

RN and LPN Supply and Demand Forecasts, 2010-2025: Florida's Projected Nursing Shortage in View of the Recession and Healthcare Reform

October 2010



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



# RN and LPN Supply and Demand Forecasts, 2010-2025: Florida's Projected Nursing Shortage in View of the Recession and Healthcare Reform

# **Executive Summary**

The Florida Center for Nursing (Center) prepares long-range forecasts of nurse supply and demand every two years to facilitate the state's planning in response to changing economic and political conditions affecting the nursing shortage. This year's update takes into account the countervailing impacts of healthcare reform (increasing demand) and the economic recession (decreasing demand and increasing supply). If additional efforts to increase the supply of nurses are not undertaken, we project that the shortage of nurses will reach critical levels within the decade:

- If healthcare reform is implemented according to current plans, a shortage of about 5,900 RN full-time equivalents (FTEs) in 2010 will grow to more than 50,300 RN FTEs by 2025. Based on the average proportion of an FTE worked by RNs, this translates into an estimated 56,000 RNs that will be demanded but unavailable for employers in 2025.
- Under healthcare reform, a shortage of about 1,261 LPN FTEs in 2010 could grow to more than 12,500 LPN FTEs by 2025. Though smaller in magnitude than the RN shortage, a significant shortage of LPNs could devastate elder care settings such as nursing homes, home health agencies, and hospices.
- The economic recession has temporarily delayed the emergence of a severe nursing shortage, and we project that a tight labor market for RNs and LPNs will persist for a few years as the economy recovers slowly. When key provisions of healthcare reform expanding access to care are implemented in 2014, demand for RNs will increase rapidly.
- The long-term drivers of the nursing shortage an aging population demanding more care and an aging nurse workforce nearing retirement remain in place regardless of economic conditions or policy changes.

Simulations designed to show the impact of efforts to increase the nurse supply illustrate that we can avoid a severe nursing shortage through concerted effort:

- If we only decrease the rate of nurse attrition by two percentage points (retaining approximately 3,000 RNs each year that would otherwise be lost from the state or profession), the projected shortage in 2025 is reduced to 31,500 RN FTEs.
- If we only increase the number of new graduate nurses by five percent a year for six years (30% total), the projected shortage in 2025 is reduced to about 31,000 RN FTEs.
- If we simultaneously implement an increase in retention and an increase in new graduates, the projected shortage never grows larger than 10,000 RN FTEs and is completely resolved by 2022.
- If we implement a one percent reduction in LPN attrition and increase new graduates by five percent a year for three years (15% total), the LPN shortage can be prevented from developing.



The following research and policy recommendations are offered to prevent the future shortage of nurses from reaching the severe levels we project:

- 1) All stakeholders must prioritize the retention of nurses. A developing body of literature shows the benefits of specific strategies employers can use to retain nurses through improvements in the work environment, such as shared governance, role and work redesign, and staffing at appropriate levels. Unfortunately, most facility retention efforts are never published, and of those that are, information about the return on investment of retention efforts are not typically included. More research is needed to identify best retention practices and provide a rationale for increased expenditures related to retaining nurses. At the same time, nursing education programs must realistically prepare students for the demanding nature of nursing work. A substantial number of newly licensed nurses leave within the first year of their careers, which indicates that the expectations many prospective nurses have may be unrealistic. Education programs can also facilitate retention in the profession by offering refresher courses to nurses who are returning from an absence from the profession.
- 2) Nursing education capacity must be expanded strategically. Expanding the number of nursing programs, or the number of seats in existing programs, cannot be accomplished without attention to the issue of clinical capacity. New ways of providing clinical experience to nursing students must be envisioned given the lack of space in Florida's hospitals and other healthcare facilities. A promising direction is increased use of simulation within nursing education. The Center's two-year grant-funded project, *Promoting the Use of Simulation Technology in Florida Nurse Education*, will provide the state with specific data and recommendations for maximizing our use of this exciting technology. Simulation can also be used to transition nurses between clinical areas and settings, contributing to the retention of nurses within the profession.
- 3) The state must protect its most valuable resource on the nursing shortage, even in difficult economic times. The Center's funding was cut from general revenue during the 2010 legislative session, and though we will survive the year through fiscal conservancy and the generous donations received from individual nurses and organizations, sustainable funding for the Center should be a priority in the 2011 legislative session. The Center's data and information provide a mechanism for the state to plan for the healthcare needs of Floridians. With the implementation of healthcare reform, the need for nurse workforce planning will become even more critical. Without sustainable funding, the years spent designing a database to meet the state's needs will have been wasted, and Florida will be "flying blind" in its efforts to resolve the coming nursing shortage.
- 4) Revised forecasts of nurse supply, demand, and education should be produced every two years. As with all projections, the accuracy of these forecasts will depend on how well we have anticipated major economic and political events affecting nurse supply and demand in Florida's future a very difficult task. Statistician George Box wrote that "all models are wrong, but some are useful." It is our belief that the Center's forecasts are useful for workforce planners around the state, and we look forward to revising them yet again in two years as new data become available and the course of both economic recovery and healthcare reform become clearer.



