



# **2008 Nursing Education Program Annual Report and Workforce Survey**

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**Addressing Nurse Workforce Issues for the Health of Florida**

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## 2008 Nursing Education Program Annual Report and Workforce Survey

### Executive Summary

This report presents data from the second collaborative Annual Report and Workforce Survey for nursing programs conducted by the Florida Center for Nursing and the Florida Board of Nursing. The survey requested information on program capacity and graduates for Academic Year (AY) 2007-2008 as well as characteristics of the faculty and student populations as of October 1, 2008. More than 98 percent of all pre-licensure nursing programs responded to the survey, including 100 percent of Associate Degree in Nursing (ADN) and Baccalaureate Degree in Nursing (BSN) programs.

As the second study to ask identical questions of nursing program Deans and Directors, the 2008 results can be compared with those from the 2007 study to observe short-term changes in Florida's nursing program capacity, the number of new graduates, and demand for nurse faculty. Highlights of our findings include the following:

- Graduates from pre-licensure RN programs increased by an impressive 24 percent between AY 2006-2007 and AY 2007-2008, but all of this growth occurred in ADN programs. BSN programs were essentially stagnant in both number of graduates and total enrollment, while ADN programs increased total enrollment by 13 percent.
- Evidence indicates that this growth may not be sustainable. The number of full-time faculty members in ADN programs actually *decreased* during this time, and the number of students per full-time faculty member increased by *three*. At the same time, full-time faculty vacancy rates were unchanged and part-time faculty hires increased dramatically – suggesting 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 declining enrollment in graduate degree tracks preparing nurses for faculty positions. Enrollment in nursing education master's tracks declined by 5 percent, and enrollment in Ph.D. programs declined by 52 percent. In contrast, graduate degree tracks preparing nurses for advanced practice (Nurse Practitioner and Doctorate of Nursing Practice) increased substantially. If interest in nurse educator preparation continues to decline, the shortage of nurse faculty could intensify.
- The most consistently cited barriers to program expansion – for the second year in a row – are *limited clinical sites for interactive learning experiences, lack of fund 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.* If funding is available, the Center and several partners plan to conduct a comprehensive survey of nursing programs to learn more about their use of simulation. The Florida Board of Nursing 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.* This year's survey results show very clearly that advanced practice degree programs are growing rapidly while teaching and research-focused preparation is declining. Over time, this will set the stage for a crippling faculty shortage. To improve recruiting efforts, 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 agreed-upon 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.

## 2008 Nursing Education Program Annual Report and Workforce Survey

### Background

The health of Florida's nursing education programs is important to monitor closely during a 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.<sup>1</sup> We estimate that a shortage of nearly 11,000 full-time equivalent positions for Registered Nurses (RN FTEs) existed in 2007. If no additional efforts to resolve the shortage are implemented, we project the RN shortage to balloon to 18,419 FTEs by 2010 and to 52,209 FTEs by 2020. We also produced simulated forecasts to show the impact of implementing 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 2008 press release that the growth characterizing baccalaureate in nursing (BSN) programs over the past five years is slowing as programs reach limits to growth imposed by limited fiscal, human, and clinical resources. From 2007 to 2008, entry-level BSN programs increased enrollment by only 2 percent.<sup>2</sup> 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 RN programs. The National League for Nursing Accrediting Commission reports that associate degree programs in nursing (ADN), BSN, and master's in nursing (MSN) programs increased the number of students served by each full-time faculty member during Academic Year (AY) 2006-2007 – by one-half student for ADN programs and more than a full student for BSN and MSN programs.<sup>3</sup> 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. While the FBON is primarily interested in information needed to regulate nursing programs, the Center focuses on information useful for tracking and forecasting the state's nursing shortage. This collaborative lead to the development of a single online survey for nursing programs, which reduced the burden on nursing program Deans and Directors (who formerly responded to multiple survey requests) and streamlined the creation of an electronic dataset that can be analyzed with statistical software. In

October 2008, deans and program directors completed the second annual collaborative survey and provided information for AY 2007-2008.

Results from the AY 2006-2007 survey 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 an inability to recruit faculty for vacant positions.<sup>4</sup> More than 10,000 qualified applicants to nursing programs were turned away in AY 2006-2007. At the same time, the aging of 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 cut budgets in line with state requirements. Center staff has heard anecdotal evidence suggesting that state-funded universities are harder hit than community colleges by the current economic crisis, but we have not been able to verify this empirically. Analysis of the data reported here sheds light on economic constraints faced over the past year by tracking one-year growth in nursing programs by program type (associate degree vs. baccalaureate degree programs), though it does not speak directly to changes in program funding.

In this report, we begin an investigation of Florida’s nursing education system in AY 2007-2008 by discussing survey methods and response rates by program type. We evaluate faculty supply and demand and then discuss program and student information, making comparisons with data from AY 2006-2007 where appropriate. We conclude by offering recommendations to maximize the scarce resources available in the current economy to increase the output of new nurses and ease the current and projected nursing shortage.

## **Methods**

All Licensed Practical Nursing (LPN) and pre-licensure RN programs, whether public or private, are required to respond to this survey 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 – are also required to participate. Course catalogs and other information are submitted directly to the FBON to complete the annual reporting requirements. Separate surveys were completed for each National Council Licensure Examination (NCLEX) code when schools had multiple NCLEX codes corresponding to multiple programs (RN vs. LPN) or multiple campuses. Though not required by the FBON, questions relating to all other master’s and doctoral graduate degree programs were included. Respondents completed post-licensure program items on the same survey used for their pre-licensure program. Four programs that do not prepare pre-licensure students were invited to take the survey so that a more complete picture of post-licensure nursing education could be constructed.

The survey instrument used in 2007 was reviewed by Center and FBON staff to ensure that it collected all information needed by both entities. Three regulatory questions were added for the

2008 survey, as was one question on faculty separations needed for workforce planning. FBON staff submitted an updated list of all NCLEX codes and program contact information to the Center, which housed the online survey on its server and handled all details of the data collection and analysis. Program Deans and Directors were notified of the survey by email and U.S. mail, where they were provided with a link for survey login. The survey was fielded on October 1<sup>st</sup>, 2008 and participants had one month to complete the survey.

Table 1 displays survey response rates by program type. All Associate Degree and Baccalaureate Degree RN programs responded to the survey, as did 97.5 percent of LPN programs. None of the four post-licensure only programs chose to complete the survey. With these four programs included, the overall response for the survey is still an impressive 96.1 percent of all nursing programs in Florida.

**Table 1. Response Rates by Program NCLEX Code Type**

	<b>Surveys Expected</b>	<b>Surveys Returned</b>	<b>Response Rate</b>
<b>LPN Codes</b>	80	78	97.5%
<b>ADN Codes</b>	47	47	100.0%
<b>BSN Codes</b>	23	23	100.0%
<b>All NCLEX Codes</b>	150	148	98.7%
<b>Schools with no NCLEX Code</b>	4	0	0.0%
<b>Total</b>	154	148	96.1%

Notes: The number of returned surveys does not equal the total number of nursing programs responding. Graduate program information is combined with BSN program information under the single NCLEX testing code for each school. In some cases, RN-BSN completion programs are reported under ADN NCLEX codes. Schools without an NCLEX code do not train pre-licensure students and were not required to complete this survey.

Where appropriate, results of the 2008 survey are compared with the results of the 2007 survey. At the time last year’s report was released, six LPN programs, two ADN programs, and one BSN program had not yet completed the survey. Those nine programs have since provided complete data for AY 2006-2007. To facilitate comparison with this year’s results, the two LPN programs not completing an annual report for AY 2007-2008 have been omitted from the data for AY 2006-2007. In addition, one out-of-state program that accepts pre-licensure RN students through distance education has been omitted from both years. The school does not track Florida students separately and reports that only a handful of students from Florida are enrolled. Note that new nursing programs may experience a delay in receiving an NCLEX code or being invited to take this survey as they move a first class through the curriculum sequence.

