



Florida Nursing Education Capacity and Nurse Faculty Supply/Demand

2007-2009 Trends

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Addressing Nurse Workforce Issues for the Health of Florida

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Executive Summary

This report analyzes trends in Florida’s nursing education capacity and faculty supply and demand using three years of data from the collaborative Annual Report and Workforce Survey for Nursing Programs conducted by the Florida Center for Nursing and the Florida Board of Nursing. National evidence indicates that enrollment growth in Registered Nursing (RN) programs is slowing due to limitations in funding and clinical space, although interest in the nursing profession remains high as measured by the number of applicants. Our results show that Florida echoes the national scene in many respects, and they suggest that Florida nursing programs are quickly reaching barriers to growth imposed by limited fiscal, human, and clinical resources. Highlights of our findings include the following:

- Graduates from pre-licensure RN programs increased by 27 percent over the past two years, but the vast majority of this growth occurred during Academic Year (AY) 2007-2008. Nearly all of the growth occurred in associate degree RN programs. The uneven pace of enrollment growth across program types and years suggests caution when projecting future growth in graduates, and evidence indicates that growth may not be sustainable.
- The number of full-time faculty members has increased only marginally, but the number of part-time faculty members increased dramatically – indicating that the economic downturn and continued pressure to expand have resulted in an increased reliance on part-time faculty.
- Another indicator of trouble on the horizon is mediocre growth in graduate degree tracks preparing nurses for faculty positions. Enrollment in master’s-level programs increased by 15.3 percent overall, but nursing education master’s tracks increased by only seven percent. Similarly, while doctoral programs increased enrollment by 74 percent overall, enrollment in PhD programs increased by only 18 percent. In contrast, graduate degree tracks preparing nurses for advanced practice (Nurse Practitioner and Doctorate of Nursing Practice) increased enrollment substantially. If interest in nurse educator preparation remains low, the shortage of nurse faculty could intensify.
- The most consistently cited barriers to program expansion – for three years in a row – are *limited clinical sites for interactive learning experiences, lack of funds to hire faculty, and lack of qualified applicants for faculty positions.*

The Center puts forward the following research and policy recommendations to better understand and address the capacity limitations within our education system:

- 1) *Much more information is needed on the specific problem of clinical capacity.* The Center is managing a project funded by Blue Cross and Blue Shield of Florida and the Robert Wood Johnson Foundation/Northwest Health Foundation to assess the resources available for increased use of simulation in Florida nursing education. State law allows up to 25 percent of clinical education to be conducted via simulation, but at present it is unknown whether programs are taking advantage of this allowance. The human and technical resources needed to conduct simulations have also not been carefully cataloged, and it is unknown how many programs have access to these resources. Clinical education within healthcare settings such

as hospitals will always be limited, but advancing technology in simulation creates limitless opportunities for safe, effective clinical learning experiences.

- 2) *Faculty positions must be made more attractive to nurses considering pursuit of an advanced degree in nursing.* Survey results from the past three years show that advanced practice degree programs are growing rapidly while teaching and research-focused preparation are growing much more slowly. Over time, this may set the stage for a crippling faculty shortage. To improve recruiting efforts, pre-licensure program faculty salaries must be more competitive with those earned in advanced practice, and faculty workloads cannot continue to increase. While faculty turnover remains reasonable compared with other nurse practice settings, this will change if faculty work environments deteriorate.
- 3) *Nursing education must remain a priority for colleges, universities, and legislators – even in tough economic times.* The budgets of our colleges and universities are understandably strapped at present, but the looming nursing shortage in Florida requires that budget cuts be made with a scalpel, not a hatchet. Nursing education cannot afford to cut vacant faculty positions given the need for increased numbers of RNs, nor can they reduce classroom or lab space used on the campuses of colleges and universities. In the long run, this investment will benefit our state by reducing the projected shortage of nurses and improving patient outcomes.
- 4) *Nursing education capacity must be increased strategically.* During the past two years, the state of Florida has gained 32 new nursing programs. While the increased number of new student seats is welcome, it is important to recognize that nursing programs compete for faculty and clinical space. The current trend in nursing education is toward more programs with fewer seats per program – a “decentralization of nursing education” – which may complicate efforts for more effective use of clinical, fiscal, and human resources. Continued collection of data will allow evaluation of this trend’s impact on the quality and quantity of new graduate nurses as well as the difficulty programs face in securing new faculty and clinical space.

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Background

The health of Florida's nursing education system must be monitored closely in the face of a prolonged nursing shortage, as we depend on the education system to train new graduate nurses and prepare them for the licensure examination. The system's ability to fund faculty positions, recruit faculty for vacant positions, and place students in appropriate clinical experiences directly impacts the number of students that can be admitted to our nursing programs – and therefore the number of new graduate nurses that can be produced in Florida to mitigate the nursing shortage.

The Florida Center for Nursing (Center) released forecasts of nurse supply, demand, and shortage through the year 2020 in July 2008.¹ We projected that the RN shortage could reach 52,209 full-time equivalents (FTEs) by 2020 if no new efforts to resolve the shortage are implemented. We also produced simulated forecasts to show the impact of two strategies for increasing the nurse supply. We found that increasing the number of new graduates by 15 percent each year – to a total of 90 percent by 2016 – would resolve the shortage by 2020 when combined with strategies to retain existing nurses.

An annual increase in new graduates of 15 percent each year is a daunting task for any education system, as limits to growth are reached quickly in the face of limited resources. Recent evidence from national sources shows that the U.S. is quickly reaching its limits to growth in nursing education. The American Association of Colleges of Nursing reports in a December 2009 press release that baccalaureate in nursing (BSN) programs increased the number of graduates only 3.2 percent from 2008 to 2009.² The growth characterizing BSN programs during most of the 2000s, which in many years enjoyed annual increases above 10 percent, is slowing as programs begin to exhaust their fiscal, human, and clinical resources. Interest in nursing as a profession remains high, as measured by the number of applicants to nursing programs, but the ability of programs to respond to this interest is waning.

In addition to resource limitations, national evidence indicates that faculty workloads are increasing in associate degree RN (ADN) programs and licensed practical nursing (LPN) programs. The National League for Nursing Accrediting Commission reported that both of these program types increased the number of students served by each full-time faculty member during Academic Year (AY) 2007-2008 by nearly a full student.³ Increasing workloads have the potential to discourage nurses from pursuing a career in nursing education, which would further exacerbate the nation's shortage of nurse faculty.

Since 2007, the Center has worked closely with the Florida Board of Nursing (FBON) to collect data from nursing programs that meet our respective needs. Results from the 2007 and 2008 surveys showed that Florida echoes the national situation: a supply pipeline "bottleneck" has been created by limited clinical sites for interactive learning experiences, limited resources to fund faculty positions, and difficulty in recruiting faculty for vacant positions. As we reported in 2009, nursing programs turned away a total of 10,188 qualified applications to RN programs and 2,375 qualified applicants to LPN programs in AY 2007-2008. At the same time, the number of

students served by each full-time faculty member increased by more than *two* students in LPN and ADN programs. The age of current faculty and lack of interest in graduate degree programs that prepare future faculty (Master's track in Nursing Education; Ph.D. in Nursing) suggested that programs would continue to face difficulty in recruiting faculty.

The supply pipeline bottleneck Florida is currently experiencing is set against the backdrop of an ailing state and national economy. Economic constraints may further squeeze nursing programs as colleges and universities continue to cut budgets in line with state requirements. This report provides an update on the impact to student enrollment and faculty recruitment during the second year of economic recession affecting nursing programs, though it does not speak directly to changes in program funding.

Data Source

Data for this report come from the 2007, 2008, and 2009 Annual Report and Workforce Surveys conducted jointly by the Center and the FBON. Because the data have been collected using consistent measures and methods each year, it is possible to compare results across years and discern trends. All LPN and pre-licensure RN programs, whether public or private, are required to complete an Annual Report to partially fulfill their reporting obligations to the FBON. Programs with post-licensure curricula leading to a change in nurse licensure – such as master's-level Nurse Practitioner and Clinical Nurse Specialist programs – also complete an Annual Report. The Report is completed online and includes a number of voluntary workforce items designed by the Center to assess faculty supply and demand.

Separate surveys are completed for each National Council Licensure Examination (NCLEX) code when schools have multiple codes corresponding to multiple programs (RN vs. LPN) or multiple campuses. Questions relating to master's and doctoral graduate degree programs are completed on the same survey used for a school's pre-licensure program. Institutions that do not prepare pre-licensure students are not required to participate in the Annual Report by the FBON and are not represented in these data.

