

ARIZONA STATE BOARD OF NURSING

Janice K. Brewer
Governor

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SUMMARY AND ANALYSIS OF ANNUAL REPORTS FROM ARIZONA NURSING EDUCATION PROGRAMS 2010

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2010

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2010**

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INTRODUCTION

The Mission of the Arizona State Board of Nursing is to protect the public health, safety and welfare through the safe and competent practice of nurses and nursing assistants.

ANNUAL REPORTS DATA

Since 2001, the Arizona State Board of Nursing (Board) has requested that pre-licensure nursing program submit an annual report to the Board for the purpose of gathering admission and graduation data. Commencing in 2003, programs supplied data regarding open student placements on the first day of class, faculty, post-licensure students, and number of applicants that met qualifications but were not admitted to the semester for which they applied. Attrition data was requested from 2004 through 2010. In 2006-2010 programs were asked to identify students who took longer than 150% of the allotted program time to complete the program. In 2008-2010 programs were asked to identify the faculty to student ratio for didactic classes. The final part of each program's report contains the program administrator's attestation of compliance with Board education rules (A.A.C. Chapter 4, Title 19, Article 2). The annual reports cover a calendar year from January 1 to December 31. All 35 approved programs that had admissions or graduations in 2010 were provided surveys with all returning the survey (100% response rate). Surveys were not anonymous.

DEFINITION OF TERMS	
Total Enrollment	The number of students enrolled in a pre-licensure nursing program.
Total Admissions	The number of students admitted to the first session of a nursing program, regardless of whether it was fall, spring, or summer.
Students Offered Placement	The number of students offered a placement in a 2007 admission cohort.
Students Registered for the First Clinical Course	The number of students of those offered a placement that actually registered in 2007—same as admissions for most programs.
Students Registered Who Did Not Attend	The number of students who registered for the first nursing clinical but never attended classes.
Open Placements in the First Nursing Clinical Course on the First Day of Class	The number of placements that were not filled on the first day of classes; this includes those who registered but did not attend.
Qualified Applicants Not Admitted to the Session for Which They Applied:	Number of applicants who were qualified for admission but were either denied, placed on a wait list, or admitted to a semester other than the one for which they applied.
Advanced Placement	The number of students, usually LPNs, admitted to a session, other

Admissions:	than the first, of an RN program.
Capacity	The total number of student placements available in a nursing program.
On-time graduation	The number of students who graduated at the same time as their admission class or in the optimal time-frame according to the curriculum.
Repeated or dropped back	The number of students who took longer than their admission class to complete a nursing program because they either repeated a course, failed to follow the prescribed curriculum or dropped out/back for a period.
Attrition	The percent of students from the original cohort who do not complete the program in a specified time-frame.
Faculty	Has the same meaning as R4-19-204—anyone teaching didactic and/or clinical nursing courses regardless of educational preparation.
Readmission	Means anyone who attended a particular nursing program, dropped out for a period and is now requesting a repeat admission into the program. The original cohort of this individual may have already graduated. The readmitted student would be counted as a person who took more than the ideal time to graduate because they are tied to the first admission cohort.
Session	The academic time period for course offerings; usually a semester (13-15 weeks) or quarter (9-10 weeks) but may vary depending on the institution.

ASSUMPTIONS/EXPLANATORY REMARKS

The following assumptions and explanations were made in compiling and interpreting the data:

- Practical Nurse (PN) data only applies to traditional PN programs, not programs with a PN option.
- The number of students “qualified but not admitted” to a program does not represent an unduplicated or accurate count of students awaiting admission to a nursing program. Many, if not most students, particularly in the metropolitan areas of the state, apply to multiple programs. In addition, a student may qualify for one program, but not qualify for another due to varying admission requirements. This number may also be underrepresented due to programs only accepting applications for placement 2-3 semesters into the future since placements in the immediate subsequent semester are filled.

- Number of unfilled placements should not be interpreted to mean that these placements are available to other qualified students. In some instances, the program is not aware of the vacancy until immediately before the start of classes. At this point in time, the program may not be able to find a qualified student to fill the placement.
- These data apply only to in-state schools that offer pre-licensure nursing programs.
- The Board does not have jurisdiction over RN-BSN programs therefore only those with approved pre-licensure programs are included in this report.

SUMMARY AND ANALYSIS OF ANNUAL REPORTS FROM ARIZONA NURSING EDUCATION PROGRAMS 2010

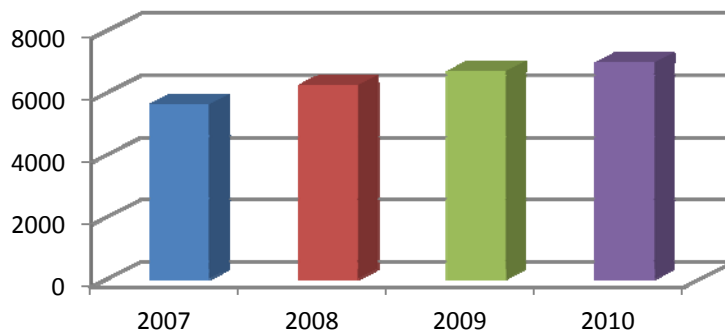
DATA AND ANALYSIS

All data were entered into an Excel chart and graphic representations were made using PowerPoint and Microsoft Word. Please contact Pamela Randolph prandolph@azbn.gov or Karen Gilliland kgilliland@azbn.gov for the original data.

ENROLLMENT

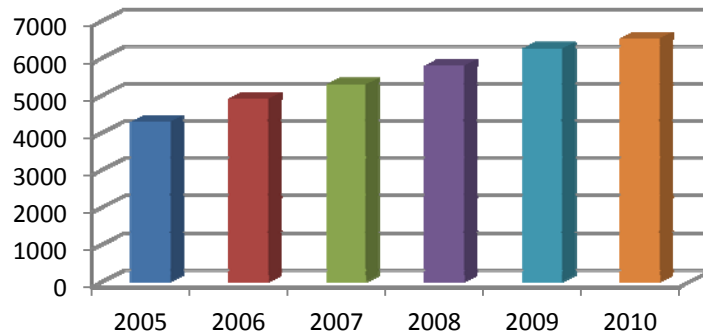
The following figure displays enrollment in all nursing programs (RN/PN and public/private). Overall enrollment has increased each year since 2001. Total nursing program enrollments in 2010 were 6973 a 4.1% increase from 2009 (6696). Total nursing program enrollments increased by 147% since 2001 (2820 to 6973). This represents 4153 additional nursing students in all types of nursing programs (LPN and RN), more than doubling the number of nursing students in 10 years.

TOTAL PROGRAM ENROLLMENT



Registered Nurse Program Enrollment

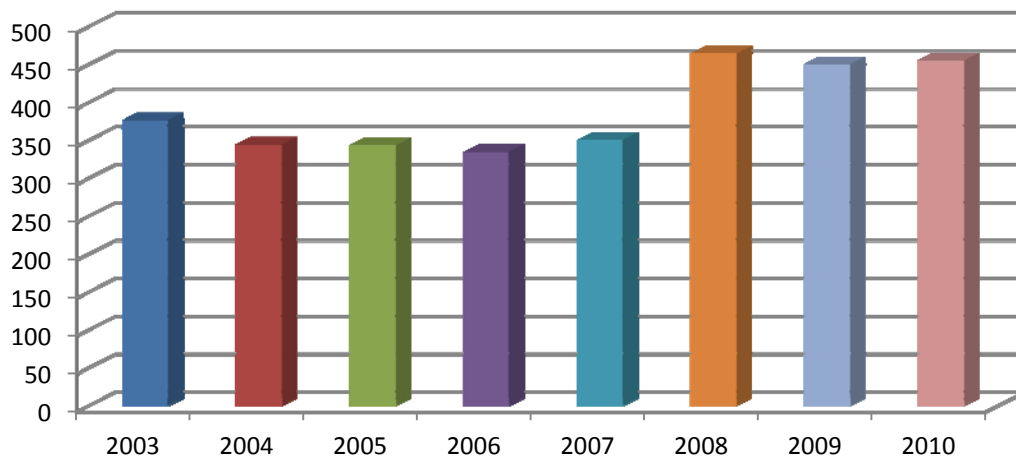
In 2010 RN program enrollment increased by 4.35% to 6518 students (additional 272 students). In 2001 there were 2664 students enrolled in RN programs. 2010 enrollments represent a 145% increase in 10 years. However the 2010 overall gain in RN enrollments is the lowest since tracking these data (range 26%-4.35%). This is likely due to decreased admissions in 2010.