## **Results**

### Programs, Curriculum Options, and Accreditation

Table 2 details the programs and curriculum options reported by survey respondents to be operational during AY 2007-2008. One additional LPN program, two additional ADN programs, and one additional BSN program were reported this year as compared with those reported on the 2007 survey. Pre-licensure degree programs may have generic/traditional or bridge curricula. Generic curricula are for nursing students with no prior nursing training, while bridge curricula

offer an accelerated option for students who do have prior nursing education at a lower level. Many programs have both curriculum options.

**Table 1. Programs and Curriculum Options Reported by Respondents**

	<b>Program and Curriculum Counts</b>
<b>Pre-licensure Programs</b>	
<b>LPN Programs</b>	<b>78</b>
- Generic/Traditional Curriculum	77
- Bridge Curriculum	3
<b>ADN Programs</b>	<b>48</b>
- Generic/Traditional Curriculum	46
- Bridge Curriculum	28
<b>Pre-licensure BSN Programs</b>	<b>26</b>
- Generic/Traditional Curriculum	22
- 2 <sup>nd</sup> Degree Curriculum	10
<b>Post-licensure and Certificate Programs</b>	
<b>RN-BSN Programs</b>	<b>23</b>
<b>MSN Programs</b>	<b>15</b>
- NP, Midwifery, or Anesthetist Curriculums	12
- Nurse Educator Curriculum	9
- Leadership/Management Curriculum	4
- Clinical Nurse Specialist Curriculum	4
- Clinical Nurse Leader Curriculum	5
<b>RN-MSN Programs</b>	<b>7</b>
- NP, Midwifery, or Anesthetist Curriculums	4
- Nurse Educator Curriculum	5
- Leadership/Management Curriculum	3
- Clinical Nurse Specialist Curriculum	22
- Clinical Nurse Leader Curriculum	3
<b>Doctoral Programs</b>	<b>8</b>
- Ph.D. Curriculum	7
- DNP Curriculum	5
<b>Certificate Programs</b>	<b>13</b>
- Nurse Educator	7
- Nurse Practitioner	3
- CNS/MSN to NP	3
- NP to CNS	0

LPN programs are most numerous, with 78 distinct programs reported. Only three of those 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 48 ADN programs offer a bridge curriculum, which moves LPNs or paramedics through the RN program more quickly. Finally, of 26 pre-licensure BSN programs, ten 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 26 pre-licensure BSN programs offer the RN-BSN, but several community colleges also have these post-licensure mobility curricula. Many of the state’s universities offer graduate degrees in nursing. Fifteen have a master’s degree in nursing (MSN) program, seven have an RN-MSN program for RNs without a baccalaureate degree, and eight offer doctoral programs.

In addition to degree-granting programs, 13 schools reported having certificate programs. Seven of these offer training in nurse education, three certify nurses as Nurse Practitioners, and three move nurses with a master’s degree in another track to Nurse Practitioner.

**Table 2. Accreditation by Program Code Type**

Accreditation Status	LPN Code N (%)	ADN Code N (%)	BSN Code N (%)
<b>Not accredited</b>	66 (84.6%)	16 (34.0%)	2 (8.7%)
<b>Accredited by NLN and/or CCNE</b>	12 (15.4%)	31 (66.0%)	21 (91.3%)
<b>Total</b>	78 (100.0%)	47 (100.0%)	22 (100.0%)
Accreditation Type			
<b>NLN accredited</b>	12 (15.4%)	30 (63.8%)	3 (13.0%)
<b>CCNE accredited</b>	0 (0.0%)	0 (0.0%)	15 (65.2%)
<b>NLN &amp; CCNE accredited</b>	0 (0.0%)	1 (2.1%)	3 (13.0%)

Table 2 shows the National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accreditation status of programs by NCLEX code type. LPN programs were the least likely to be accredited by these national bodies. Only 12 LPN programs (15.4%) were accredited, all by NLN. About two-thirds of ADN programs were accredited, mostly by NLN. More than 90 percent of BSN programs were accredited. Most were CCNE accredited only, but three had both NLN and CCNE accreditation. Since accredited programs must maintain very high standards to maintain accreditation, increasing the number of LPN and ADN programs in Florida with accreditation would be desirable.

### 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, 2008. Table 3 shows these numbers by program type and full vs. part-time positions. A total of 1,437 full-time and 1,279 part-time faculty positions were reportedly filled on that date, while 131 full-time and 48 part-time positions were vacant. Interestingly, the number of full-time faculty vacancies in ADN and BSN programs has not changed much since September 30, 2007. LPN vacancies, on the other hand, have declined dramatically. While 49 full-time faculty vacancies existed in 2007, only 25 existed in 2008.

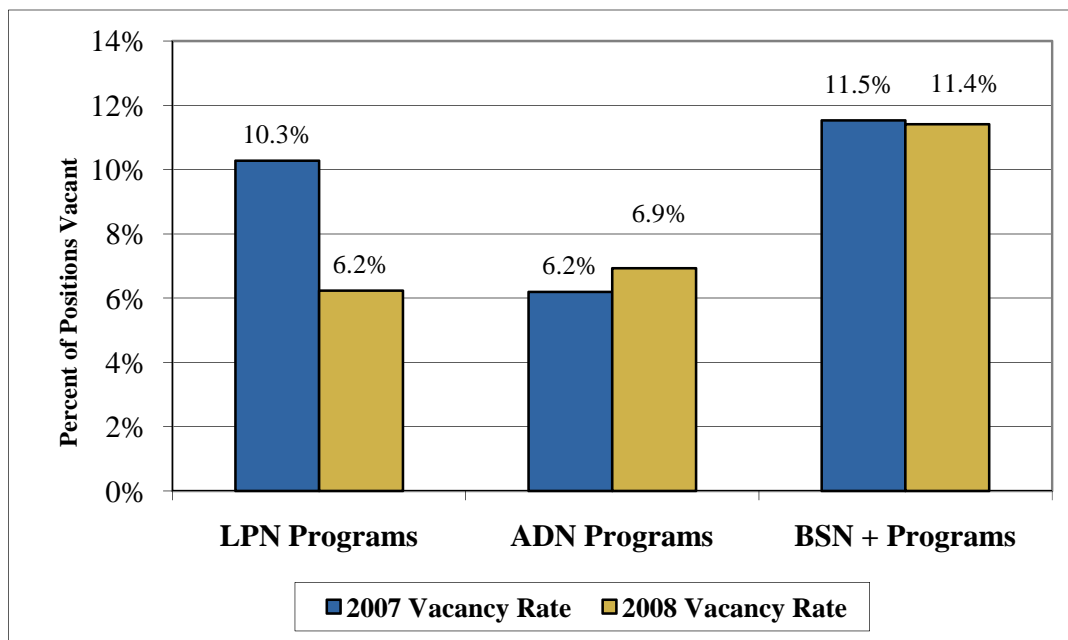
**Table 3. Filled and Vacant Faculty Positions as of 9/30/08, by Program Type**

Program Type	Filled Faculty Positions		Vacant Faculty Positions	
	Full-Time	Part-Time	Full-Time	Part-Time
LPN	376	274	25	20
ADN	564	608	42	25
BSN and higher	497	397	64	3
<b>Total</b>	<b>1,437</b>	<b>1,279</b>	<b>131</b>	<b>48</b>

\*Many schools do not budget positions for part-time instructors, hiring as needed. Schools had the option of reporting “Not Applicable” for vacant part-time positions, so reported part-time vacancies may not accurately reflect current need for part-time employees.