Deans and Program Directors complete the survey in October of each year, providing data on the faculty and student populations as of September 30th and providing data on program capacity from the prior academic year. Because programs are required to participate, the survey response rate is very high. In 2007 and 2009, 100 percent of pre-licensure programs completed the Annual Report and Workforce Survey. In 2008, two LPN programs did not respond, dropping the response rate to 98.7 percent. Where appropriate, this report provides data from all three years.

Results

Programs, Curriculum Options, and Accreditation

Table 1 details the programs and curriculum options available in Florida's nursing schools as of October 2009. There were 181 active pre-licensure nursing programs. Since the October 2007 survey, 19 new LPN programs, 10 new ADN programs, and three new pre-licensure BSN programs have joined the list of survey respondents. A total of 21 programs reported not having

any students enrolled as of Sept. 30, 2009. Most of these schools were very recently approved and had not admitted their first classes as of October 2009.

Table 1. Programs and Curriculum Options Reported by Respondents in 2009

	Program and Curriculum Counts
Pre-licensure Programs	
LPN Programs	98
- Generic/Traditional Curriculum	94
- Bridge Curriculum	7
ADN Programs	58
- Generic/Traditional Curriculum	51
- Bridge Curriculum	36
Pre-licensure BSN Programs	25
- Generic/Traditional Curriculum	24
- 2 nd Degree Curriculum	11
Post-licensure and Certificate Programs	
RN-BSN Program (Post-licensure)	23
MSN Programs	15
- NP, Midwifery, or Anesthetist Curriculums	13
- Nurse Educator Curriculum	10
- Leadership/Management Curriculum	6
- Clinical Nurse Specialist Curriculum	3
- Clinical Nurse Leader Curriculum	4
RN-MSN Programs	6
- NP, Midwifery, or Anesthetist Curriculums	5
- Nurse Educator Curriculum	5
- Leadership/Management Curriculum	2
- Clinical Nurse Specialist Curriculum	2
- Clinical Nurse Leader Curriculum	3
Doctoral Programs	10
- Ph.D. Curriculum	8
- DNP Curriculum	8
Certificate Programs	28
- Nurse Educator	9
- Nurse Practitioner	6
- CNS/MSN to NP	6
- NP to CNS	0

Note: The number of curriculum counts exceeds the number of program counts because many programs offer multiple curriculum options.

LPN programs are most numerous, with 98 distinct programs reported. Only seven of these programs reported a bridge curriculum that moves students with some health sciences training (e.g., a certified nursing assistant) through the program more rapidly. On the other hand, more

than half of the 58 ADN programs offer a bridge curriculum that moves LPNs or paramedics through the RN program more quickly. Finally, of 25 pre-licensure BSN programs, 11 offer a second-degree curriculum – often called an accelerated program – for students with a baccalaureate degree in another discipline.

RN-BSN programs, which move associate degree RNs to the baccalaureate, are most numerous among post-licensure programs. Most of the 25 pre-licensure BSN programs offer the RN-BSN, but community colleges offering the ADN are increasingly offering this post-licensure mobility curriculum. Many of the state’s universities offer graduate degrees in nursing. Fifteen have a master’s degree in nursing (MSN) program, six have an RN-MSN program for RNs without a baccalaureate degree, and ten offer doctoral programs.

In addition to degree-granting programs, 28 schools reported having certificate programs. Nine schools offer a Nurse Educator certificate program, six offer an NP certificate program, and six have programs that help move nurses with a master’s degree in another track to Nurse Practitioner.

Table 2. Accreditation Status in 2009 by Program Type

Accreditation Status	LPN Code N (%)	ADN Code N (%)	BSN Code N (%)
Not accredited	90 (91.8%)	26 (44.8%)	3 (12.0%)
Accredited by NLN and/or CCNE	8 (8.2%)	32 (55.2%)	22 (88.0%)
Accreditation Type			
NLN accredited	7 (7.1%)	30 (51.7%)	4 (16.0%)
CCNE accredited	0 (0.0%)	1 (1.7%)	18 (72.0%)
NLN & CCNE accredited	1 (1.0%)	1 (1.7%)	0 (0.0%)

Table 2 shows the National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accreditation status of programs in 2009. LPN programs were the least likely to be accredited by these national bodies (8.2%). Slightly more than half of ADN programs (55.2%) and the majority of BSN programs (88.0%) report being accredited. Since 2008, the percentage of programs that are accredited has decreased due to the influx of new programs that have not yet attempted accreditation. Since accredited programs must maintain very high standards, increasing the number of LPN and RN programs in Florida with accreditation would be desirable.

Program Capacity Information

Table 3 displays measures of program capacity – the ability of nursing programs to admit new students – for pre-licensure programs in operation last year. The gray rows in the table show the number and proportion of *qualified* applicants that were turned away from programs during AY 2008-2009 due to capacity issues. Florida nursing programs declined 10,005 qualified applicants to RN programs and 3,626 to LPN programs for a total of 13,631 qualified nursing school applicants denied admission to nursing programs last academic year. At present it is not possible to distinguish the number of *people* denied admission from nursing schools from the number of

applications declined. A single prospective student may be denied admission (or accepted) by more than one school.

Note that the number of new enrollees is substantially smaller than the number of students admitted for many curricula. Many nursing programs admit more students than they have seats anticipating that a portion of accepted students will choose not to enroll. The gap between admitted and enrolled new students is likely to increase when admission to nursing schools is very competitive and prospective students apply to multiple schools but ultimately select only one to attend.

Table 3. Program Capacity Measures for Pre-licensure Programs, AY 2008-2009

	Generic LPN Curriculum	Bridge LPN Curriculum	Generic ADN Curriculum	Bridge ADN Curriculum	Generic BSN Curriculum	2 nd Degree BSN Curriculum
# of QUALIFIED applicants	10,020	154	12,859	2,212	4,754	1,237
# of students ADMITTED	6,445	103	6,314	1,507	2,439	797
# of applicants turned away	3,575	51	6,545	705	2,315	440
% of applicants turned away	35.7%	33.1%	50.9%	31.9%	48.7%	35.6%
# of NEW enrollees	5,866	79	6,159	1,441	1,846	537

The total number of qualified applicants turned away from nursing programs has increased each year, but the trend varies by program type (Table 4). The number and proportion of qualified applicants turned away by LPN programs increased markedly each year, while in BSN programs these figures have decreased. Across program types, however, the proportion turned away remains high: nearly one-half of qualified applicants to RN programs and more than one-third of qualified applicants to LPN programs are denied admission.

Table 4. Qualified Applicants Declined by Pre-licensure Programs, 2007-2009

	2007	2008	2009
LPN Programs	1,957 (26.8%)	2,375 (30.8%)	3,626 (35.6%)
ADN Programs	4,888 (42.3%)	7,290 (49.7%)	7,250 (48.1%)
BSN Programs	3,848 (60.5%)	2,898 (49.3%)	2,755 (46.0%)
Total	10,693 (42.4%)	12,563 (44.5%)	13,631 (43.6%)

A total of 7,671 new graduate RNs and 4,047 new graduate LPNs were produced in AY 2008-2009 (Figure 1). Almost three-fourths (5,640 or 73%) of new graduate RNs were from ADN programs. The majority of new graduates were trained in generic/traditional curriculum sequences, but more than 1,000 were bridge or 2nd degree students.

The number of new LPN graduates has been increasing since AY 2006-2007, while the number of BSN graduates has changed very little (Figure 2). Associate degree programs experienced a dramatic increase in new graduates between 2007 and 2008 (an increase of approximately 35.5

percent), but the increase was followed by a year of only miniscule growth (less than 1%). All totaled, the two years saw a 27 percent increase in RN graduates and a 16.5 percent increase in LPN graduates. Importantly, almost none of the growth in RN graduates occurred during AY 2008-2009. It is also important to note that new graduate nurses do not translate directly into new nurses within the Florida workforce. After graduation, nurses must pass the National Council Licensure Exam and take nursing jobs in Florida to become members of our nurse workforce.

