

The economic recession has temporarily resolved the nursing shortage in Florida. Presently, the supply and demand of nurses (both RNs and LPNs) is close to equilibrium, resulting in a tight labor market particularly for new graduates. As a result of the recession, hospitals have laid-off employees and delayed hiring new employees, employee turnover has decreased, nurses working part-time have increased their hours at work, while others have delayed their retirement plans or returned to work to support their families. As the economy slowly improves, we can expect these economic drivers will shift: some employees will reduce their hours at work, others will resume their retirement plans and leave the workforce, and the aging population will need more healthcare – all of which will lead to gradual increased hiring of more nurses.

Florida's nurse workforce status and the predicted future nursing shortage is affected by a confluence of demographic effects: an aging population requiring more health care, simultaneous retirements of large numbers of Baby Boomers in the nurse workforce, and projected state population increases. Factors that will increase the number of people seeking access to healthcare include: 1) increased focus on primary prevention of chronic diseases and utilization of preventive screening procedures, 2) demand for elective surgeries will resume as the recession ends, and 3) the uninsured will gain access to healthcare as a component of healthcare reform. As the health industry moves from the traditional illness model to an emphasis on health promotion and primary care, an increase in nurse practitioners will be needed. Thus,

implementation of healthcare reform will also play a key role in nurse employment.

The Florida Center for Nursing (Center) predicts demand for nurses will increase sharply beginning in 2014, coinciding with full implementation of healthcare reform. Complicating these demographic and market-related shifts are limitations in the ability to expand nursing education programs and problems retaining nurses in the Florida nurse workforce. As a consequence, the Center's forecasts of nurse supply and demand predicted that by 2025 there will be a shortage of more than 50,000 RN full-time equivalents (FTEs) and more than 12,500 LPN FTEs.<sup>1</sup> (The Center does not calculate forecasts for ARNPs because the forecast models used are not designed for this purpose and the Center's surveys of nurse employers focus on industries which employ mainly RNs and LPNs. However, the Center does have supply, demand, and education data for ARNPs.)

This paper reviews the most current data available on various elements of the nurse workforce in Florida, including nurse supply and demand, nursing education capacity, and nurse retention and turnover. The information presented here comes from original research conducted by the Florida Center for Nursing and is available on our website. The following points summarize the highlights of our recent work:

- Although there are over 187,000 RNs in Florida's *potential nurse workforce* (an active license, Florida address, no disciplinary restrictions) the Center estimates that approximately 160,303 (85.5%) are actually working in nursing in Florida. Among the *potential LPN*

*workforce*, an estimated 83.3 percent are working as LPNs in Florida.

- About 80 percent of RNs were working more than 36 hours per week in 2009, a figure that is higher than national estimates of full-time RN employment in 2008 and is likely due to the recent economic downturn.
- The most common employment settings for RNs were hospitals (63.8%), home health care (7.9%), ambulatory care facilities (4.9%), and long term care facilities (4.6%).
- Florida's nurse supply is becoming more diverse in terms of gender and race/ethnicity. The average age of nurses is increasing; the average age of RNs in January 2010 was 48.6 years.
- Nearly 6,800 RN positions (full- and part-time) and 1,400 LPN positions were vacant as of June 30, 2009. The majority of RN vacancies were in hospitals, while the majority of LPN vacancies were in skilled nursing facilities.
- If vacant nurse FTEs (as of 2009) were filled, the state and local tax earnings on these salaries would be approximately \$30 million.
- When surveyed by the Center in June 2009, many nurse employers expected considerable growth in RN and LPN employment over the next two years, mostly in home health and hospitals.
- Demand for nurses has changed in the past two years relative to the economy.
- The Center predicts that demand for nurses will soar to over 50,000 RN FTEs and over 12,500 LPN FTEs in 2025 as a result of retiring nurses, an aging population needing more care, and healthcare reform implementation. These predicted RN vacancies in 2025 translate into an estimated \$226 million in state and local tax revenues were the positions filled.
- Nursing education programs in Florida denied admission to over 20,000 qualified applicants in Academic Year 2009-2010 – over 50 percent of the qualified applicants to LPN, RN associate's degree, and RN baccalaureate degree programs were turned away.
- The most consistently cited barriers to program expansion are limited clinical sites, lack of funds to hire faculty, lack of qualified applicants for faculty positions, and lack of campus resources.
- From academic year (AY) 2008-2009 to AY 2009-2010, the number of pre-licensure graduates from ADN and BSN programs increased by 1.1% and 7.8% respectively. LPN programs reported a 6 percent decrease in graduates.
- Solutions to the nursing shortage, while often viewed as costs, may also have economic benefits for the state. The salaries earned by nurses filling currently vacant positions would contribute to the gross state product and state and local tax revenues. Reducing nurse turnover also reduces costs to employers.
- Most importantly, solutions to the shortage will assure Floridians access to an adequate, qualified, nurse workforce to meet their health needs.

