



**THE NEW JERSEY COLLABORATING
CENTER FOR NURSING**

Rutgers University, College of Nursing

Workforce Development • Health Policy • Quality Care

***NEW JERSEY'S EDUCATIONAL CAPACITY: IMPACT ON THE NURSING SUPPLY
2005 Data Report***

I. INTRODUCTION

New Jersey is predicted to suffer major consequences from an ever-increasing shortage of nurses. With the aging of the baby boomers nurses retiring in record numbers over the next 15 years, there will not be sufficient numbers of new graduates to replace them. At the same time, there will be a growing demand for more nurses due in part to the aging population and increasingly sophisticated medical technologies that keep people living longer than anytime in the past.

Several sources of reports that predict nurse shortages all concur that New Jersey is very likely to have a massive shortage by 2020. The U.S. Department of Health & Human Services forecasts a 49% vacancy rate of RN full-time equivalent positions or a shortfall of 42,400 RNs, which means that almost one out of two New Jerseyans may not have a nurse to care for them when they need care. The Center's forecasts, as well as those of the NJ Department of Labor are less severe, but never-the-less represents a cause for grave concern.

Part of the solution to a shortage is more students entering nursing schools. Although interest in nursing has lagged, since 2002 there has been a major increase in interest in nursing. However, we now find New Jersey schools of nursing turning away qualified students. Lack of faculty is currently a major concern: a lack of resources to hire additional faculty and a shortage of qualified faculty candidates. Today, faculty tend to be even older than direct care nurses (mean faculty age = 55; mean direct care nurse age = 48).

The New Jersey Collaborating Center for Nursing (NJCCN) was created in 2003 through a public/private partnership between the State and Robert Wood Johnson Foundation. Its mission is to serve as a future-oriented research and development center for nursing workforce innovations by developing and disseminating objective information that provides the bases for recommendations for the allocation of resources directed toward nursing.

Toward that end, one of the Center's initiatives has been to conduct an annual survey of all the RN schools in New Jersey in order to monitor and evaluate enrollment and graduation trends, as well as the capacity of the schools to recruit, admit, and educate nursing students. Conducted in the fall of academic year 2005-2006 in collaboration with the National League for Nursing, the summary of the findings as well as trends for 2002 - 2005 are found in this report.

II. NEW JERSEY RN ENROLLMENTS

A. Overview

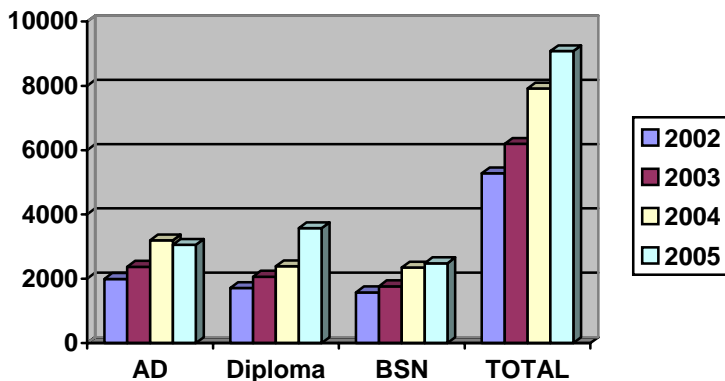
Each New Jersey RN-producing school (nurses that add to the supply) was asked to report the total number of student enrollments in their programs. This reports represents the sum of all of the 13 associate degree programs, 11 diploma programs, and 9 BSN-generic programs, for a total of

33 schools that produce graduates that add to the supply of State nurses. As of October 15, 2005, the total number of enrollees for all types of RN-producing programs was **9,080** students. The numbers of enrollees broken out by type of program are:

- AD programs—3,032
- Diploma programs—3,570
- BSN-generic programs—2,478

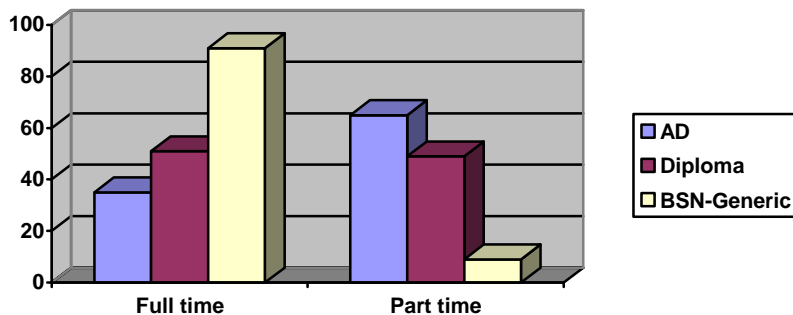
To put the data into context, the data are compared to those we collected for 2002, 2003, 2004, as well as 2005 (see figure 1). The trend in increasing enrollments is depicted, along with the varying rates of expansion. Compared with enrollments in 2002, total enrollments in fall 2005 are up by approximately 72%. Compared with enrollments in 2004, total enrollments in fall 2005 are up by approximately 15%.