Practical Nursing Program Enrollments

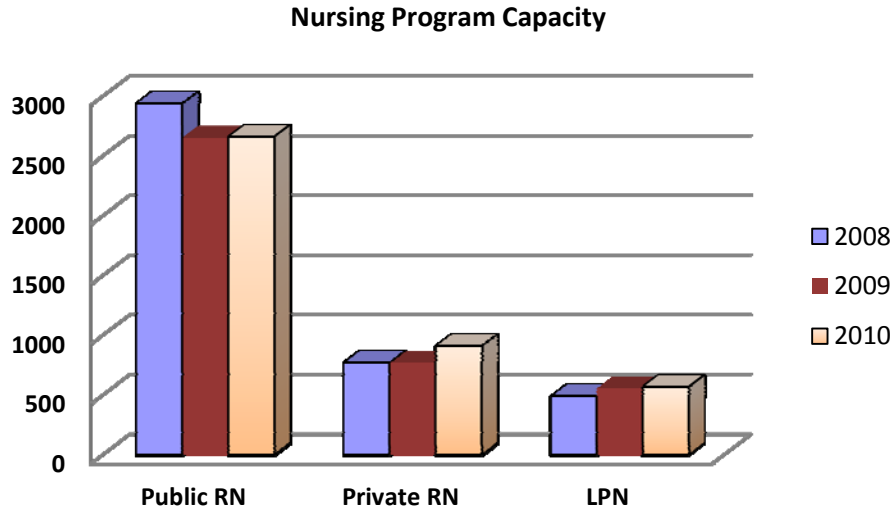
Practical nursing (PN) enrollments appear to be stagnant from 2008 through 2010 with 455 enrolled students, 5 greater than 2009 and 9 less than 2008. PN capacity increased slightly in 2010 at 568 vs. 551. During 2010, 521 students were actually admitted to a PN program, somewhat more than the 455 enrolled on October 15th. Overall, in the past 8 years, PN enrollments increased in 2008 and remained stable since then. There appears to be an increased demand for PN programs in the past 4 years as reflected in the number of qualified students who were not admitted (140 in 2007, 213 in 2008, 398 in 2009, 477 in 2010). If demand for LPN programs remains high, the state should be able to sustain or increase enrollments for the future as most of these programs do not rely upon public funding. There has been interest from some private entities in opening LPN programs in AZ.

PRACTICAL NURSING PROGRAM ENROLLMENTS

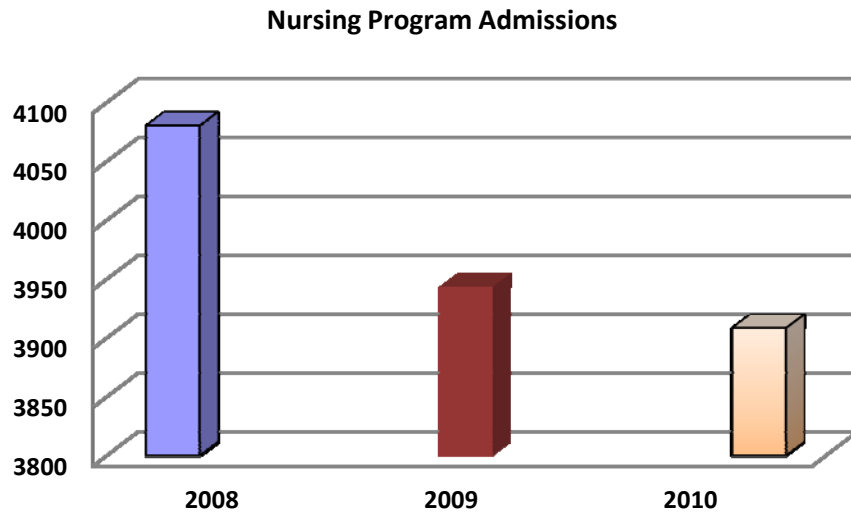


PROGRAM CAPACITY AND ADMISSIONS

Total pre-licensure (RN/PN) nursing program capacity **increased slightly in 2010** after decreasing in 2009. In 2010 capacity increased 0.7% as opposed to the 5.4% decrease experienced in 2009. In 2010 capacity was 4001 compared to 3970 in 2009, a gain of 31 placements. Private RN programs increased capacity and public RN and LPN programs maintained 2009 capacity.

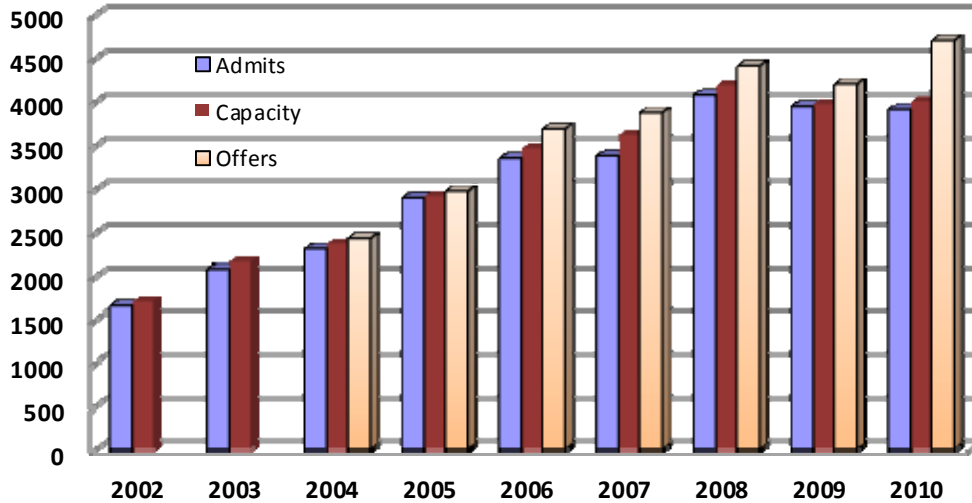


In 2010 overall nursing program admissions decreased, a trend also seen in 2009. However the decrease is very slight with 35 fewer students admitted in 2010 than in 2009. At 3908 admitted students, this is still a 137% overall increase in admissions since 2002 (1652 admissions). For 2004 through 2010, programs were asked to provide data on how many students were offered placements. Placements offered exceeded capacity in all years indicating that programs are over-filling their placements in anticipation that not all students offered a placement will register and attend.



Total Nursing Program Admissions/Capacity/Offers

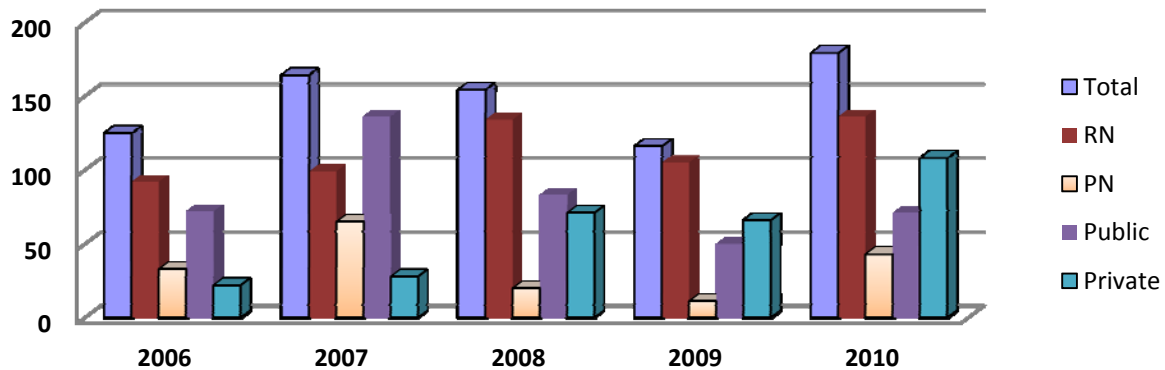
These admission data do not include students admitted to other than the first session of the nursing program, such as LPNs enrolling in the 3rd semester of an RN program.