# RN and LPN Supply and Demand Forecasts, 2010-2025: Florida's Projected Nursing Shortage in View of the Recession and Healthcare Reform

## **Background**

Long-range forecasting and planning for Florida's dynamic nursing needs is a critical function of the Florida Center for Nursing (Center). The state's first forecast of nurse supply and demand was completed by the Center in 2008, and in the resulting report the Center acknowledged the need for replication of the forecasts every two years as new data become available. The accuracy of long-range forecasts depends on the quality of available data and the assumptions made about the behavior of nurses, nurse employers, and nursing education programs. Since our first forecast was published in 2008, two major events have occurred that changed the context in which nurses and healthcare providers make employment decisions.

First, a national recession began in 2008 that hit Florida particularly hard. Florida's unemployment rate nearly doubled in the space of two years, from 6.4 percent in July 2008 to 12.3 percent in March 2010.<sup>2</sup> Nationwide, in 2009 the number of individuals with health insurance dropped for the first time since 1987.<sup>3</sup> As a result, inflation-adjusted national spending on healthcare declined for the first time in recorded history during the first half of 2010.<sup>4</sup> Nurse employers have responded to the recession by implementing hiring freezes, cutting vacant positions, and curtailing growth in service lines. Proportionate to the doubling of Florida's unemployment rate, hospital vacancy rates for direct care registered nurses (RNs) in Florida were nearly halved from more than 8 percent in 2007 to only 4.6 percent in the summer of 2009.<sup>5</sup> At the same time, RNs have responded to the economic uncertainty by delaying retirement and working more hours.<sup>6</sup>

Second, the U.S. Congress passed House Bill 3590, the Patient Protection and Affordable Care Act (PPACA), in 2010.<sup>7</sup> Known more widely as "healthcare reform," the PPACA includes a number of measures designed to expand insurance coverage to nearly all Americans. Since the passage of healthcare reform, analysts have scrambled to understand the financial and workforce implications of the bill. Though there is widespread agreement that reform means more services will be provided and more healthcare workers will be needed, to date no national estimates of the increased need for RNs and licensed practical nurses (LPNs) exist. While the recession has temporarily decreased demand for nurses, health care reform will likely cause a rapid increase in nurse demand as key components of the bill are implemented over the next few years.

In this report, we present updated forecasts of Florida's RN and LPN supply, demand, and shortage that account for the countervailing trends of economic decline and healthcare reform. In addition, the Center's 2010 forecasts make use of improved data on our nurse supply and nursing education system that were unavailable for our 2008 forecasts. We outline our methods and assumptions, present projections through 2025, and provide intervention scenarios that demonstrate what will be needed to keep a major shortage from developing over the next 15 years.



## Methods and Assumptions

Our forecasts utilize models developed by the Health Resources and Services Administration (HRSA) in 2004 for federal forecasts of full-time equivalent (FTE) nursing supply and demand. A detailed description of the two models – the Nurse Supply Model and the Nurse Demand Model – can be found in our forecasting technical document<sup>8</sup> and on HRSA's website. Our technical document also includes information on the many sources of data we used to implement the models. Although the models' structure was developed by HRSA, the state-specific data sources we used are critical to the accuracy of our projections for Florida. In this report, we focus on the major drivers within each model and on the assumptions we have made for each.

