nursing (AS)** – After completing one year or more of coursework, students meet requirements for licensure as a practical nurse; after completing additional years of coursework students are awarded an associate's degree in nursing. | • Kauai Community College<br>• Maui Community College |
| **Licensed Practical Nurse (LPN) to AS** – program admits LPNs and awards an associate's degree in nursing. | • Kapi'olani Community College<br>• Kauai Community College |
| **Associate's degree in nursing (AS)** – program requires at least two academic years of full-time college coursework and awards an associate's degree in nursing. | • Hawaii Community College<br>• Kapi'olani Community College |
| **Baccalaureate Programs** | |
| **Bachelor of science in nursing (BS)** – Admits students with no previous nursing education and awards a bachelor of science degree in nursing; requires at least four academic years of college coursework. | • University of Hawaii at Hilo<br>• University of Hawaii at Manoa<br>• Hawaii Pacific University<br>• University of Phoenix<br>• Chaminade University |
| **LPN to bachelor of science in nursing (BS)** – Admits LPNs and awards a bachelor of science degree in nursing. | • Hawaii Pacific University<br>• University of Phoenix |
| **Registered Nurse (RN) to bachelor of science in nursing (BS)** – Admits RNs and awards a bachelor of science degree in nursing. | • Hawaii Pacific University<br>• University of Hawaii at Hilo<br>• University of Hawaii at Manoa |
| **Accelerated RN to BS** – Admits RNs and awards a BSN in an accelerated format. | • University of Phoenix |
| **Master of Science Programs** | |
| **RN to MSN** – Admits RNs and awards a master of science in nursing. | • Hawaii Pacific University<br>• University of Hawaii at Manoa |
| **BSN to MSN** – Admits only students with a BS and awards a master of science in nursing. | • University of Hawaii at Manoa<br>• Hawaii Pacific University<br>• University of Phoenix |
| **Master's Entry Program in Nursing** | |
| **MEPN –** Admits students with no prior nursing experience or education and who have a baccalaureate degree or higher in a field other than nursing. | • University of Hawaii at Manoa |
| **Doctoral Programs** | |
| **BS to DNP** Admits students who have a BSN; confers a doctor of nursing practice. | • University of Hawaii at Hilo |
| **BS to PhD** Admits students who have an BSN; confers a doctor of philosophy (nursing). | |
| **MS to DNP** Admits students who have an MSN; confers a doctor of nursing practice. | • University of Hawaii at Hilo<br>• University of Hawaii at Manoa |
| **MS to PhD** – Admits students who have an MSN or MS in a health related field; confers a doctor of philosophy (nursing). | • University of Hawaii at Manoa<br>• University of Phoenix |

**Program Capacity, Applications, & Enrollment**

Hawaii's public University of Hawaii system School of Nursing & Dental Hygiene (SONDH), and Community Colleges determine the maximum number of students that may be enrolled (i.e., admission slots) in programs that offer a LPN diploma or certificate, an AS, a BS for pre-licensure students i.e., students who are not already licensed as a registered nurse (RN), and PhD. The UH system currently sets limits for slots in the Master of Nursing program. Private institutions continue to report having no limits set for admission slots available in all programs.

**Licensed Practical Nurse Programs**

**Student Enrolment and Admission Slots**
56.9% (66) of LPN program qualified applicants and 61.6% (183) of Ladder program qualified applicants were not enrolled.

Public institutions reported 30 admission slots for LPN students during 2011 - 2012. An additional 112 admission slots were available for students seeking entry in to a ladder program, which combines a LPN program with an AS program. 28 (93%) students were newly enrolled in the LPN program and 108 (96%) in the ladder programs. Overall, 2 (6%) admission slots for the LPN program and 4 (4%) of the admission slots for the Ladder programs were unfilled.

TABLE 2: LPN AND LADDER PROGRAMS APPLICATIONS, CAPACITY, AND ENROLLMENT FOR 2011- 2012

|  | LPN programs | Ladder programs |
|---|---|---|
| **Number of admission slots**<br>**Public**<br>**Private** | 30<br>n/a | 112<br>n/a |
| **Number of applicants** | 96 | 261 |
| Number of applicants meeting minimum admission requirements | 78 | 223 |
| Number of students newly enrolled (admitted during 2009 -2010 and began classes) | 28 | 108 |
| Number of qualified applicants not enrolled | 50 | 115 |
| **Number of unfilled slots**<br>**Public** | 2 | 4 |

 **Graduates in the LPN Programs**
During the 2011 – 2012 school year an estimated 68 (25 of these students completed the LPN portion of their ladder program) graduated from the LPN programs.

**LPN Student Demographics**
The racial/ethnic makeup of students in the LPN programs continue to show a high percentage of Asian 35.4% and Caucasian 32% students and 83.4% of students were between 21 - 40 years of age.

**TABLE 3: DEMOGRAPHIC CHARACTERISTICS OF LPN NURSING STUDENTS IN THE LPN AND LADDER PROGRAMS, 2011-2012**

|  | LPN Students |
|---|---|
| **Gender:** | **Number (%)** |
| Female | 161 (77.8%) |
| Male | 46 (22.2%) |
| **Gender (Total)** | 207 (100%) |
| **Race/Ethnicity:** | |
| African-American | 3 (1.7%) |
| Caucasian | 58 (32%) |
| Asian *(break out)* | 64 (35.4%) |
| Chinese | 1 |
| Filipino | 44 |
| Japanese | 13 |
| Korean | 2 |
| Other Asian | 3 |
| Native Hawaiian | 24 (13.3%) |
| Pacific Islander *(break out)* | 1 (0.5%) |
| Samoan | 0 |
| Other Pacific Islander | 1 |
| American Indian/Native Alaskan | 0 |
| 2 or more races | 23 (12.7%) |
| Other Race | 2- |
| Hispanic | 4 (2.2%) |
| Missing/unknown | 3 (1.7%) |
| **Race/Ethnicity (Total)** | 181 (87.4%) |
| **Age:** | |
| ≤ 20 | 9 (4.8%) |
| 21-25 | 60 (32.3%) |
| 26-30 | 45 (24.2%) |
| 31-40 | 50 (26.9%) |
| 41-50 | 13 (7%) |
| 51-60 | 7 (3.8%) |
| ≥ 61 | 0 (0%) |
| Missing/unknown | 2 (1%) |
| **Age (Total)** | 186 (89.9%) |

**Registered Nurse Programs**

**Student Enrolment and Admission Slots**
The registered nurse programs have the largest applicant pool and enrolment the largest number of students of all nursing programs in the State. Out of the number of qualified applicants, 77.3% were not enrolled in the AS programs and 41.4% were not enrolled in the BS in nursing programs.

