

# ANNUAL REPORTS FROM ARIZONA NURSING EDUCATION PROGRAMS 2007

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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

The Arizona State Board of Nursing, (Board), requests an annual report from all Arizona pre-licensure nursing education programs. For the 2003-2007 annual reports, in addition to graduation and admission data, programs were asked about open student placements on the first day of class, faculty, and number of applicants that met qualifications but were not admitted to the semester for which they applied. The number of RN to BSN students and graduates was also requested. Attrition data was requested in 2002, and 2004 through 2007. In 2006-2007 programs were asked to identify students that took longer than 150% of the allotted program time to complete the program. Additionally the program administrator is requested to sign an attestation of compliance with Board education rules (A.A.C. Chapter 4, Title 19, Article 2) or self-report rule violations as part of the annual report. The annual reports cover a calendar year from January 1 to December 31.

## Definition of Terms

**Total Enrollment:** The number of students enrolled in a pre-licensure nursing program.

**Total Admissions:** The number of students registered for 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.

**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 Admissions:** The number of students, usually LPNs, admitted to a session, other than the first, of an RN program.

**Capacity:** The number of student placements available in a nursing program.

**Graduates from original cohort:** The number of students who graduated at the same time as their admission class.

**Repeated or dropped back:** Students who took longer time than their admission class to complete a nursing program because they either repeated a course or dropped out for a period.

**Attrition:** The percent of students from the original cohort who do not complete the program in a specified time-frame.

## **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 multiple exit programs unless indicated in the explanatory comments.
- The number of students “qualified but not admitted” to a program does not represent an unduplicated count. Many, if not most students, particularly in the metropolitan areas of the state, apply to multiple programs simultaneously. In addition a student may qualify for one program, but not qualify for another due to varying admission requirements.
- Number of unfilled placements should not be interpreted to mean that these placements are available to other qualified students. In most 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 student to fill the placement.
- These data apply only to in-state programs approved by the Board.
- The category of associate degree nursing programs also includes one diploma nursing program, Baptist Health Systems. This program is closing after all currently enrolled students graduate.

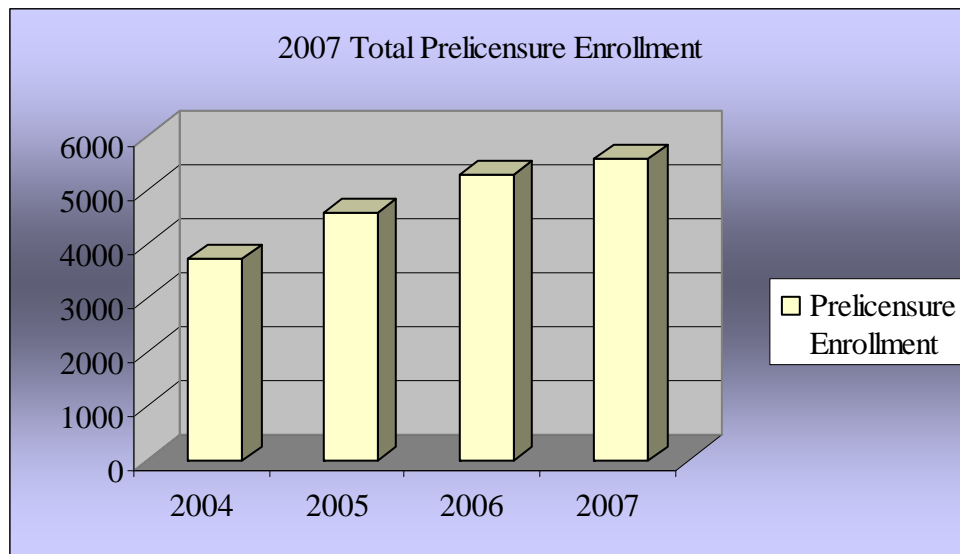
## DATA AND ANALYSIS

All data was entered into an Excel chart and graphic representations were made using Excel, PowerPoint and Microsoft Word. Please contact Pamela Randolph [prandolph@azbn.gov](mailto:prandolph@azbn.gov) for the original data if needed.

### **ENROLLMENT**

The following figure displays enrollment in all nursing programs (RN/PN and public/private). Overall enrollment has increased each year since 2001. Enrollment increased by 7.55% in 2002, 19.25% in 2003, 2.4% in 2004, 24% in 2005, 14% in 2006 and 5.9% in 2007. Overall enrollment has increased by 97.7% since 2001 (enrollment increased from 2820 to 5576). This represents 2756 additional nursing students in all types of nursing programs (LPN and RN).