## Nurse Supply Model

- *Major drivers*: Aging of the nurse supply strongly drives projections of both the raw number of nurses and the extent to which they participate in the nursing workforce. Rates of in-migration, attrition, and workforce participation are all specified by year of age. As the nurse supply ages, the rate of attrition increases and the rate of workforce participation decreases.
- Growth in nursing education: Florida's nursing education system has expanded in recent years, in terms of both student seats in existing programs and the establishment of new nursing programs. Growth in the number of programs is likely to continue for a few years, due in part to recent legislation changing the approval process for new programs in Florida. Because of critical limitations in Florida's capacity to provide clinical experiences for students, however, we assume that the nursing education system in Florida will have reached its capacity to expand in 2013.
- Nurse in-migration: The rate of nurse in-migration to Florida from another state or country is assumed to remain at current rates throughout the projection period. Economic conditions are strongly related to population movement, and a rapid improvement in the economy could spur increased migration of nurses to Florida. However, the most recent forecast for Florida's economic recovery includes very weak population growth over the next several years. The projected slow pace of recovery prompted our decision to apply current in-migration rates throughout the projection period.
- Attrition rates: Rates of attrition from the nurse supply are assumed to remain at current levels throughout the projection period. Attrition has been high in spite of the recession. The Center's recent longitudinal analysis of the nurse supply shows that nurses are leaving the state and/or profession in great numbers. Rapid economic improvement could cause attrition to increase if nurses feel more comfortable retiring and the employment outlook for their spouses improves. The projected slow pace of economic recovery combined with persistent high rates of attrition during the recession prompted us to keep attrition rates constant.
- Workforce participation: The rate at which nurses work full time in the field of nursing is assumed to decrease very slowly between 2011 and 2016 as the economy slowly improves. Nurse workforce participation is at historic highs nationally. It is equally high in Florida though it is not known how the participation rate has changed over time. It is likely that an economic recovery will reduce workforce participation, but our assumed decrease is conservative owing to the projected slow pace of recovery.
- *Healthcare Reform*: Reform is assumed to have no impact on the nurse supply. Although the PPACA contains provisions for increasing the supply of health care professionals, none of the provisions address the most critical barrier to growth in Florida's nursing education system: clinical capacity. Florida's nursing programs routinely turn away about half of qualified applicants, due largely to difficulty in scheduling clinical experiences for students in hospitals and other health care settings. Efforts to increase the production of new nurses with scholarships, loan forgiveness, and increased numbers of nurse faculty will fall short without a way to provide comprehensive clinical education to a larger student population.



#### Nurse Demand Model

- Major drivers: Aging and growth within the general population strongly drive projections of the
  demand for healthcare services. The model assumes that the staffing requirements per unit of service
  remain constant over time. It is possible that new technologies or approaches to providing health care
  could change the number of nurses needed to provide a unit of service. However, in the absence of
  evidence that quantifiable changes in staffing requirements are likely to occur, we assume stability in
  staffing needs over time.
- *Economics*: The model assumes that economic factors such as personal income, the percent of the population on Medicaid, and the percent of the population without health insurance will impact demand for healthcare services. We use projections of personal income and population growth from Florida's Office of Economic and Demographic Research<sup>13</sup> to describe the likely impact of Florida's economic recovery on those factors. The percent of the population uninsured or on Medicaid is assumed to vary as described below, depending on whether the model incorporates healthcare reform.
- Without Healthcare Reform: Medicaid enrollment and the percentage of the population without health insurance are assumed to stay constant throughout the projection period. If there were no legislation changing eligibility requirements, and considering the slow economic recovery projected for the next few years, there would be no reason to expect substantial change in these factors over time. The model also factors in changes in the rate of payment for home health visits and resident days in nursing homes. Ignoring healthcare reform, which restricts payment increases, we assume a modest growth of 1% per year in Medicare payments per home health visit and Medicaid payments per resident day.
- *Incorporating Healthcare Reform*: The Kaiser Commission on Medicaid and the Uninsured recently estimated the state-level impact of healthcare reform on Medicaid enrollment and insurance coverage <sup>14</sup>, and we used their estimates for Florida to project increases in the demand for services. Note that we implement these changes over a six-year period from 2014-2019. We assume no change in coverage from 2010-2013 prior to implementation of key components within the PPACA in 2014, and we assume that it will take a few years for the full increase in enrollment to occur. In part to pay for the increased coverage, Medicaid/Medicare payments for resident days and home health visits will very likely be cut over the next couple of years. We assume a modest cut in payments from 2010-2012, but we expect no real (inflation-adjusted) change after the initial cuts take place. More detail about these estimates can be found in our technical document.

