

# Preliminary Analyses on Outcomes of Increased Nurse Staffing Policies in Florida Nursing Homes: Staffing Levels, Quality and Costs (2002-2007)

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Preliminary Findings

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## Executive Summary

Section 6 of HB5003, requires the Agency for Health Care Administration (AHCA) to “study the effects of the minimum nursing home staffing ratios found in s. 400.23(3), 259 Florida Statutes, and the relationship to Medicaid reimbursement and the quality of care provided to residents. The agency shall report its findings to the Governor, the President of the Senate, and the Speaker of the House of Representatives by February 1, 2009.” Researchers from the University of South Florida’s Florida Policy Exchange Center on Aging, the University of Florida’s College of Health Professions and Texas A&M contracted with the Agency for Health Care Administration to prepare this report. This is the required initial report to the Legislature due February 1, with a full report due June 30, 2009.

This preliminary report finds evidence that quality of care has substantially improved in Florida nursing homes since the introduction of increased nurse staffing levels and other quality standards since 2001. Average deficiencies per facility have decreased. Importantly, the citations for the more serious deficiencies have decreased dramatically and remain lower than the national average.

Studies of nurse staffing have repeatedly demonstrated that quality of care is impacted by nurse staffing but the findings vary by the outcome measures used and by the way nurse staffing is measured. A recent review of the studies linking staffing and quality confirms that the strongest research suggests poor quality of care is linked to inadequate staffing levels but acknowledges that studies do not uniformly find increased nurse staffing always improves quality of care. Minimum staffing levels are needed before facilities can implement high quality resident outcomes, but the staff must be managed well with careful oversight if consistent quality outcomes are to be achieved. One consistent finding is that higher RNs levels are associated with lower number of falls, fewer pressure ulcers, and other patient care outcomes that indicate better quality of care. Despite increasing resident acuity, RN hours per resident day in Florida have decreased. This is a national trend. However, in 2007, RN staffing in Florida averaged 16.2 minutes a day (0.28 hours of care per resident day). This is 36% of the Institute of Medicine and Centers for Medicare and Medicaid Services’ optimal level of 45 minutes of RN staffing per resident day and 62% of the CMS preferred level of 27 minutes of registered nurse patient care per day.

This preliminary report indicates 8,405 new certified nursing assistants and 3,543 new nurses have been employed in Florida nursing homes since the 2002 staffing standards were imposed. However, in the third quarter of 2008, average staffing decreased after the Legislature ordered the Agency not to impose sanctions on facilities staffing at levels below 2.9 but above 2.6.

Quality in this preliminary report is primarily measured by violations nursing home surveyors find as they routinely inspect nursing homes. It is important to note that the average number of quality of care deficiencies, quality of life and total quality deficiencies per facility are below the national rates from 2002-2007. Analysis of citations for facilities voluntarily staffing above 2.9 prior to 2007 indicates that these facilities have fewer citations per facility on average than facilities staffing below the 2.9 standard.

A significant change in the mix of citations has occurred since the new staffing standards have been implemented. Citations include measures of the seriousness of the violation and how widespread the practice of poor care is within the nursing home. Citation issues for actual resident harm have dropped substantially. In 2002, the percent of facilities receiving a citation for harm decreased dramatically from 21.1% of all facilities in 2001 to 9.9% of facilities. In 2004 and 2005, only 5.9% of Florida nursing homes received a deficiency for actual harm or jeopardy of residents. Florida's averages for these serious deficiencies are lower than the national averages and the improvement in performance follows the introduction of SB1202 in 2001.

Medicaid nursing home reimbursement grew from an average per diem payment in January 1999 of \$102.38 to the January 2008 level of \$177.06 per diem. Within the reimbursement rate, the fastest growing component was direct patient care costs. Given the dramatic required growth in staffing, direct patient costs have increased 94% from \$66.94 to \$129.68 per Medicaid day. Overall, Medicaid per diem payment has increased 73%. Nursing home providers' cost reports indicate they are reimbursed for 92.78% of their current direct patient care costs, up 1.37% from 91.41% in 2007. The gap between total costs and reimbursement should decrease as a result of the staffing standards being relaxed in 2008.