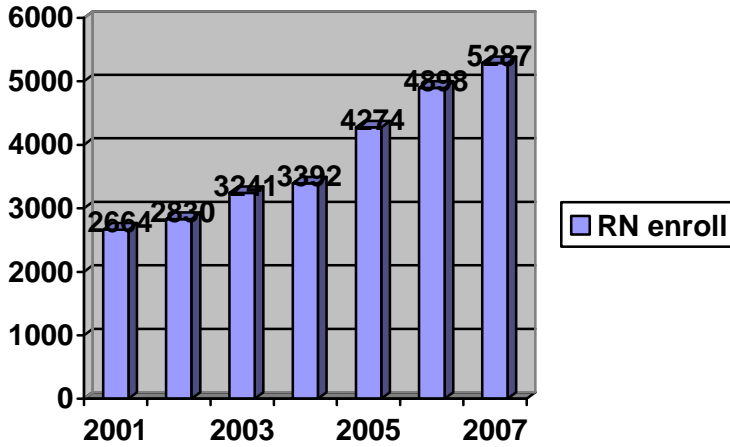
#### **TOTAL PROGRAM ENROLLMENT**



#### **Registered Nurse Program Enrollment**

In 2007 RN enrollment increased by 7.9% to 5287 students (additional 389 students). Increases in enrollments in RN programs occurred each year between 2001 and 2007: 6.23% in 2002, 14.5% in 2003, 4.7% in 2004, 26% in 2005, and 15% in 2006. During the past 7 years RN program enrollment has increased 98% (2623 students). Program enrollment gains vary from year to year with increases ranging from a high of 26% in 2005 to a low of 4.7% in 2004.

## RN PROGRAM ENROLLMENT

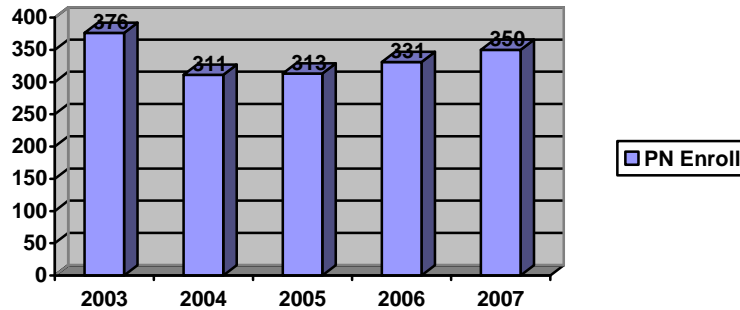


### Practical Nursing Program Enrollments

Practical nursing program enrollments have remained stable since 2003. In 2007, there was an enrollment increase of 5.7% for a total enrollment of 350 students. Overall, in the past 5 years, enrollments have ranged from a high of 376 students in 2003 to a low of 311.

The most common reason for students to enroll in a terminal practical nursing program is to gain advanced placement admission to an RN program. There appears to be an increased demand for PN programs in 2006 and 2007 as reflected in the number of qualified students who were not admitted (140 in 2007).

### PRACTICAL NURSING PROGRAM ENROLLMENTS

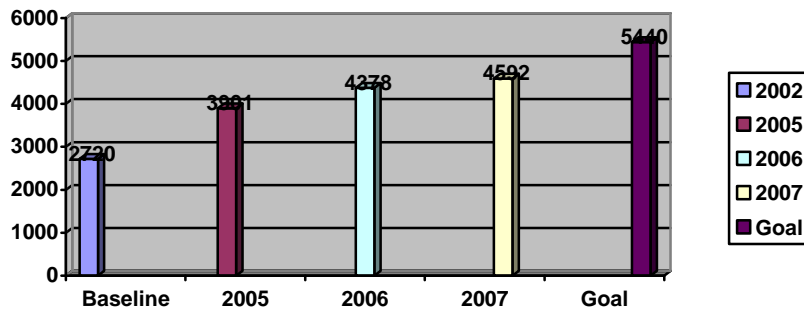


## Progress to Goal of Doubling Enrollments in Public RN Programs

In 2002 the Arizona legislature passed Senate Bill 1260 (SB 1260) entitled “An Act Providing for the Development of the Caregiver and Resource Expansion Program within the Arizona Board of Regents and Community College Districts”. SB 1260 charged public community colleges and universities in Arizona with developing a five-year plan to double the capacity of Arizona RN nursing programs by 2007. For this paper, overall enrollments are used as an indicator of program capacity. The baseline capacity in public college and university nursing programs was 2720 students in 2002. To meet the requirements of SB 1260 public programs would need to enroll a total of 5440 nursing students in public programs by 2007.