## Nurse Supply

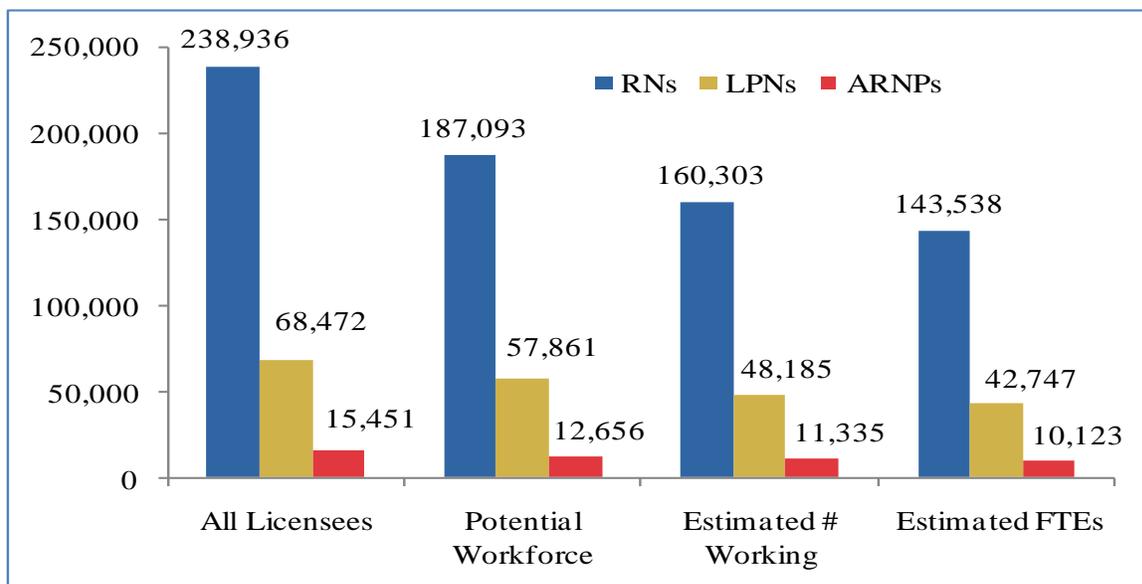
Florida's *potential* nurse workforce is comprised of those nurses who are eligible to work as nurses in this state by virtue of having an active license, no disciplinary restrictions, and a Florida address. Not all nurses in the potential nurse workforce are actually working as a nurse. The Center recently completed a survey of over 90 percent of all licensed nurses in Florida who renewed their licenses in 2008 and

2009. Our Nurse Workforce Survey found that of the potential nurse workforce, 85 percent of RNs, 90 percent of ARNPs, and 83.3 percent of LPNs were employed in the field of nursing in Florida.<sup>2,3</sup> The estimated number of working RNs is 160,303. However, since some nurses work part-time, the estimated number of full-time equivalent (FTE) RNs is lower still at 143,538 (Figure 1).

About 80 percent of RNs, ARNPs, and LPNs in Florida were working full-time (36 or more hours per week), and an estimated 849 RNs were employed in nursing for every 100,000 Floridians.<sup>2</sup> Similarly, the 2008 National Sample Survey of Registered Nurses found an estimated 74.6% of RNs were working full-time and there were 854 employed RNs per 100,000 people nationwide.<sup>4</sup> Younger nurses tend to work more hours: the average FTE is between 0.9 and 0.94 for RNs age 21-40, but drops to 0.8 for RNs above age 60. The differences in full-time employment estimates of state and national data may reflect both the economic recession (which has worsened since the

national survey was conducted) causing nurses to increase their hours worked and other nurses to return to work, as well as the unique nursing needs of Florida's population. Future Center surveys of the RN population in Florida will allow tracking of these data over time so that we can examine fluctuations in nurses' employment congruent with population shifts and economic changes.

Increases in Florida's nurse workforce hide much volatility over the past two years. The net number of nurses in Florida has increased by almost 16,000 from 2008 to 2010 (Table 1).<sup>2,3</sup> However, during this same time-frame, a total of 24,437 nurses left the workforce in Florida. This workforce volatility is seen at all levels of nurse preparation – LPNs, RNs, and ARNPs. The most common reasons for the losses were failure to renew a license, no longer living/working in Florida, license upgrades (LPN to RN; RN to ARNP), or license is null and void.