Figure 1. Total Enrollments from 2002 to 2005



Students have the option of attending classes on a full or part time basis and these data were reported for the first time in the 2005 year. There is a striking difference in the number of full time versus part time students attending each type of program. The vast majority (91%) of generic BSN students are full time, while most of the AD students (65%) attend part time, with the Diploma schools reporting 49% of students attending part time (see figure 2).

Figure 2: Comparison of Full Time vs. Part Time Total Students



B. Characteristics of Enrolled Students: Total enrollments in 2005.

Female students in all three types of RN-producing programs represented the majority of total enrollees in 2005 with females making up 85% to 88% of all enrollees. However, these data were first collected in 2005 and, therefore, cannot be compared to previous years. Our survey from 2002 of the New Jersey RN workforce indicates that almost 95% of RNs are female.

The schools also reported the race/ethnicity of enrollees (see table 1). Although white students were reported to represent the majority (58%) in Associate Degree programs, Diploma schools reported only 37% of their enrollees were white, whereas 41% of BSN enrollees were reported to be white in generic BSN programs. Diploma schools also reported a much higher percentage of Black students than AD (18%) and BSN (18%).

Table 1. Race/Ethnicity of Total RN-Producing Enrollees

<i>Program</i>	<i>White</i>	<i>Black</i>	<i>Asian/PI</i>	<i>Hispanic</i>	<i>Native American</i>	<i>Other</i>
AD	58%	18%	12%	8%	.1%	4%
Diploma	37%	30%	17%	14%	.1%	1%
BSN- Generic	41%	18%	22%	10%	<.1%	8%

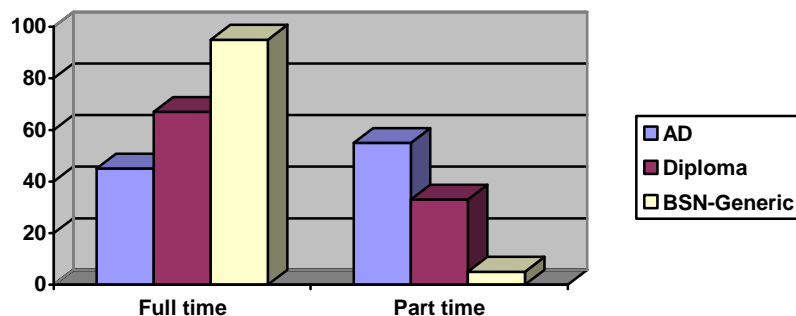
C. Characteristics of New Enrollments for fall 2005

The number of new enrollees in the fall of 2005 for all types of programs is **2,979** students. The numbers of new enrollees broken out by type of program are:

- AD programs—1173
- Diploma programs—996
- BSN-Generic programs—810

The percentage of new enrollees who were female remained consistent with overall enrollment and ranged from 83% to 88%. A greater percentage of new enrollees were reported to be full time students in all three types of programs compared with the overall student populations: 35% of all enrollees in AD schools were full-time students compared to 45% of new enrollees in the fall of 2005 who entered as full-time students.

Figure 3. Comparison of full time vs. part time New Enrollees



The race/ethnicity of new enrollees closely resembles those of total enrollees in RN programs (see Table 2).

Table 2. Race/Ethnicity of New Enrollees

<i>Program</i>	<i>White</i>	<i>Black</i>	<i>Asian/PI</i>	<i>Hispanic</i>	<i>Native American</i>	<i>Unknown</i>
AD	56%	20%	10%	9%	.1%	4%
Diploma	37%	12%	14%	6%	<.1%	31%
BSN- Generic	36%	15%	21%	8%	<.1%	20%

D. Applications and New Enrollments for fall 2005

Table 3 outlines information about the number of open seats available for enrollment, applications received, and the total number of students accepted and enrolled in the different types of RN programs in fall 2005. One-hundred percent of AD programs, 73% of Diploma programs and 73% of BSN programs reported a limited and predetermined number of spaces for new admissions for fall 2005.