After 5 years, public university and community college nursing programs reported a total enrollment of 4592 students. This represents a 4.8% (214 students) increase over enrollments in 2006. While there has been substantial progress to doubling enrollments within the allotted 5 years, this goal was not reached by the public RN programs in AZ. To reach the stated goal, public colleges and universities would have needed to enroll an additional 848 students in 2007. Given severe shortages of resources including nursing faculty and clinical placements, this level of rapid growth was unfeasible for the public nursing programs alone to achieve.

### PROGRESS TO GOAL OF DOUBLING RN PUBLIC PROGRAM ENROLLMENT



However if private educational institutions that offer nursing programs are included, the gap between actual enrollment after 5 years and the targeted enrollment narrows. Private schools enrolled 695 RN students in 2007 making a total of 5287 RN students, just 153 enrollments shy of the goal. The six private RN programs in Arizona account for 13% of total RN enrollments. Many of these programs are new and have not graduated substantial numbers of students.

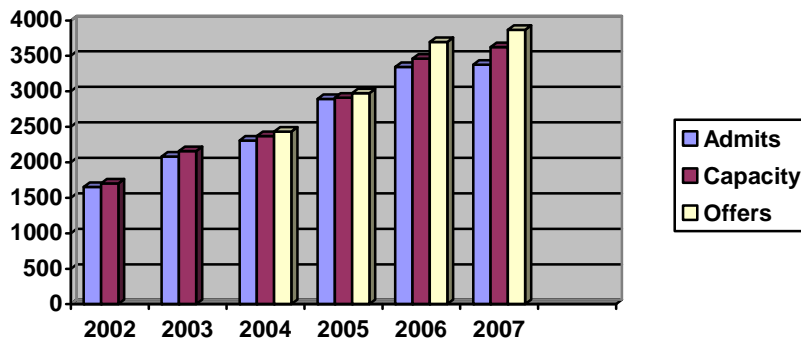
### Program Admissions and Capacity

In 2007 admissions into all types of nursing programs remained fairly static at 3375, an increase of 30 students over 2006 (less than 1%). There is an overall increase in admissions of 104% since 2002 (1652 students). For 2004 through 2007, 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. There were 164 unfilled placements in all AZ nursing programs in 2007. Programs reporting the most unfilled placements were: Maricopa Skill Center PN Program (61), Yavapai College (23), Pima Community College (18), and Central AZ College (13). Of the unfilled placements, 99 were in RN programs and 65 in PN programs. There were 125 unfilled placements in 2006, 5 unfilled placements in 2005 and 50 unfilled placements in 2004.

In 2005 the number of students who registered for the first semester of a nursing course and did not attend was measured for the first time at 189. In 2006 this number decreased to 54 and in 2007 remained static at 57. As stated in the assumptions, these unfilled placements do not represent open placements for students on a “waiting” list. Additionally the Board has become aware of situations where prospective students decline a late placement as they utilize delayed admission to finish co-requisite courses or work. These admission data do not include students admitted to other than the first session of the nursing program, such as LPNs enrolling in the 3<sup>rd</sup> semester of an RN program. In 2007, 372 students declined placement in a nursing program.

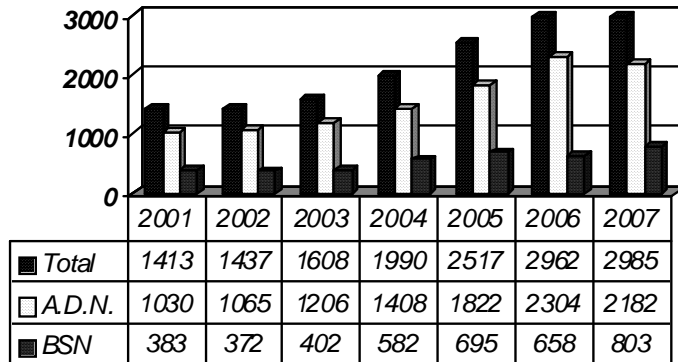
### TOTAL NURSING PROGRAM ADMISSIONS



### 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). Total RN program admissions remained static in 2007 with a mere increase of 23 students. Total RN programs admissions increased by 18% in 2006 and 111% since 2001 (1572 students). Baccalaureate (BSN) program admissions increased by 22% in 2007 after decreasing by 5% in 2006. Associate degree program admissions decreased by 5% (122 students in 2007) and increased by 112% between 2001 and 2007. BSN admissions accounted for 27% of total admissions in 2007.