TABLE 4: AS & BS PROGRAMS APPLICANTS, CAPACITY, AND ENROLLMENT FOR 2011 – 2012

| | AS in Nursing Programs | BS in Nursing Programs | RN to BS in Nursing Programs |
|---|---|---|---|
| **Number of applicants** | 504 | 1,274[#E] | 25 |
| Number of applicants meeting minimum admission requirements | 450 | 771[#E] | 25 |
| Number of qualified applicants not enrolled | 348 | 319[#E] | 2 |
| **Number of admission slots**<br>Public<br>Private | 107 | 142<br>292[#E] | n/a[*]<br>n/a[*] |
| Number of students newly enrolled (admitted during 2011–2012 and began classes)<br>Public<br>Private | 102<br>n/a[*] | 141<br>311 | 16<br>7 |
| **Number of unfilled slots**<br>**Public** | 5[++] | 1 | n/a |

[*]n/a = not applicable; [#E]= estimate; [++]includes applicants who did not take up an offer to enroll

In 2011-12, one hundred seven admission slots were available for students seeking an AS in public institutions and 102 (95.3%) were newly enrolled in the AS program (Table 4). An estimated 142 admission slots for pre-licensed students seeking a BS and 141 were newly admitted in the public system. 16 (100%) were admitted for RN to BS degree in the public system. In the private sector, 311 students were newly enrolled in to pre-licensed BS in nursing programs and programs took in more new students than slots available.

**Graduates in AS in Nursing and BS in Nursing Programs**
120 undergraduates received an AS in nursing. 20 (16.7%) of these graduates had completed the AS portion of their ladder program. 382 graduates received a BS degree in nursing. Out of this number, 21 (5.5%) of the graduates completed a RN to BS in nursing program.

**AS in Nursing and BS in Nursing Student Demographics**

Approximately 22% of the RN student population was made up of males. Student distributions by race/ethnicity show a higher percentage of Asian and Caucasian students across programs, with a strong Filipino rand Japanese representation in the AS and BS programs. In the undergraduate programs, the BS programs have the highest percentage of students under the age of 25 years. AS programs have a higher percentage of students over the age of 25 compared to the BS programs.

**TABLE 5: STUDENT DEMOGRAPHICS REGISTERED NURSE PROGRAMS, 2011 -2012**

| | AS in Nursing Students | RN to BS in Nursing Students | BS in Nursing Students | RN Program Students Total |
|---|---|---|---|---|
| | Number (%) | Number (%) | Number (%) | Number (%) |
| **Gender:** | | | | |
| Female | 215 (78.2%) | 20 (83.3%) | 991(79.3%) | 1,226 (79.2%) |
| Male | 60 (22.8%) | 4 (16.7%) | 258(20.7%) | 322 (21.8%) |
| **Gender (Total)** | 275 (100%) | 24 (100%) | 1,249 (100%) | 1,548 (100%) |
| **Race/Ethnicity:** | | | | |
| African-American | 4 (1.5%) | 0 | 18 (1.4%) | 22 (1.4%) |
| Caucasian | 77 (28%) | 1 (4.2%) | 209 (16.7%) | 287 (18.5%) |
| Asian *(break out)* | 122 (44.4%) | 11 (45.8%) | 744 (59.6%) | 877 (56.7%) |
| Chinese | 2 | 0 | 54 | |
| Filipino | 66 | 8 | 419 | |
| Japanese | 13 | 3 | 114 | |
| Korean | 3 | 0 | 27 | |
| Other Asian | 2 | 0 | 20 | |
| Native Hawaiian | 36 (13%) | 0 (0%) | 136 (10.9%) | 172 (11.1%) |
| Pacific Islander *(break out)* | 1 (.4%) | 0 (0%) | 16 (1.3%) | 17 (1.1%) |
| Samoan | 0 | 0 | 9 | |
| Other Pacific Islander | 1 | 0 | 7 | |
| American Indian/Native Alaskan | 1 (.4%) | 0 (0%) | 3 (.2%) | 4 (.3%) |
| 2 or more Races | 28 (10.2%) | 0 (0%) | 177 (14.2%) | 205 (13.2%) |
| Other Race | 2 (.7%) | 0 (0%) | 6 (.5%) | 8 (0.5%) |
| Hispanic | 8 (2.9%) | 1 (4.2%) | 46 (3.7%) | 55 (3.6%) |
| Missing/unknown | 32 (11.6%) | 11 (45.8%) | 4 (.3%) | 47 (3.0%) |
| **Race/Ethnicity (Total)** | 275 (100%) | 24 (100%) | 1,249 (100%) | 1,548 (100%) |
| **Age:** | | | | |
| ≤20 | 1 (.4%) | 0 (0%) | 99 (7.9%) | 100 (6.5%) |
| 21-25 | 51 (18.5%) | 0 (0%) | 578 (46.3%) | 629 (40.6%) |
| 26-30 | 96 (34.9%) | 3 (12.5%) | 298 (23.9%) | 397 (25.6%) |
| 31-40 | 84 (30.5%) | 9 (37.5%) | 183 (14.6%) | 276 (17.8%) |
| 41-50 | 23 (8.4%) | 1 (4.2%) | 49 (3.9%) | 73 (4.7%) |
| 51-60 | 4 (1.5%) | 0 (0%) | 9 (.7%) | 13 (.8%) |
| ≥61 | 1 (.4%) | 0 (0%) | 0 (0%) | 1 (.0%) |
| Missing/unknown | 15 (5.5%) | 11 (45.8%) | 33 (2.6%) | 59 (3.8%) |
| **Age (Total)** | 275 (100%) | 24 (100%) | 1,249 (100%) | 1,548 (100%) |

**Graduate Nursing Programs**

**Student Enrolment and Admission Slots**
39 qualified applicants were newly enrolled into the MEPN program in 2011-12. The number of qualified applicants not enrolled in was 81% (161). In the Masters clinical track programs 73 (83.9%) of qualified applicants were newly enrolled and 8 (53%) were newly enrolled in the PhD program.

**Graduates in the MS in Nursing and PhD Programs**
A total of 92 postgraduates completed a Masters or PhD in nursing. Of these, 87 received a Master in nursing degree and 5 received a PhD in nursing.