When the full-time vacancies are expressed as vacancy rates for both 2007 and 2008, it is clear that LPN programs not only have fewer vacancies this year but also a lower percentage of vacant positions than was true last year. ADN and BSN programs, in contrast, have very similar vacancy rates in 2007 and 2008. The vacancy rates shown in Figure 1 were computed with the following formula, which divides the total positions budgeted by the total positions vacant within each program type:

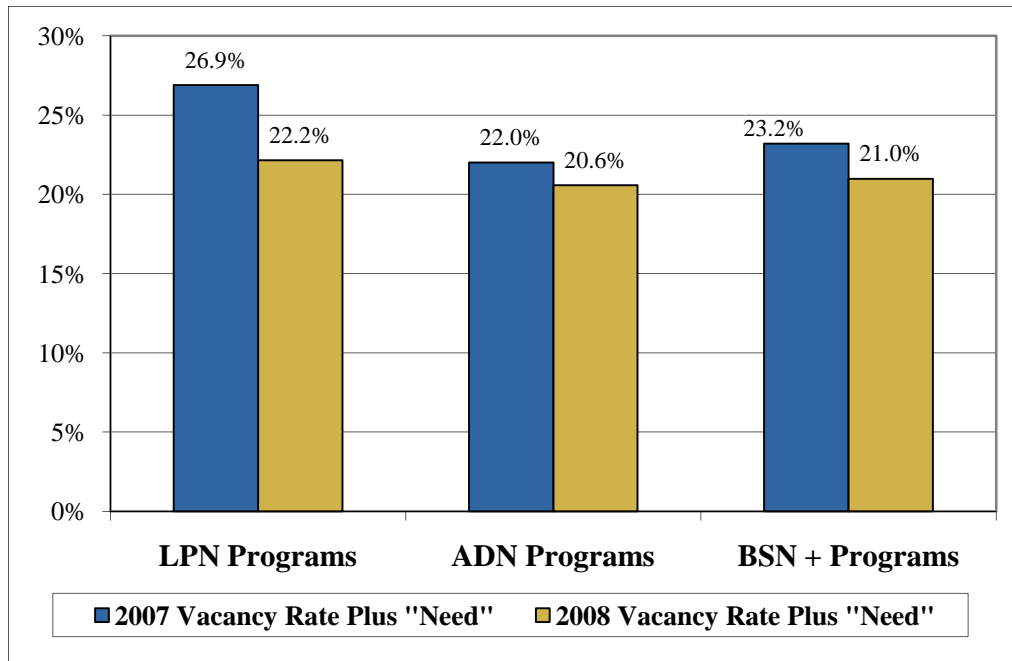
$$\text{Full-time position vacancy rate} = (\sum \text{FT positions budgeted} / \sum \text{FT positions vacant}) * 100$$



**Figure 1. Full-Time Faculty Vacancy Rates as of September 30<sup>th</sup>, by Program Type**

In addition to actual vacancies, we asked Program Directors to report the number of budgeted 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 wages they must pay

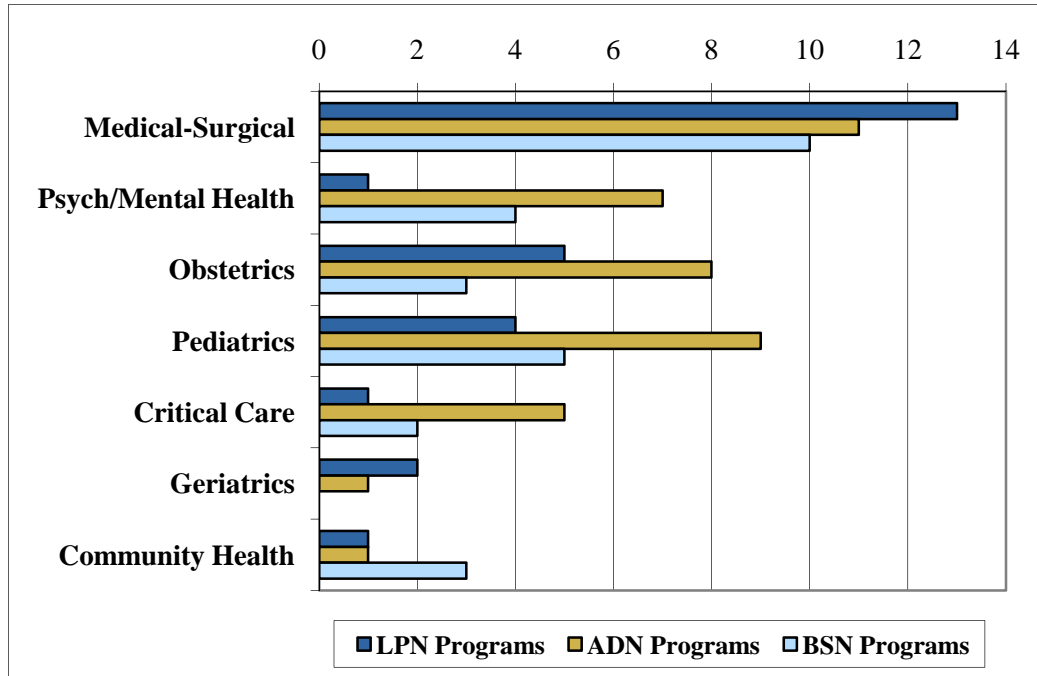
those employees. In contrast, our question about hypothetical positions measures *need* for nurse faculty – the desired number of faculty members without respect for available funding. The economic reality is that many nursing programs cannot afford to staff at levels they consider desirable or appropriate. Figure 2 shows what the vacancy rates would look like if those needed positions were budgeted and vacant on September 30<sup>th</sup> of 2007 and 2008.



**Figure 2. Vacancy Rates as of September 30<sup>th</sup> Incorporating Needed Positions**

Deans and Directors reported that an additional 106 positions in LPN programs, 126 positions in ADN programs, and 64 positions in BSN programs would be budgeted if funding were available. When these needed but unbudgeted positions are incorporated into the vacancy rates, they soar to more than 20 percent for all program types. Thus, while LPN programs experienced a declining *actual* vacancy rate during the past year, their perceived *need* for positions is still very high: their 2008 vacancy rate incorporating need is the highest of all three program types.

Respondents were asked to select from a list the clinical specialties that were needed for their vacant positions. Figure 3 shows those specialties and the number of programs reporting a need for each specialty, 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. ADN and BSN programs also reported a significant need for faculty with expertise in mental health, pediatrics, and obstetrics.



**Figure 3. Clinical Specialties Needed for Vacant Faculty Positions as of 9/30/08**

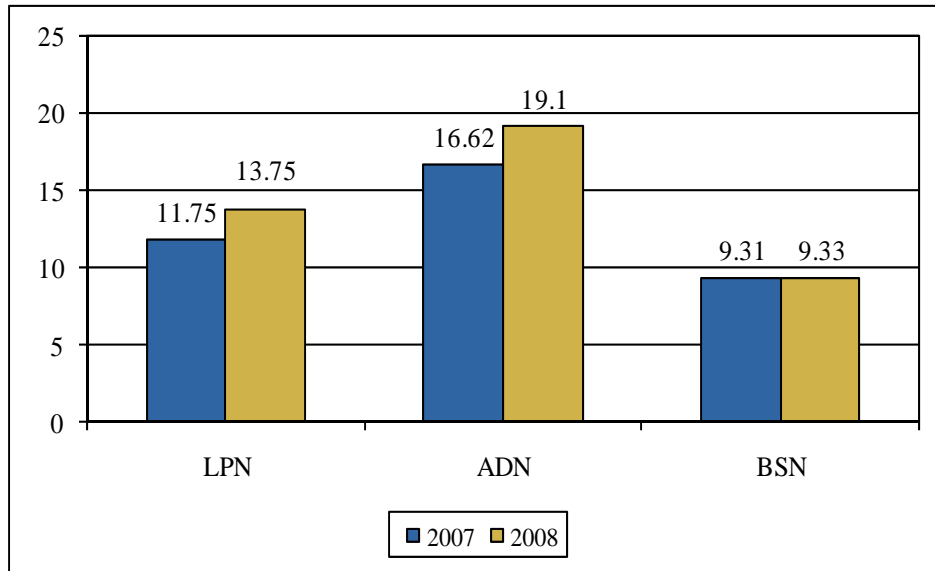
In addition to current vacancies, we asked Deans and Directors to count the number of new faculty members hired last academic year. Table 4 provides this information. About 60 percent of ADN programs and 80 percent of LPN and BSN programs had hired new faculty during AY 2007-2008. A total of 184 new full-time and 334 new part-time faculty members were hired by responding programs. Though the number of part-time hires is similar to the number of new part-time faculty hired in AY 2006-2007, the number of full-time faculty members hired is much smaller (292 hired in AY 2006-2007 vs. 184 in AY 2007-2008).