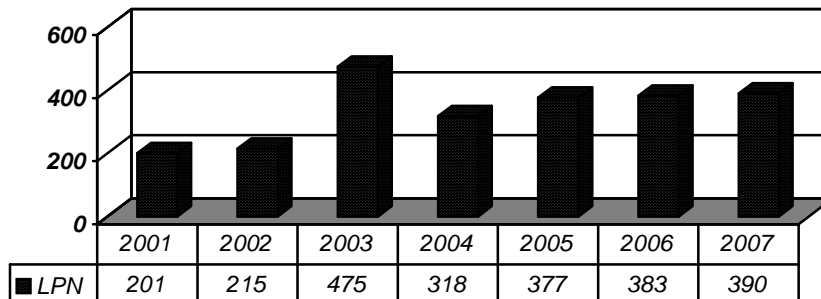
## ASSOCIATE AND BACCALAUREATE PROGRAM ADMISSIONS



### Practical Nursing Program Admissions

Practical nursing program admissions have remained fairly static since 2005. There was an increase in admissions of 7 students in 2007. There seems to be a high demand for some programs with large numbers of qualified students turned away (90 at SouthWest Skill Center) yet a large number of open placements (61 at Maricopa Skill Center) at others. This may be related to the fact the SouthWest Skill Center is located at Estrella Mountain Community College, which is also a site of the Maricopa Community Colleges District Nursing Program (MCCDNP). A total of 140 PN applicants were not admitted to the semester they applied. Forty seven applicants were offered admission and declined.

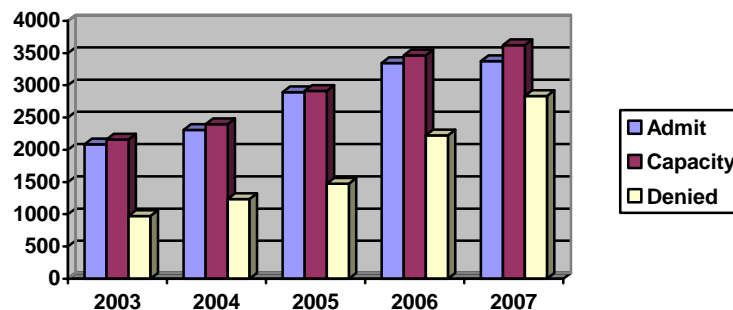
### PN PROGRAM ADMISSIONS



## Students not Admitted

The number of students admitted was compared with the number of qualified applicants who were denied admission in the semester or session for which they applied. In 2007 there were 2833 qualified nursing program applicants who were not admitted into the semester or session for which they applied. Ninety-five percent (2693) of these students applied to RN programs. Of those applicants, 1856 were from MCCDNP. Most of the MCCDNP applicants remain in a waiting pool and are eventually admitted. Some students who were denied admission in one program may have been admitted to another program or to a PN program. Due to differing admission standards, a student may qualify for admission in one program and not qualify for admission in another program. Many students apply to multiple programs simultaneously. The 325 students who declined admission to an RN program and the 47 students who declined admission to a PN program are thought to represent students who applied and were accepted to multiple programs and had a choice of program. Therefore the number of applications in the waiting pool is probably an over-estimate and may not represent an unduplicated count. As seen in the chart below, while admissions and capacity are remaining static, the potential nursing student population is increasing at a higher rate (128% increase in applicants denied since 2003). Since there may be a duplicate count of applicants as noted above, the increase in applicants denied reflected in the data may over-represent the true potential nursing student population.