This report is preliminary and a full report will be delivered to the Agency by June 30, 2009.

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## Background and Conceptual Framework

Residents of nursing homes and family members know that the number and type of nursing staff who provide care impact the quality of care delivered. The Centers for Medicare and Medicaid Services (CMS) report on minimum staffing thresholds demonstrated “strong evidence of the link between very low staffing and poor quality outcomes.”<sup>1</sup> Yet, CMS was unwilling to recommend minimum staffing levels in nursing homes for both political<sup>2</sup> and technical<sup>3</sup> reasons.

With the Omnibus Budget Reconciliation Act (OBRA) of 1987, the federal government set minimum numbers of nurses and levels, or “type” of nurse per resident, in long-term care facilities. Since the first standards were set, consumers, researchers, and legislators at the state and federal level, have urged the establishment of higher minimum standards and specific standards for nurses by licensure status. The Institute of Medicine (IOM) reports concerning quality in long-term care in 1996 and 2001 reiterated the research-based link between higher nurse staffing and better resident outcomes and urged new staffing levels<sup>4</sup>. CMS’s study on Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes concluded that for long-term care facilities, the number and skill level of nurses, as indicated by licensure level – e.g., registered nurse (RN), licensed practical nurse (LPN), or certified nursing assistant (CNA) – had a direct and positive relationship with the quality of resident care as measured by resident assessment data routinely collected and reported to state and federal agencies. CMS identified minimum and preferred staffing thresholds for long-stay patients per resident per day (prpd) to avoid poor patient care outcomes such as new pressure ulcer development and weight loss<sup>5</sup>. The CMS report provided staffing levels of minimum level to avoid harm, preferred minimum level, and optimal level, and argued that these nurse staffing levels were associated with the quality of nursing home care. In 2004 the Institute of Medicine (IOM)

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<sup>1</sup> Centers for Medicare and Medicaid Services. Appropriateness of Minimum Nurse Staffing Ratios in Nursing homes Report to Congress: Phase II Final report December 24, 2001. p. 1-19

<sup>2</sup> Politically, the cost estimates for staffing mandates for nursing homes ranged from \$2.6 billion to \$7.6 billion in new monies depending upon the recommended staffing levels; additionally, the Federal government would be the primary insurer with Medicaid paying approximately 69% of the costs and Medicare paying another 7%. Ibid. Chapter 11, p. 11-1—11-4.

<sup>3</sup> Technical concerns focused on inaccurate Online Survey Certification and Reporting (OSCAR) staffing data, concerns about measuring the quality impact of long-term care and the inability to control for management strategies and provider efficiencies in long-term care. Ibid. p.1-19-1-22.

<sup>4</sup> Wunderlich, G.S., & Kohler, P.O. (Eds.). (2001). Improving the quality of long-term care. Washington DC: National Academy Press.

<sup>5</sup> Centers for Medicare and Medicaid Services. Appropriateness of Minimum Nurse Staffing Ratios in Nursing homes Report to Congress: Phase II Final report December 24, 2001. p.2-17

recommended a staffing level of 45 minutes per resident per day but that included some administrative and managerial tasks in addition to direct patient care. Table 1 compares the recommended nurse staffing minimum levels established in Florida with the federal CMS levels and staffing standards recommended by a group of long-term care experts convened by the Hartford Foundation’s Geriatric Nursing Center<sup>6</sup>.

**Table 1: Comparison among Nursing-Staff-to-Resident Minimum Ratios**

<b>Staffing Proposals</b>	<b>NA</b>	<b>Licensed Nurse</b>		<b>Total Hours</b>
Florida’s 2.6 minimum (2002 - 2006)	2.6	1.0		3.6
Florida’s 2.9 average minimum (2007-6/2008)	2.9	1.0		3.9
National Citizen’s Coalition for Nursing Home Reform (NCCNR)	2.93	1.2		4.13
John A. Hartford Foundation of Geriatric Experts	2.93	1.2		4.55†
	<b>NA</b>	<b>LPN</b>	<b>RN</b>	<b>Total Hours</b>
CMS Minimums	2	0.55	0.20	2.75
CMS Preferred Minimums	2	0.55	0.45	3.0
CMS Optimal Minimums	2.9	0.45	0.75	4.1
<b>Actual Staffing Levels</b>	<b>NA</b>	<b>Licensed Nurse</b>		<b>Total Hours</b>
USF Analysis of Florida Nursing-Staff-to-Resident Ratios*				
2002	2.49	1.15		2.64
2003	2.71	1.14		3.85
2004	2.73	1.16		3.89
2005	2.73	1.18		3.91
2006	2.76	1.20		3.96
2007	2.98	1.21		4.19