**Figure 1. Florida's Nurse Supply and Employment Status**

**Table 1. Components of Net Change in the Potential Nurse Workforce, 2008-2010**

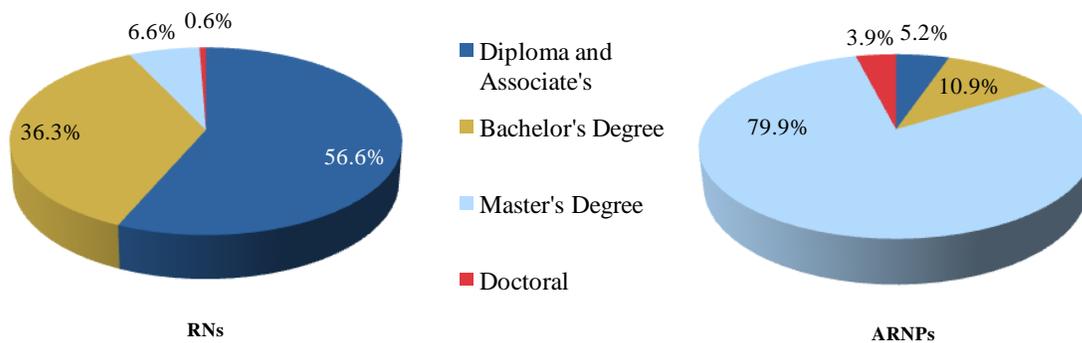
	RNs	ARNPs	LPNs	Total
<b>Total Gains to Potential Workforce</b>	27,668	2,223	10,530	40,421
<b>Total Losses from Potential Workforce</b>	16,172	650	7,615	24,437
<b>Net Change in the Potential Workforce</b>	<b>11,512</b>	<b>1,562</b>	<b>2,919</b>	<b>15,993</b>

Nurses employment settings vary by level of preparation. The most common employment setting for RNs were hospitals (63.8%), followed by home health care (7.9%) and ambulatory care facilities (4.9%) according to the Center's 2009 Nurse Workforce Survey.<sup>2</sup> By contrast, slightly over one-third (37.9%) of ARNPs work in hospitals, one-quarter (26.4%) in physician or other health care provider offices, and 10 percent work in ambulatory care. LPN employment shows a different pattern, as they are employed primarily in long term care (36.5%), home health care (15.1%), and hospitals (14.8%).<sup>3</sup>

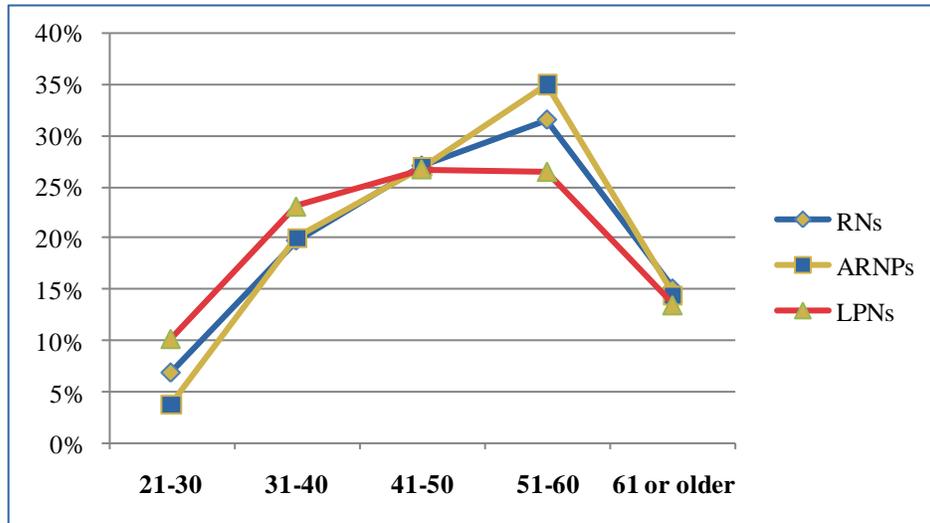
Over 56 percent of Florida's RNs have a diploma or associate's degree, and 36 percent have a bachelor's degree (Figure 2).

In comparison, almost 80 percent of ARNPs have a master's degree and almost 4 percent have a doctoral degree.