Because we expect no impact of healthcare reform on the nurse supply, we present only one projection for supply incorporating our assumptions relative to the economic recovery. To illustrate the increase in nurse demand directly attributable to healthcare reform, we provide two projections – one with our economic assumptions alone and one including economic assumptions and the projected impact of reform.

Our RN projections exclude those licensed as Advanced Registered Nurse Practitioners (ARNP) and Clinical Nurse Specialists (CNS). We are currently investigating methods and data sources for modeling ARNP demand. Models designed for RNs may not accurately capture the demand for primary care ARNP labor in wake of healthcare reform, when physician shortages, the prevalence of Physician Assistants, and other outside factors are likely to impact the demand.



## Results

Forecasts for RNs (excluding ARNPs) are shown in Exhibit 1. When healthcare reform is ignored, we project that a very slow economic recovery will delay the emergence of a severe nursing shortage. The projection begins with a modest shortage of about 5,900 RN FTEs in 2010, and during the first years of the projection period the shortage is diminished slightly as continued strong production of new graduate nurses outpaces growth in demand during a sluggish economy. Beginning in 2014, however, growth in demand accelerates while growth in supply begins to slow. The result is a steady increase in the shortage of RNs reaching approximately 20,600 FTEs in 2025. Aging in both the nurse supply (increased retirements) and the population of Florida (increased consumption of healthcare) is largely responsible for this forecast, but a persistent high rate of attrition from the state and profession at all ages – combined with barriers to continued expansion of nursing education – are strong contributors.

When healthcare reform is incorporated into the projections, a dramatic increase in demand occurs beginning in 2014. In the early years of the projection period, demand is slightly lower when healthcare reform is considered. This is due to cuts in federal reimbursement for home health visits and nursing home resident days. These cost-cutting measures, intended to help pay for increased insurance coverage later in the projection period, may contribute to an even tighter labor market for RNs through 2014. However, when the PPACA provisions expanding Medicaid enrollment eligibility and requiring the purchase of health insurance for most Americans are implemented beginning in 2014, demand will increase rapidly. We assume that it will take a few years (2014-2019) to accomplish the increased coverage mandated by healthcare reform. After 2019, the rate of increase in demand for nurses mirrors the rate increase projected before reform.

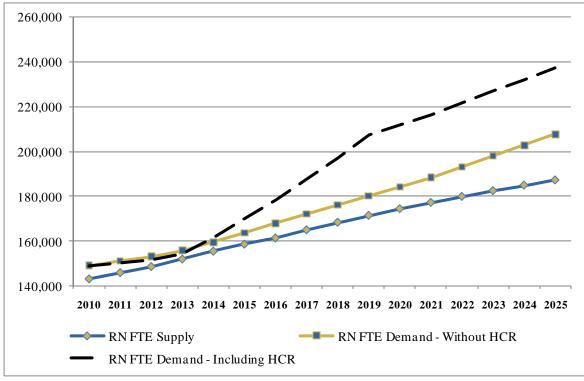
If healthcare reform is implemented according to plans outlined in the PPACA, a shortage of about 5,900 RN FTEs in 2010 will grow to more than 50,300 RN FTEs by 2025. Based on the average proportion of an FTE worked by RNs, this translates into an estimated 56,000 RNs that will be demanded but unavailable for employers in 2025.

Results for LPNs are shown in Exhibit 2. In contrast to RN projections, the implementation of healthcare reform makes little difference in the demand for LPN FTEs. This occurs because LPNs are largely employed in elder care settings in which demand for services is driven more by population aging than insurance coverage. When healthcare reform is included in the projections, a shortage of 1,261 LPN FTEs in 2010 grows to more than 12,500 LPN FTEs by 2025. Similar to results for RNs, cuts in reimbursement for home health visits and nursing home resident days are expected to keep the labor market in balance during the early years of the projection period. As the population of nurses and Floridians ages, growth in demand begins to outpace growth in supply beginning in 2014.