†= Total includes 0.29 for administrative nursing which is not considered in other levels

\*= Data from the Florida Nursing Home Staffing Report

The CMS studies<sup>7</sup> recognized that the relationship between staffing and quality of care is complex and were only able to demonstrate the staffing level below which quality was certainly threatened. Factors limiting studies of quality and staffing include: 1) the reliability of the nursing home level nurse staffing data; and 2) the “perpetual shifting” of quality measures.

<sup>6</sup> Harrington, C., Kovner, C., Mezey, M., Kayser-Jones, J., Burger, S., Mohler, M., Burke, S. & Zimmerman, D. (2000) Experts recommend minimum nurse staffing standards for nursing homes in the United States. *The Gerontologist*: 40, 5-16.

<sup>7</sup> Centers for Medicare and Medicaid Services. Appropriateness of Minimum Nurse Staffing Ratios in Nursing Homes, Report to Congress: Phase II Final report December 24, 2001.

Studies of nurse staffing have repeatedly demonstrated that quality of care is impacted by nurse staffing but the findings vary by the outcome measures used and by the way nurse staffing is measured. In a review of the studies linking staffing and quality, Castle<sup>8</sup> confirms that the strongest research suggests that poor quality of care is linked to inadequate staffing levels but acknowledges that studies do not uniformly find increased nurse staffing always improves quality of care.

The mix of staffing, the proportion of registered nurses versus paraprofessional staff, has also been linked to patient outcomes. A consistent finding is that higher numbers of RNs impact patient care but the precise ratio of RNs for specific quality outcomes is unclear. Analyzing data on RN staffing levels and outcomes of long-stay nursing home residents, researchers hypothesize that RN's influence quality by providing expertise in direct care and evaluation<sup>9</sup>. Anderson & Lawhorne<sup>10</sup> found that nursing homes with the best average outcomes and the greatest improvement in outcomes had a richer skill mix of RNs than those with a lower mix. The pattern of improved outcomes was consistent for the percentage of residents with aggression, restraints, pressure ulcers, dehydration, UTI, and fracture. Bliesmer, Smayling, Kane, & Shannon<sup>11</sup>, in a study of newly admitted nursing home residents, found improved functional ability, higher rates of discharge to home, and lower rates of mortality were related to number of licensed staff hours (RN and LPN) versus number of nonlicensed hours (nursing aides). For RN staffing, Johnson, et al., indicated that lower staffing was related to higher rates of lawsuits in Florida<sup>12</sup>. Schnelle,<sup>13</sup> in an editorial on the relationship between staffing and quality, argues that studies must focus on good care processes; minimum staffing levels are needed before facilities can implement high quality resident outcomes, but staff must be managed well with careful oversight if consistent quality outcomes are to be achieved.

## Florida's Nurse Staffing Legislative Summary

The Florida Legislature has been concerned about the quality of care in nursing homes for

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<sup>8</sup> Castle, N.G. (2008). *Journal of Applied Gerontology*. 27(4 ) 375-405.

<sup>9</sup> Horn, S.D., Buerhaus, P., Bergstrom, N., & Smout, R.J. (2005). *American Journal of Nursing*, 105(11) 58-70.

<sup>10</sup> Anderson, R., & Lawhorne, L. (1999). Variations in staffing and resident care patterns in Michigan nursing homes, *Annals of Long-Term Care*, 7(11), 399-404.

<sup>11</sup> Bliesmer, M.M., Smayling, M., Kane, R.L., & Shannon, I. (1998). The relationship between nurse staffing levels and nursing home outcomes, *Journal of Aging and Health*, 10(3), 351-371.