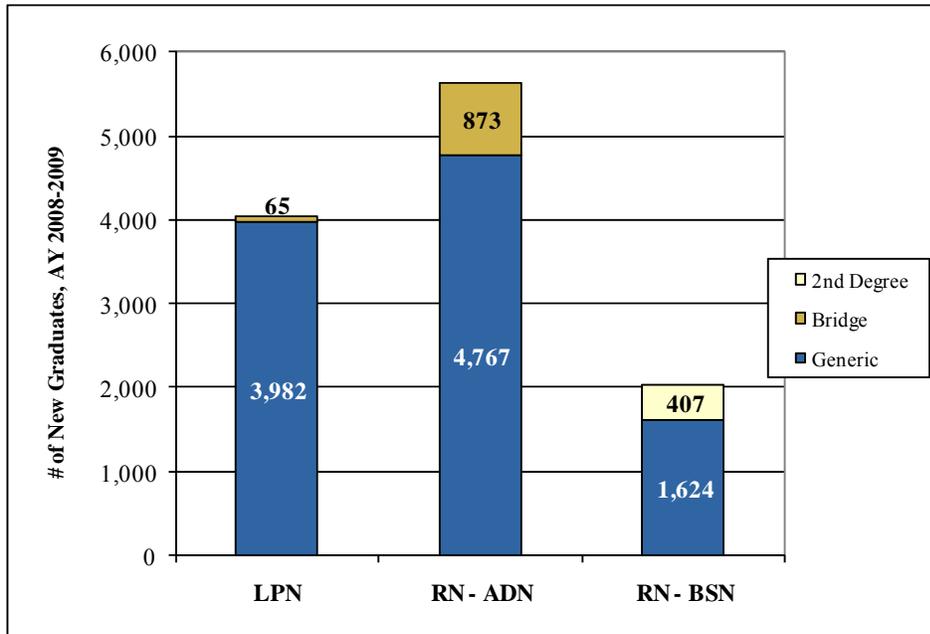


Figure 1. Graduates from Pre-licensure Programs, AY 2008-2009

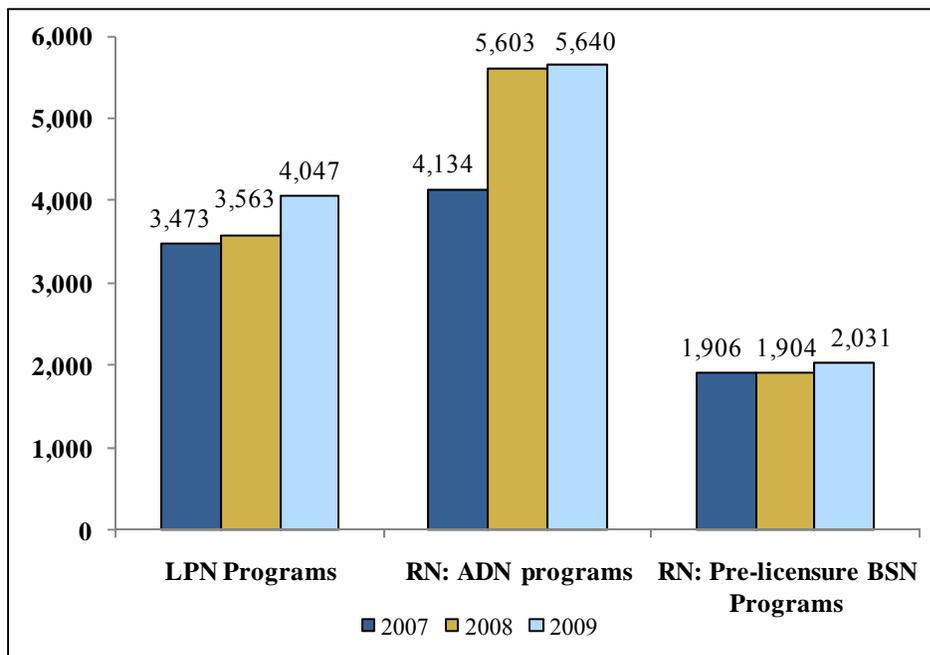


Figure 2. New Graduate Nurses, 2007-2009

When asked about the barriers to admitting more students, pre-licensure program Deans and Directors reported that “limited clinical sites” and “lack of funds to hire faculty” were the most problematic barriers (Figure 3). About half of nursing programs reported that limitations in clinical capacity prevented more growth, which is consistent with results from the 2007 and 2008 surveys. For BSN programs, the most frequently reported limitation (about 65% of programs) was lack of funds to hire faculty. Along with the percentage of programs reporting a lack of qualified faculty applicants, this percentage has increased since AY 2007-2008.

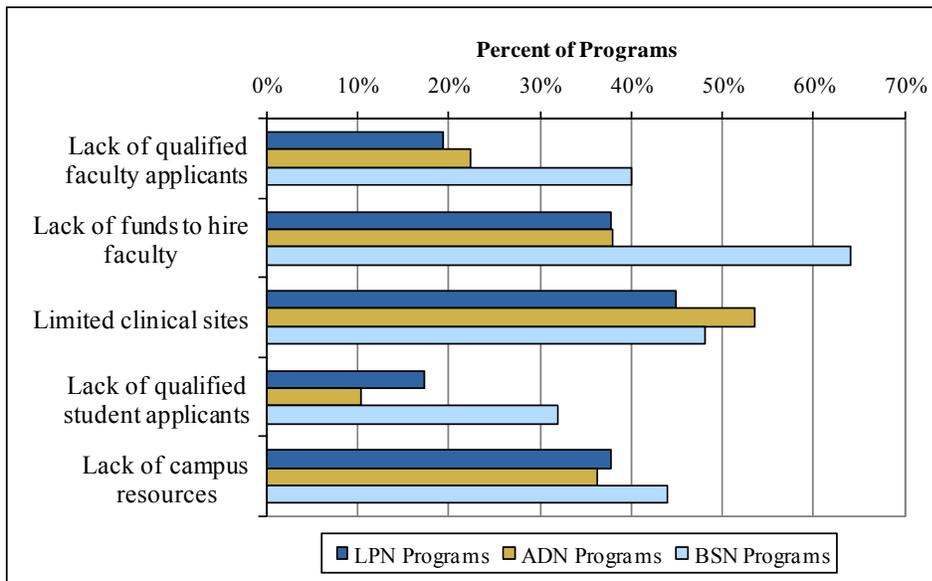


Figure 3. Factors Limiting Student Admissions in AY 2008-2009

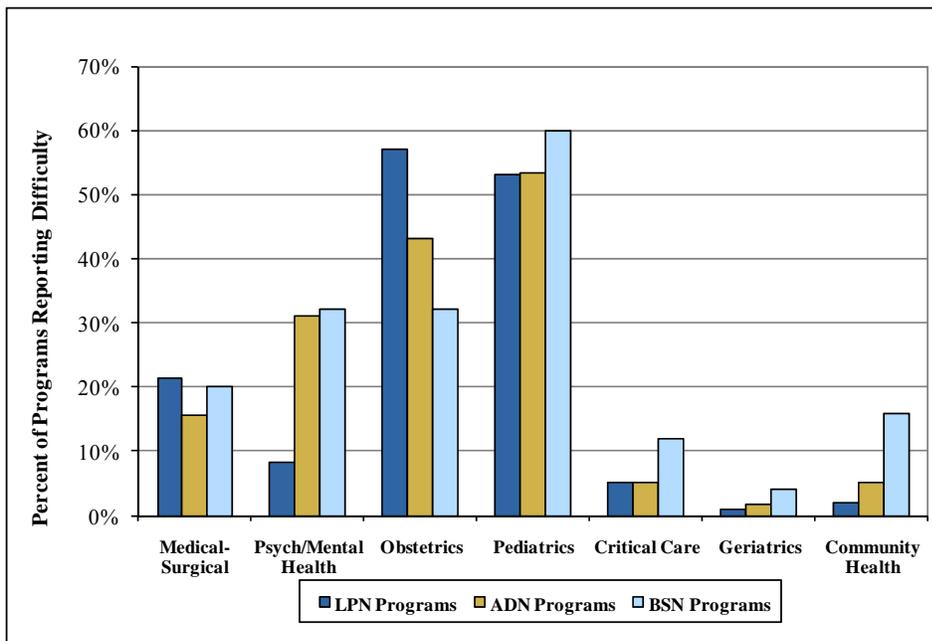


Figure 4. Difficult-to-Schedule Clinical Experiences, AY 2008-2009

As Figure 4 shows, difficulty in finding clinical sites for students is widespread in several clinical areas. The most difficult areas, for the third year in a row, are obstetrics and pediatrics. In addition, more than 30 percent of RN programs reported difficulty with psych/mental health, and around 20 percent of all programs reported difficulty with medical-surgical.