The diversity of Florida's nurses is slowly starting to reflect the diversity in Florida's general population. Statewide, 70.5 percent of RNs are white as are 79.5 percent of ARNPs and 58.5 percent of LPNs.<sup>2,3</sup> In contrast, the South Florida region has a much more diverse population which is also reflected in their supply of nurses. In South Florida, approximately 37 percent of RNs are white, 25 percent are African-American, and 23 percent are Hispanic.<sup>5</sup> Men are slowly becoming a larger proportion of the nurse workforce: almost 10 percent of RNs and almost 15 percent of ARNPs are men.<sup>2</sup>



**Figure 2. Highest Degree Held by RNs and ARNPs Working in Nursing**



**Figure 3. Age Distribution for RNs, ARNPs, and LPNs in Florida**

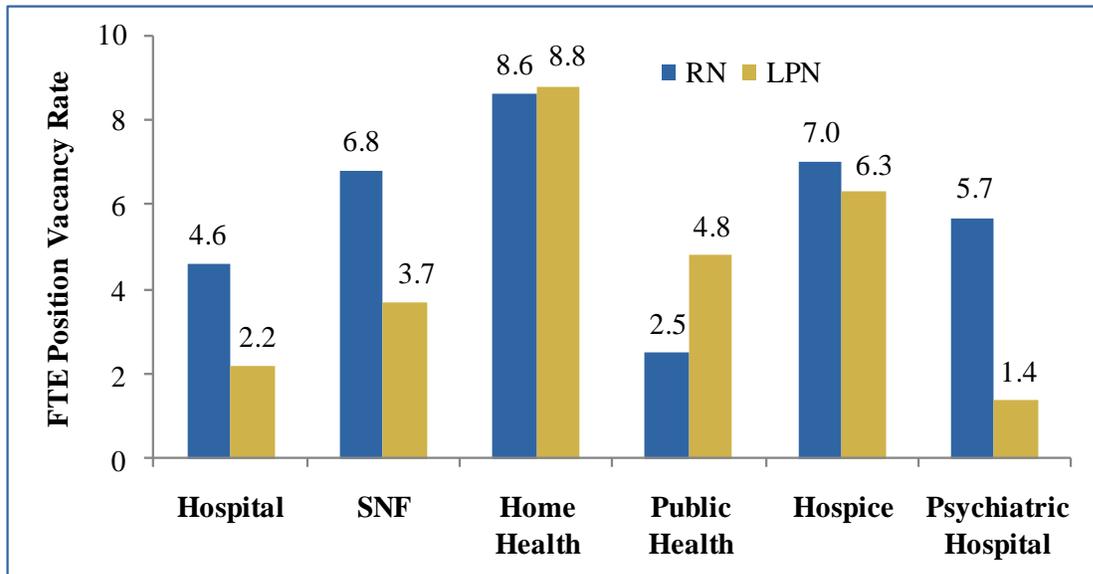
Aging of Florida’s nurse supply is a serious concern for the future of our nurse workforce. As older nurses leave the workforce, fewer younger nurses are available to replace them, and these younger nurses also do not benefit from the knowledge transfer and mentoring of their more experienced nurse colleagues. In January 2010, the average age of Florida’s RNs was 48.6 years.<sup>2</sup> Although a person’s retirement plans may fluctuate with changing state and national economic conditions, we should realistically expect many older nurses to retire during the next 10 to 15 years. Only ¼ of RNs and 1/3 of LPNs are younger than 40 years (Figure 3), and these smaller cohorts of younger nurses will likely be unable to compensate for the projected personnel losses due to retirement in the next 10 years. Based on current age statistics and retirement projections, the future nurse supply will become insufficient to meet the soaring demand for healthcare of aging Floridians.

### Nurse Demand

Nurse demand includes employed nurses (demand that has been satisfied) as well as

*unmet* demand in the form of vacancies for RNs and LPNs. Future demand for nurses depends on many factors, including population growth, nurse retirements, and healthcare reform. As of the 30<sup>th</sup> of June 2009, the Center estimated that a total of 6,807 full and part-time RN positions were vacant, as were about 1,400 LPN positions.<sup>6</sup> Most of the estimated RN vacancies were in hospitals (71%), whereas the LPN vacancies were predominately in skilled nursing facilities (53%) and home health agencies (26%). Demand for nurses has certainly changed in the past two years in response to economic changes.

Within a specific employment setting, the position vacancy rates represent the proportion of all FTE positions that were vacant as of June 30, 2009 (Figure 4). FTE vacancy rates for RNs and LPNs were highest in home health agencies (RN: 8.6%; LPN: 8.8%) and hospices (RN: 7.0%; LPN: 6.3%). FTE vacancy rates for RNs were lowest in hospitals and public health departments. LPN vacancy rates were lowest in psychiatric hospitals, hospitals, and skilled nursing facilities.