<sup>12</sup> Johnson, CE., Dobalian, A., Burkhard, J., Hedgecock, D.K., & Harman, J. (2004) Factors predicting lawsuits against nursing homes in Florida 1997-2001. *The Gerontologist*: 40(3), 339-347.

<sup>13</sup> Schnelle, J.F. (2004). Determining the relationship between staffing and quality. *The Gerontologist* 44, 10-12.

years, but beginning, with HB1971, passed in 1999, Florida began developing a national reputation for State policy focused on nursing home quality. HB1971 instituted regular, unannounced quality-of-care monitoring by state officials, release of information about all state licensed nursing homes via a public internet site, development of a “Gold Seal” Program to recognize facilities with outstanding care, and funding of a pilot teaching nursing home project to promote statewide development of best practices.

Building on HB1971, the Florida legislature crafted a nursing home reform bill (SB 1202, 2001) requiring staffing mandates, tort reform, increased regulatory oversight, and initiated a moratorium on new nursing home beds. The State’s landmark nursing home legislation, SB 1202 created Florida’s reputation as the state with the highest nurse staffing standards in country. It is important to recognize nursing home staffing ratios are a concern in most states. Florida is one of 33 states, between 1999 and 2007 to adopt minimum staffing standards with the express intent to improve quality of care<sup>14</sup>.

While the focus of this report is on the impact of staffing levels on quality of care in Florida nursing homes, it is imperative to recognize mandated nurse staffing levels are only one part of a comprehensive quality initiative Florida enacted. The Legislature’s commitment to improving nursing home quality has been substantial. There has also been a sustained commitment to quality through increased Medicaid funding to pay for new staffing, rigorous enforcement of standards, increased fines when facilities do not comply with standards, tort reform and public reporting requirements that increase provider accountability and allow the public, including residents and their families, to track the quality of excellent and average care. The Gold Seal program publicizes nursing homes that meet the highest standards and holds up these homes as potential models of quality care. AHCA also operates the Quality of Care Nurse Monitor program that enables nurses to assist nursing homes in improving care by educating staff on best practices. The Teaching Nursing Home, before all funds were cut in 2007, provided homes with free web-based training and developed a series of best practice modules on dementia care, pain, reducing falls, and other efforts to improve quality of nursing home care. However, the Florida Health Care Association’s Quality Credentialing Program, established as a result of SB 1202, has targeted onsite interventions through an “early warning system” for nursing homes for quality improvements and continues to disseminate the materials developed.

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<sup>14</sup> Harrington, C. 2008. Nursing Home Staffing Standards in State Statutes and Regulations. San Francisco, CA: University of California.

Over the course of past ten years, Florida has paid for quality improvements in increased nurse staffing in the direct care cost component of Medicaid reimbursement. Medicaid nursing home reimbursement grew from an average per diem payment in January 1999 of \$102.38 to the January 2008 level of \$177.06 per diem. Within the reimbursement rate, the fastest growing component is direct patient care costs. Given the dramatic required growth in staffing, direct patient care costs have increased 94% from \$66.94 to \$129.68 per Medicaid day. Overall Medicaid per diem payment has increased 73%. Nursing home providers' cost reports indicate they are reimbursed for 92.78% of their current costs, up 1.37% from 91.41% in 2007. Despite the increased reimbursement for staffing, according to cost reports, providers lose money each day providing care to Medicaid residents.

The first State effort to improve staffing was an innovative financial incentive program allocating \$40 million to fund the Direct Care Staffing Adjustment (DCSA). The DCSA was the first legislation that required nursing homes applying for incentive funds to divide patient care expenses into direct and indirect patient care costs. These new cost centers were required when the direct care staffing standards were mandated beginning in 2002. Florida had been a recognized national leader in nursing home quality because it had the highest nursing homes staffing in the nation, pays for the costs of staffing requirements through Medicaid increases, requires reports to track compliance with regulations, enforces legislative standards, imposes high fines for repeated infractions and requires AHCA to publish reports on many aspects of quality of care.