Table 5. Program Capacity Measures for Post-licensure Programs, AY 2008-2009

	RN-BSN	MSN: NP	MSN: Educator	MSN: Management	MSN: CNS	MSN: CNL	Doc: Ph.D.	Doc: DNP
# QUALIFIED applicants	2,669	1,362	165	64	30	44	108	225
# students ADMITTED	2,444	946	161	63	30	43	80	211
# applicants turned away	225	416	4	1	0	1	28	14
% applicants turned away	8.4%	30.5%	2.4%	1.6%	0.0%	2.3%	25.9%	6.2%
# NEW enrollees	1,947	767	143	49	24	41	60	175
# students GRADUATED	1,319	521	91	36	5	40	33	27

Notes: MSN curriculum options include students entering with a Bachelors degree as well as RN-MSN students entering without a Bachelors degree. The number of RN-MSN students is very small.

Program capacity measures and graduates for post-licensure programs in AY 2008-2009 are shown in Table 5. Far fewer qualified applications are declined by post-licensure programs, but it is worth noting that the proportion turned away from NP programs (30.5%) and PhD programs (25.9%) have increased in the past year. This suggests increasing interest in these programs. Unfortunately given the current faculty shortage, number of students applying to MSN Educator tracks is very small (165 applicants).

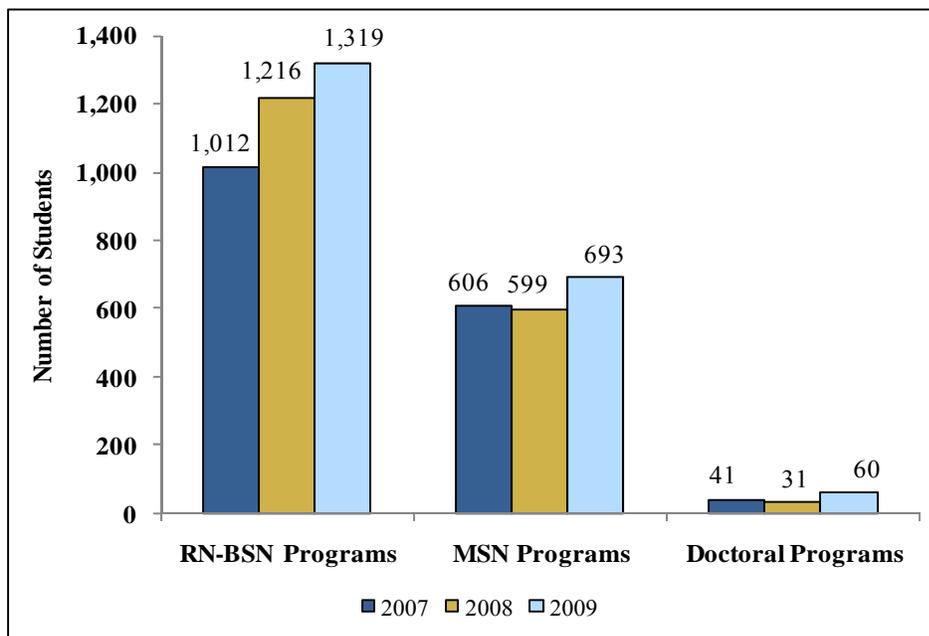


Figure 5. Post-RN Nurse Graduates, 2007-2009

When trended over the past three surveys, the number of post-licensure graduates has increased by 14.3 percent for MSN programs and 46.3 percent for doctoral programs (Figure 5). Although the numeric increases for these program types are small – less than 100 master’s graduates and less than 20 doctoral graduates – the increases demonstrate significant expansion, particularly during AY 2008-2009. RN-BSN programs graduated 307 more students in AY 2008-2009 than in AY 2006-2007, an increase of 30.3 percent. Given the growing acuity of patients in both hospital and non-hospital settings, the increase in nurses pursuing a baccalaureate degree after licensure is very encouraging.

Table 6. Total Enrollment of Students by Curriculum Track, 2007-2009

	Total Enrollment on 9/30/07	Total Enrollment on 9/30/09	Percent Change
Generic/Traditional LPN	5,002	5,912	18.2%
Bridge LPN	24	139	479.2%
Total LPN	5,026	6,051	20.4%
Generic/Traditional ADN	8,511	9,354	9.9%
Bridge ADN	993	1,241	25.0%
Total ADN	9,504	10,595	11.5%
Generic/Traditional BSN	4,087	4,283	4.8%
2nd Degree BSN	399	610	52.9%
Total Pre-licensure BSN	4,486	4,893	9.1%
RN-BSN	3,366	3,339	-0.8%
MSN: NP track	1,840	2,140	16.3%
MSN: Educator track	341	365	7.0%
MSN: Management track	123	156	26.8%
MSN: CNS track	29	43	48.3%
MSN: CNL track	68	65	-4.4%
Total MSN	2,401	2,769	15.3%
Doctoral: Ph.D.	223	263	17.9%
Doctoral: DNP	123	339	175.6%
Total Doctoral	346	602	74.0%

Notes: MSN curriculum options include students entering with a bachelors degree as well as RN-MSN students entering without a bachelors degree. The number of RN-MSN students is very small.

The total number of students currently enrolled hints at the change in graduates we should expect in the coming years. All three pre-licensure program types have increased enrollment over the past two years, as shown in Table 6. LPN programs increased enrollment by an impressive 20 percent, while RN programs increased only 11.5 percent (ADN) and 9.1 percent (BSN). Interestingly, bridge curriculum tracks increased enrollment by much larger proportions when compared with generic/traditional curriculum tracks. This indicates an increasing interest in advancing nursing education (ADN bridge students) and in nursing as a second career (BSN second degree students), trends which may be influenced by the recent economic decline.

Although enrollment has increased over the past two years in pre-licensure programs, this growth has been variable across year and program type (Figure 6). While LPN and BSN programs

increased enrollment each year, ADN programs actually experienced a decline in enrollment between 2008 and 2009.

Master’s degree programs increased enrollment by 15.3 percent, and this growth was largely driven by increased enrollment in NP, management, and Clinical Nurse Specialist curriculum tracks. Doctoral programs, viewed together, increased enrollment by an impressive 74 percent over the past two years. The majority of this growth is accounted for by increased enrollment in Doctorate of Nursing Practice (DNP) programs. Unfortunately, given the shortage of nurses prepared to assume faculty roles, the growth in MSN Educator and PhD student enrollment is not comparatively large.

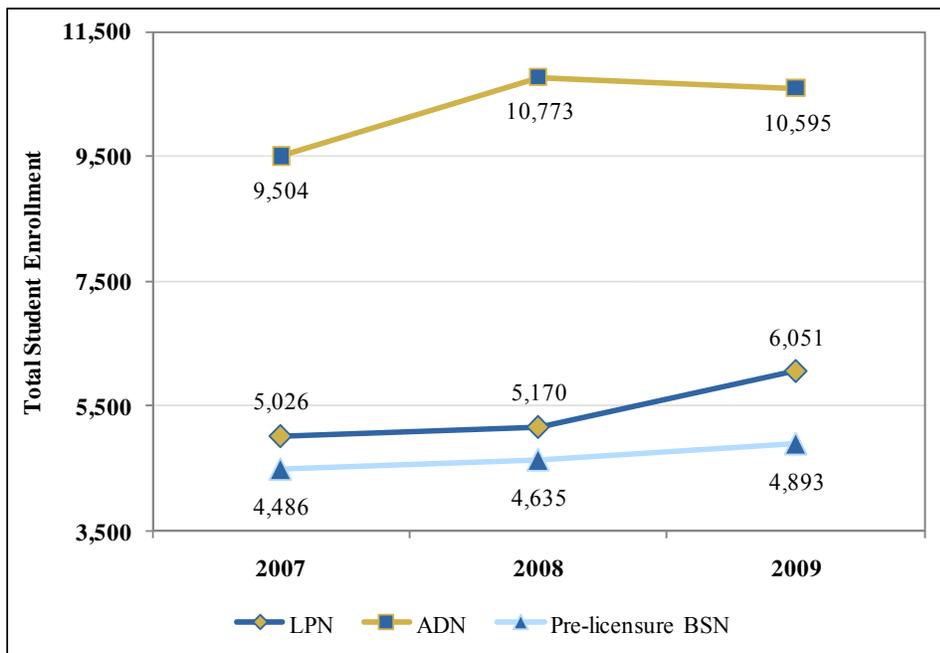


Figure 6. Trends in Total Enrollment for Pre-licensure Programs

It is generally accepted that a more diverse nurse workforce is needed to provide more culturally competent care to the diverse residents of Florida. In 2008, 60 percent of Florida’s residents were white and non-Hispanic, 21 percent were Hispanic, and nearly 16 percent were black.⁴ As with most populations, about half of Floridians are female. In contrast, the nursing profession in Florida is dominated by females (90 percent of RNs in 2009) and whites (72 percent in 2009). Analysis of licensure data shows that the proportion of minority nurses has increased slowly and steadily since 2007, and this trend is being driven by a much more diverse pool of newly licensed nurses.⁵