It is important to note that projections for LPNs are independent of projections for RNs. In reality, demand for nursing labor is a more complicated phenomenon in which the availability and cost of labor drives staffing decisions such as the mix of licensed nurses employed in a facility. Scope of practice clearly limits the nursing tasks that can be performed by LPNs versus RNs, but facilities still have the option of increasing LPN staff when RNs are difficult or expensive to hire. It is possible that a worsening RN shortage will increase demand for LPNs and exacerbate the shortage of this nurse type beyond our model projections.



Exhibit 1. RN FTE Supply and Demand Projections with and without Healthcare Reform\*

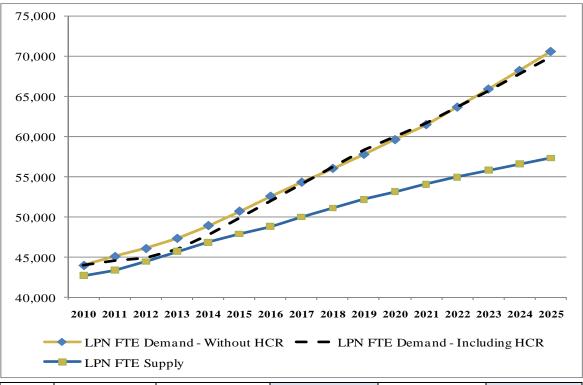


|      |         | RN FTE     | RN FTE     | RN FTE    | RN FTE    |
|------|---------|------------|------------|-----------|-----------|
|      | RN FTE  | Demand     | Shortage   | Demand    | Shortage  |
|      | Supply  | Before HCR | Before HCR | After HCR | After HCR |
| 2010 | 143,269 | 149,186    | 5,917      | 149,186   | 5,917     |
| 2011 | 146,037 | 151,230    | 5,193      | 150,549   | 4,512     |
| 2012 | 148,732 | 153,162    | 4,430      | 151,793   | 3,061     |
| 2013 | 152,059 | 155,845    | 3,786      | 154,291   | 2,232     |
| 2014 | 155,530 | 159,585    | 4,055      | 161,657   | 6,127     |
| 2015 | 158,662 | 163,761    | 5,099      | 169,839   | 11,177    |
| 2016 | 161,439 | 168,097    | 6,658      | 178,618   | 17,179    |
| 2017 | 165,030 | 172,195    | 7,165      | 187,660   | 22,630    |
| 2018 | 168,380 | 176,200    | 7,820      | 197,208   | 28,828    |
| 2019 | 171,452 | 180,216    | 8,764      | 207,494   | 36,042    |
| 2020 | 174,409 | 184,310    | 9,901      | 211,970   | 37,561    |
| 2021 | 177,186 | 188,460    | 11,274     | 216,494   | 39,308    |
| 2022 | 179,849 | 193,196    | 13,347     | 221,667   | 41,818    |
| 2023 | 182,403 | 197,993    | 15,590     | 226,890   | 44,487    |
| 2024 | 184,838 | 202,848    | 18,010     | 232,159   | 47,321    |
| 2025 | 187,151 | 207,759    | 20,608     | 237,472   | 50,321    |

<sup>\*</sup>excludes those holding ARNP and CNS licenses; FTE = full-time equivalent; HCR = healthcare reform



Exhibit 2. LPN FTE Supply/Demand Projections with and without Healthcare Reform\*