Table 2 provides a timeline of the Florida legislative initiatives to increase nursing home staff over a nine-year period. We begin this review of nurse staffing initiatives with House Bill (HB) 1971 (1999). HB1971 created the Direct Care Staffing Adjustment (DCSA), a Medicaid financial incentive for nursing homes to hire additional CNAs and LPNs, and/or increase the wages or benefits of direct care staff. Providers agreeing to increase the absolute amount of total direct care spending received an add-on to the Medicaid per diem rate. Approximately \$40 million was appropriated: \$7.9 million for April 1 to June 30, 2000; \$31.7 million (annualized cost) for July 1, 2000, to June 30, 2001. The final incentive rules allowed both a minimum add-on of 50 cents per Medicaid day for all Medicaid providers, at an annual cost of nearly \$8 million (25% of the appropriation) and a distribution of the remaining \$23.7 million in incentive, funds (75% of the total) to providers with the lowest staffing. As a result of this initiative, the average daily Florida Medicaid reimbursement was increased 1.8% on average or \$1.96 add-on to the daily Medicaid payment rate. Over 90% of the nursing homes in the state applied for the funds and the AHCA

evaluation of spending indicated the money was spent on direct care staff as allowed in the legislative language.

As incentive payments were being implemented, the legislature in 2000 created a Task Force on Affordability and Availability of Long-Term Care to assess the quality of care in nursing homes, study concerns about increased lawsuits against nursing homes and declining availability of nursing home liability insurance, and analyze the availability of home and community-based services. The compromise legislation crafted by Senator Brown-Waite resulting from the Task Force's work, Senate Bill (SB) 1202 (2001), mandated minimum nurse staffing ratios, increased nursing home regulation, and included tort reforms and reduced attorneys' fees. As Table 2 summarizes, the staffing mandate stipulated a one-time increase of 0.4 in hours for licensed staff to 1.0 hours per resident day (HPRD), a tiered increase in CNA hours (to 2.3 HPRD in 2002, 2.6 HPRD in 2003, and 2.9 HPRD in 2004), and mandated minimum staffing ratios of one CNA per 20 residents and one licensed nurse, LPN, or RN per 40 residents. The increases in 2002 and 2003 were approved and new monies were allocated to pay for those direct care staff increases.

Budget concerns repeatedly delayed the requirement to increase the minimum hours of direct care provided by certified nursing assistants to 2.9. In 2006, the legislature required the 2.9 certified nursing assistant staffing levels effective January 1, 2007. The final language included an important modification that calculated a minimum weekly average certified nursing assistant staffing of 2.9 hours of direct care per resident per day with a daily minimum never to be below 2.7 hours of direct care per resident per day. A week was defined as Sunday through Saturday and allowed providers much more flexibility in meeting the standard. The 2006 legislative estimated cost for Medicaid's portion of the staffing increases was \$21.2 million and was in addition to other rate increases. Given the fiscal crises facing the State in 2008, Medicaid payments to nursing homes were reduced. The Legislature also directed the Agency not to enforce the 2.9 nurse staffing standards until July 2009, but did maintain the 2003 standard of a minimum of 2.6 hours per resident day.

## **Purpose of the Study**

In 2008, Section 6 of HB5003, required the Agency for Health Care Administration to "study the effects of the minimum nursing home staffing ratios found in s. 400.23(3), Florida Statutes, and the relationship to Medicaid reimbursement and the quality of care provided to residents." These findings are reported in three sections:

- 1) Nursing home direct care staffing. What has been the impact of the staffing increases on nurse staffing levels in Florida on numbers of new direct care staff, hours per resident day, mix of nurse staff?
- 2) Quality of nursing home care. What has been the effect of the legislation on nursing home quality as measured by federal deficiencies? What are the differences in quality when facilities staffing above and below 2.9 CNA hours per resident day prior to 2007?
- 3) Expenditures. What has been the impact of the staffing legislation based on Medicaid per diem rates and expenditures? How have wages of direct care nursing staff changed since the implementation of the minimum nurse staffing levels?