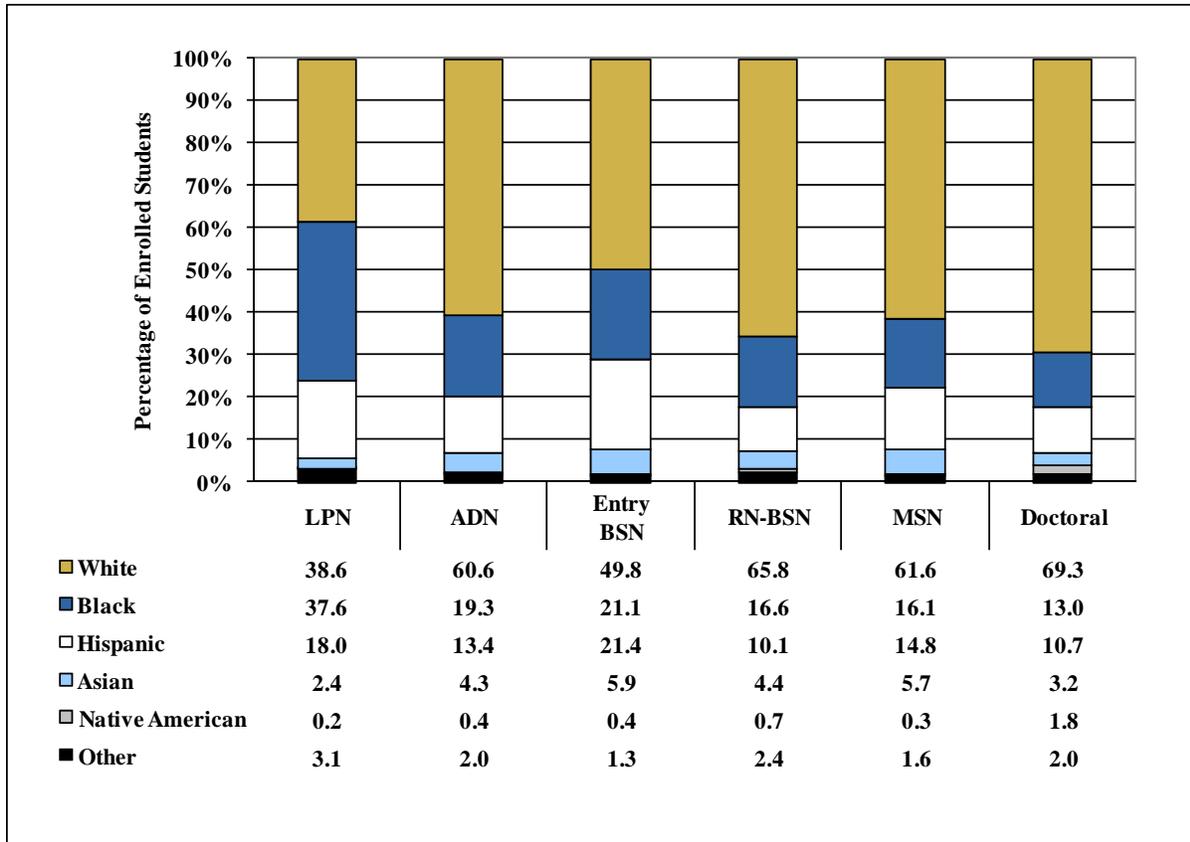


Figure 7. Race and Ethnicity of Nursing Students, 9/30/09, By Program

Examination of the student population in 2009 helps to explain the diversity of our newly licensed nurses. Only 60 percent of students enrolled in ADN programs – and less than half of students enrolled in pre-licensure BSN programs – are white (Figure 7). If the student population continues to be this diverse in terms of race/ethnicity, the proportion of minorities will gradually increase within the entire licensed nurse population. However, about 87 percent of RN students are female (Figure 8), suggesting that we should not expect the proportion of men in nursing to change significantly in the short term. The racial/ethnic and gender profiles of nursing students have remained consistent over the past three survey cycles.

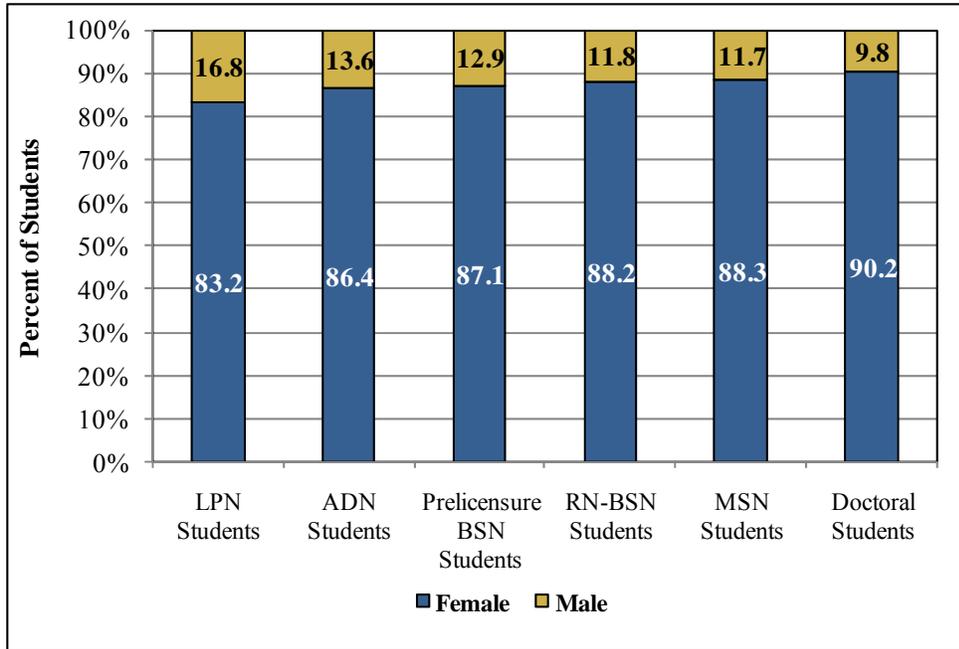


Figure 8. Gender of Nursing Students, 9/30/09, By Program

Faculty Information

To gauge the current level of demand for nurse faculty, deans and directors were asked to report the number of filled and vacant faculty positions as of September 30, 2009. Table 7 shows these numbers by program type and full vs. part-time positions¹. A total of 1,595 full-time and 1,455 part-time faculty positions were reportedly filled on that date, while 125 full-time and 42 part-time positions were vacant. Many schools do not budget positions for part-time instructors, instead hiring as needed. Schools had the option of reporting “Not Applicable” for budgeted and vacant part-time positions, although all were required to enter the number of filled part-time positions. Thus, reported part-time vacancies do not accurately reflect current need for part-time employees.

Table 7. Filled and Vacant Faculty Positions as of 9/30/09, by Program Type

Program Type	Filled Faculty Positions		Vacant Faculty Positions	
	full-time	part-time	full-time	part-time
LPN	466	341	27	30
ADN	606	684	41	8
BSN and higher	523	430	57	4
Total	1,595	1,455	125	42

Although faculty vacancy rates have declined dramatically in LPN programs, in RN programs they have remained relatively steady over the past three years despite recession-squeezed

ⁱ Indiana State University reports on a handful of Florida students enrolled in their distance education BSN program, but they provide data on their entire nurse faculty. Therefore, their faculty information is excluded from this report.

budgets (Figure 9). Full-time faculty vacancy ratesⁱⁱ are especially high in baccalaureate programs (9.8% in 2009), illustrating substantial unmet demand for faculty applicants.