TABLE 6: GRADUATE PROGRAM APPLICATIONS, CAPACITY, AND ENROLLMENT 2011 - 2012

| | MEPN programs | MS in Nursing programs Clinical track | MS in Nursing programs Non-clinical track | PhD in Nursing programs |
|---|---|---|---|---|
| **Number of applicants** | 321 | 94 | 18 | 16 |
| Number of applicants meeting minimum admission requirements | 200 | 87 | 17 | 15 |
| Number of qualified applicants not enrolled | 161 | 14 | 5 | 6 |
| **Number of admission slots** Public Private | 44 n/a | n/a n/a | n/a n/a | 12 n/a* |
| Number of students newly enrolled (admitted during 2009-2010 and began classes) Public Private | 39 n/a | 42 31 | 2 10 | 8 n/a |
| **Number of unfilled slots** Public | 5++ | n/a | n/a | 4++ |

*n/a = not applicable; #E= estimate; ++includes applicants who did not take up an offer to enroll

**MS in Nursing and PhD Student Demographics**
Males enrolled in graduate programs represent 16% of the student population. The distribution of students by race/ethnicity reveals a higher number of Caucasian and Asian students across programs, with a strong Filipino rand Japanese representation in the Masters and PhD programs. For the graduate programs, the percentage of older age students tends to be higher for both MS and PhD students.

## TABLE 7: STUDENT DEMOGRAPHICS IN GRADUATE PROGRAMS, 2011 -2012

| | MEPN Students | MSN Students Clinical Track | MSN Students Non-clinical Track | PhD Students | Graduate Students Total |
|---|---|---|---|---|---|
| **Gender:** | | | | | |
| Female | 28 (71.8%) | 125 (84.5%) | 32 (84.5%) | 53 (94.6%) | 238 (83.8%) |
| Male | 11 (28.2%) | 23 (15.5%) | 9 (15.5%) | 3 (4.4%) | 46 (16.2%) |
| **Gender (Total)** | 39 (100%) | 148 (100%) | 41 (100%) | 56 (100%) | 284 (100%) |
| **Race/Ethnicity:** | | | | | |
| African-American | 0 (0%) | 4 (2.7%) | 1 (2.4%) | 1 (1.8%) | 6 (2.1%) |
| Caucasian | 19 (48.7%) | 50 (33.8%) | 9 (22%) | 39 (69.6%) | 117 (41.2%) |
| Asian *(please break out)* | 6 (15.4%) | 57 (38.5%) | 15 (36.6%) | 9 (16.1%) | 87 (30.6%) |
| Chinese | 0 | 7 | 1 | 1 | |
| Filipino | 3 | 20 | 12 | 2 | |
| Japanese | 2 | 14 | 2 | 4 | |
| Korean | 1 | 11 | 0 | 2 | |
| Other Asian | 0 | 5 | 0 | 0 | |
| Native Hawaiian | 5 (12.8%) | 17 (11.5%) | 9 (22%) | 4 (7.1%) | 35 (12.3%) |
| Pacific Islander *(please break out)* | 1 (2.6%) | 3 (2.0%) | 1(2.4%) | 2 (3.6%) | 7 (2.5%) |
| Samoan | 1 | 3 | 0 | 0 | |
| Other Pacific Islander | 0 | 0 | 1 | 2 | |
| American Indian/Native Alaskan | 1 (2.6%) | 0 (0%) | 0 (0%) | 0 | 1 (.4%) |
| 2 or more Races | 5 (12.8%) | 6 (4.1%) | 1 (2.4%) | 1 (1.8%) | 13 (4.6%) |
| Other Race | 0 | 5 (3.4%) | 0 (0%) | 0 | 5 (1.8%) |
| Hispanic | 2 (5.1%) | 4 (2.7 %) | 5 (12.2%) | 0 (0%) | 11 (3.9%) |
| Missing/unknown | 0 | 4 (2.7 %) | 0 (0%) | 0 | 4 (1.4%) |
| **Race/Ethnicity (Total)** | 39 (100%) | 148 (100%) | 41 (100%) | 56 (100%) | 284 (100%) |
| **Age:** | | | | | |
| ≤20 | 0 | 0 | 0 | 0 | 0 (0%) |
| 21-25 | 7 (17.9%) | 6 (4.1) | 0 | 0 | 13 (4.6%) |
| 26-30 | 16 (41.0%) | 36 (24.3%) | 10 (24.4%) | 0 | 62 (21.8%) |
| 31-40 | 15 (38.5%) | 60 (40.5%) | 14 (34.1%) | 14 (25%) | 103 (36.3%) |
| 41-50 | 1 (2.6%) | 30 (20.3%) | 7 (17.1%) | 12 (21.4%) | 50 (17.6%) |
| 51-60 | 0 (0%) | 14 (9.5%) | 9 (22%) | 27 (48.2%) | 50 (17.6%) |
| ≥61 | 0 | 2 (1.4%) | 1 (2.4%) | 3 (5.4%) | 6 (2.1%) |
| Missing/unknown | 0 | 0 | 0 | 0 | 0 |
| **Age (Total)** | 39 (100%) | 148(100%) | 148 (100%) | 56 (100%) | 284 (100%) |