**Table 4. New Faculty Hired in Academic Year 2007-2008, 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	78.3%	59	66	6.5	4.5
ADN	60.3%	66	169	10.8	5.9
BSN and higher	80.9%	59	99	20.9	8.6
<b>Totals</b>	<b>69.6%</b>	<b>184</b>	<b>334</b>	<b>10.8</b>	<b>5.7</b>

Given the need to replace full-time faculty who retired or quit during the 2006-2007 academic year – in addition to filling vacancies that existed at the beginning of that year – this number of hires is insufficient to keep the pool of full-time faculty at a stable level. Indeed, the total number of full-time faculty employed by responding programs is 58 less this year than was true on September 30, 2007 – even though several new programs have been added. In contrast, the total number of part-time faculty has increased by more than 200. Combined with the steady or

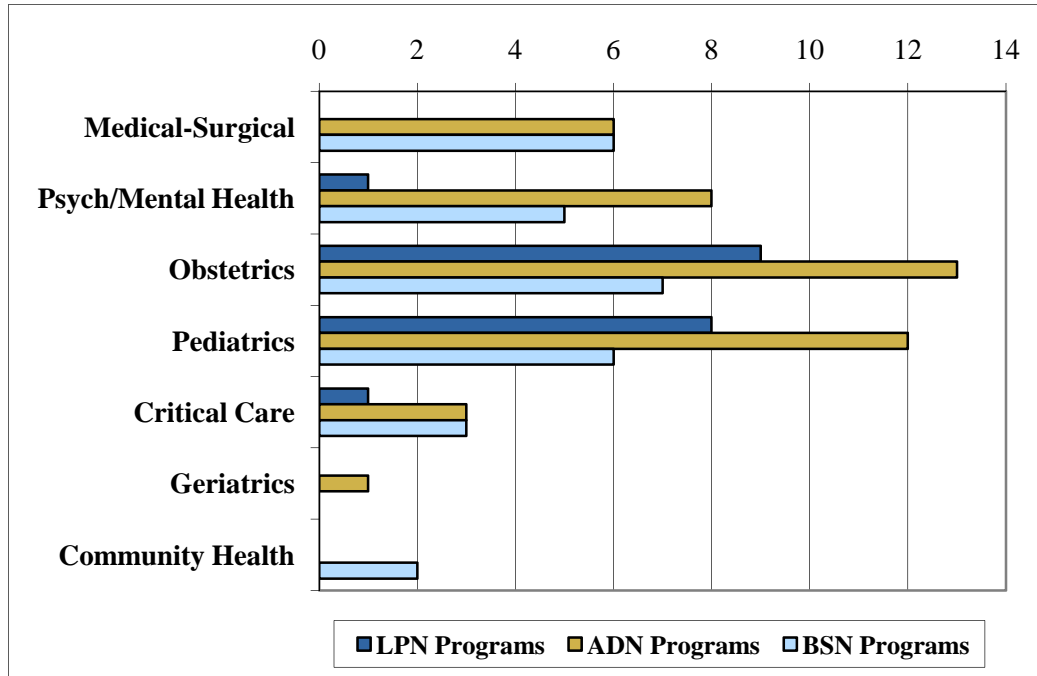
dropping vacancy rates found in 2008, these figures suggest that economic constraints faced by nursing programs have resulted in increased reliance on less expensive part-time faculty members. Another contributing factor may be the absence of qualified applicants for vacant full-time positions.



**Figure 4. Number of Enrolled Students Per Full-Time Filled Faculty Position**

We used the number of students enrolled and full-time faculty positions filled on September 30<sup>th</sup> to construct faculty-to-student ratios for 2007 and 2008, shown in Figure 4. The number of enrolled students per faculty member has increased for ADN programs *by nearly three students*. LPN programs experienced a two student increase per full-time faculty member. Only BSN programs experienced little change in the number of students enrolled per full-time instructor, but it is unclear whether Program Directors in BSN programs counted faculty members who teach primarily graduate-level courses. These ratios are not intended to measure overall program quality or the adequacy of faculty staffing for classroom or clinical instruction, but when trended over time they do offer insight into the changing workloads for faculty.

We asked Deans and Directors to select from a list the faculty specialties that were most difficult to find during last year’s new hiring process, shown in Figure 5. Although Medical-Surgical faculty members are in highest demand, the most difficult specialties to recruit for last year were obstetrics and pediatrics. For ADN programs, faculty members specializing in psych/mental health were also difficult to find.



**Figure 5. Most Difficult-to-Find Faculty Specialties for Hires Last Year**

Starting with the 2008 survey, we asked Deans and Directors to tell us how many full-time faculty members separated from their programs for any reason during AY 2007-2008. We used this information to produce turnover rates for each program with the following formula:

$$\text{turnover rate}_i = (\# \text{ of AY 2007-2008 separations}_i / \# \text{ of filled positions as of 9/30/08}_i) * 100,$$

where *i* = a single nursing program

Because turnover is generally conceptualized as a facility-level phenomenon, turnover rates were produced for each program rather than presented as a percentage of all filled faculty positions. In Table 5, program turnover rates are displayed at the 25<sup>th</sup> percentile, 50<sup>th</sup> percentile (median) and 75<sup>th</sup> percentile.

**Table 5. Separations and Turnover Rates for AY 2007-2008**

Program Type	Number of Separations	Turnover Rate in Quantiles		
		25 <sup>th</sup> percentile	50 <sup>th</sup> percentile (median)	75 <sup>th</sup> percentile
LPN	79	0.0	10.0	42.1
ADN	72	0.0	11.5	25.0
BSN and higher	44	0.0	5.9	13.3
<b>Totals</b>	<b>195</b>	<b>0.0</b>	<b>10.0</b>	<b>27.3</b>

A total of 195 full-time faculty members separated from nursing programs in AY 2007-2008. When expressed as rates, the median turnover rate for all program types was 10 percent. The

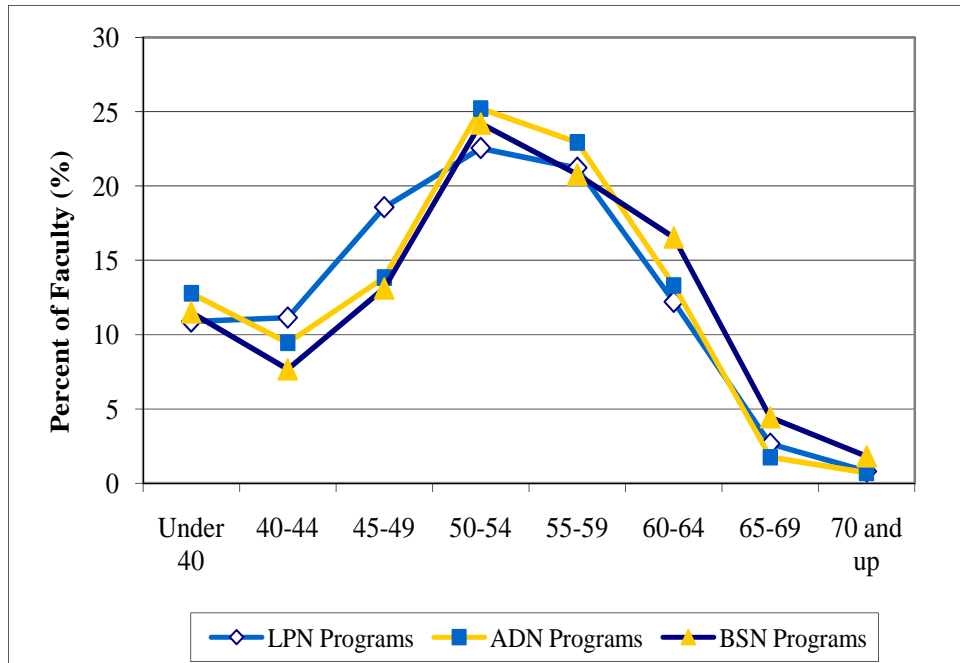
median rate was lowest in the university setting (5.9% for BSN and higher programs) and highest within ADN programs. However, it should be emphasized that *all* of these rates are substantially lower than those commonly found in other nursing employment settings. For example, our 2007 Employer Survey found (using an identical computation method) that the median turnover rate for RNs was 19.1 percent in hospitals, 42.8 percent in skilled nursing facilities, and 20 percent in home health agencies.<sup>5</sup> Thus, while recruiting faculty members may be difficult for nursing program administrators, retaining them does not appear to be as difficult as it is in many other nursing employment settings.