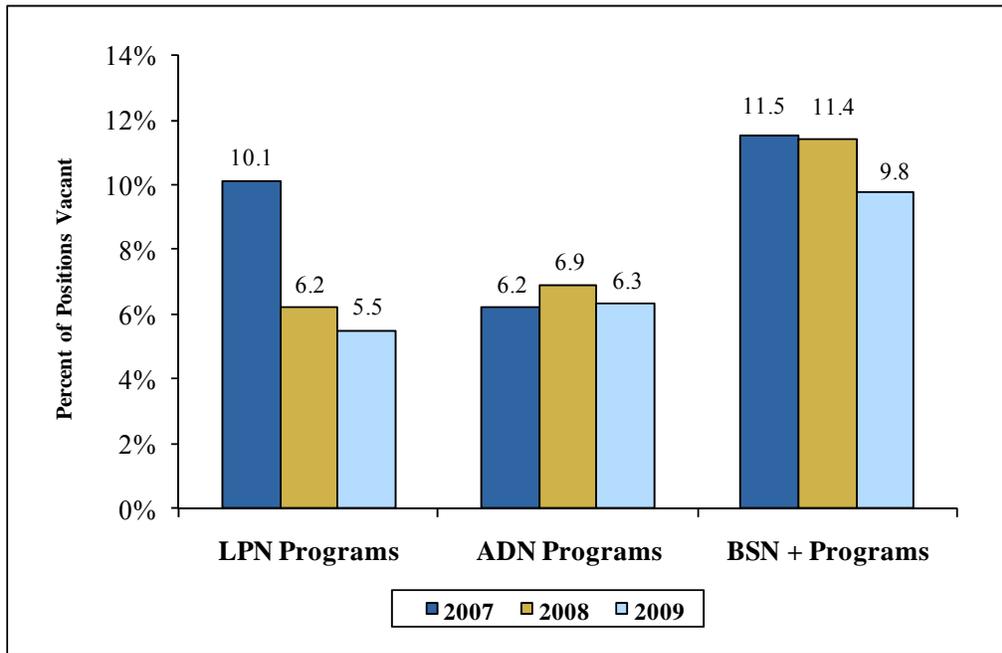


Figure 9. Full-Time Faculty Vacancy Rates as of September 30th by Program Type

In addition to actual vacancies, program directors were asked to report the number of full-time positions they would add to meet the needs of their current student population if funding were available. Actual vacant positions measure economic demand for nurse faculty – the number of faculty members schools are willing to employ given the salaries they must pay those employees. In contrast, our question about hypothetical positions measures perceived *need* for nurse faculty – the desired number of faculty members without respect for available funding. The economic reality is that many nursing programs cannot afford to staff at levels they consider desirable or appropriate. Figure 10 shows what vacancy rates would look like if those needed positions were budgeted and vacant on September 30th of each survey year.

Deans and directors reported that 118 additional LPN faculty, 101 additional ADN faculty, and 92 additional BSN faculty positions were needed but not budgeted as of September 30, 2009. Vacancy rates soar to between 19 and 24 percent when perceived need was included in the calculations.

ⁱⁱ Figure 9 displays a full-time position vacancy rate calculated as: $(\sum \text{FT positions vacant} / \sum \text{FT positions budgeted}) * 100$.

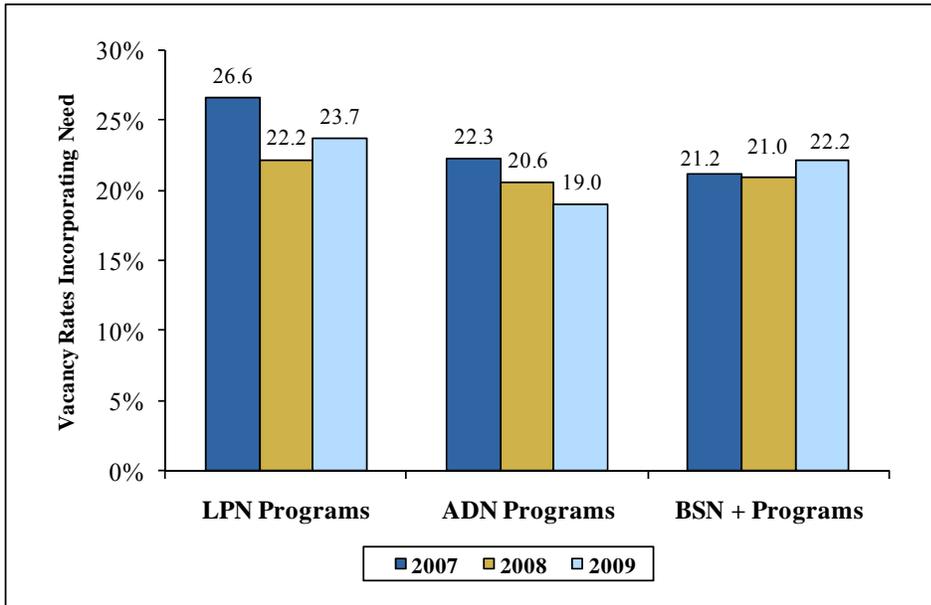


Figure 10. Vacancy Rates Incorporating Perceived Need for New Positions

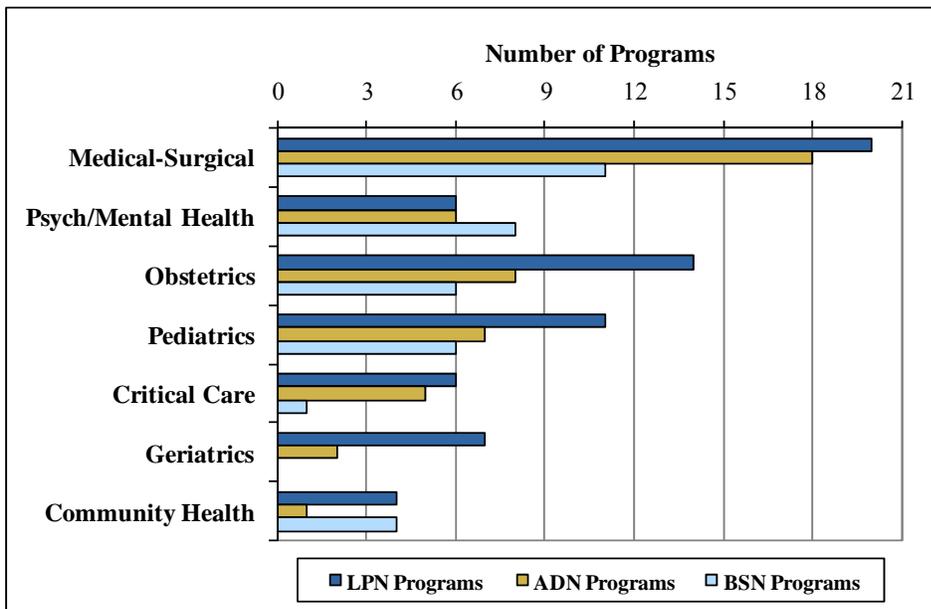


Figure 11. Clinical Specialties Needed for Vacant Faculty Positions as of 9/30/09

We asked program directors with faculty vacancies to select from a list the clinical specialties needed for their vacant positions. Figure 11 shows the number of programs reporting a need for each specialty in 2009, by program type. Note that the number of selections will not equal the number of vacant positions, as programs may need a single faculty member with multiple specialties or multiple faculty members with a single specialty. Faculty with a medical-surgical background were in greatest demand for all program types, a finding that is not surprising given the prominence of medical-surgical training in nursing programs. LPN programs also reported a significant need for faculty with expertise in pediatrics and obstetrics.

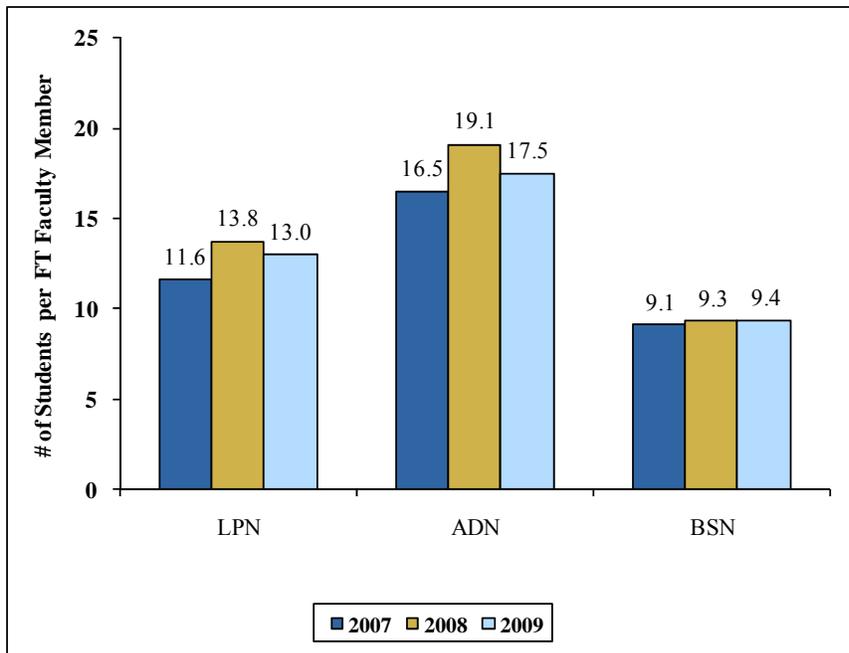


Figure 12. Number of Enrolled Students Per Full-Time Filled Faculty Position

With pressure to expand enrollment under tremendous fiscal constraints, the number of students served by each full-time faculty member increased from 2007 to 2008 in LPN and ADN programs by more than two students (Figure 12). Fortunately, that figure declined in 2009 for both program types, but not to the levels seen in 2007ⁱⁱⁱ. The ratio of students to full-time faculty member has remained steady in BSN programs over the past three years.