Total Unfilled Placements

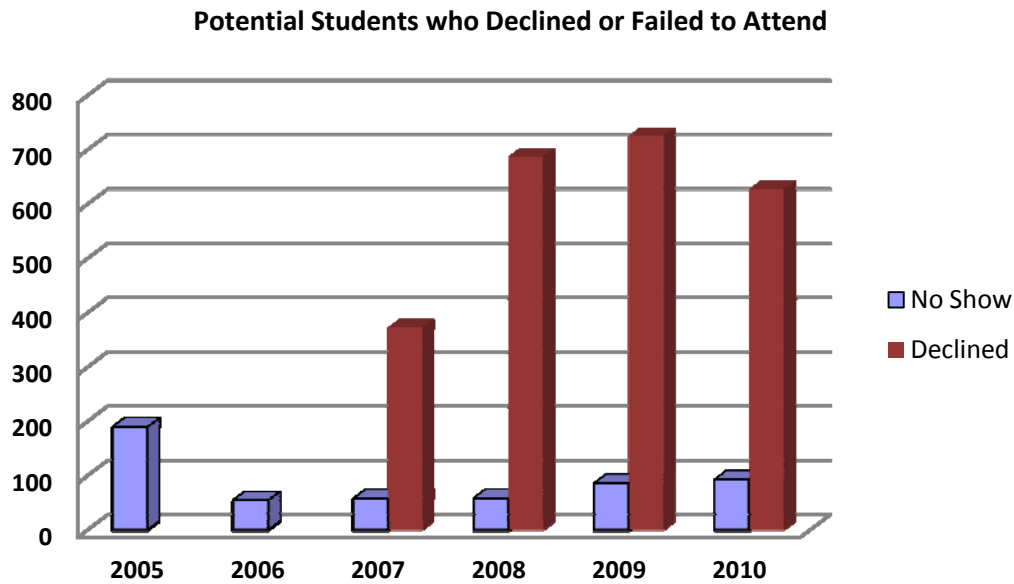
There were 179 unfilled placements in 2010 a 54% increase from 2009 where there were 116 unfilled student placements. Open placements generally occur because persons who register do not attend (no shows) or programs do not attract sufficient qualified candidates to fill their projected enrollments. Of the unfilled placements, 136 were in RN programs and 43 in PN programs. The majority (72%) of unfilled placements for RN programs in 2010 were in the private sector (98 of 136). Two programs, ITT Technical Institute and University of Phoenix account for 58 (43%) of open placements. There were more unfilled placements in 2010 than any other period of data collection, which may be a reflection on the economy with fewer persons able to afford the cost of a nursing program.

Unfilled Placements



Persons who declined a placement and “no shows”

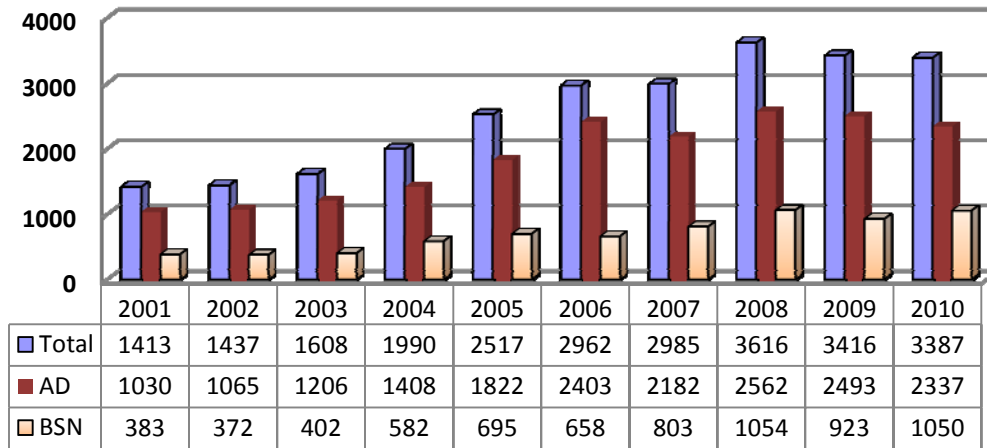
The number of students who registered for the first semester of a nursing course and did not attend (no show) was measured for the first time at 2005 at 189. In 2006 this number decreased to 54, stabilized in 2007 and 2008 (57 and 58) and increased to 85 in 2009. In 2010 this number again increased to 92. This may be the result of an unstable economy where the student does not have the resources to attend school. As was true in 2009, these “no shows” represent over half (51%) of the unfilled placements in 2010 and typically occur suddenly, without sufficient time for “wait-listed” students to be placed. The Board has also been informed that many prospective students decline a late placement yet remain on the “wait list”. In 2010, 627 students declined a placement, a 17% decrease (125 students) from the 752 students who declined placement in 2009. Reasons for declining include: changing to another field, acceptance into another nursing program, inability to afford the program, scheduling conflicts, or insufficient notice to attend at the time of the offered placement.



Registered Nursing Program Admissions

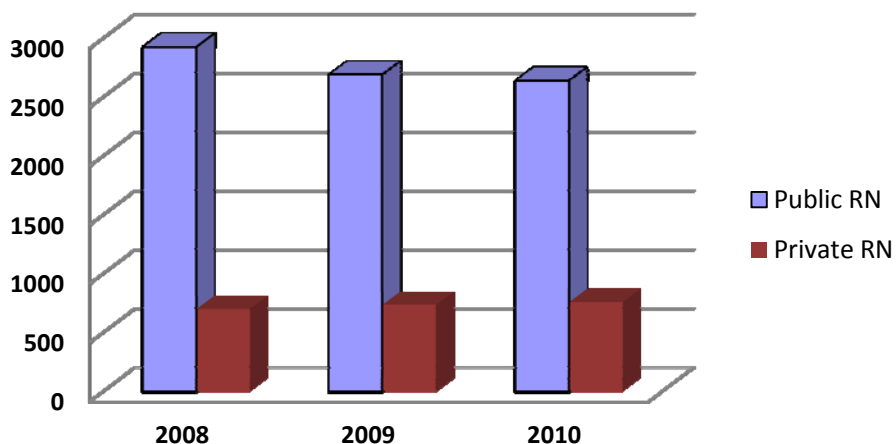
Registered nursing program admissions to the first semester of a nursing program were totaled and classified by type of program (Associate Degree/Baccalaureate). For the second consecutive year, total RN program admissions decreased. However the 2010 decrease was less than 1% (29 students) as compared to the 5% decrease seen in 2009 (200 students). Since 2001, total RN programs admissions increased by 140% (an additional 1974 students). Baccalaureate (BSN) program admissions increased in 2010 by 14% (127 students) which nearly makes up for the 12% decrease seen in 2009. Associate degree program admissions decreased by 6% in 2010 (156 students) making 2010 the second consecutive year of decreases in associate degree RN programs (2.6 % or 69 students in 2009). BSN admissions accounted for 31% of total admissions, a slight increase from 27% in 2009 and 29% in 2008.