**ALL PROGRAMS**  
**CAPACITY – ADMITS – QUALIFIED/NOT ADMITTED**  
**2003 – 2006**

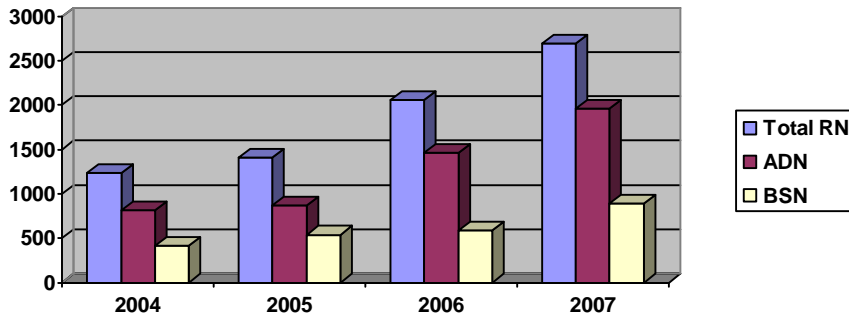


### **RN Programs**

For RN programs, there were 2693 qualified applicants who were not admitted to the semester for which they applied. Programs with the largest number of qualified applicants that were not admitted were the Maricopa Community College District Nursing Program (1856), Arizona State University (261), Northern Arizona University (179) University of Arizona (178) and Grand Canyon University (115). It is interesting

to note that other than the MCCDNP program, demand remains highest for baccalaureate programs.

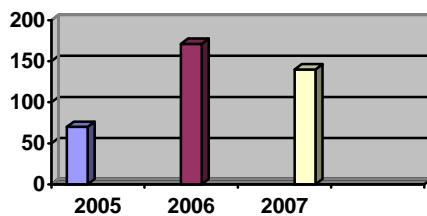
### QUALIFIED RN APPLICANTS NOT ADMITTED



### PN Programs

There were 140 qualified applicants that were not admitted to a practical nursing program in 2007. This represents a decrease of 171 applicants as compared to 2006. Estrella Mountain Community College/SouthWest Skill Center had the largest number of applicants in this category with 90. Prior to 2005, no qualified applicants who applied to a PN program were denied admission.

#### PN Programs Qualified Students Not Admitted

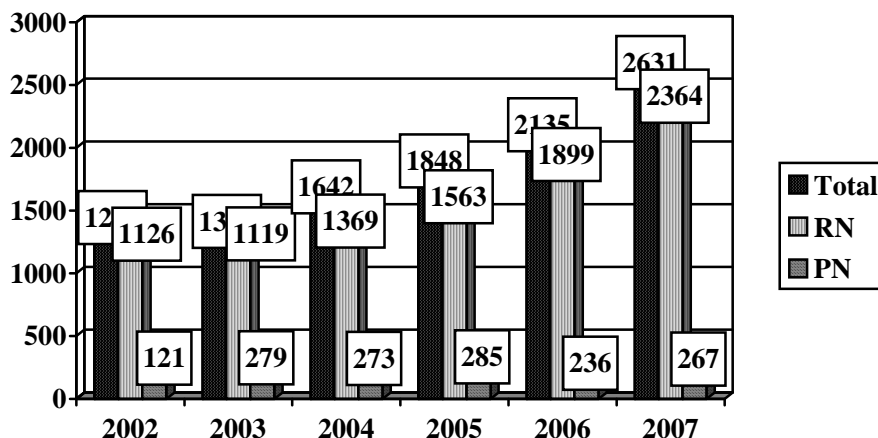


### Program Graduates

#### Total Graduates

In 2007 there was a 23% increase in graduates from all nursing programs. There was a 24% increase in RN graduates and a 13% increase in PN graduates.