**Figure 4. FTE Position Vacancy Rates for RNs and LPNs as of 06/30/09**

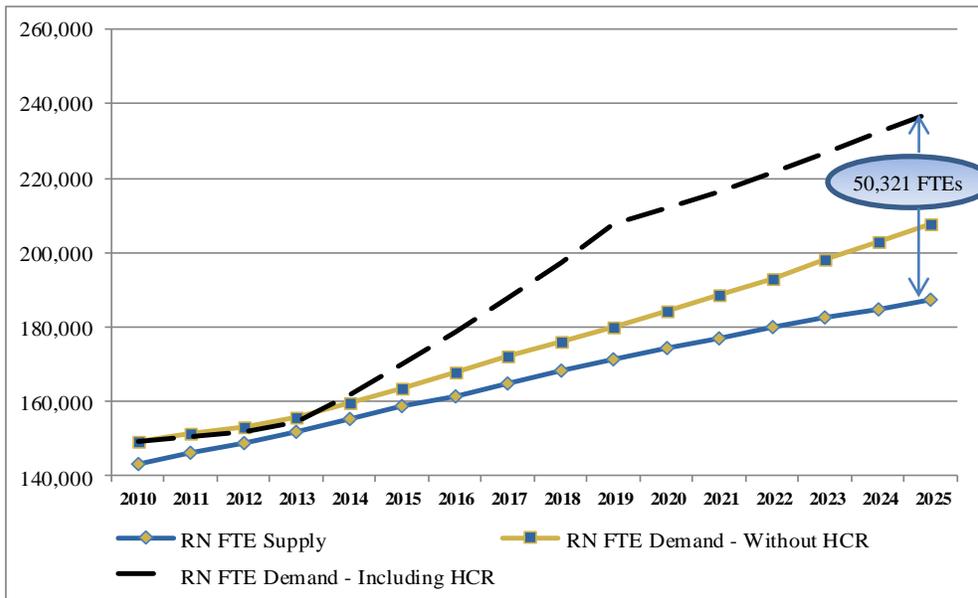
Filling vacant nursing positions is economically beneficial for Florida. The Center’s economic analysis shows that the estimated vacant nurse FTEs in 2009 represented \$30 million in estimated state and local tax revenues that were not collected because the positions were not filled.<sup>7</sup>

Based on information received from industry in the Center’s 2009 Workforce Survey, an estimated 8,200 new RN positions and over 3,170 new LPN positions may be created through 2011.<sup>6</sup> About 50 percent of new RN positions are expected to be in home health agencies and 37 percent in hospitals. Approximately 70 percent of new LPN positions are expected to be in home health agencies, 13 percent in skilled nursing facilities, and 9 percent in hospitals.

Nationally, the Bureau of Labor Statistics (BLS) predicts that the demand for RNs will generate 581,500 new jobs by 2018 (22% employment growth).<sup>8</sup> The highest percentage of national employment growth for RNs is forecast for physicians’ offices

(48%), which are expected to create 106,500 new jobs. (The Center does not survey physicians’ offices or ambulatory care centers, thus our demand and vacancy numbers do not include data from these industries.) National employment growth in hospitals is expected to be about 17 percent, which will generate 274,000 new RN jobs. Other industries with high growth rates for new RN jobs are home health care services (33%), nursing care facilities (25%), and employment services (24%). LPNs are expected to have 21 percent employment growth through 2018, generating 155,600 new jobs nationally.<sup>9</sup> LPN job creation will be especially strong in home health care agencies and nursing care facilities.

Within Florida, the Center’s forecast models show that despite the recession and slowly recovering economy, the implementation of healthcare reform will increase demand for RNs over the next 15 years (Figure 5).<sup>1</sup> Supply and demand are predicted to be close to equilibrium from 2011-2013, then demand is predicted to increase sharply



**Figure 5. RN FTE Supply and Demand Projections with and without Healthcare Reform**

as the economy continues on a path of recovery, baby boomer nurses retire, Florida’s population ages, and healthcare reform is phased in. These combined factors are predicted to create a shortage of more than 50,300 RN FTEs and over 12,500 LPN FTEs by 2025. This worst-case scenario translates into \$226 million in state and local tax revenues that will not be collected if these positions remain vacant.<sup>7</sup> However, the Center’s recent forecasts suggest that if the rate of attrition (loss) from the RN workforce is decreased by 2% (or 3,000 nurses per year) combined with an increase in new graduates of 5% per year for six years (30% total) then the predicted nursing shortage will be eliminated by 2022.<sup>1</sup>

## Nursing Education

Nursing education programs have the potential to aid in addressing long-term demand for nurses by increasing their output