Table 6 and Figure 6 describe the education and age distributions of faculty members employed as of September 30, 2008. BSN and higher programs employed proportionately more full-time faculty educated at the doctoral level (about 55% of all faculty), while the vast majority of ADN full-time faculty members were educated at the master’s level (84.1%). LPN programs employ a significant number of RNs educated at the bachelor’s level (48.1%). Across all program types, part-time employees tended to hold lower degrees than full-time faculty.

**Table 6. Full and Part-time Faculty Education Distributions, by Program Type**

	LPN Programs	ADN Programs	BSN + Programs
<b>Full-time Faculty</b>	<b>%</b>	<b>%</b>	<b>%</b>
Doctorate in Nursing	0.3	6.6	34.8
Non-nursing Doctorate	1.9	4.3	20.5
Masters in Nursing	25.0	83.0	42.1
Non-nursing Masters	14.6	1.4	1.2
Bachelors in Nursing	43.6	4.8	1.4
Non-nursing Bachelors	4.5	0.0	0.0
Diploma or AS in Nursing	10.1	0.0	0.0
<b>Part-time/Adjunct Faculty</b>	<b>%</b>	<b>%</b>	<b>%</b>
Doctorate in Nursing	0.4	1.6	6.1
Non-nursing Doctorate	1.8	0.5	10.3
Masters in Nursing	23.1	42.9	71.9
Non-nursing Masters	5.7	3.4	4.2
Bachelors in Nursing	52.3	49.8	7.3
Non-nursing Bachelors	2.5	0.0	0.0
Diploma or AS in Nursing	14.2	1.8	0.2

A major concern regarding faculty supply is the aging of the faculty population. As Figure 6 shows, a large proportion of faculty members are nearing retirement age. Only one-third of ADN and BSN faculty members are under the age of 50, while nearly 16 percent of ADN faculty and almost one-quarter of BSN faculty members are over the age of 60.



**Figure 6. Age Distributions of Full-Time Faculty, by Program Type**

We asked Deans and Directors to tell us how many faculty members had retired during AY 07-08 and to estimate the number of retirements that would occur during the next three academic years (Table 7). All totaled, nursing programs reported that 33 faculty members had retired during AY 07-08. However, the number expected to retire in AY 2010-2011 is much larger at 82. Given the age distribution of current faculty members, we can expect the number of retirements to steadily increase over the next five years.

**Table 7. Full and Part-Time Faculty Retirements, by Program Type**

	LPN Programs	ADN Programs	BSN Programs
# Actual Retirements, AY 07-08	10	12	11
# Expected Retirements, AY 08-09	9	16	10
# Expected Retirements, AY 09-10	8	11	8
# Expected Retirements, AY 10-11	30	31	21

Finally, Table 8 shows the number of new faculty positions Deans and Directors expected to budget over the next two academic years. In spite of worsening economic conditions, many programs do plan to increase the size of their faculty in the near future. LPN programs project the most substantial growth, expecting a 20 percent increase over the total number of current faculty. BSN programs project more modest growth, expecting to increase faculty size by around 10 percent. Not surprisingly, these percentages are somewhat lower than those computed last year, as program administrators have shifted their expectations downward given budget cuts. Still, nursing programs in the state expect to budget for a total of 417 new faculty members over the next two academic years.

**Table 8. New Faculty Positions Expected Over Next Two Academic Years**

	LPN Programs	ADN Programs	BSN Programs
New Full-time Positions Expected	71	92	42
New Part-time Positions Expected	76	93	43
Total New Faculty Members Needed	147	185	85
% Growth Over Current Positions	20.5%	16.3%	9.7%

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

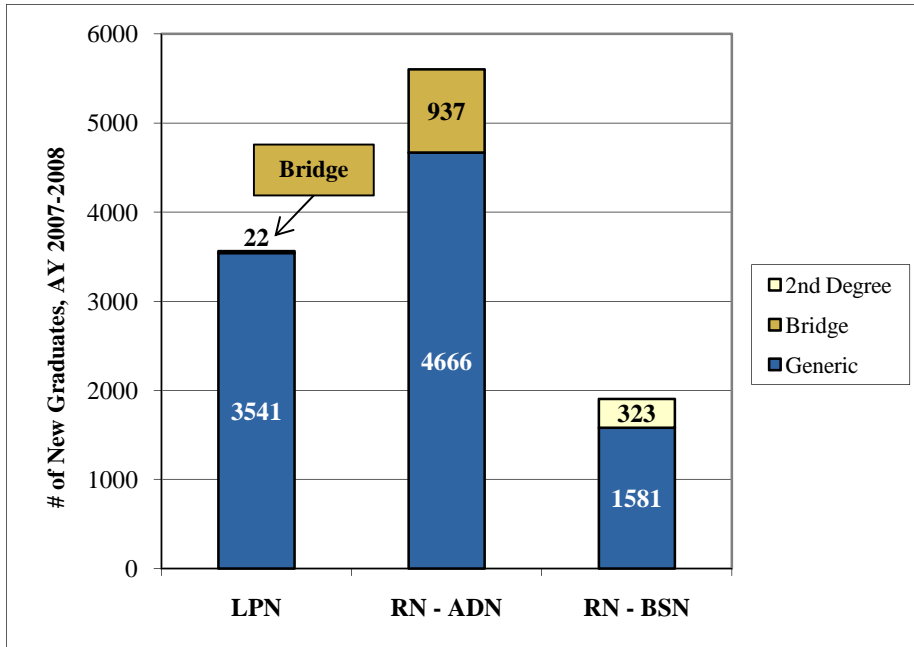
Program Capacity Information

Table 9 displays measures of program capacity – the ability of LPN and RN 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 2007-2008 due to capacity issues. Florida nursing programs declined a total of 12,563 qualified applicants – a number nearly capable of alleviating the current nursing shortage, were these students to complete programs successfully, pass the NCLEX examination, and join the nursing workforce in Florida. Generic ADN and BSN programs turned away the highest percentages of qualified applicants at 51.6 percent and 50.2 percent, respectively. Compared with AY 2006-2007, in AY 2007-2008 LPN and ADN programs turned away a larger proportion of qualified applicants, while BSN programs turned away a smaller number and proportion.

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 by more than one school. Note that the number of new enrollees is substantially smaller than the number of students admitted for many curricula. 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.