## TOTAL GRADUATES IN ALL PROGRAMS

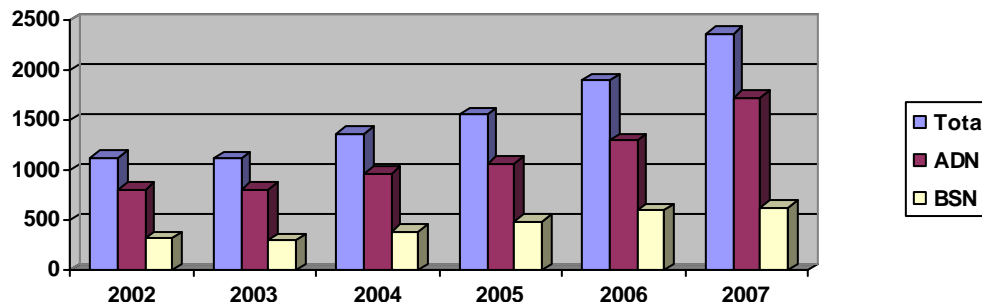


### RN Programs

There was a 24% increase in RN graduates in 2007 with increases in both associate and baccalaureate degree graduates. Associate degree graduates increased by 33% and baccalaureate graduates increased by 6%. Limits to growth include shortages of faculty and clinical placements for students. There was a 108% increase in graduates from RN programs between 2002 (1133) and 2007 (2364), thereby doubling the graduates from all RN nursing programs in the five year time span allotted in SB 1260.

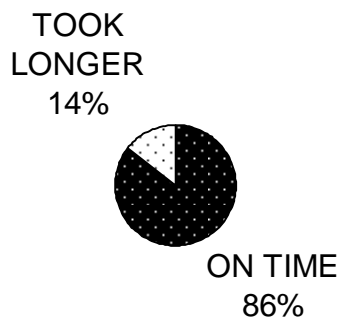
Twenty-seven percent of RN graduates earned a BSN in 2007 which is lower than the proportion of BSN/A.D.N. graduates in 2005 and 2006. This may be due to the more rapid effects of expansion in a 2 year program versus a 4 year program. Nationally, BSNs accounted for 38% of RN first-time test takers (NCLEX Reports – 2007). Some experts suggest that the ideal mix of bachelors degree prepared nurses to associate degree prepared nurses is 60/40 (Aiken).

## RN PROGRAM GRADUATES



### Characteristics of RN Graduates

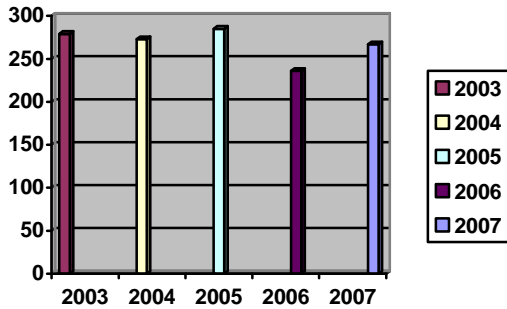
Eighty-six percent of RN graduates finished in the time allotted for their program. Fourteen percent (342) of the graduates took extra time to finish the program with only 40 students taking more than 150% of the allotted program time. There was an increase in the proportion of graduates who finished on time in 2005 (85%), 2006 (87%), and 2007 (86%) as compared to 2004 (77%) with corresponding decreases in the proportion RN graduates who took more than the allotted time to complete the program. In comparing this data with attrition data, the 86% of the class of 2007 that graduated on-time, represent 69% of the students admitted to these cohorts (see attrition section).



### PN Graduates

There has been little fluctuation in the numbers of PN graduates in the past 4 years. Most graduates completed on time; only 24 (9%) took longer with none exceeding 150% of the allotted time. Those who graduated on time represent 69% of the total admission

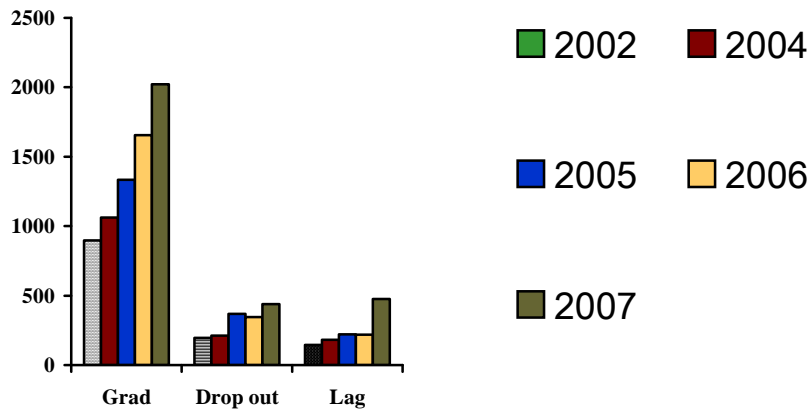
of students due to graduate in 2007. There was a 13% increase in PN graduates in 2007 as compared to 2006.