RN Admissions by Degree Type



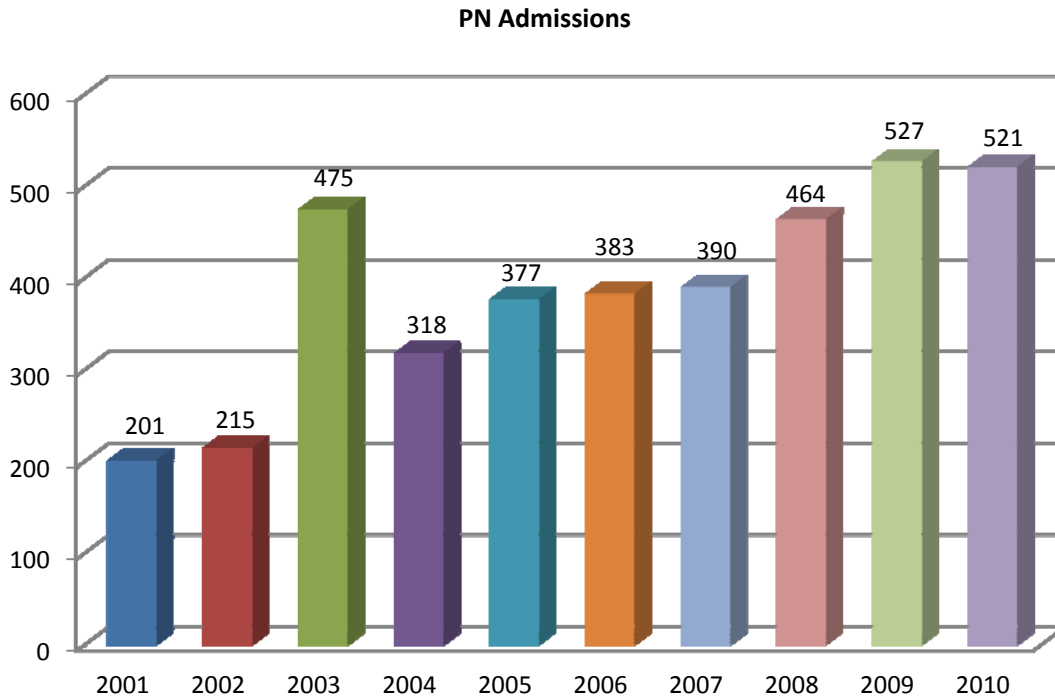
Funding cuts were responsible for decreased admissions to public RN nursing programs in 2009 and 2010. In fact admissions to private RN programs increased again in 2010 from 729 in 2009 to 753 in 2010 (695 in 2008). Private schools are less affected by funding cuts but may not attract large numbers of students due to tuition costs and the provisional approval status of many of the newer programs. Private RN admissions account for 22% of all RN admissions.

RN Public and Private Admissions



Practical Nursing Program Admissions

Practical nursing program admissions remained stable in 2010 with 521 students admitted (527 in 2009). There were more open placements on the first day of class in LPN programs in 2010 (43) as opposed to 2009 (11). Demand for some LPN programs remains high in 2010. In 2010, 2 private LPN programs began admitting students which accounted for 12% of all admissions. Fifteen (35%) of the open placements occurred in private programs.

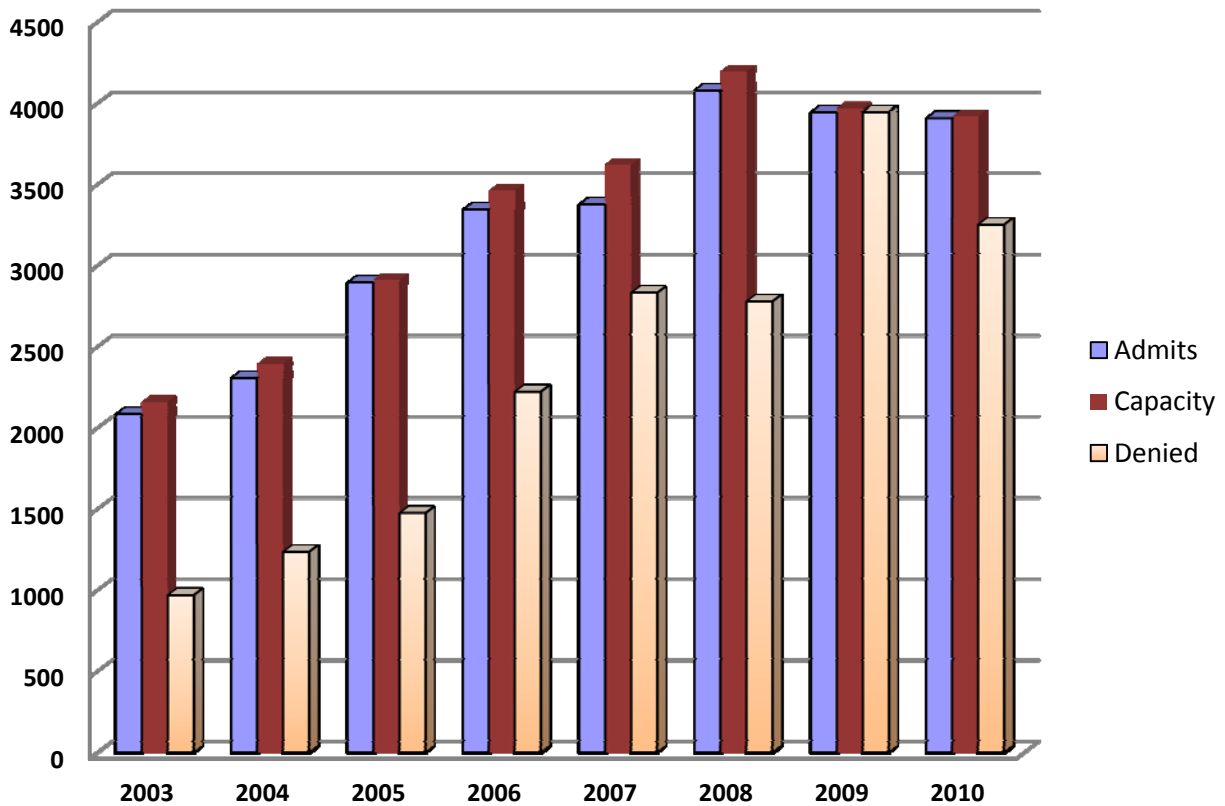


QUALIFYING APPLICATIONS DENIED/DEFERRED

The number of students admitted was compared with the number of qualified applications that nursing programs denied or deferred for the semester or session that the applicant requested. In 2010, there were 3253 nursing program applications that were not accepted or deferred due to insufficient openings in the program. This represents an 18% decrease from the unprecedented 3946 applications denied/deferred in 2009, a 42% increase from previous years. As in previous years, the majority of these applications were to RN programs (70%).

Due to differing admission standards, a student may qualify for admission in one program and not qualify for admission in another program. Many students also apply to multiple programs simultaneously. Taking into consideration the above factors, the number of qualified applications reported as denied/deferred is most certainly only an estimate of the number of actual students who were denied/deferred. It appears that there was a slight decrease in demand for nursing programs in 2010 which may be due to reports of employment difficulties of newly licensed RNs (Randolph, 2010).

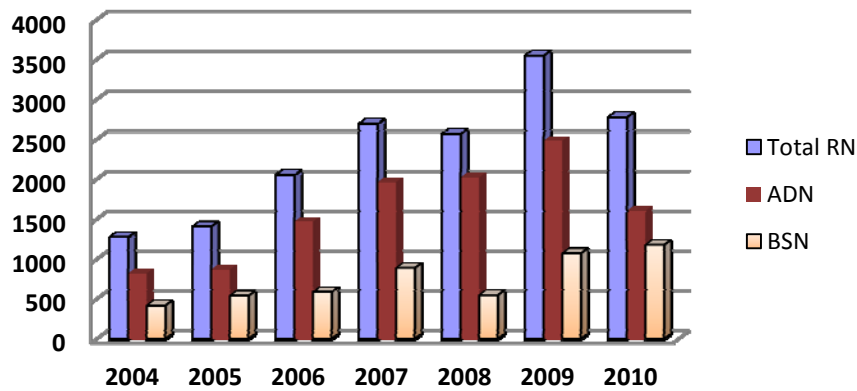
Qualified Applicants Not Admitted



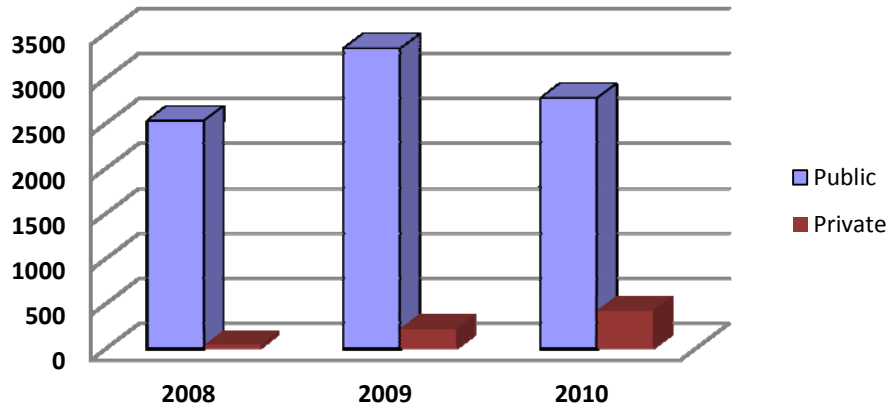
RN Programs

For RN programs, there were 2776 qualified applicants who were not admitted to the semester for which they applied. The highest number of qualified applications not admitted occurred in public BSN programs with Arizona State University (325) coming in highest closely followed by Northern Arizona University (303) and University of Arizona (236). The next highest was MaricopaNursing at GateWay Community College (224). In contrast, Pima Community College in Tucson only accepts applications for future semester admissions, therefore all qualified students are admitted to the semester in which they apply although that semester may be a year or 18 months in the future. Other programs that turned away over 150 applicants are Mohave Community College (205), Chamberlain College (183), MaricopaNursing at Mesa Community College (163), and Central AZ College (160). Forty-two percent of denied applications occurred in baccalaureate programs (1176/2776) and 85% occurred in AD/BSN public programs (2358/2776). In 2010 15% of the denied applications (418) were denied by private RN programs as opposed to 6% and 5% (39) in 2009 and 2008. However 75% of the denied applications to private programs occurred in 2 generic BSN programs: Chamberlain College (183), and Grand Canyon University (129).