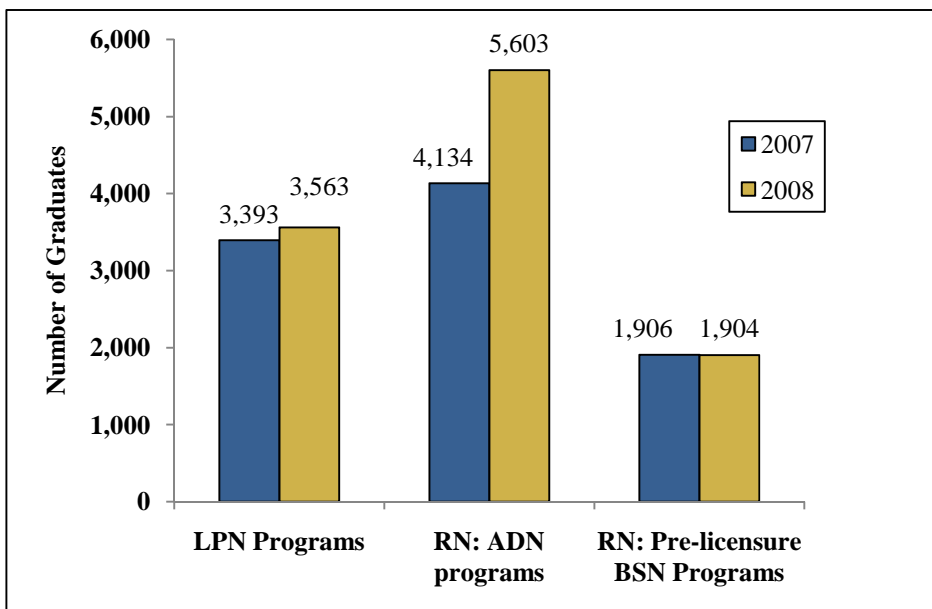
**Table 9. Program Capacity Measures for Pre-licensure Programs, AY 2007-2008**

	Generic LPN Curriculum	Bridge LPN Curriculum	Generic ADN Curriculum	Bridge ADN Curriculum	Generic BSN Curriculum	2 <sup>nd</sup> Degree BSN Curriculum
# of QUALIFIED applicants	7,670	43	12,708	1,952	4,853	1,027
# of students ADMITTED	5,299	39	6,157	1,213	2,417	565
# of QUALIFIED applicants turned away	2,371	4	6,551	739	2,436	462
% of QUALIFIED applicants turned away	30.9%	9.3%	51.6%	37.9%	50.2%	45.0%
# of NEW enrollees	5,006	38	6,045	1,161	2,052	342



**Figure 7. Graduates from Pre-licensure Programs, AY 2007-2008**

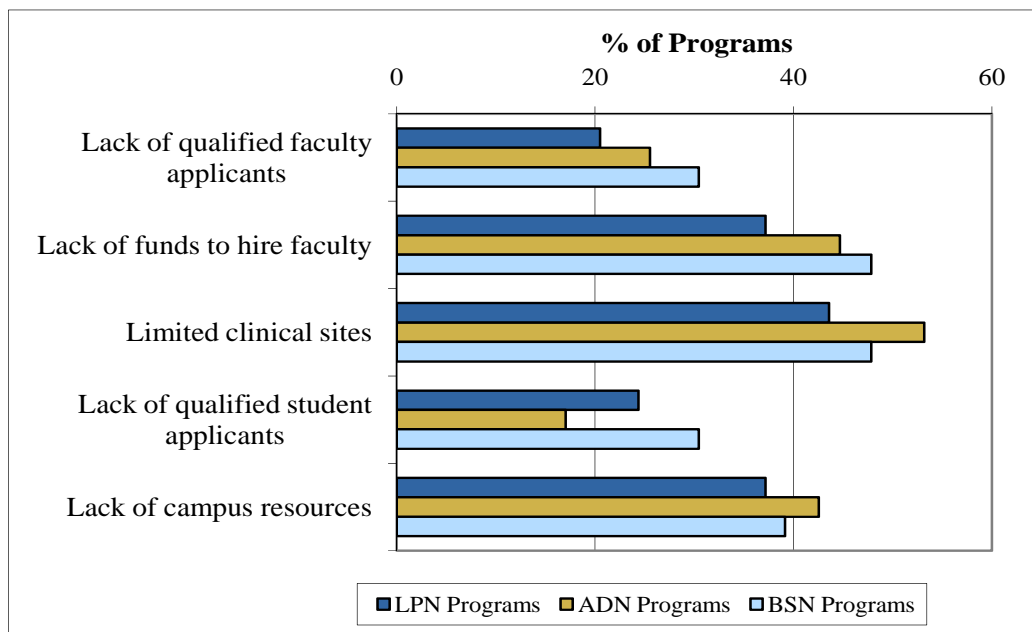
The number of graduates from pre-licensure programs in AY 2007-2008 is displayed in Figure 7. ADN programs clearly lead the production of RNs in Florida, training a total of 5,603 RNs during AY 2007-2008. BSN programs produced a total of 1,904 new RNs (only one-third the output of ADN programs) and LPN programs produced a total of 3,563 new graduate LPNs.



**Figure 8. New Graduate Nurses Produced in 2007 and 2008**

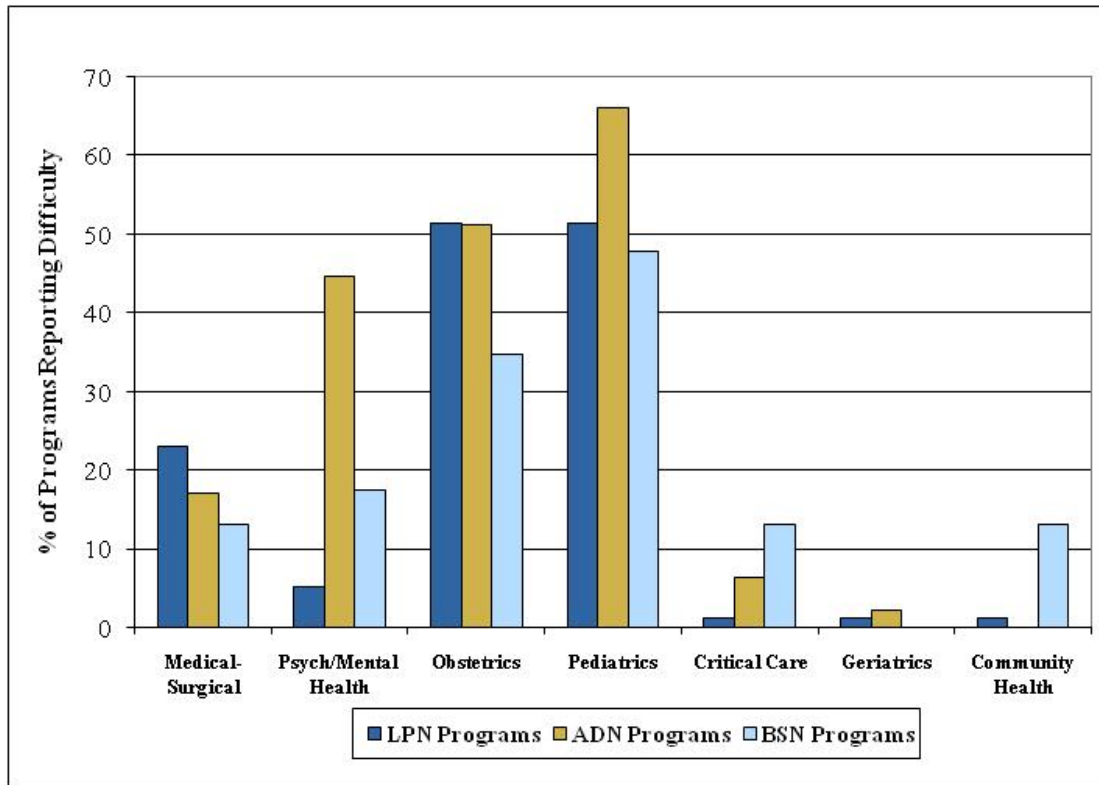
Figure 8 trends these totals (without respect for curriculum option) for AY 2006-2007 and AY 2007-2008. LPN programs experienced very little growth in the number of graduates, while BSN programs experienced no growth. However, ADN programs increased their output of new graduates by 1,469 – an amazing 35.5 percent increase in a single year. Importantly, new graduates do not translate directly into new nurses within the Florida nurse workforce. After graduation, nurses must pass the National Council Licensure Exam (NCLEX) and take nursing jobs in Florida to become members of our nurse workforce.