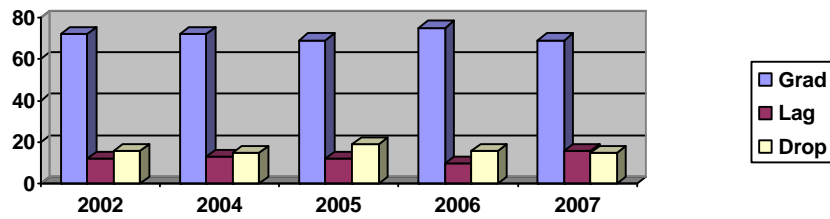
**ATTRITION – RN PROGRAMS**

In 2007, 69% of students admitted to RN programs graduated on schedule. Sixteen percent are still enrolled, and 15% dropped out of the program. This is a change from 2006 where 75% of students admitted to RN programs graduated on schedule, 10% were still enrolled, and 16% dropped out of the program, but similar to 2005 where 69% of students admitted to an RN program graduated on time and 2004 data where 72% of persons admitted graduated on time. In 2005 12% were still enrolled, and 19% dropped out of the program. In 2004, 72% graduated on time, 12.6% were still enrolled, and 14.6% dropped. In 2002, 72% of students graduated on time 16% dropped out and 12% fell behind but continued in the program. It can be seen from the trended data that contrary to prior years slightly more students dropped the program rather than lag behind (repeat a course or temporarily suspend their education).

**RN STUDENT ATTRITION BY CATEGORY**



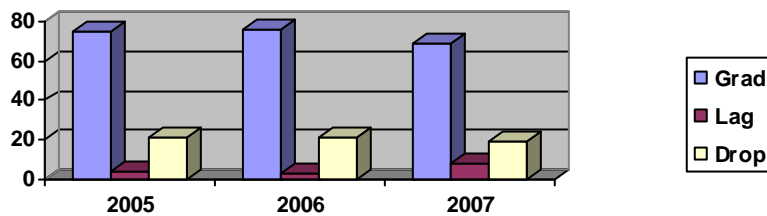
**Cohorts--Percent who graduated on time/lagged/or dropped**



**ATTRITION—PN**

In 2007, 69% of students completed on time, 19% dropped and 11% are still enrolled. In 2006, 76% of the PN students admitted to graduating cohorts completed the program on time, 3% were still enrolled and 21% dropped the program. This is similar to 2005 where 75% graduated on time, 4 % were still enrolled and 21% dropped the program. In comparing RN to PN programs, it appears that a greater proportion of PN students drop the program as compared to RN students.

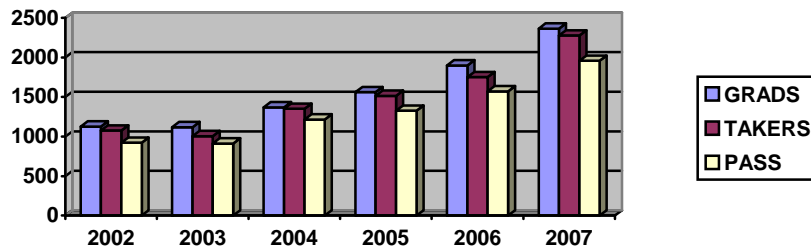
**Percent of PN students who graduated on time/lagged/or dropped**



**NCLEX ® RN EXAM**

In comparing takers and passers of the National Council Licensure Examination for Registered Nurses (NCLEX-RN), there were 30% more takers in 2007 than in 2006, and 26% more passers on the first try. The overall pass rate in Arizona for NCLEX-RN was 85.98% in 2007. The passing rate is somewhat lower than in previous years and coincides with an increase in the passing standard for the exam in April 2007. The passing rates were 89.72% in 2006, 88% in 2005 and 90% in 2004. In comparing exam statistics with program graduate statistics, the number of students graduating in any year may 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.

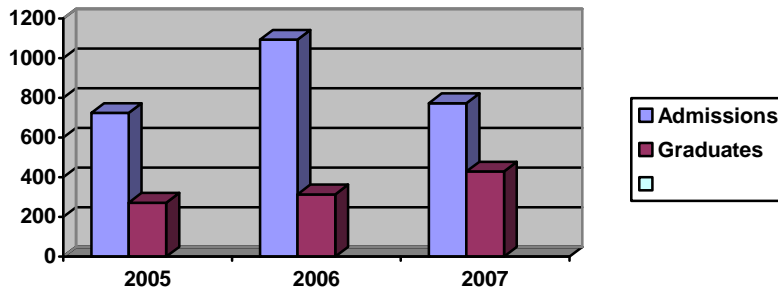
**2002-2006 NCLEX RN**



**RN to BSN Program Admissions**

Arizona programs were also requested to submit information on admissions to BSN completion programs. Seven hundred seventy-three RN to BSN students were admitted in 2007, a significant decrease from the 1093 students admitted in 2006. Two programs accounted for most of the admissions: Grand Canyon University at 516 and University of Phoenix at 129 students.