**Table 2: Timeline of Florida Legislative Action to Increase Nurse Staffing in Nursing Homes**

<b>Year</b>	<b>Legislative Action</b>	<b>CNA hours per resident day</b>	<b>LPN/RN hours per resident day</b>
1998	No Legislative Action	1.7	0.6
1999	Appropriated Medicaid direct patient care incentives (HB 1971)	1.7	0.6
2000	Reimburse Medicaid direct patient care incentives effective April 2000	1.7	0.6
2001	Mandate new staffing standards over 36 months (SB 1202)	1.7	0.6
2002	Increase CNA and LPN/RN staffing standards effective January 2002	2.3	1.0
2003	Increase CNA staffing standards to 2.6 effective January 2003  Delayed implementation of 2.9 CNA hours to July 2004	2.6	1.0
2004	Delayed implementation of 2.9 CNA hours to July 2005	2.6	1.0
2005	Delayed implementation of 2.9 CNA hours to July 2006	2.6	1.0
2006	Amended legislation to weekly average of 2.9 CNA hours and daily minimum of 2.7 CNA hours effective January 2007	2.7 daily 2.9 weekly	1.0
2008	Budget implementing bill maintains 2.9 CNA hours standard but does not allow AHCA to sanction unless facility falls below daily minimum of 2.6 CNA hours	2.9 weekly	1.0

## Methods

This preliminary longitudinal analysis uses state and federal datasets. Whenever historic perspective is important, we provide data from 1999 until the latest data available. For the majority of analyses, the data are from 2002-2007 to examine trends in Florida nursing home direct care staffing levels, quality of care in nursing homes, staff turnover, direct care expenditures and changes in Medicaid and Medicare access. Florida has both hospital-based and free-standing nursing homes. For the purpose of this legislative report, we focus exclusively on free-standing nursing homes because most hospital-based homes are small and provide post-acute Medicare services rather than Medicaid services.

## Data Sources

Each data source used for the study is briefly defined below.

- 1) **Online Survey Certification and Reporting (OSCAR).** The Centers for Medicare and Medicaid Services (CMS) contracts with the State to inspect and enforce federal standards for nursing homes. State surveyors are trained to review patient outcomes and determine if the facility is meeting state and federal standards. Data collected during the inspection is entered into an online system that becomes a national database about nursing homes named OSCAR.
  - a. **Deficiencies.** Inspections are unannounced and generally occur annually within a 6-15 month window to avoid predictability. Some surveys begin on weekends and off-hours to be certain quality care is provided at all times. During the annual inspection of nursing homes conducted by Agency surveyors, any violations of the federal or state code are reported as “deficiencies” or “citations.” Deficiencies are violations of specific standards. Inspectors also provide a rating of the “severity and scope” to represent whether or not the violation actually harmed a resident. Most sanctions can result in fines or termination if unaddressed. The most serious violations are classified as “Immediate Jeopardy” and can result in expedited sanctions and termination from the Medicare and Medicaid program.
  - b. **Nursing Home Ownership and Operational Data.** While in the facility, inspectors also collect data on many aspects of nursing home operations. Data include ownership, number of licensed beds and provide a snapshot of the two-week period

of nursing home staffing prior to the survey. Additionally, the number of residents, resident acuity and needs, reimbursement by Medicare, Medicaid, private payment, and details on numbers of full-time, part-time or contract staff within specific jobs (i.e., nurse aides, registered nurses, housekeeping and dietary staff) are also included. These data are collected from every certified nursing home in the country and allow Florida's facilities to be compared with nursing homes throughout the country.

- 2) **Nursing Home Staffing Report Data (SRD).** Pursuant to section 400.141, Florida Statutes, each facility must report to the Agency for Health Care Administration the average quarterly staff to resident ratios for licensed nurses and CNAs. The information is self-reported semiannually by nursing homes. Data is shared by AHCA with quality monitors and with inspectors. The data is used to calculate the staffing per resident hour for each quarter for CNAs and licensed nurses for this report.
  