RN Qualified Applications Not Admitted

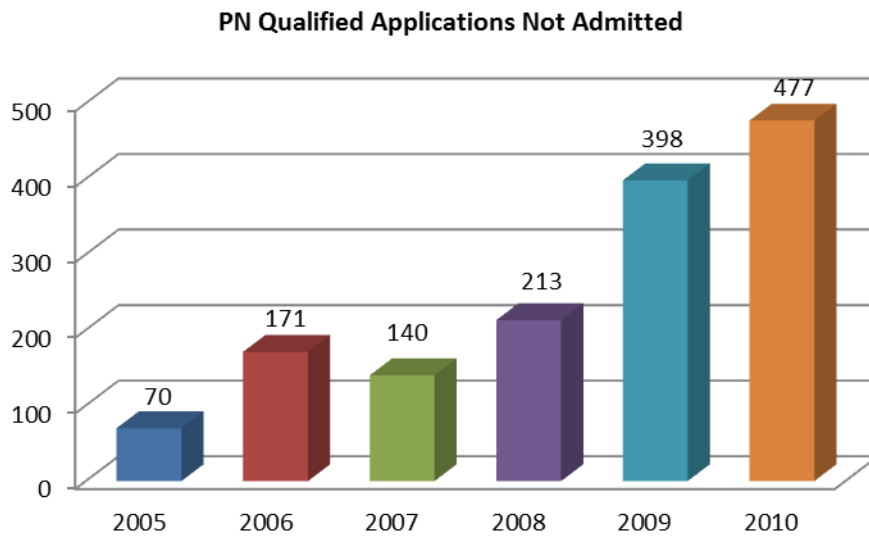


**Public vs. Private RN Programs
Qualified Applications Not Admitted**



PN Programs

There were 477 qualified applicants that were not admitted to a practical nursing program in 2010, an increase of 23% (88 applicants) from the 389 applicants not admitted in 2009. The vast majority (333/70%) were applications to GateWay Community College Fast-track Program. This program is unique in that it follows the Maricopa Community College tuition schedule, therefore tuition is less and readily articulates into the GateWay Community College RN nursing program. The only other PN programs that turned away qualified applicants were SouthWest Skill Center at Estrella Mountain Community College (92) and Maricopa Skill Center (50). Prior to 2005, no qualified applicants to a PN program were denied admission.

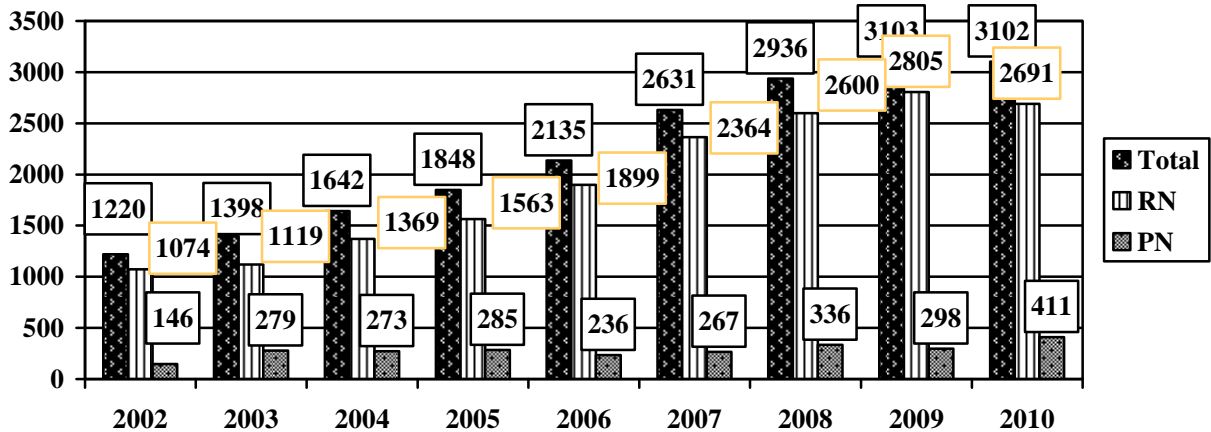


PROGRAM GRADUATES

Total Graduates

In 2010 graduates from all pre-licensure programs were nearly identical to graduates in 2009 (3102 vs. 3103). There was a 4% decrease in RN graduates (114 students) and a 38% increase in PN graduates (113 students).

TOTAL GRADUATES IN ALL PROGRAMS



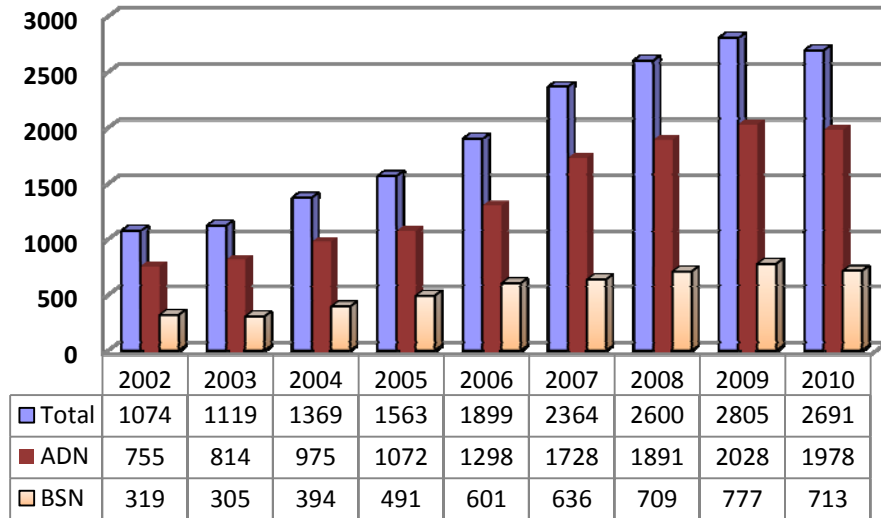
RN Graduates

There was a 4% decrease (114 students) in RN graduates in 2010 with decreases in both associate and baccalaureate degree graduates. Associate degree graduates decreased by 50 students or 2.5% and baccalaureate graduates decreased by 64 students or 8.2%. Limits to growth include budget cuts to public institutions, shortages of faculty and insufficient clinical placements for students. There was a 151% (1617 students) increase in graduates from RN programs between 2002 (1074) and 2010 (2691).

Twenty-six percent of Arizona RN graduates earned a BSN in 2010 which is less than the proportion of BSN/A.D. graduates in 2007-2009. This may be due to the more rapid effects of expansion in a 2 year program versus a 4 year program and the addition of new associate degree nursing programs. Nationally, BSNs accounted for 38.4% of RN first-time test takers (NCLEX Reports – 2010—57.7% AD, 3.6% Diploma). The recently released IOM Report on *The Future of Nursing* (2011) calls for an increase in the proportion of nurses with a baccalaureate degree to 80%. Aiken (2003) suggests that the minimal mix of bachelors degree prepared nurses to associate degree prepared nurses is 60/40. The National Advisory Council on Nurse Education and Practice (NACNEP), policy advisors to Congress and the US Secretary for Health and Human Services on nursing issues, has urged that at least two-thirds of the nursing workforce hold baccalaureate or higher degrees in nursing by 2010 (AACN, 2007). Benner, Stupen, Leonard, and Day (2010) state that nurses in all programs are undereducated. They call for master's degree preparation within 10 years of initial licensure for those licensed after 2012. By

whatever ratio or recommendation applied, the AZ workforce falls far short of any recommended goal with only 23% of currently registered nurses educated at BSN or higher (Data from AZBN licensing database, 2010).