Nursing programs hired a total 275 new full-time and 439 new part-time positions during AY 2008-2009 (Table 8). When compared with their projections of position growth from the 2007 and 2008 surveys, the number of full-time faculty hired did not meet their expectations but the number of part-time faculty far exceeded their expectations. This hiring pattern may be in response to economic constraints, since part-time faculty positions often lack expensive benefit packages.

ⁱⁱⁱ These ratios are not intended to measure overall program quality or adequacy of faculty staffing for classroom or clinical instruction. They represent only the mathematical relationship between the number of enrolled students and full-time faculty members.

Table 8. New Faculty Hired in Academic Year 2008-2009, by Program Type

Program Type	Percent Hiring	Number of New Faculty Hired		Average Weeks to Fill Faculty Vacancies	
		full-time	part-time	full-time	part-time
LPN	61.2%	108	103	3.6	3.9
ADN	79.3%	106	232	8.3	3.0
BSN and higher	87.5%	61	104	16.8	5.1
Totals	70.6%	275	439	6.9	3.8

Length of time to fill vacant positions is a measure of the difficulty experienced in recruiting and hiring. It took an average of seven weeks to fill vacant full-time faculty positions in AY 2008-2009 (Table 8). BSN programs reported the longest fill time at 16.8 weeks, but all three program types experienced a decline in the length of time taken to fill positions compared with last year. Recognizing that all vacancies are not equal when it comes to effort expended in filling them, we asked respondents to tell us which clinical specialty areas they had difficulty finding in prospective faculty members, shown in Figure 13. LPN programs had the most difficulty with obstetrics and pediatrics, while RN programs cited pediatrics and psych/mental health most frequently.

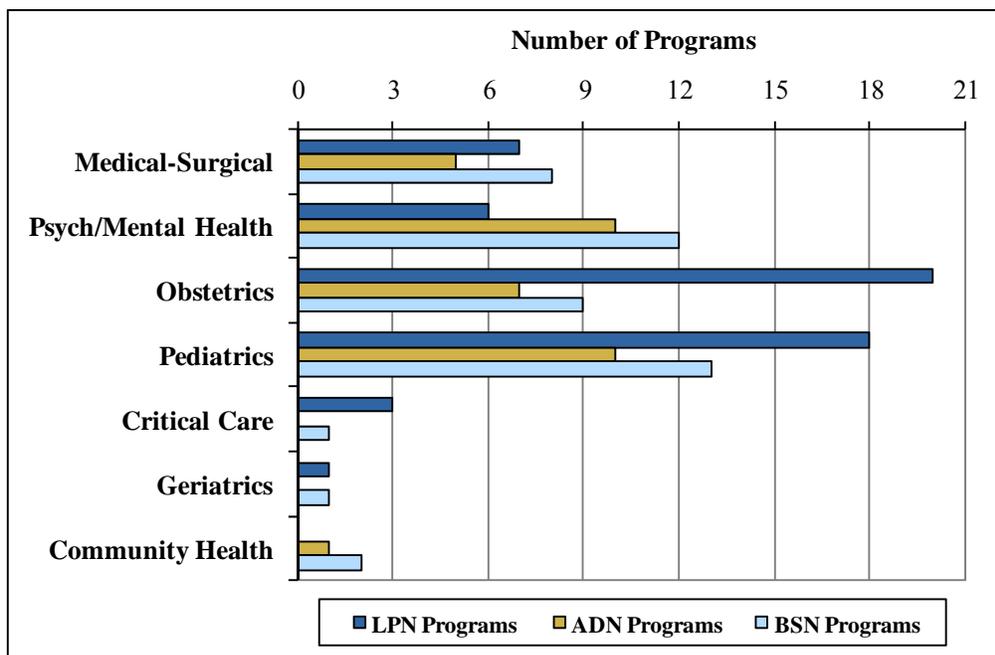


Figure 13. Most Difficult-to-Find Faculty Specialties for Hires Last Year

Table 9. Full-time Faculty Separations and Turnover Rates for AY 2008-2009

Program Type	Number of Separations	Turnover Rate in Quantiles		
		25 th percentile	50 th percentile (median)	75 th percentile
LPN	81	0.0	0.0	27.6
ADN	76	0.0	11.5	20.0
BSN and higher	42	0.0	8.7	16.7
Totals	199	0.0	10.0	25.0

Note: A school's turnover rate was computed as: (# of AY 2008-2009 separations / # of filled positions as of 9/30/00)*100

Starting with the 2008 survey, we asked program directors to tell us how many full-time faculty members separated from their programs for any reason during the last academic year. A total of 199 full-time faculty members separated from nursing programs during AY 2008-2009 (Table 9). Both the number of turnovers and median turnover rate (10%) are similar to results for AY 2007-2008. When compared with other nursing employment settings, turnover in nursing education is low. For example, our 2009 Employer Survey found that the median turnover rate for RNs was 14.3 percent in hospitals, 30.6 percent in skilled nursing facilities, and 18.2 percent in home health agencies.⁶

Table 10. Full and Part-time Faculty Education Distributions, by Program Type

	LPN Programs	ADN Programs	BSN + Programs
Full-time Faculty	%	%	%
Doctorate in Nursing	0.4	5.9	34.6
Non-nursing Doctorate	2.1	5.0	21.2
Masters in Nursing	29.4	82.7	42.4
Non-nursing Masters	11.6	2.6	1.1
Bachelors in Nursing	40.8	3.6	0.6
Non-nursing Bachelors	3.4	0.2	0.0
Diploma or AS in Nursing	12.2	0.0	0.0
Part-time/Adjunct Faculty	%	%	%
Doctorate in Nursing	0.6	2.3	9.3
Non-nursing Doctorate	2.3	1.2	10.0
Masters in Nursing	26.4	49.1	66.0
Non-nursing Masters	7.3	4.8	6.7
Bachelors in Nursing	46.0	41.8	7.7
Non-nursing Bachelors	3.2	0.1	0.0
Diploma or AS in Nursing	14.1	0.6	0.2

Table 10 describes the education distribution of faculty members employed as of September 30, 2009. BSN and higher programs employed proportionately more full-time faculty educated at the doctoral level (about 56% of all faculty), while the vast majority of ADN full-time faculty were educated at the master’s level (85.3%). LPN programs employed a mix of education levels: almost 30 percent had a master’s in nursing, and 41 percent had a bachelor’s degree in nursing. Across all program types, part-time and adjunct faculty tended to hold lower degrees.