**Comparison of Students by School Year**

Figure 1 reveals the number of qualified applicants meeting minimum admission requirements to the Ladder and AS programs continue to rise. Qualified applicants to the pre-licensed BS in nursing programs have declined in 2008, but have trended up since 2010. In 2011-12 the number of applicants to pre-licensure BSN programs was 771. The MEPN program has also seen continual increase in its number of applicants to the program over time.
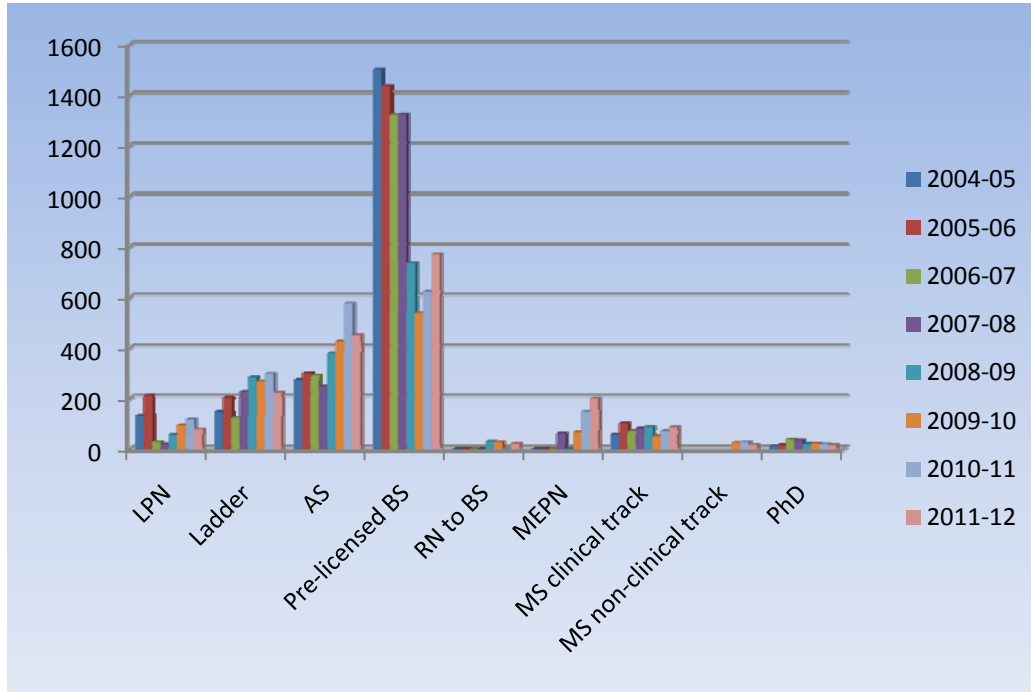


**Figure 1: Qualified Applicants Who Met Minimum Admission Requirements by School Year**

**TABLE 8: NUMBER OF QUALIFIED APPLICANTS APPLYING TO PROGRAMS BY YEAR**

|         | LPN | Ladder | AS  | Pre-licensed BS | RN to BS | MEPN | MS clinical track | MS non-clinical track | PhD |
|---------|-----|--------|-----|-----------------|----------|------|-------------------|------------------------|-----|
| 2004-05 | 131 | 147    | 273 | 1,501           | -        | -    | 58                |                        | 12  |
| 2005-06 | 212 | 204    | 300 | 1,435           | -        | -    | 101               |                        | 16  |
| 2006-07 | 28  | 124    | 291 | 1,322           | -        | -    | 71                |                        | 38  |
| 2007-08 | 19  | 226    | 247 | 1,323           | -        | 62   | 81                |                        | 34  |
| 2008-09 | 57  | 283    | 378 | 736             | 29       | 0    | 88                |                        | 20  |
| 2009-10 | 94  | 267    | 426 | 538             | 28       | 67   | 51                | 24                     | 22  |
| 2010-11 | 116 | 297    | 575 | 622             | -        | 148  | 71                | 28                     | 19  |
| 2011-12 | 78  | 223    | 450 | 771             | 20       | 200  | 87                | 17                     | 15  |

Numbers of nursing students newly enrolled in the AS and BS programs have increased in 2011-12 (Figure 2). The number of students newly enrolled in LPN programs remains low compared to the ladder programs. The numbers of newly enrolled students have increased in the MSN clinical track programs but remained similar in the MSN non-clinical track programs and PhD.
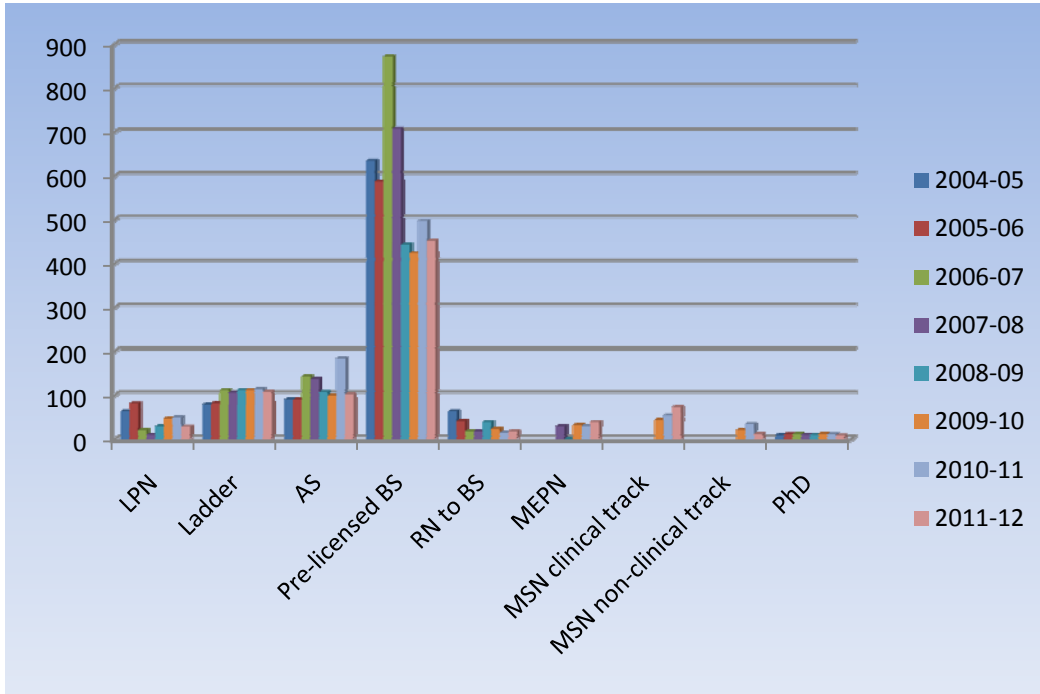


**Figure 2: Number of Students Newly Enrolled in Nursing Programs by School Year**

TABLE 9: NUMBER OF NEWLY ENROLLED STUDENTS BY YEAR

|  | LPN | Ladder | AS | Pre-licensed BS | RN to BS | MEPN | MSN clinical track | MSN non-clinical track | PhD |
|---|---|---|---|---|---|---|---|---|---|
| 2004-05 | 63 | 79 | 90 | 634 | 63 |  |  |  | 9 |
| 2005-06 | 81 | 82 | 90 | 587 | 41 |  |  |  | 11 |
| 2006-07 | 20 | 112 | 143 | 872 | 18 |  |  |  | 12 |
| 2007-08 | 10 | 106 | 137 | 707 | 18 | 29 |  |  | 10 |
| 2008-09 | 29 | 112 | 107 | 443 | 39 | 0 |  |  | 10 |
| 2009-10 | 47 | 112 | 99 | 424 | 23 | 32 | 44 | 21 | 12 |
| 2010-11 | 50 | 114 | 184 | 497 | 15 | 30 | 54 | 34 | 11 |
| 2011-12 | 28 | 108 | 102 | 452 | 18 | 39 | 73 | 12 | 8 |