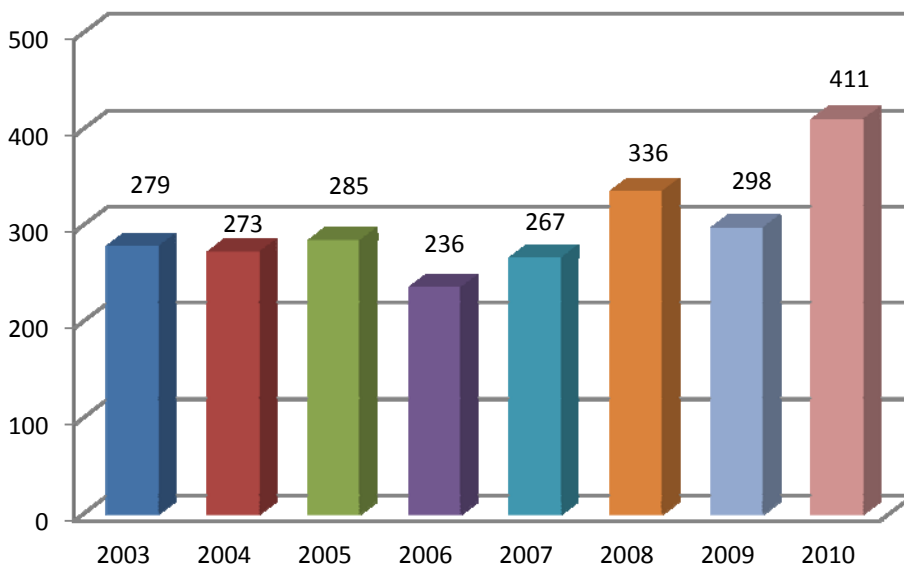
RN Graduates by Degree Type



PN Graduates

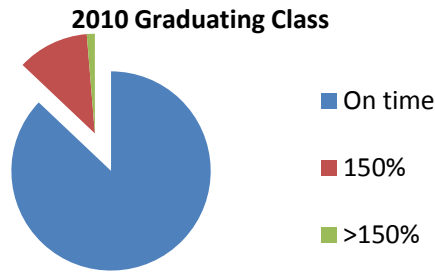
There was a 38% increase PN graduates in 2010. Eighty-four percent completed on time; sixty seven (16%) took longer with seven of those students (3%) exceeding 150% of the allotted time. These are similar proportions to previous years. There were more PN graduates in 2010 than in any previous year since these data were collected.

Practical Nursing Program Graduates

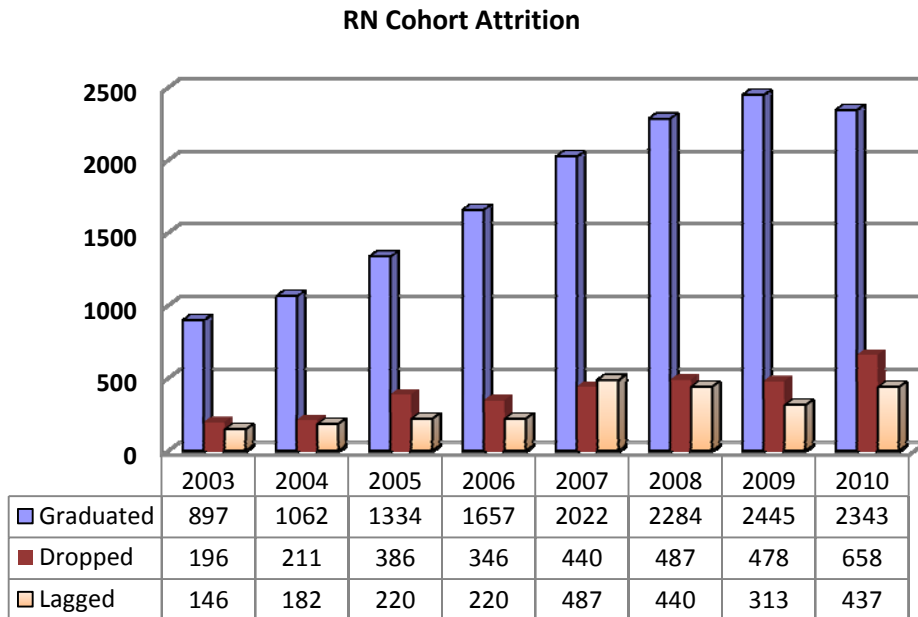


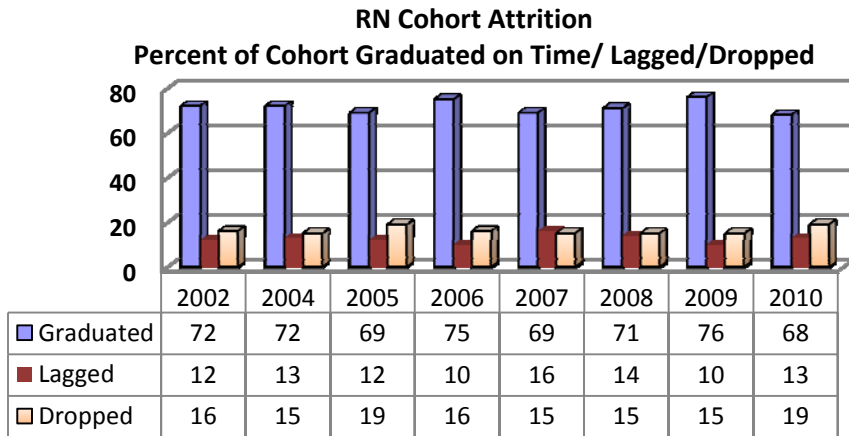
Attrition - RN Programs

Eighty-seven percent (2343 students) of RN graduates finished in the time allotted for their program. Twelve percent (313) of the graduates took extra time up to 150% to finish the program with only 35 students (1%) taking more than 150% of the allotted program time. This is a nearly identical to graduating class characteristics from 2008 and 2009. The proportion of graduates who finished on time has fluctuated between 77-87 percent since 2004. This does not, however, take into account students admitted into cohorts that graduated in 2010 and have dropped the program or are lagging.



In comparing graduate data with admissions to the graduating cohort, a somewhat different picture emerges. Sixty-eight percent of all admissions to RN program cohorts graduating in 2010 graduated in the optimal time-frame. Thirteen percent are still enrolled, and 19% dropped out of the program. This is slightly worse in terms of graduating on time than previous years.

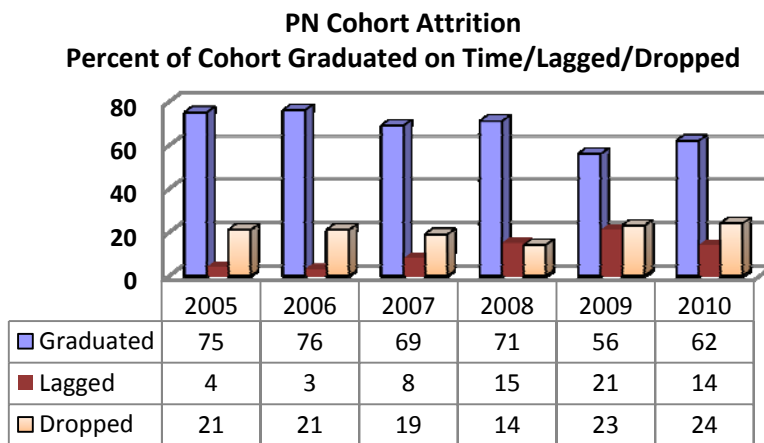




There was a difference in on-time graduation rates between public and private programs. Eighty-four percent of students admitted to public RN programs graduated on-time (1962 on-time graduates/2337 admissions) versus 54% of students admitted to private programs (381 on-time graduates/705 admissions). Variability in on-time graduation rates was high among private programs ranging from 98% to 18%. There was somewhat less variability in on-time graduations in public program (92% to 48%). On-time graduation rates, if consistently measured, may be an indicator of program productivity. However the differences between public and private rates may also be due to measurement inconsistency. Some private programs measure admissions from the first semester/session at the college whereas many public programs require a second admission process after pre-requisites are complete. Therefore one could reasonably expect lower on-time graduation rates for private programs. Data collection in 2011 will be revised to reflect those who graduate on time from the entrance to the first nursing clinical course rather than from admission to the school.