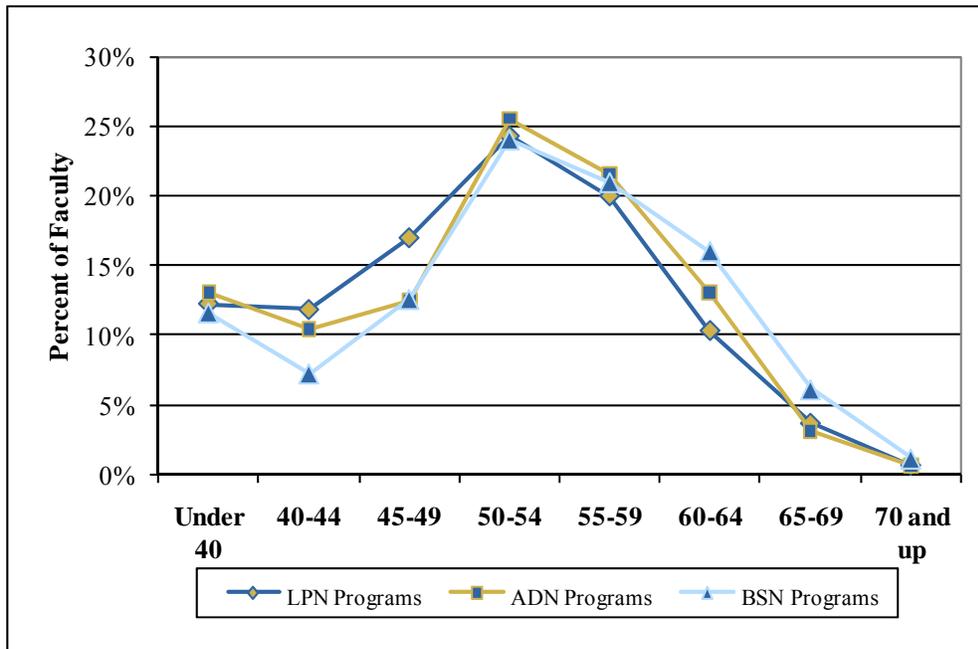


Figure 14. Age Distributions of Full-Time Faculty, by Program Type

A major concern regarding the faculty supply is the age of the faculty population. As Figure 14 shows, a large proportion of faculty members are nearing retirement age. Less than one-third of BSN and about 36 percent of ADN full-time faculty members are under the age of 50, while 17 percent of ADN and almost one-quarter of BSN full-time faculty members are over the age of 60. The average age of full-time faculty members was 52.7 in BSN programs, 51.4 in ADN programs, and 50.8 in LPN programs.^{iv} This average has held relatively steady over the past three survey cycles.

We asked program directors to tell us how many faculty members had retired during AY 2008-2009 and to estimate the number of retirements that would occur over the next three academic years (Table 11). A total of 38 retirements occurred last academic year, but the number expected to retire in AY 2011-2012 is much larger at 79. Given the age distribution of current faculty members, we can expect the number of retirements to steadily increase over the next few years.

^{iv} Program directors reported faculty age by counting the number of faculty members in each age category shown in Figure 13. The average was computed from grouped data by 1) multiplying the age category midpoint by the number of faculty members in that category, 2) summing this figure across all age categories, and 3) dividing by the total number of faculty members.

Table 11. Faculty Retirements, by Program Type

	LPN Programs	ADN Programs	BSN Programs
# Actual Retirements, AY 08-09	12	17	9
# Expected Retirements, AY 09-10	11	8	15
# Expected Retirements, AY 10-11	16	22	17
# Expected Retirements, AY 11-12	24	36	19

Finally, Table 12 shows the number of new faculty positions program directors expect to budget over the next two academic years. As noted earlier, the predictions of position growth made by Deans and Directors in 2007 have not been identical to actual growth. Specifically, schools added fewer full-time positions but more part-time positions than expected. If the economy recovers, their 2009 projections may be more accurate.

Table 12. New Faculty Positions Expected Over Next Two Academic Years

	LPN Programs	ADN Programs	BSN Programs
New Full-time Positions Expected	148	109	47
New Part-time Positions Expected	183	116	61
Total New Faculty Members Needed	331	225	108
% Growth Over Current Positions	41.0%	17.4%	11.3%

Note: Respondents may not be certain that their requests for additional budget lines for faculty will be approved by their college or university.

A total of 664 positions are projected to be created over the next two academic years. About half of this growth is expected in LPN programs. If these projections are realized, LPN programs would grow their faculties by about 41 percent over the next two academic years. ADN and BSN programs expected more modest growth.

Conclusions and Recommendations

The past two academic years saw increasing enrollments and graduations for RN programs, but the data also indicate that growth was limited to certain program types and that nursing programs' capacity to grow may be very close to reaching a bottleneck imposed by limited fiscal, human, and clinical resources. The number of new graduate RNs increased by an impressive 27 percent over two years, but the vast majority of this growth occurred during AY 2007-2008 – the number of new graduates was essentially stagnant in AY 2008-2009. Nearly all of the growth occurred in Associate Degree RN programs, further skewing the distribution of entry-level RNs towards the ADN level.

The average annual increase in new graduate RNs over the past two years comes to 13.5 percent, a rate of growth very close to our forecast that a 15 percent increase in graduates would be required each year to resolve the shortage. However, the 7,671 new RN graduates produced in AY 2008-2009 is still shy of the 10,935 nurses needed to fill current vacancies in 2009 (6,807) plus the expected growth occurring during 2010 (4,128 new jobs).⁶ The uneven pace of growth over the past two academic years suggests caution when projecting future increases. Given the

mounting barriers to expansion reported by program Deans and Directors, it is unlikely that continued growth of this pace is sustainable.

Of particular concern for sustainable growth in nursing education is the lack of growth in full-time nurse faculty over the past two academic years. The number of full-time faculty members in ADN programs only increased by 30 over the past two academic years. Similarly, BSN and LPN programs added only 32 full-time positions a piece. Part-time positions, on the other hand, have increased by more than 100 for each program type. While this hiring strategy may be an effective short-term method for covering enrollment increases during an ailing economy, it is likely that full-time nurse educators are also experiencing an increase in administrative and/or teaching workload. At present, faculty turnover does not appear to be a serious problem for any program type – at least when compared with most other nursing employment settings. This will undoubtedly change if faculty workloads increase.

Another indicator of trouble on the horizon is mediocre growth in graduate degree tracks preparing nurses for faculty positions. While overall enrollment in master's-level programs increased by 15.3 percent over two years, enrollment in nursing education tracks increased by only seven percent. Similarly, overall enrollment in doctoral programs increased by 74 percent but only 18 percent in PhD programs. Neither program type increased substantially in the number of graduates. The robust growth in post-licensure programs occurred in RN-BSN, NP, and DNP programs, which is promising given the need for more primary and bedside care but may not help with a growing shortage of nurse faculty. Current full-time vacancy rates are low in both LPN and ADN programs, but this is likely a result of economic conditions rather than reduced need for nurse educators. As the economy improves and programs seek additional faculty members for continued expansion, the shortage of nurse faculty will come into sharper focus.

The most consistently cited barrier to program expansion (for three years in a row) is limited clinical capacity for interactive student learning experiences. There are two computerized clinical placement systems in use in small areas of the state, and these systems purport to maximize use of space in healthcare facilities for clinical education. However, it remains unclear whether the systems are more effective in placing greater numbers of students than more traditional person-to-person systems. Most of the state does not have access to these systems. Further evaluation of computerized placement systems – and increased use of simulation technology to supplement clinical education – is needed.

The Center puts forward the following research and policy recommendations to better understand and address the capacity limitations within our education system:

- 1) *Much more information is needed on the specific problem of clinical capacity.* The Center is managing a project funded by Blue Cross and Blue Shield of Florida and the Robert Wood Johnson Foundation/Northwest Health Foundation to assess the resources available for increased use of simulation in Florida nursing education. State law allows up to 25 percent of clinical education to be conducted via simulation, but at present it is unknown whether programs are taking advantage of this allowance. The human and technical resources needed to conduct simulations have also not been carefully cataloged, and it is unknown how many

programs have access to these resources. Clinical education within healthcare settings such as hospitals will always be limited, but advancing technology in simulation creates limitless opportunities for safe, effective clinical learning experiences.

- 2) *Faculty positions must be made more attractive to nurses considering pursuit of an advanced degree in nursing.* Survey results from the past three years show that advanced practice degree programs are growing rapidly while teaching and research-focused preparation are growing much more slowly. Over time, this may set the stage for a crippling faculty shortage. To improve recruiting efforts, pre-licensure program faculty salaries must be more competitive with those earned in advanced practice, and faculty workloads cannot continue to increase. While faculty turnover remains reasonable compared with other nurse practice settings, this will change if faculty work environments deteriorate.
- 3) *Nursing education must remain a priority for colleges, universities, and legislators – even in tough economic times.* The budgets of our colleges and universities are understandably strapped at present, but the looming nursing shortage in Florida requires that budget cuts be made with a scalpel, not a hatchet. Nursing education cannot afford to cut vacant faculty positions given the need for increased numbers of RNs, nor can they reduce classroom or lab space used on the campuses of colleges and universities. In the long run, this investment will benefit our state by reducing the projected shortage of nurses and improving patient outcomes.
- 4) *Nursing education capacity must be increased strategically.* During the past two years, the state of Florida has gained 32 new nursing programs. While the increased number of new student seats is welcome, it is important to recognize that nursing programs compete for faculty and clinical space. The current trend in nursing education is toward more programs with fewer seats per program – a “decentralization of nursing education” – which may complicate efforts for more effective use of clinical, fiscal, and human resources. Continued collection of data will allow evaluation of this trend’s impact on the quality and quantity of new graduate nurses as well as the difficulty programs face in securing new faculty and clinical space.

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