**RN to BSN Admissions and Graduates**



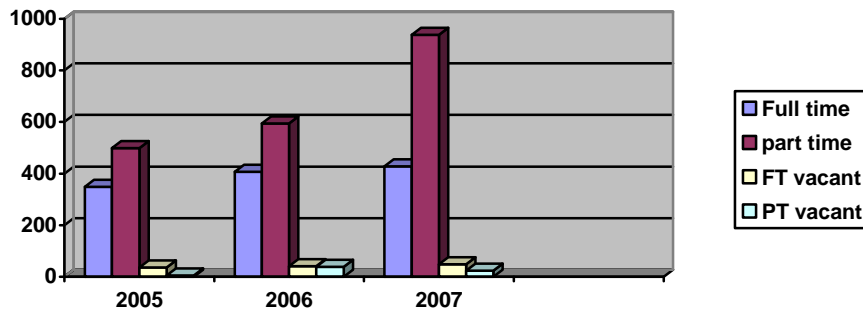
**Graduates – RN to BSN**

Graduates of RN to BSN programs increased from 126 in 2004 to 429 in 2007, a 240% increase in 3 years. This significant increase in RN to BSN enrollments and graduates appears to be sustainable and should have a favorable effect on the mix of associate degree graduates to baccalaureate degree nurses in Arizona. However it appears that approximately twice as many RN to BSN students are admitted than graduate each year. Perhaps limited time for coursework on the part of working RN students and prolongation of the program through part time study can explain this trend although no data on attrition on these programs has been collected.

## Nursing Program Faculty

At the time of data measurement, there were 428 full time faculty in 2007 as compared to 407 in 2006 (5% increase) and 349 in 2005. There was a significant increase however in part time faculty from 594 in 2006 to 938 in 2007 (58% increase). It appears that schools are fulfilling the demands of increasing enrollments with more part-time faculty as opposed to full-time. There were 48 full-time vacancies in 2007 as opposed to 41 in 2006 and 36 in 2005. There were 24 part time openings in 2007 as opposed to 38 in 2006 and 5 in 2005. In 2007 programs appear to have had success in recruiting part-time faculty. Programs report anecdotally that increases in salary, better orientation and increased support has helped them recruit and retain part-time faculty. The ratio of part-time to full time faculty is a concern to some as the burden for administration of the program, curriculum development, student selection, advising, policy development and program evaluation fall into the hands of the relatively few full-time faculty members. Full time faculty members also report increased responsibilities in providing oversight for multiple clinical groups led by part-time faculty who are not familiar with curriculum and are relatively new to education. There is also a concern that clinical education may not be optimal with extensive use of part-time faculty. This is supported by research suggesting that following graduation students have less difficulty with patient care assignments if their clinical and didactic instructor is the same person. (NCSBN. *A National Survey on Elements of Nursing Education, July 2006*)

### FILLED FACULTY POSITIONS AND VACANCIES BY YEAR



## SUMMARY

The systematic and routine collection of nursing program data will assist the Board, nursing programs, nurses, and the public in understanding nursing education enrollment trends and in setting realistic goals. Registered nursing program enrollments, graduates, and NCLEX takers increased in 2007 due to both expansion of existing programs and the establishment of new programs. RN program admissions did not increase to any substantial extent, indicating that at the present time, resources are not sufficient to support rapid expansion. RN to BSN admissions decreased and graduates increased. There continues to be an increasing number of potential nursing students either waiting to enter programs or being denied admission into nursing programs. A significant feature of the 2007 reports is the increase in the ratio of part-time to full time faculty. 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 the education of a sufficient number of new nurses to meet state and national health care needs in the future.

## REFERENCES

Aiken, L., Clarke, S., Cheung, R., Sloane, D., Silber, J., *Educational Levels of Hospital Nurses and Surgical Patient Mortality*. JAMA. Volume 290, No. 12, September 24, 2003.

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

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