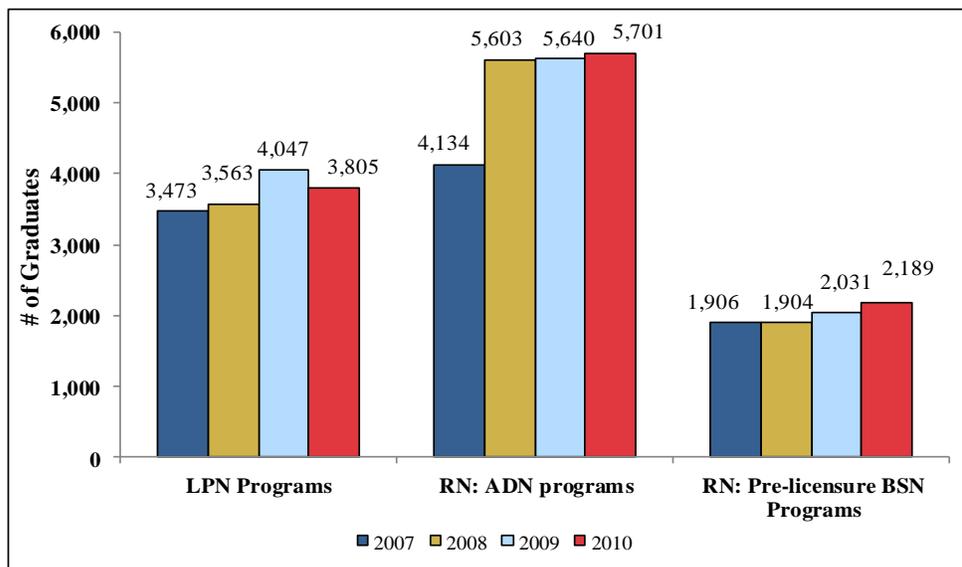
of new graduate nurses, but evidence indicates that our education supply pipeline suffers from a bottleneck that limits nursing program expansion. The 2010 Florida Center for Nursing Survey of Nursing Programs found that pre-licensure RN associate’s degree programs (ADN) *denied admission to almost 60%* of qualified applicants and Baccalaureate degree programs (BSN) *denied admission to 56%* of qualified applicants in Academic Year (AY) 2009-2010 (Table 2).<sup>10</sup> LPN programs also turned away *over fifty percent* of qualified applicants. At present it is not possible to distinguish the number of people denied admission to nursing schools from the number of applications declined. A single prospective student may be denied admission (or accepted) by more than one school. Nonetheless, the percentage of qualified applicants that were denied admission to Florida nursing schools has increased by 10% or more from last academic year.

**Table 2. Program Capacity Measures for Pre-licensure Programs, AY 2009-2010**

	LPN Curriculum	ADN Curriculum	BSN Curriculum
# of QUALIFIED applicants	13,142	16,033	7,392
# of student SEATS	6,868	7,028	2,951
# of students ADMITTED	6,312	6,579	3,237
# of rejected applications	6,830	9,454	4,155
% of rejected applications	52.0%	59.0%	56.2%
# of NEW enrollees	5,776	6,344	2,830
# of SEATS left VACANT	1,092	684	121

Among all types of nursing programs, the number of new enrollees to nursing programs is smaller than the number of students admitted. Prospective students may often apply and be accepted to multiple schools (thus inflating the total number of qualified applicants), but choose only one school in which to enroll. However, there were also a number of vacant seats in nursing programs – in other words, some programs were not filled to capacity. This may be a result of expansion restrictions, such as a shortage of faculty or clinical capacity limitations, which restricted the number of students that a school could admit.

In AY 2009-2010, Florida nursing schools graduated 7,890 new RNs and 3,805 new LPNs. Most of these new RNs (72%) were from ADN programs (Figure 6). The number of graduates from ADN and BSN programs increased slightly (1.1% and 7.8%, respectively), but the number of LPN graduates decreased by 6%. A relatively stable number of graduates over this time period was to be expected, as the first cohorts of students enrolled in new nursing programs have not yet graduated. Hence, next year we should expect an increase in the number of graduates from the state’s recently licensed nursing programs.