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 9). More than 40% of LPN programs and around half of RN programs reported limitations in finding clinical experiences for students, and nearly half of RN programs reported a lack of funding for faculty positions.



**Figure 9. Percent of Programs Reporting Factors Limiting Student Admissions**

Looking more closely at clinical experiences, we asked Program Directors to rate their level of difficulty in placing students and to select from a list the most difficult clinical experiences to find. Almost two-thirds of ADN programs, 58 percent of LPN programs, and half of BSN programs reported “some” or “great” difficulty in placing students. As Figure 10 shows, pediatrics and obstetrics were the most difficult clinical experiences to find for students. ADN programs also reported substantial trouble finding psych/mental health experiences.



**Figure 10. Percent of Programs Reporting Difficulty Placing Students in Clinical Sites**

The same capacity measures for post-licensure programs are shown in Table 10. In general, far fewer qualified applicants were turned away from post-licensure programs in AY 2007-2008 when compared with pre-licensure programs. Master’s program Nurse Practitioner tracks – overwhelmingly popular among master’s tracks – turned away the highest proportion of qualified applicants at 19.4 percent. All other programs and curriculum option turned away less than 10 percent of qualified applicants, suggesting that interest in these options is lower.

**Table 10. Program Capacity Measures for Post-licensure Programs, AY 2007-2008**

	RN-BSN	MSN: NP	MSN: Educator	MSN: Management	MSN: CNS	MSN: CNL	Doc: Ph.D.	Doc: DNP
# QUALIFIED applicants	2,871	1,553	187	57	37	31	57	109
# students ADMITTED	2,617	1,252	182	57	35	29	57	107
# applicants turned away	254	301	5	0	2	2	0	2
% applicants turned away	8.8%	19.4%	2.7%	0.0%	5.4%	6.5%	0.0%	1.8%
# NEW enrollees	2,153	1,085	148	44	28	24	42	94
# students GRADUATED	1,216	441	89	22	10	37	23	8

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.

With looming faculty retirements, it is discouraging that far fewer potential students are interested in the two tracks preparing nurses for faculty positions: master’s educator tracks and Ph.D. programs. Only 89 students graduated with master’s preparation in nursing education, and only 23 new Ph.D.s in nursing were produced in Florida during AY 2007-2008. This level of production is insufficient to fill the faculty vacancies that existed on September 30, 2008: 131 full-time and 48 part-time faculty positions.

Table 11 hints at the change in graduates we should expect in the coming years. It trends total enrollment of students on September 30<sup>th</sup> and shows the percentage change in total enrollment over one year. In addition to the impressive gain in new graduates this academic year, ADN programs managed to grow their total enrollment of students by 13 percent – the largest among pre-licensure programs. BSN programs, in contrast, grew by only 3%. This information suggests that university-based RN programs are indeed struggling more to expand in the face of a poor economy, as anecdotal evidence seemed to indicate. Federal and state workforce development funding tends to be directed to technical and community colleges, which may account for their ability to expand in the face of budget cuts.

**Table 11. Total Enrollment of Students in 2007 and 2008, by Curriculum Track**

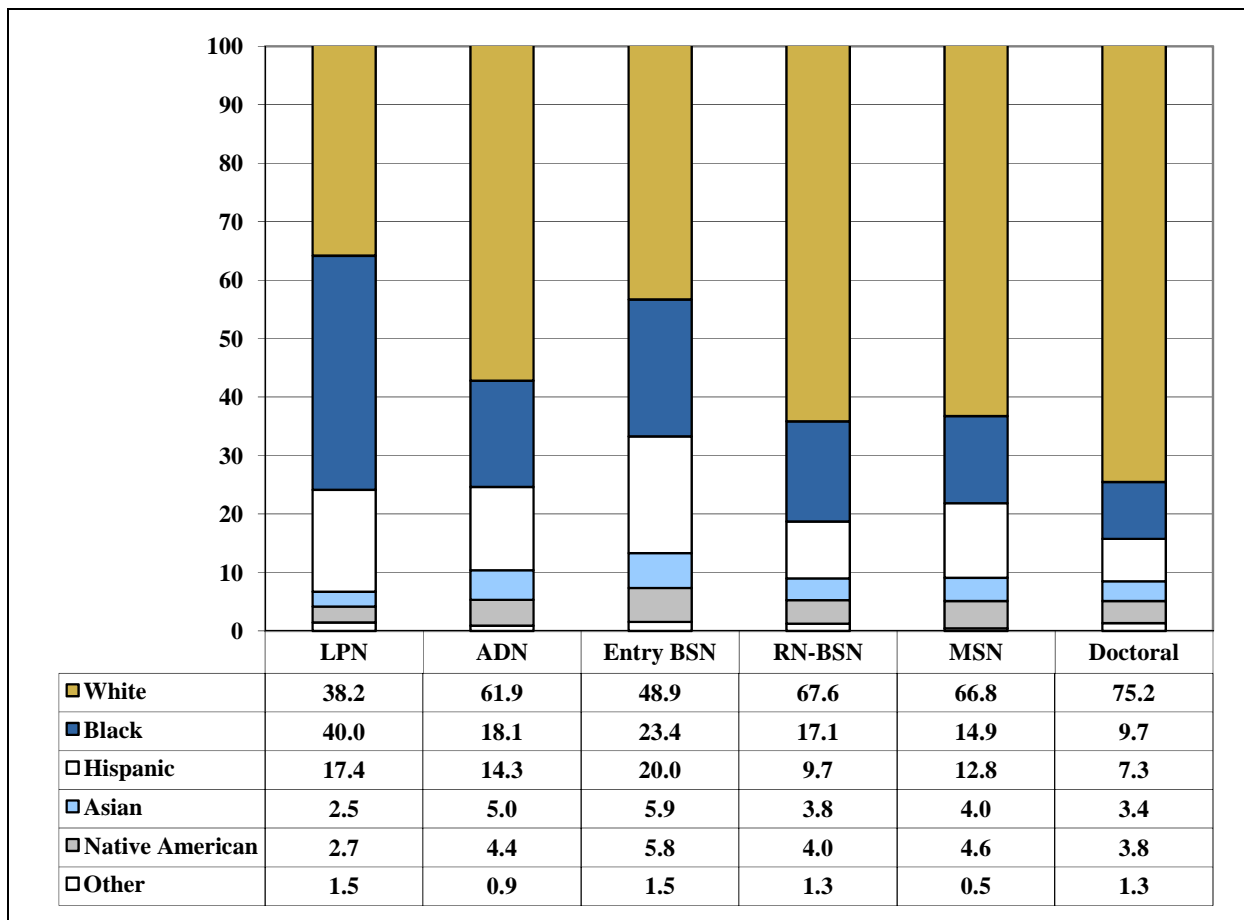
	<b>Total Enrollment on 9/30/07</b>	<b>Total Enrollment on 9/30/08</b>	<b>Percent Change</b>
Generic/Traditional LPN	4,818	5,129	6.5%
Bridge LPN	24	41	70.8%
<b>Total LPN</b>	<b>4,842</b>	<b>5,170</b>	<b>6.8%</b>
Generic/Traditional ADN	8,511	9,717	14.2%
Bridge ADN	993	1,056	6.3%
<b>Total ADN</b>	<b>9,504</b>	<b>10,773</b>	<b>13.4%</b>
Generic/Traditional BSN	4,087	4,228	3.4%
2nd Degree BSN	399	407	2.0%
<b>Total Pre-licensure BSN</b>	<b>4,486</b>	<b>4,635</b>	<b>3.3%</b>
<b>RN-BSN</b>	<b>3,366</b>	<b>3,518</b>	<b>4.5%</b>
MSN: NP track	1,840	2,216	20.4%
MSN: Educator track	341	323	<b>-5.3%</b>
MSN: Management track	123	107	<b>-13.0%</b>
MSN: CNS track	29	39	34.5%
MSN: CNL track	68	43	<b>-36.8%</b>
<b>Total MSN</b>	<b>2,401</b>	<b>2,728</b>	<b>13.6%</b>
Doctoral: Ph.D.	223	176	<b>-21.1%</b>
Doctoral: DNP	123	187	52.0%
<b>Total Doctoral</b>	<b>346</b>	<b>363</b>	<b>4.9%</b>

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.