|      |         | LPN FTE    | LPN FTE    | LPN FTE       | LPN FTE   |
|------|---------|------------|------------|---------------|-----------|
|      | LPN FTE | Demand     | Shortage   | <b>Demand</b> | Shortage  |
|      | Supply  | Before HCR | Before HCR | After HCR     | After HCR |
| 2010 | 42,730  | 43,991     | 1,261      | 43,991        | 1,261     |
| 2011 | 43,373  | 45,104     | 1,731      | 44,520        | 1,147     |
| 2012 | 44,462  | 46,094     | 1,632      | 44,920        | 458       |
| 2013 | 45,730  | 47,355     | 1,625      | 46,011        | 281       |
| 2014 | 46,876  | 48,949     | 2,073      | 47,834        | 958       |
| 2015 | 47,908  | 50,740     | 2,832      | 49,880        | 1,972     |
| 2016 | 48,847  | 52,599     | 3,752      | 52,031        | 3,184     |
| 2017 | 50,022  | 54,344     | 4,322      | 54,105        | 4,083     |
| 2018 | 51,136  | 56,064     | 4,928      | 56,200        | 5,064     |
| 2019 | 52,189  | 57,810     | 5,621      | 58,378        | 6,189     |
| 2020 | 53,167  | 59,631     | 6,464      | 60,031        | 6,864     |
| 2021 | 54,104  | 61,502     | 7,398      | 61,720        | 7,616     |
| 2022 | 54,978  | 63,682     | 8,704      | 63,699        | 8,721     |
| 2023 | 55,820  | 65,924     | 10,104     | 65,722        | 9,902     |
| 2024 | 56,607  | 68,229     | 11,622     | 67,787        | 11,180    |
| 2025 | 57,347  | 70,597     | 13,250     | 69,895        | 12,548    |

<sup>\*</sup>FTE = full-time equivalent; HCR = healthcare reform



## Discussion and Intervention Scenarios

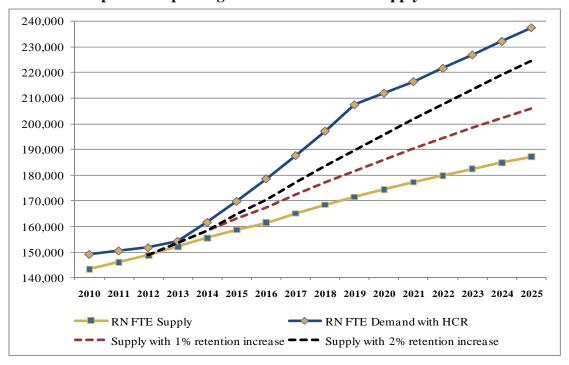
In spite of the severe economic recession and slow projected economic recovery in Florida, we project that implementation of healthcare reform will create a shortage of more than 50,300 RN FTEs by 2025. Interestingly, the projected shortage is very similar to the 2020 shortage we projected in 2008 (52,209 RN FTEs). Although the economic situation reduced the current and long-range shortage Florida can expect, the implementation of healthcare reform will dramatically increase the demand for RNs in Florida, negating any relief in the shortage brought about by the recession.

Two additional factors contribute to changes in our long-range forecasts. First, the forecasts presented here make use of much better data on Florida's nurse supply (in terms of both quality and quantity). Ongoing longitudinal analysis of licensure data, along with analysis of data collected from nurses during license renewal in our 2008-2009 Workforce Survey, have dramatically improved our understanding of the nurse supply over the past two years. Second, education programs have expanded beyond our expectations in the past two years. We assumed that the production of new graduate nurses would increase by a modest 1-2 percent per year in our prior forecasts. Instead, the number of new graduate nurses from Florida RN programs increased by an average of 13.4 percent per year during 2008 and 2009.

Interestingly, we published a scenario in 2008 showing that a 15 percent annual increase in new graduates each year (for a total of six years) would be needed, along with retention efforts, to resolve the future shortage of RNs. The nursing education system nearly met this ambitious annual goal over the past two years, which shows clearly that focused efforts to impact a shortage of healthcare workers can be successful. There are a number of reasons to suspect, however, that continued expansion at this pace is unsustainable and may have unanticipated consequences. Program directors report that resource limitations including lack of clinical space, funding, and qualified applicants for faculty positions are straining their ability to grow. Although new programs (particularly private programs, which face a different set of budgetary constraints than state-supported institutions) are being established at a rapid rate, they often compete with existing programs for available faculty and clinical space and may inadvertently hamper the overall growth of the state's nursing education system.