Attrition - PN Programs

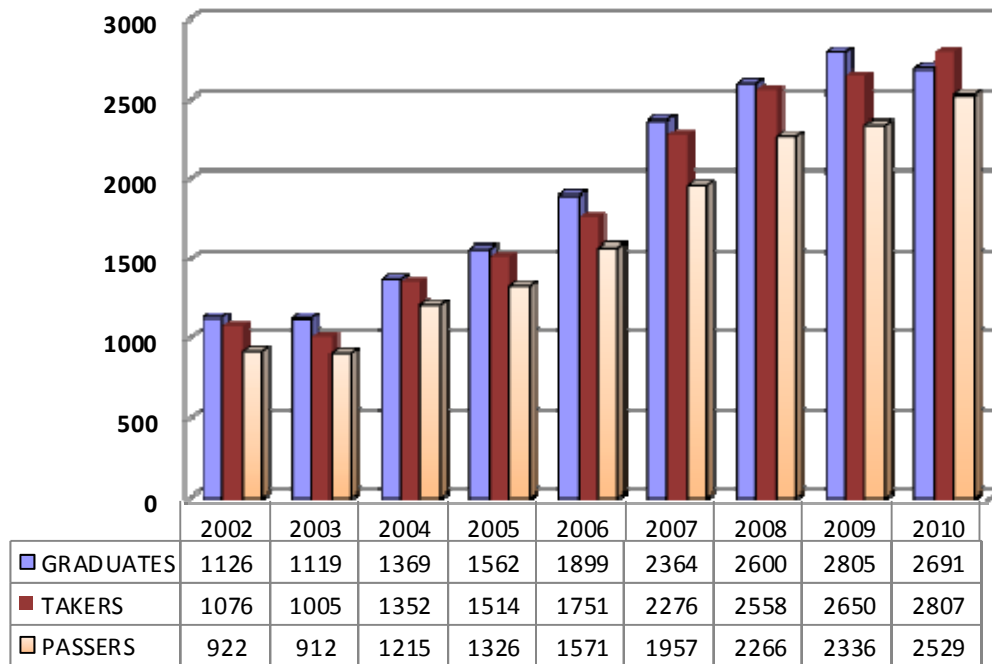
There was fairly high attrition in PN classes in 2010 as 62% of those admitted graduated on time. Twenty-four percent of admitted students dropped out of the program and 14% are lagging behind. Percent on-time graduations between individual programs varied from a low of 54% to a high of 70%. No private LPN programs graduated students in 2010.



NCLEX ® RN Exam

In comparing takers and passers of the National Council Licensure Examination for Registered Nurses (NCLEX-RN), there were 6% more takers in 2010 than in 2009, and 8.2% more passers on the first try. The overall pass rate in Arizona for NCLEX-RN increased to 90%. This high pass rate was unexpected because the NCLEX-RN passing standard increased on April 1, 2010, which would usually be accompanied by a decrease in passing rates. In comparing numbers of persons taking the exam with numbers of graduates it should be remembered that the number of students graduating in any year will differ from the number of NCLEX takers as students graduating in December do not take NCLEX until the following year. There are very few graduates who do not take the NCLEX exam. Associate Degree programs had an NCLEX-RN pass rate of 90% (2065 takers/1865 passing) while baccalaureate programs had an NCLEX-RN pass rate of 89% (742 takers/664 passing).

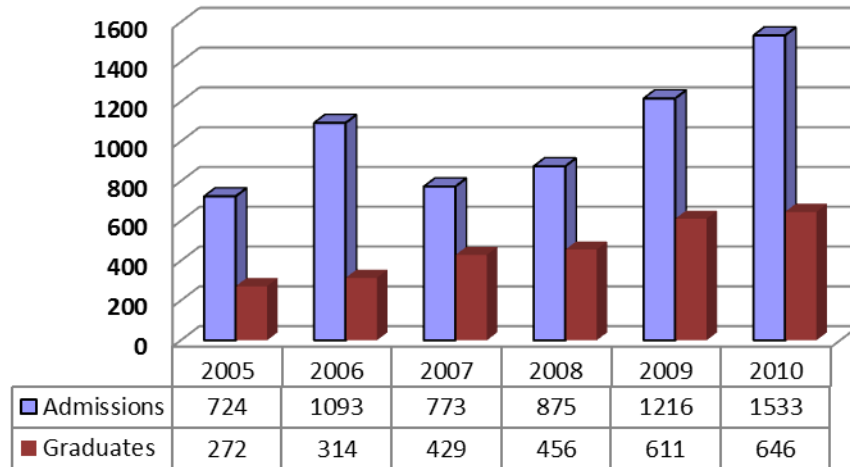
NCLEX RN



RN to BSN Program Admissions

Arizona RN to BSN programs admitted 1533 students in 2010, an 26% increase from 2009 and the highest number admitted since collecting these data. Admissions are underestimated for the state as only pre-licensure programs with an RN to BSN track were surveyed. Programs with only an RN-BSN track are not under the Board’s jurisdiction. One program accounted for most of the admission increase: Grand Canyon University with 1048 admissions.

RN to BSN Admissions and Graduates



Graduates – RN to BSN

Graduates of RN to BSN programs increased slightly (6% or 35 students) in 2010 as compared to 2009. Since first gathering these data in 2004 (126 graduates) there has been 198% (520 more graduates) increase in RN/BSN graduates. This significant increase in RN to BSN enrollments and graduates appears to be sustainable, at least in the near future, but numbers are still small compared to overall graduates. Given that approximately 75% of the RN workforce* is less than baccalaureate prepared (70,000 total=52,500 AD or Diploma, 17,500 BSN or above), we would need 33,500 currently licensed nurses complete BSN programs to meet the modest 60% BSN goal set by Aiken. If everything else remained stable, at current RN/BSN graduation rates, it would take 51 years to achieve this goal.

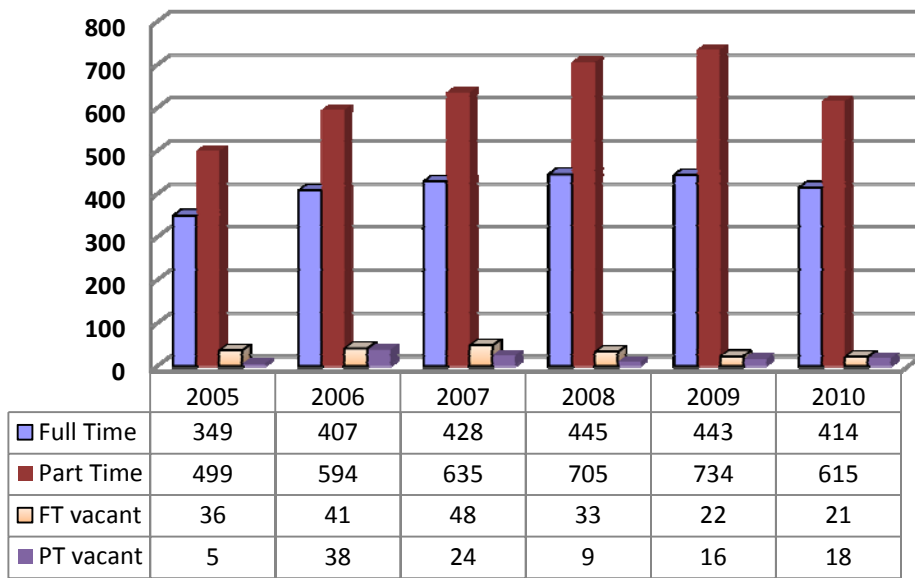
*Levels of education extracted from licensing data in May 2010 indicate that 23% of RNs in Arizona have a BSN or MSN (69,729 licensees; 11913 BSN; 4114 MS).