Table 3. Applications and New Enrollments for fall 2005

<i>Program</i>	<i>Open seats</i>	<i>Total Applications</i>	<i>Transfer Students</i>	<i>Accepted & Enrolled</i>
AD	1175	3649	58	1173
Diploma	581+	4544	252	996
BSN- Generic	462+	3440	480	810
Grand TOTAL	2,218	11,633	790	2,979

It should be noted that of the 11,633 applicants, 5,014 were not qualified for admission. The number of students qualified and accepted totaled 5,203, while only 2,979 of those accepted actually enrolled. With a reported capacity of 2,218 open seats for new students and a new enrollment of 2,979, schools can be seen as operating 34% above their stated capacity. This places an undue burden on faculty to educate increasing numbers of enrolled students.

E. Qualified Students

Outlined below is a summary of the qualified and not qualified applicants. Of note is the number of unqualified applicants for each type of programs: AD = 50%. Diploma = 42%, and 37% of BSN – Generic. The percentage of those that are not qualified is a matter of concern.

Program	Qualified Applicants	Not Qualified Applicants
AD	50%	50%
Diploma	58%	42%
BSN- Generic	63%	37%

F. Waiting List and Tuition Information

Schools from all three types of programs have reported an increase in applications: 61% of AD programs, 50% of Diploma programs, and 60% of BSN-Generic programs. A number of the RN-producing schools in New Jersey have waiting lists for admission:

Program	Have Waiting Lists	Don't Have Waiting Lists
AD	61.5%	38.5%
Diploma	63.3%	36.3%
BSN-Generic	30.0%	70.0%

The average wait time for Diploma and AD schools is 12 months; the wait time for BSN-Generic schools was not reported.

G. Tuition Rates

Average annual tuition rates for all three programs vary by type of program and whether enrollees are residents of the state, county, or region of the schools. It should be noted that the New Jersey BSN-Generic program tuition includes both private and public universities/colleges. The mean tuition rates can be found in the following Table.

<i>Program</i>	<i>In-State Tuition</i>	<i>Out of District Tuition</i>
AD	\$1,750	\$3,406
Diploma	\$5,898	\$6,160
BSN-Generic	\$11,755	\$15,291

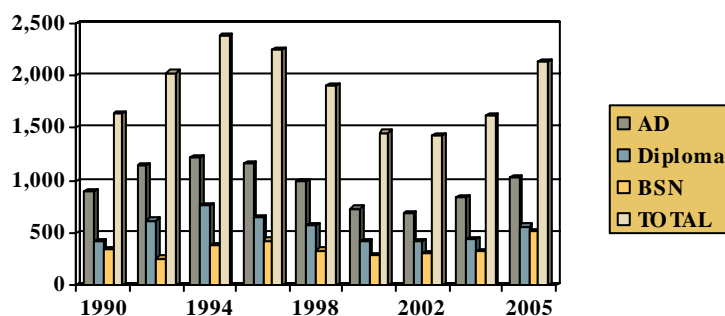
III. GRADUATES OF RN-PRODUCING PROGRAMS (10/16/04 to 10/15/05)

The total number of graduates from RN-producing schools from October 16, 2004 to October 15, 2005 is **2,132**. The numbers of graduates broken out by type of program are:

- AD programs—1029
- Diploma programs—585
- BSN-Generic programs—518

Figure 5 depicts the trends in RN graduates from the rise to the peak of 1994 to 2004 (every other year) and the current data from 2005. Each type of graduate is identified as well as the total number of RN graduates for each year. The curve for AD graduates closely mirrors the curve for the total number of graduates.

Figure 5. Graduates from 1990 to 2005



Because the BSN programs did not differentiate the ethnicity among graduates of their program as generic or RN graduates, only the AD and Diploma schools demographic information is presented below. In the future, we will request gender and race/ethnicity for generic and RN students separately. The percentage of new enrollees who were female in both programs was 87%. The AD and Diploma schools' race/ethnicity of graduates is reported below. (Table 4).

Table 4. Race/Ethnicity of Graduates of RN-Producing Programs

<i>Program</i>	<i>White</i>	<i>Black</i>	<i>Asian/PI</i>	<i>Hispanic</i>	<i>Native American</i>	<i>Other</i>
AD	56%	15%	6%	6%	.2%	13%
Diploma	54%	22%	13%	9%	<.1%	1%

IV. HIGHLIGHTS OF RN-PRODUCING PROGRAMS

A. Racial Distribution of Students Enrolled in NJ RN-Producing Programs

Of the total number (2,979) of new students enrolled in RN-Producing Programs in 2005:

- 45% are white
- 55% represent minority groups
- 23% are Black, non-Hispanic
 - 52% of these are enrolled in Diploma programs
 - 26% of these are enrolled in AD programs
 - 22% of these are enrolled in BSN programs
- 16% are Asian/Pacific Islanders
- 11% are Hispanic

B. Capacity of New Jersey's RN-Producing Programs

- 43% of applicants are not qualified for admission
- 78% of qualified applicants are accepted for admission
- 21% or **1,416 of qualified applicants across the State were not accepted** into a NJ Program in fall 2005. Although this total number of “qualified but not accepted” students who were “turned away” may contain duplicate applicants, it is an indicator of limitations in the numbers of students that New Jersey's schools of nursing can enroll.
- As another indicator of capacity, 53% of New Jersey's schools of nursing maintain a waiting list of qualified students seeking admission but who cannot be accommodated due to lack of spaces. However, of the 1,416 qualified applications that were not accepted due to lack of capacity, over 55% were not even placed on a waiting list.
- Although 5,203 students were accepted into NJ's schools of nursing for fall 2005, only 2,979, or 57%, of these accepted applicants actually enrolled. This number of newly enrolled students approximates the 2,128 open seats that schools reported, and may represent the true and current capacity of New Jersey's schools of nursing to *admit* new students.

- Based on the supply and demand projections for New Jersey’s nursing workforce, the State will need to triple the number of RN graduates from approximately 2000 per year to 6000 per year to prevent a severe nursing shortage in the State by 2020.

V. RECOMMENDATIONS

A. Data Collection

- **Derive a more accurate estimate of educational capacity:** Implement data collection strategies that will estimate the total number of seats that each school has available for new fall enrollees. Currently, some schools indicate that they have “no limit” to the number of new students which they can enroll. This response is neither accurate nor realistic—although a school’s enrollment capacity may be high, there is a reasonable limit. In order to effectively plan for the State’s nursing education needs, it is imperative that this limit is accurately estimated.
- **Explore the gap between the numbers of new applicants “accepted” versus “enrolled”:** Conduct interviews with administrators/deans of New Jersey’s schools of nursing to determine if the number of students “accepted” could actually be accommodated if all accepted students enrolled. Given the large gap between the number of new applicants “accepted” and “enrolled,” determine if NJ’s schools of nursing are “under-enrolled.”
- **Derive a more accurate estimate of attrition:** It appears that the items on the current data collection instrument that were designed to measure attrition may actually be introducing measurement error. All items prior to those regarding attrition ask the respondent to indicate an “**actual number**”—the number of new admissions, the number who are in a specific racial category, etc. The items designed to measure attrition suddenly deviate from this pattern and ask the respondent to estimate and indicate a “**percentage**” of students who left without graduating. In examining the responses, it appears that some respondents indicated a percentage, whereas other respondents seem to have indicated the actual number of students that left without graduating. The recommendation is that the items be revised to elicit the **actual number** of students who withdrew without graduating.

B. Initiatives to Increase New Jersey’s Supply of Entry-level RNs

- **Increase the proportion of students attending full time:** Approximately half of all students in Diploma programs and approximately two thirds of all students in AD programs attend school part-time. Explore work-study programs or other financial assistance packages that could increase the proportion of these students attending school on a full-time basis. This would serve to increase the annual number of graduates, as well as free up additional spaces to accommodate more annual admissions.
- **Increase the number of BSN enrollments and graduates:** According to a research study published by the *Journal of the American Medical Association* (JAMA), there is an association between higher percentages of BSN-prepared nurses in hospitals and lower inpatient mortality. Moreover, given the decreasing supply of nursing faculty, more BSN-prepared nurses are needed for the faculty pipeline. To improve the quality of patient care and to ensure an adequate supply of faculty to educate tomorrow’s nursing students, more BSN-prepared nurses are needed. Yet, the findings of this survey indicate that the annual tuition costs for a BSN student is twice that of a student enrolled in a Diploma program, and almost seven times that of a student enrolled in an AD program. A useful strategy

might be to explore additional tuition assistance and other financial initiatives directed at the BSN student.

- **Almost half of all applicants to New Jersey's schools of nursing are unqualified for admission:** Conduct focus groups with administrators/deans of New Jersey's schools of nursing to determine categories of deficits in applicants' qualifications. Work with New Jersey high schools and the continuing education departments of New Jersey's colleges and universities to design "Nursing Prep" or "Pre-Nursing" programs that would address qualification deficits and prepare a higher percentage of applicants for successful admission to schools of nursing.

Working together, nurses, nursing schools, and nurse employers can develop strategies not only to abate an extreme nurse shortage but to dramatically increase the quality of New Jersey healthcare.

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