Nursing students graduating from the BS and MS programs has steadily increased since 2004-05. Graduation numbers did decline in 2009-10 but show some increase in the last two years (Figure 3). The number of LPN program graduates remains low when compared to LPN graduates in the ladder programs.
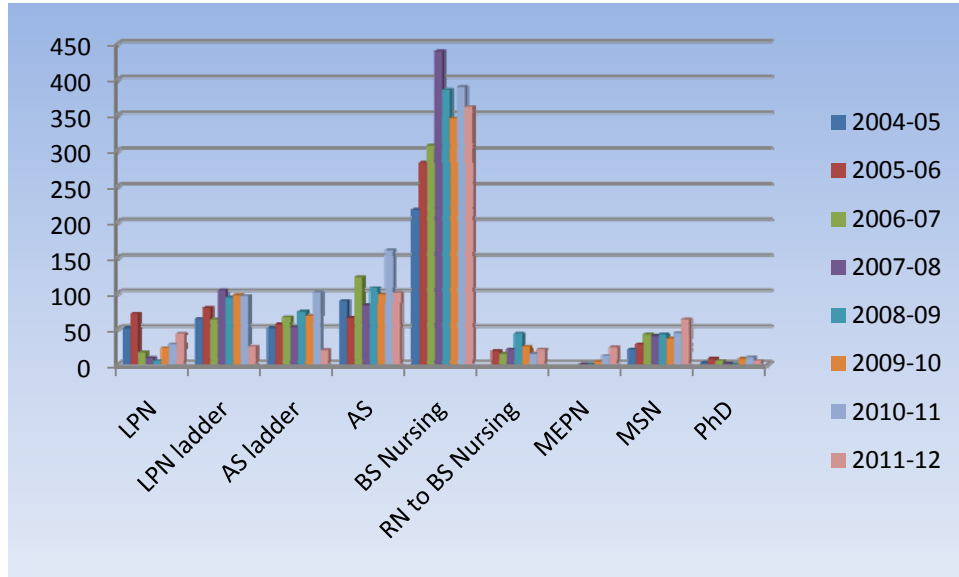


**Figure 3: Number of Graduating Students in Nursing Programs by School Year**

**TABLE 10: NUMBER OF GRADUATING STUDENTS FROM PROGRAMS BY YEAR**

|  | LPN | LPN ladder | AS ladder | AS | BS Nursing | RN to BS Nursing | MEPN | MSN | PhD |
|---|---|---|---|---|---|---|---|---|---|
| 2004-05 | 51 | 64 | 51 | 89 | 217 |  |  | 21 | 2 |
| 2005-06 | 71 | 79 | 56 | 65 | 283 | 19 |  | 28 | 8 |
| 2006-07 | 17 | 63 | 66 | 122 | 307 | 15 |  | 42 | 5 |
| 2007-08 | 9 | 104 | 52 | 83 | 439 | 21 | 0 | 40 | 1 |
| 2008-09 | 5 | 94 | 74 | 107 | 385 | 43 | 0 | 42 | 0 |
| 2009-10 | 23 | 97 | 68 | 98 | 345 | 25 | 4 | 36 | 8 |
| 2010-11 | 28 | 96 | 101 | 160 | 389 | 15 | 12 | 44 | 10 |
| 2011-12 | 43 | 25 | 88 | 100 | 361 | 21 | 24 | 63 | 5 |

**Faculty**

Nursing programs were asked to provide the number of filled full-time faculty positions, the number of full-time faculty vacancies, the number of adjunct faculty positions, and the number of adjunct faculty vacancies. The overall vacancy rate was 2 percent. Vacancies for full-time faculty positions were 3.3 percent; the vacancy rate for adjunct faculty positions was 0.5 percent (Table 11). In 2011-12 the overall vacancies rates were small in both full time and part time faculty positions.

**TABLE 11: NUMBER OF FACULTY AND VACANCIES IN HAWAII NURSING EDUCATION PROGRAMS, 2011 – 2012**

| Category | Number |
|---|---|
| **Filled full-time faculty positions** | 208 |
| **Full-time faculty vacancies (open positions that the program is actively trying to fill)** | 7 |
| **Filled adjunct (part time) faculty positions** | 191 |
| **Adjunct (part time) faculty vacancies (open positions that the program is actively trying to fill)** | 1 |

Annually, the nursing programs provide demographic information on their faculty. Nine institutions provided data on the race/ethnicity and age of faculty. Some institutions did not provide complete race/ethnicity or age data on employed faculty.

**Faculty Demographics**

Faculty demographics reported by most programs in Table 12 reveals:
- Out of the total faculty population, 9.5% were male with similar distribution of males in full time and part time faculty.
- The racial/ethnicity of full-time faculty was predominantly Caucasian and Asian.
- Adjunct faculty members were predominantly Caucasian and Asian.
- 32% of faculty were >55 years old.
- 36% full time faculty were >55 years.
- 19% of faculty had a doctoral degree as their highest level of education.