For the past few years, the Center has prioritized the retention of nurses in its recommendations for resolving the nursing shortage. In view of resource limitations and the need to produce nurses of the highest possible quality for our state's complex healthcare needs, we argue that expansion of education capacity cannot be the sole strategy. Work redesign, role redesign, and inclusion of nurses in governance are strategies that employers can use to retain nurses within their facilities and within the profession. 16





**Exhibit 3. Impact of Improving Retention on the RN Supply** 

We modeled an increase in retention of nurses at all ages to show the impact of prioritizing retention efforts on the future shortage of RNs (Exhibit 3). If the rate of attrition from Florida's RN supply is reduced by 1 percentage point in 2012, the cumulative impact over the projection period is a reduction in the 2025 shortage to about 31,500 RN FTEs. If rate of attrition is reduced again by 1 percentage point in 2014 (for a total reduction of 2 percentage points), the 2025 RN shortage is reduced to only 13,000 FTEs. A 1 percentage point reduction in attrition amounts to retaining approximately 1,500 RN FTEs more than would be expected each year (based on 2012 supply estimates), while a 2 percentage point reduction requires retaining approximately 3,000 additional RN FTEs per year.

Exhibit 4 shows the RN FTE supply when the number of new graduates is increased by 30 percent over six years (5% each year). If new graduates are increased by approximately 450 per year from 2013-2019 (for a total of about 2,600), the shortage would be reduced to about 31,000 RN FTEs by 2025. Note that our baseline projections (shown in Exhibit 1) already incorporate increases in the number of new graduates owing to new program growth through 2013 and a one-time 4 percent expansion for existing associate degree programs in 2010. Given the resource limitations in nursing education, the additional modest increase in this scenario is probably the most that can be expected from our nursing education system.

Retention scenarios show the potent impact on the shortage that a modest reduction in attrition can produce over time. By contrast, efforts to increase the number of graduates to create the same impact seem more difficult to achieve. On the other hand, is it easier to estimate the resources necessary to produce a set number of new nurses, while the mechanisms and costs needed to retain the same number of nurses may be highly variable. Realistically, both increased production and increased retention will be needed to resolve the future shortage.



Exhibit 4. Impact of Increasing New Graduates 30% Over Six Years on RN Supply

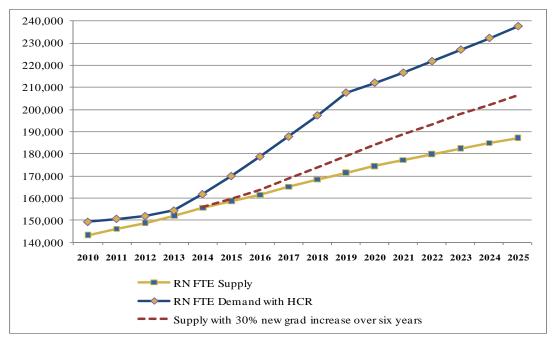
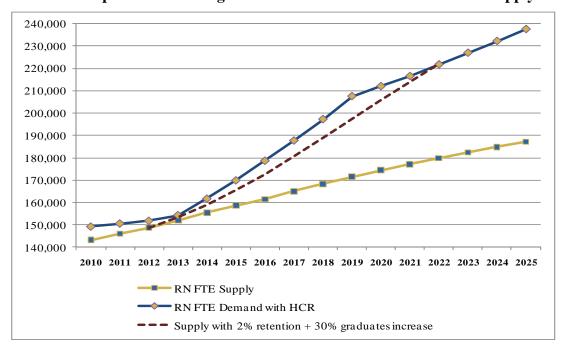


Exhibit 5 illustrates how effective the combination of increased retention and maximization of education capacity can be. If the number of new graduates is increased by 5 percent per year for six years (a 30% total increase in graduates) *and* the rate of attrition from the nurse supply is reduced by 2 percentage points, the shortage is eliminated by 2022 and never grows larger than 10,000 RN FTEs during the projection period.

Exhibit 5. Impact of Increasing Retention and New Graduates on RN Supply





The LPN shortage is not projected to become as large as the RN shortage, but because LPNs provide the bulk of licensed nursing labor within nursing homes and other elder care entities, even a small numeric shortage of LPNs may have disastrous consequences within some settings. Exhibit 6 shows the supply impact of decreasing attrition by 1 percentage point (in 2012) and increasing the number of new graduates by 15 percent (5% a year for three years). This would require retaining approximately 440 LPNs per year beyond current retention rates and graduating approximately 700 more LPNs per year (after a three year transition adding 235 new graduates each year).