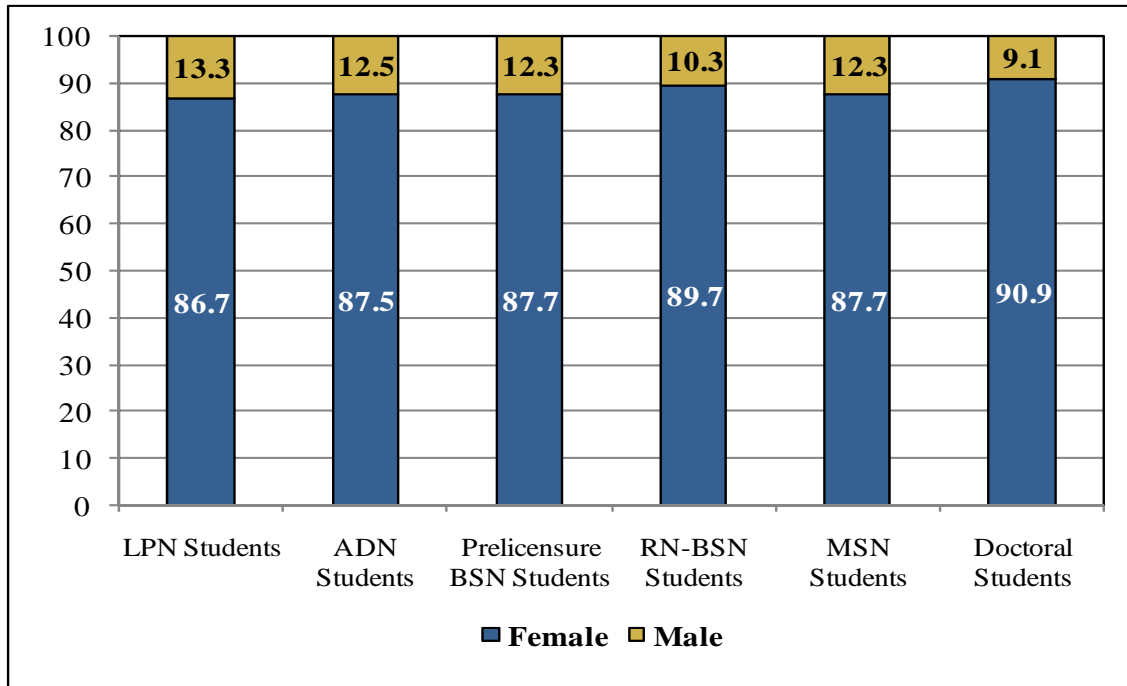
Among master’s and doctoral tracks, large increases in enrollment were seen for Nurse Practitioner (+20.4%), Clinical Nurse Specialist (+34.5%) and DNP programs (+52.0%). While these advanced practice tracks are expanding, the number of students enrolled in Educator

(-5.3%) and Ph.D. tracks (-21.1%) have decreased. As a result, we can expect fewer future graduates to pursue roles as Nurse Educators, which is problematic given the need for program expansion and the aging of current nurse faculty.

Finally, Figures 11 and 12 show the race/ethnicity and gender of students enrolled in nursing programs on September 30, 2008. It is generally accepted that a more diverse nurse workforce is needed to provide more culturally competent care to the diverse residents of Florida.<sup>6</sup> In 2007, 63 percent of Florida’s residents were White and non-Hispanic, 19 percent were Hispanic, and 16 percent were Black.<sup>7</sup> 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 2008) and Whites (73 percent of RNs in 2008). Licensure data indicated that Florida nurses became slightly more diverse during the 2007 calendar year, and this trend is being driven by a much more diverse pool of newly licensed nurses.<sup>8</sup>



**Figure 11. Race and Ethnicity of Nursing Students, 9/30/08, By Program**



**Figure 12. Gender of Nursing Students, 9/30/08, By Program**

Examination of the student population in 2008 echoes those findings. Only 61 percent of ADN students and 49 percent of pre-licensure BSN students were White. 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, nearly 90 percent of nursing students are female, suggesting that we should not expect the proportion of men in nursing to change significantly in the short term.

### Conclusions and Recommendations

AY 2007-2008 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 24 percent over AY 2006-2007, but *all* of this growth occurred in Associate Degree RN programs, further skewing the distribution of entry-level RNs towards the ADN level. Though ADN programs also reported a 13 percent increase in total enrollment during AY 2007-2008, these programs continue to face the barriers to growth of limitations in funding for faculty, limitations in clinical capacity, and difficulty in recruiting faculty for vacant positions.

The increase in new graduate RNs actually outpaced our forecast that a 15 percent increase in graduates would be required each year to resolve the shortage, which is good news. However, it is unlikely that continued increases of this magnitude are sustainable given the mounting barriers to expansion reported by program Deans and Directors. It is instructive to consider that the 12,563 qualified applicants turned away from Florida RN programs last academic year *would be*

*nearly enough to resolve the projected nursing shortage in 2008* (a deficit of 12,702 full-time equivalent RNs) if these applicants completed the programs successfully, passed the NCLEX exam, and joined the Florida nurse workforce. Although interest in the nursing profession continues to be very high, we must find ways to reduce barriers to program expansion if this interest is to be converted to an increase in the number of nurses.

Of particular concern for sustainable growth in nursing education is the the lack of growth in full-time nurse faculty over the academic year. Although ADN enrollment and graduations have increased considerably, the number of full-time faculty members in ADN programs actually *declined* from 576 in September 2007 to 564 in September 2008. Though the number of part-time faculty has increased during this time, it is likely that full-time faculty members are experiencing an increase in workload as a result of pressures to expand nursing education during an ailing economy. For ADN programs, we found that the number of students per full-time faculty member increased by *three* over the last academic year. 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 continue to increase.

Another indicator of trouble on the horizon is declining enrollment in graduate degree tracks preparing nurses for faculty positions. While overall enrollment in master's-level programs increased by 13.6 percent, all of this increase occurred for advanced practice tracks – NP and CNS. In sharp contrast, enrollment in nursing education tracks *declined* by 5 percent. Similarly, overall enrollment in doctoral programs increased by nearly 5 percent. However, this increase was generated entirely by increases in DNP enrollment (practice track), while Ph.D. program enrollment actually declined by 52 percent. This latter finding mirrors the national trend reported recently by AACN.

Increasing faculty workloads and decreasing preparation of nurses for faculty positions set the stage for a marked increase in the shortage of nurse faculty to be faced in the future. At present, economic conditions are stunting the ability of some nursing programs to hire new faculty, which masks the problem. Vacant positions may be eliminated for economic reasons, giving the impression they are no longer necessary. As the economy improves and programs seek additional faculty members for continued expansion, the shortage of nurse faculty will come into sharper focus.

Currently, the most consistently cited barrier to program expansion (for the second year in a row) is limited clinical capacity for interactive student learning experiences. Deans and Directors reported that obstetric and pediatric experiences were most difficult to find. 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 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.* If funding is available, the Center and several partners plan to conduct a comprehensive survey of nursing programs to learn more about their use of simulation. The FBON 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.* This year's survey results show very clearly that advanced practice degree programs are growing rapidly while teaching and research-focused preparation is declining. Over time, this will set the stage for a crippling faculty shortage. To improve recruiting efforts, 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 agreed-upon 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.

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