## TABLE 12: DEMOGRAPHICS OF NURSING FACULTY, 2011 - 2012

| | Number of Full time faculty | Number of Adjunct faculty | Faculty Total |
|---|---|---|---|
| **Gender:** | | | |
| Female | 200 (85.5%) | 142 (86.8%) | 342(90.5%) |
| Male | 23 (14.5%) | 13 (13.2%) | 36 (9.5%) |
| **Gender (Total)** | 223 (100%) | 155 (100%) | 378 (100%) |
| **Race/Ethnicity:** | | | |
| African-American | 4 (1.8%) | 4 (2.6%) | 5 (1.3%) |
| Caucasian | 125 (56%) | 67 (43.2%) | 178 (47.1%) |
| Asian (*break out below*) | 42 (18.8%) | 16 (10.3%) | 72 (19%) |
| Chinese | 4 | 1 | |
| Filipino | 11 | 12 | |
| Japanese | 14 | 2 | |
| Korean | 2 | 1 | |
| Other Asian | 5 | 0 | |
| Native Hawaiian | 4 (1.8%) | 8 (5.2%) | 11 (2.9%) |
| Pacific Islander (*break out below*) | 6 (2.7%) | 0 | 2 (0.5%) |
| Samoan | 1 | 0 | |
| Other Pacific Islander | 5 | 0 | |
| American Indian/Native Alaskan | 1 (0.4%) | 0 | 1 (0.3%) |
| 2 or More Races | 3 (1.3%) | 13 (8.4%) | 8 (2.1%) |
| Some Other Race | 2 (.9%) | 0 | 0 (0%) |
| Hispanic | 2 (.9%) | 7 (4.5%) | 7 (1.9%) |
| Missing/unknown | 40 (17.9%) | 40 (25.8%) | 80 (21.2%) |
| **Race/Ethnicity (Total)** | 223 (100%) | 155(100%) | 378 (100%) |
| **Age Group:** | | | |
| ≤30 | 3 (1.3) | 5 (3.2%) | 8 (1.5%) |
| 31-40 | 24 (10.8%) | 35 (22.6%) | 59 (16.2%) |
| 41-50 | 35 (15.7%) | 39 (25.2%) | 74 (27.9%) |
| 51-55 | 49 (22%) | 19 (12.3%) | 68 (15.4%) |
| 56-60 | 37 (16.6%) | 21 (13.5%) | 58 (17.6%) |
| 61-65 | 23 (10.3%) | 12 (7.7%) | 35 (14.3%) |
| 66-70 | 17 (7.6%) | 7 (4.5%) | 24 (5.5%) |
| ≥71 | 3 (1.3%) | 2 (1.3%) | 5 (1.1%) |
| Missing | 32 (14.3%) | 15 (9.7%) | 47 (0.4%) |
| **Age (Total)** | 223 (100%) | 155 (100%) | 378 (100%) |
| **Highest Level of Education:** | | | |
| Bachelor of Science (Nurs) Degree | 2 (.9%) | 15 (9.7%) | 17 (4.5%) |
| Masters Degree | 112 (50.2%) | 120 (77.4%) | 232 (61.4%) |
| PhD/Doctorate Degree | 63 (28.3%) | 9 (5.8%) | 72 (19%) |
| Missing/unknown | 46 (20.6%) | 11 (7.1%) | 57 (15.1%) |
| **Level of Education (Total)** | 223 (100%) | 155 (100%) | 378 (100%) |

**Program Capacity**

Programs were asked which, if any, of the following resource issues were of concern for their program during 2011-12. A lack of clinical sites (67%) and the lack of preceptors for clinical rotations (67%) were the most frequently reported issues affecting programs' capacity. The lack of funding support 44% and a lack of clinical faculty available for student placements was also reported 33%.

As seen in Table 13, the predominant resource issues identified by the institutions include
- Six out of nine programs reported lack clinical sites for student clinical placements
- Six out of nine programs lack preceptors for clinical.

**TABLE 13: PERCENT OF NURSING PROGRAMS LACKING RESOURCES, 2011 - 2012**

| | Full-time Faculty | Clinical sites for clinical placements | Preceptors for clinical sites[**] | Funding support |
|---|---|---|---|---|
| Percent of nursing programs reporting lack of resources | 56% | 67% | 67% | 44% |

[**]Access to clinical sites such as hospitals, long-term care facilities, outpatient centers, and home & hospice care agencies

In 2011-12, there was a significant increase in the lack of clinical sites available for student placements 67% compounded by the increase in need of preceptors in clinical sites 67% (Figure 4).
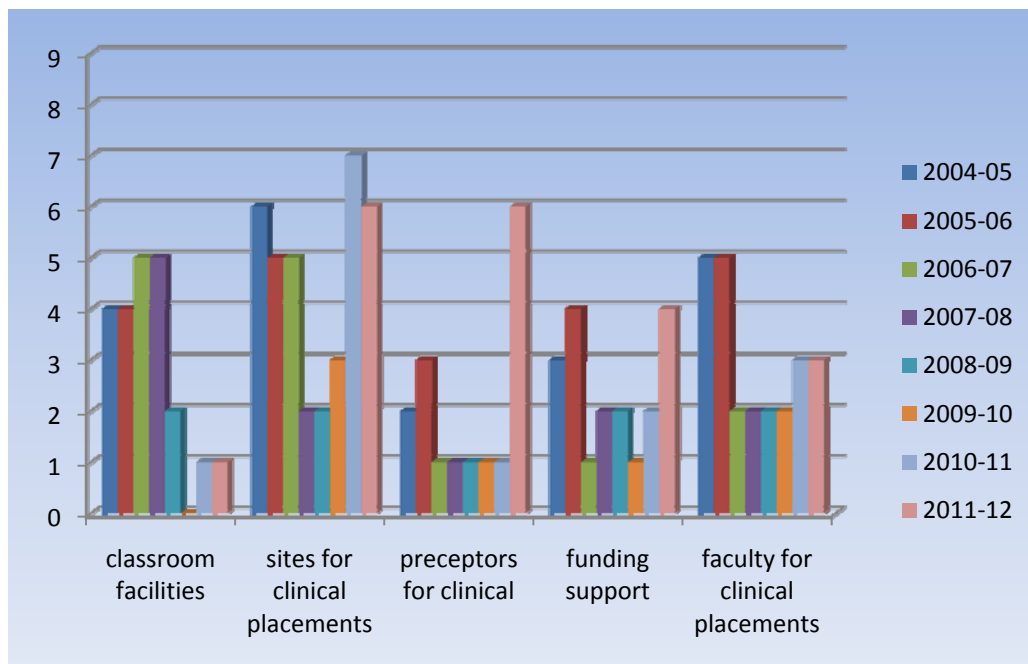


**Figure 4: Number of Programs Reporting a Lack of Resources by School Year**

**Faculty Positions**

As shown in Figure 5, filling full time faculty vacancies continue to be a challenge for nursing programs. In 2011-12, 6 out of 9 programs reported difficulties filling faculty vacancies. Specialty areas community health 89% and mental health 78% had the highest ranked difficulty in filling faculty positions.
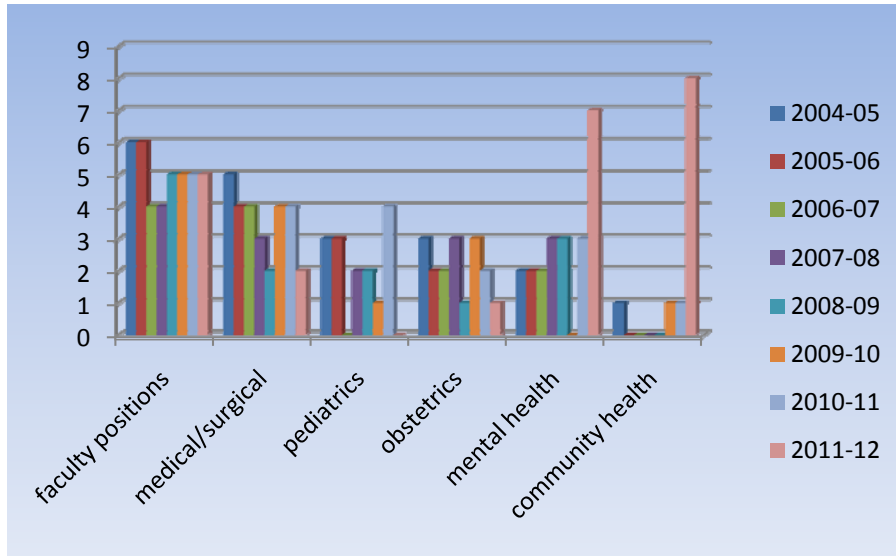