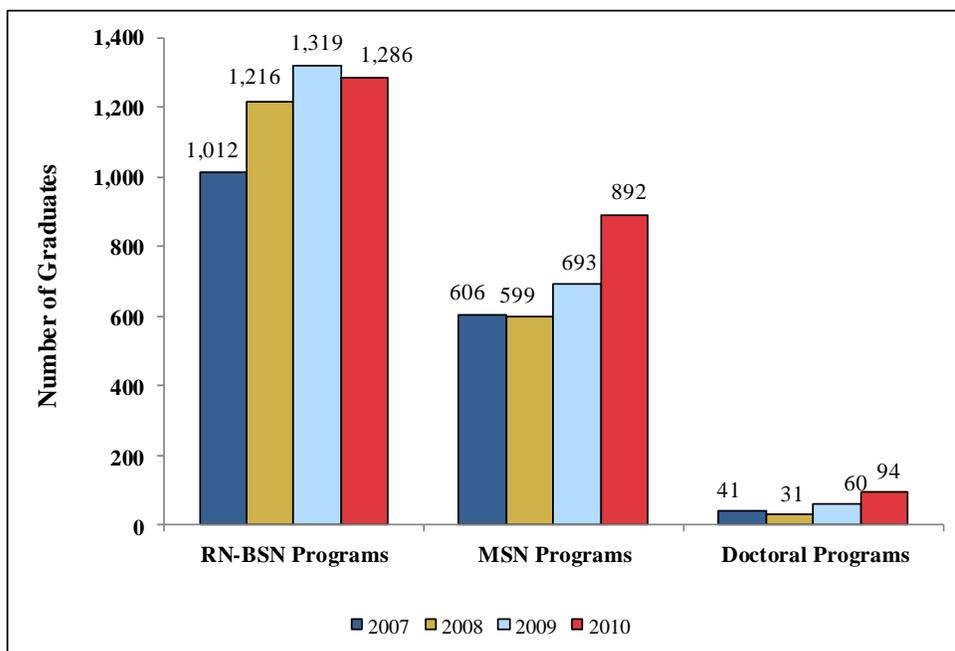
**Figure 6. New Pre-Licensure Graduate Nurses, 2007-2010**

Since the October 2009 survey, the number of post-licensure graduates has increased by 28.7 percent for MSN programs and 56.7 percent for doctoral programs (Figure 7). Although the numeric increases for these program types are small – 199 master’s graduates and 34 doctoral graduates – the increases demonstrate significant expansion, particularly during AY 2009 - 2010. RN-BSN programs who responded to our survey graduated 33 fewer students in AY 2009-2010 than in AY 2008-2009, but this is likely an undercount of the RN-BSN graduates as not all of these programs responded to the Center’s education survey.

As previously mentioned, nursing education programs reported several barriers to program expansion. The most consistently cited barriers are limited clinical sites for interactive learning experiences and lack of funds to hire faculty – cited as problems by three-quarters of BSN programs. Lack of qualified applicants for faculty positions (faculty shortage) and lack of campus resources were also cited as barriers to expansion, particularly within BSN

programs. In contrast to pre-licensure programs, a lack of qualified student applicants was a significant barrier to expansion among post-licensure programs.

Faculty vacancy rates have increased in Florida’s nursing education programs since AY 2008-2009. As of September 2010, faculty vacancy rates were approximately 8.4% in LPN programs, 7.6% percent in ADN programs, and 12.4% in BSN programs.<sup>10</sup> Rising faculty vacancy rates correlate with an increasing ratio of enrolled students to full-time faculty positions within all types of nursing programs. The average age of full-time faculty members was 52.7 years in BSN programs and 51.5 years in both ADN and LPN programs; and 16 percent of ADN and LPN faculty and almost 22 percent of BSN full-time faculty members are over the age of 60. This age distribution suggests that many nurse faculty may retire in the next 10 years, increasing the severity of the already existing faculty shortage and causing a subsequent reduction in program capacity.