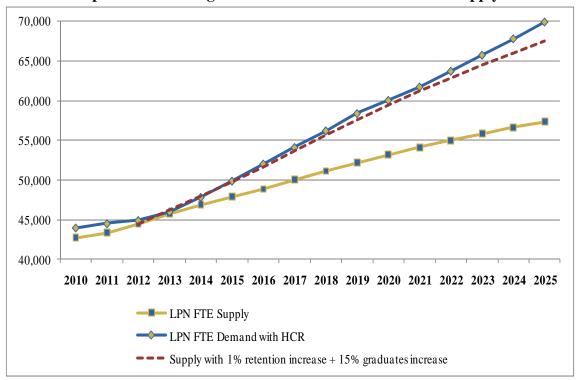


Exhibit 6. Impact of Increasing Retention and Graduates on LPN Supply

## **Conclusions and Recommendations**

Projections accounting for a slow economic recovery and healthcare reform suggest that a tight labor market for nurses may persist for a few years. Strong production of new nurses in Florida nursing programs and a persistent weak economy will likely work together to delay the reemergence of a severe nursing shortage. However, the demographic drivers of the long-term shortage – an aging nurse workforce nearing retirement and an aging general population – are still in place. When the impact of healthcare reform is incorporated, the resulting shortage of more than 50,300 RN FTEs in 2025 is capable of crippling our healthcare system, jeopardizing access to and quality of care for Floridians.

It is challenging to keep the focus on the long-term shortage in the face of our current economic situation. Currently, new graduates report difficulty in finding employment, hospitals have reduced spending, and government budgets are running annual deficits. On the one hand, a reprieve from the nursing shortage is welcome because it gives us more time to prepare for the



long-range shortage. On the other, a short-term reduction in the shortage may cause governments and employers to divert attention and resources previously allocated to nursing workforce efforts. In addition, difficulty in securing preferred employment after graduation may reduce interest in the field from potential future nurses. The unintended result is that Florida may be less prepared for the long-range shortage than it would have been had the economic recession not occurred.

The following research and policy recommendations are offered to prevent the future shortage of nurses from reaching the severe levels we project:

- 1) All stakeholders must prioritize the retention of nurses. A developing body of literature shows the benefits of specific strategies employers can use to retain nurses through improvements in the work environment, such as shared governance, role and work redesign, and staffing at appropriate levels. <sup>16</sup> Unfortunately, most facility retention efforts are never published, and of those that are, information about the return on investment of retention efforts are not typically included. More research is needed to identify best retention practices and provide a rationale for increased expenditures related to retaining nurses. At the same time, nursing education programs must realistically prepare students for the demanding nature of nursing work. A substantial number of newly licensed nurses leave within the first year of their careers, which indicates that the expectations many prospective nurses have may be unrealistic. Education programs can also facilitate retention in the profession by offering refresher courses to nurses who are returning from an absence from the profession.
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- 3) The state must protect its most valuable resource on the nursing shortage, even in difficult economic times. The Center's funding was cut from general revenue during the 2010 legislative session, and though we will survive the year through fiscal conservancy and the generous donations received from individual nurses and organizations, sustainable funding for the Center should be a priority in the 2011 legislative session. The Center's data and information provide a mechanism for the state to plan for the healthcare needs of Floridians. With the implementation of healthcare reform, the need for nurse workforce planning will become even more critical. Without sustainable funding, the years spent designing a database to meet the state's needs will have been wasted, and Florida will be "flying blind" in its efforts to resolve the coming nursing shortage.



4) Revised forecasts of nurse supply, demand, and education should be produced every two years. As with all projections, the accuracy of these forecasts will depend on how well we have anticipated major economic and political events affecting nurse supply and demand in Florida's future – a very difficult task. Statistician George Box wrote that "all models are wrong, but some are useful." It is our belief that the Center's forecasts are useful for workforce planners around the state, and we look forward to revising them yet again in two years as new data become available and the course of both economic recovery and healthcare reform become clearer.

#### References

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