**Figure 5: Number of Programs Reporting Difficulties Filling Faculty Positions by School Year**

**Adjunct Faculty**

In 2011-12, programs reported challenges in filling adjunct faculty positions in mental health 78%, and community health 22%.
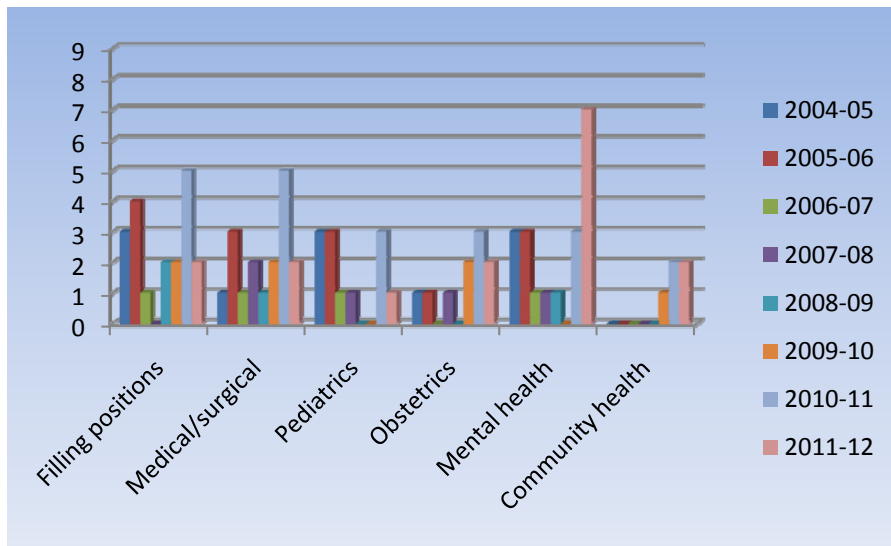


**Figure 6: Number of Programs Reporting Difficulties Filling Adjunct Faculty Positions by School Year**

**Discussion**

Since 2004, the Hawaii State Center for Nursing conducts annual educational capacity surveys for the purpose of collecting and generating nursing student and faculty trend data. The information is disseminated to inform stakeholders across the state; and influence nursing education policy to meet future workforce needs.

2011-12 nursing education capacity data continues to show sustained growth in the number of qualified applicants applying to programs such as the LPN to Associate Degree Ladder programs, Associate Degree programs, and Master Entry Program in Nursing (MEPN); students newly enrolled in Associate and Masters Programs; and graduates from Associate and Masters Programs have also grown. While the number of qualified applicants' enrolled in programs have remained relatively stable over the past three years

Barriers that contributed to capacity issues in 2011-12 were;
- Lack of clinical sites and preceptors to support students,
- Applicant related factors such as number qualified applicants, affordability of programs, and enrollment of the applicant in another program.

National and local economic drivers continue to negatively impact job demand, but experts in the field forecast an increase in demand for licensed nurses (i.e., LPNs, RNs, APRNs) over the next decade. U.S. Department of Labor indicates employment of RNs is expected to grow by 22 percent from 2008 to 2018, much faster than the average for all occupations.[1] Growth will be driven by technological advances in patient care, which permit a greater number of health problems to be treated, and by an increasing emphasis on primary preventive care. In addition, the number of older people, who are much more likely than younger people to need nursing care, is projected to grow. However, employment of RNs will not grow at the same rate in every industry. Employment growth is expected to be slower in hospitals. Overall, job opportunities are expected to be excellent because of the relatively high turnover of hospital nurses, growth in state population and roll out of the Affordable Care Act expected to increase access to health care.

As a minority-majority state, our nursing programs are striving to overcome racial/ethnic and age maldistributions. As seen in 2011-12, the race/ethnic distribution of our faculty members was predominantly Caucasian while the undergraduate student nurse population was predominantly Asian and the graduate population Caucasian (Figure 7). A greater distribution of undergraduate RN students were under the age of 30 yrs, graduate students were older 26-50 years of age and faculty members were predominantly 40 and over in age (Figure 8).

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[1] US Department of Labor. *Occupational Outlook Handbook.* 2010-11 edition. Accessed 09/20/2010, http://www.bls.gov/oco/ocos083.htm

The age distribution of nursing faculty in Hawaii suggests there will be a significant increase in the number of retirements over the next 10 years which may have a negative impact of educational capacity.
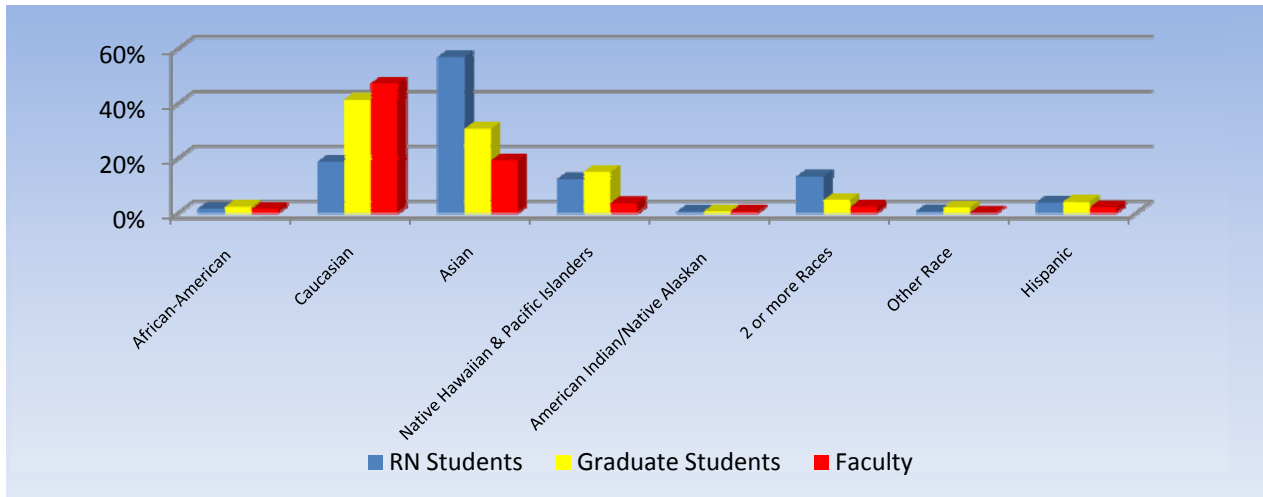