**Figure 7. Post-Licensure Graduate Nurses, 2007-2010**

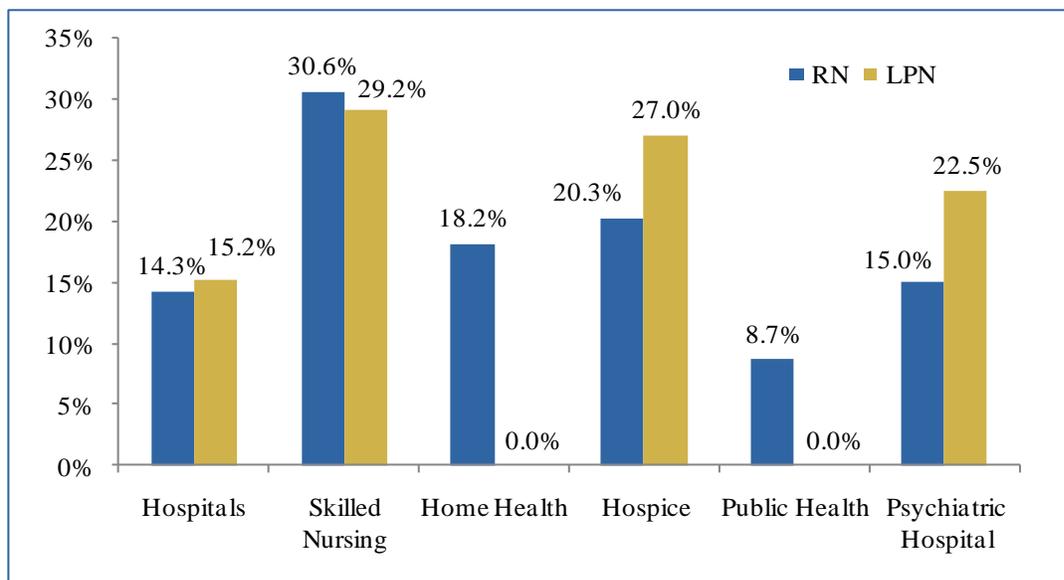
## Nurse Retention and Turnover

The recession has further affected the nursing profession by decreasing turnover rates, as nurses are more likely to remain with their current employer in uncertain economic times. During Fiscal Year (FY) 2008-2009, median turnover rates for RNs were approximately 14 percent in hospitals, with a high of 31 percent in skilled nursing facilities (Figure 8).<sup>6</sup> LPN turnover was highest within skilled nursing facilities and hospices. Although these turnover rates are high, they have decreased in most industries since our previous nurse employer survey in FY 2006-2007. Turnover rates are certainly impacted by the economy, and data from the Center’s next survey of nurse employers in the summer of 2011 will provide updated nurse turnover information.

Excessive turnover is costly for employers as they incur expenses related to recruiting and hiring, lost productivity, increased payments for overtime or agency personnel,

and possibly compromised quality of care. The Center estimated the cost of nurse turnover in Florida during FY 2008-2009 to be \$1.4 billion.<sup>7</sup> Clearly, if nurse turnover were decreased, the facility-level cost savings could lead to higher-quality, less expensive health care.

Complementary to reducing turnover, emphasis must be placed on retaining the nurse workforce. Considerations of the effects of aging on the nurse workforce are critical to improve retention of this cohort of nurses - for the experiential knowledge they contribute to the quality of care delivered, and for their contributions to the professional development of novice nurses. Challenges to be addressed include the physical requirements of nursing practice, accommodations for diminished vision (e.g.: improved lighting, larger fonts), and a desire to reduce hours worked. Improving the work environment and providing for a healthy work-life balance will demonstrate that employers value the contributions of multi-generational nurses.



**Figure 8. RN and LPN Median Turnover Rates by Employment Setting, FY 2008-2009**

## Conclusions: Current and Long-Term Drivers of the Nurse Workforce

Presently, the supply and demand for nurses in Florida is near equilibrium, as a result of the many dynamic elements of the prolonged economic recession. One major factor affecting the current and future nurse supply is the aging Baby Boomer nurse workforce. Approximately 50 percent of RNs in Florida are over 50 years of age, and we can anticipate that as the economy recovers, many RNs who returned to work or had been delaying retirement will leave the workforce within the next 10-15 years. Only 26.5 percent of RNs in the nursing workforce are younger than age 40, and this group cannot fill the potentially large number of vacancies that will be left by retiring nurses. Two foremost drivers of the future demand for nurses are the aging of the US population and the implementation of healthcare reform, which will emphasize primary prevention and increase access to healthcare. Nurses are, and will continue to be, the largest component of the health workforce. Thus we should keep in mind that the current easing of the nursing shortage is temporary, and we must continue to work towards developing and implementing long-term strategies to create a sustainable nurse workforce for Florida.

Creating a sustainable nurse workforce involves increasing the long-term supply of nurses through targeted expansion of nursing programs in areas of the state where they are most needed, and retaining currently employed nurses. Nursing program

expansion cannot be accomplished without addressing the problems of clinical capacity limitations and nursing faculty shortages. Increased use of simulation technologies can create opportunities for safe, effective clinical learning experiences. Nursing faculty positions must be made more attractive to those considering a career in nursing education, including receiving market-competitive salaries. Furthermore, improvements in nurses' work environment, such as ergonomic designs, shared governance, role and work redesign, and staffing at appropriate levels, are strategies employers can use to retain their nurse workforce.

The Center also recommends continued data collection from nurses, nurse employers, and nursing education programs. Through continued study of what types of nurses Florida has, where they work, what nurse employers need, and changes in the nursing education pipeline, the state and employers can develop and evaluate specific interventions for a sustainable nursing workforce. In essence, continued data collection can help the state course-correct so that resources are expended in the most efficient way to resolve the shortage. Resolving the nursing shortage and creating a sustainable nursing workforce has clear benefits for patients and all Floridians.

The Florida Center for Nursing, as your definitive source of information on the nursing workforce, will continue to collect the data needed to describe the current (and future) supply and demand for nurses. We look forward to being your partner in resolving Florida's nursing shortage.

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