NURSING PROGRAM FACULTY

In 2010, there were 414 full-time faculty members in AZ nursing programs. This is a 7% decrease from 2009 (443 full time faculty in 2009). There are 615 part time faculty members, a 16% decrease increase from 734 in 2009. There are 0.67 full time faculty members for every part time faculty member, an increase from the full-time faculty ratio of 0.60 in 2009 indicating a higher ratio of full time faculty. A high ratio of full time faculty is considered a quality indicator by nursing program accrediting bodies.

Full and part time faculty vacancies remained essentially unchanged in 2010. There were 21 unfilled full-time positions in 2010 as opposed to 22 in 2009. There were 18 unfilled part-time positions in 2010 as opposed to 16 in 2009. Programs were asked to provide their average faculty-to-student ratio in didactic courses. Full-time (didactic) faculty to student ratios ranged from a high of 1:30 at Pima Medical Institute (Mesa) to a low of 1: 12 at Everest College. The average ratio was 1:21 as opposed to 1:23 in 2009.

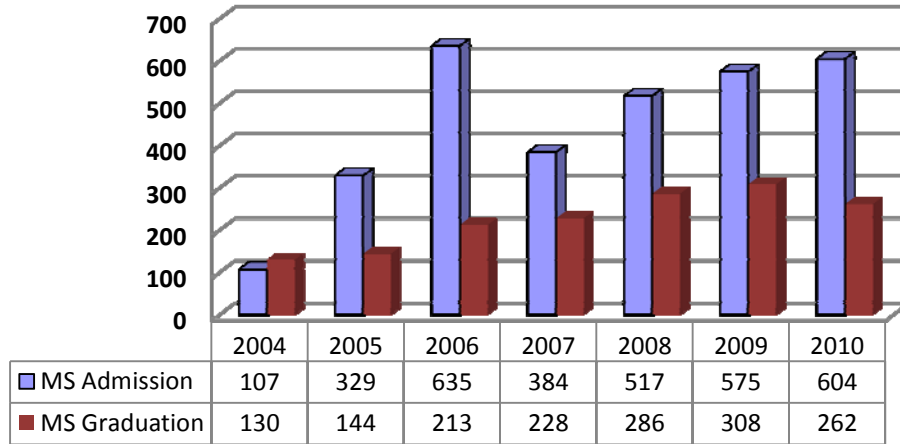
Filled Faculty Positions and Vacancies by Year



GRADUATE NURSING EDUCATION

Admissions to master’s degree nursing programs increased in 2010 by 5% (29 students). Graduates decreased 15% (46 students). There were 604 persons admitted to master’s in nursing programs, somewhat less than the 635 admitted in 2006. Master’s program admissions and graduates were predicted to decrease due to the offering of doctoral only programs for advanced practice roles (Nurse Practitioner/Clinical Nurse Specialist)

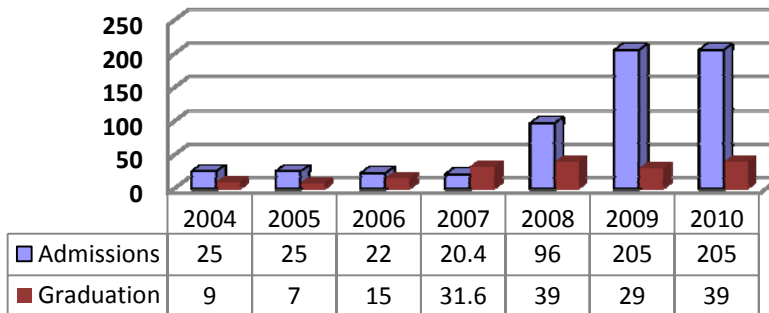
Nursing Master's Programs Admissions and Graduates



Doctoral Admissions and Graduates

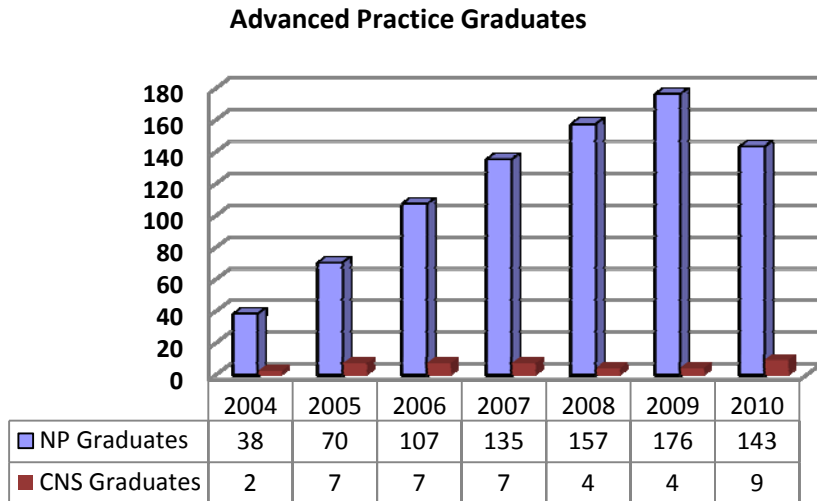
Two AZ nursing programs admit doctoral students: Arizona State University and University of Arizona. Arizona State started admitting in 2005 but admissions did not significantly increase until the implementation of the Doctor in Nursing Practice (DNP) program in 2008. Admissions to doctoral programs more than doubled in 2009 and remain stable at 205 in 2010. Graduates increased by 1/3. More than half (59%) of the doctoral graduates earned a Doctorate in Nursing Practice with the remainder earning a Ph.D. Of the 23 DNP graduates, 16 also completed entry level nurse practitioner education.

Nursing Doctoral Programs Admissions and Graduates



Advanced Practice Graduates

Although programs continue to offer graduate education in the clinical nurse specialist (CNS) category, very few students choose this option. CNS graduates have numbered less than 10 each year while graduates of nurse practitioner programs more than quadrupled from 38 in 2004 to 176 in 2009. In 2010 there were 19% (33) fewer NP graduates than in 2009. This is thought to be due to the conversion of 2 major programs from master’s level to doctoral level with increases in completion time.



SUMMARY

The systematic and routine collection of nursing program data will assist the Arizona Board of Nursing, nursing programs, nurses, and the public in understanding nursing education enrollment trends and in setting realistic workforce goals. Registered nursing program admissions decreased again in 2010 due mainly to budget cuts in public programs. RN and nurse practitioner graduates also decreased in 2010. The number of potential students on the waiting lists or denied admission to programs, while still high, decreased slightly in 2010. Practical nursing program admissions and graduates remained stable in 2010.

There continues to be a projected need for nurses well into the next decade with predicted shortages as the economy recovers (Buerhaus, Staiger & Auerbach, 2009). Due to the complexity of health care, the nursing workforce must be educated beyond the associate degree (AACN, 2007; Benner et.al, 2010). The continued low ratio of bachelors to associate degree graduates will limit Arizona's response to future shortages as fewer nurses are positioning themselves for advanced practice or teaching positions. The need for sustained and continued growth of the RN workforce in Arizona is well documented. Cooperation and dedication of resources from government, education, and service will be required to support effective high-level education of sufficient numbers of new nurses to meet state and national health care needs.

REFERENCES

American Association of Colleges of Nursing (2007). Fact sheet: the impact of education on nursing practice. Available at: <http://www.aacn.nhc.edu/EdImpact/index.htm>.

Aiken, L., Clarke, S., Cheung, R., Sloane, D., & Silber, J. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA*. Volume 290, No. 12.

Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating Nurses a Call for Radical Transformation*. San Francisco: Josey-Bass.

Buerhaus, P., Staiger, D., & Auerbach, D. (2009) *The Future of the nursing workforce in the United States: data, trends, and implications*. Boston: Jones and Bartlett.

National Council of State Boards of Nursing. NCLEX *Quarterly Reports*. Available from Arizona State Board of Nursing, 4747 N 7th St, STE 200, Phoenix, Arizona 85014.

National Council of State Boards of Nursing (NCSBN). *A National Survey on Elements of Nursing Education*, July 2006

Randolph, P. (2010). Arizona State Board of Nursing: Employment of Newly Licensed RNs. Available at www.azbn.gov.

Institute of Medicine. (2011). *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: National Academies Press.