**Figure 7: Race/Ethnic Distribution of Undergraduate students, Graduate students and Faculty**
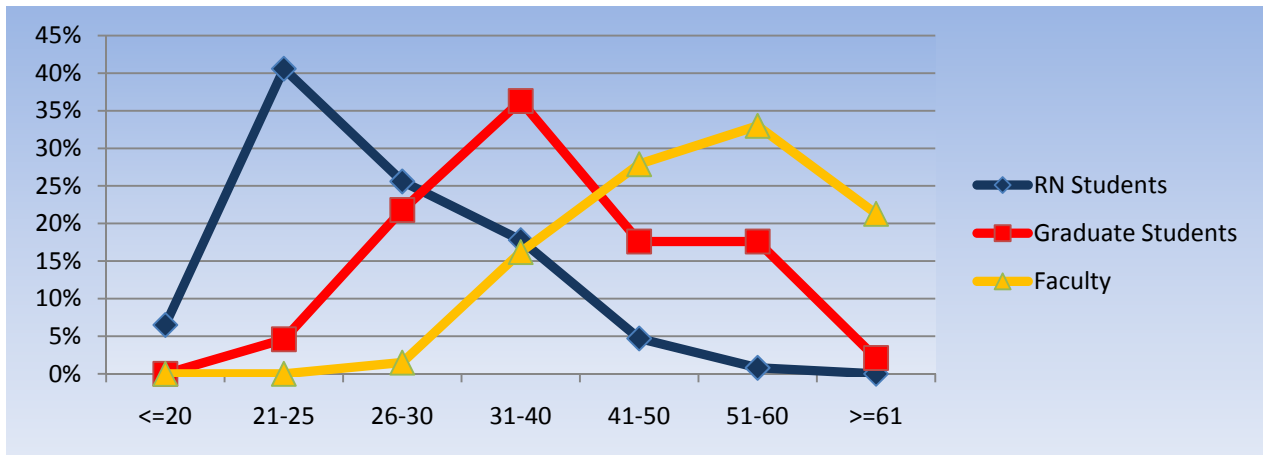


**Figure 8: Age Distribution of Undergraduate students, Graduate students and Faculty**

In 2012, AACN[2] survey of nursing programs at 662 institutions around the country found that 8% of full-time nursing faculty positions and 7% of part-time positions were vacant. Evidence suggests that universities and community colleges are unable to compete with hospitals, corporations and the military that offer nurses with advanced degrees significantly higher salaries.

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[2]  Fang, D. AACN Special Survey on Vacant Faculty Positions for Academic Year 2012-2013
http://www.aacn.nche.edu/leading-initiatives/research-data/vacancy12.pdf

**National Strategies to Address Faculty Shortage**

In October 2012, the Jonas Center for Nursing Excellence expanded their Jonas Nurse Leaders Scholar Program nationally and provides funding and support to approximately 198 doctoral nursing students in 87 schools across the US. AACN has worked with the Jonas Center to facilitate this program's expansion to all 50 states and is administering the program for the newest 2013 cohort of scholars that includes both PhD and DNP students.
**www.jonascenter.org/program-areas/jonas-nurse-leaders-scholars**

In June 2012, the Center for State Health Policy at Rutgers University released the Nurse Faculty Query – NuFAQs. This online tool provides users an opportunity to explore the workload, job characteristics, and attitudes toward work-life among full-time nurse faculty in the U.S. NuFAQs provides response data to the National Survey of Nurse Faculty that was conducted by the Center for State Health Policy. The data is a nationally representative sample of all full-time faculty members teaching in nursing schools that offer at least one degree program that prepares graduates to sit for the NCLEX examination.
**http://evaluatinginnovationsinnursing.org/nufaqs-nurse-faculty-data-que**

**Conclusion**

Over the next decade healthcare will experience a number of transformational challenges that increase demand for licensed nurses. Growth in nursing demand will coincide with population growth, access to care, ageing, and physician shortage. Trends that suggest nursing programs must sustain graduate numbers, availability of clinical sites and preceptors to meet future healthcare need.

## References

AACN. (2012a). 2011-2012 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing, http://www.aacn.nche.edu/research-data.  Retrieved 01/30/13.

AACN. (2012b). Nursing faculty shortage fact sheet, www.aacn.nche.edu/media_relations/FacultyShortageFS.pdf.  Retrieved 01/30/13

Bureau of Labor Statistics. (2012). Occupational Outlook Handbook, http://www.bls.gov/ooh/healthcare/registered-nurses.htm.   Retrieved 08/02/13

Center for State Health Policy at Rutgers University, The Nurse Faculty Query – NuFAQs. **http://evaluatinginnovationsinnursing.org/nufaqs-nurse-faculty-data-que**, Retrieved 08/04/13.

Fang, D. AACN Special Survey on Vacant Faculty Positions for Academic Year 2012-2013 http://www.aacn.nche.edu/leading-initiatives/research-data/vacancy12.pdf. Retrieved 07/31/13

Jonas Center for Nursing Excellence, Website,  **www.jonascenter.org/program-areas/jonas-nurse-leaders-scholars**  and  http://www.jonascenter.org/program-areas/scholars/participating-schools.  Retrieved 08/04/13.

National Advisory Council on Nurse Education and Practice. (2010). Addressing New Challenges Facing Nursing Education: Solutions for a Transforming Healthcare Environment (8th Annual Report ed.). Washington DC: U.S. Department of Health and Human Services and the U.S. Congress http://www.hrsa.gov/advisorycommittees/bhpradvisory/nacnep/Reports/eighthreport.pdf, (accessed 08/05/13).