- 3) **Florida Medicaid Reimbursement Program (FMRD).** AHCA administers Florida's Title XIX Long-Term Care Reimbursement Plan --cost-based prospective Medicaid Federal/State program. Each provider receiving Medicaid dollars must submit a uniform cost report and related documents. Providers' costs fall into one of four components that comprise the final reimbursement rate: Operating, Direct Patient Care, Indirect Patient Care, and Property.
  - a. **Cost data is Rate Setting File data:** Facility "costs" are allocated to the facility based on Rate Setting Files' fiscal year end dates. Facilities on a budget (i.e. Change of ownership) do not have Direct Care data with salaries and staffing reports on actual use; 978 observations were excluded from this report for this reason. Only facilities with actual cost reports are included.
  - b. **Revenue data is Rate Setting file data:** When describing Medicaid payment rates, Medicaid payments to all facilities are considered in this report regardless of whether facilities filed estimated or actual cost reports. If Medicaid reduces payments based on actual cost reports, this may overestimate the payments to these facilities. However, because these are Medicaid rates the facilities are currently receiving, reporting Medicaid payment is considered appropriate.

## Nursing Homes Included in the Report

All community-based Florida nursing homes certified to accept Medicare or Medicaid in OSCAR were eligible to be included in the analysis. To calculate the nurse staffing ratios for each nursing home, the State of Florida's Nursing Home Staffing Report data was used. The combined dataset from the two data sources resulted in excluding facilities that could not be matched with both datasets. Table 3 indicates the number of facilities by year included in our report for all staffing data. For every year, at least 94% of all community facilities were matched using staffing data. Nursing homes deficiencies for all Florida nursing homes from 2002 to 2007, were obtained from OSCAR; and staffing structure data for 2002 to 2007 from Nursing Home Staffing Report Data.

**Table 3: Nursing Homes Included in Analysis**

Year	OSCAR		Staffing Report	OSCAR and Staffing Report
	w/hosp. based	w/out hosp. based		
2002	704	658	669	635
2003	693	656	667	641
2004	689	657	670	643
2005	683	653	666	617
2006	684	666	667	654
2007	679	663	668	656

For the data on nursing home expenditures, wages, and costs, a longitudinal data base of Florida nursing homes from 2002-2007 was created that is similar to the staffing database described above. Using OSCAR and data from Florida Medicaid cost-reports, the report estimates average wages, reports expenses, and analyzes nursing home expenditures over time. Unfortunately, fewer nursing homes continuously reporting cost data than staffing data.

Only actual costs are reported in the study, therefore, 978 nursing home observations were dropped during these years because the only cost reports available for these facilities were budgeted reports rather than actual cost reports. Facilities changing ownership are allowed to have 24 months during the transition in ownership before actual cost reports are filed. The homes that are excluded from this analysis appear to be homes filing budgeted reports because of ownership changes. To the extent that these homes are not like the homes filing full cost reports, the analysis may not be an accurate reflection of all the homes in Florida.

## 1. Nursing Home Direct Care Staffing Findings

*This section reports the impact of the staffing increases on nurse staffing levels in Florida.*

The legislature changed staffing standards in nursing homes and this report examines the impact of the staffing requirements on nurse staffing in Florida nursing homes. The report provides the numbers of staff working in nursing homes since the implementation of SB1202. Figures 1.1-1.4 provide details on the numbers of hours direct care staff provide care in nursing homes. These data generally confirm Florida nursing homes are conforming to the nurse staffing standards.

Direct care staff in Florida nursing homes, Figure 1.1, indicates that Florida nursing homes employed 43,041 CNAs and 20,181 licensed nurses as of the third quarter in 2008. These data indicate between 2002 and 2008, there has been an increase of 8,405 new certified nursing assistants employed in Florida nursing homes. The number of licensed nursing staff has also increased by 3,543. A total of almost 12,000 new direct care staff has been hired to meet the nurse staffing requirements. From multiple perspectives, this report concludes with the exception of 23 facilities, nursing homes have complied with the CNA direct care staffing standards. Of those 23 facilities, 13 met the 3.9 total staffing which is allowed. However, in 2007, 10 facilities, based on the average of their quarterly staffing report, met neither the 2.9 CAN standard nor the 3.9 total staffing minimum standard. We will do more analyses of homes not meeting standards in the final report.

**Figure 1-1: Numbers of Employed Direct Care Staff in Florida Nursing Homes (2002 - 2008)**

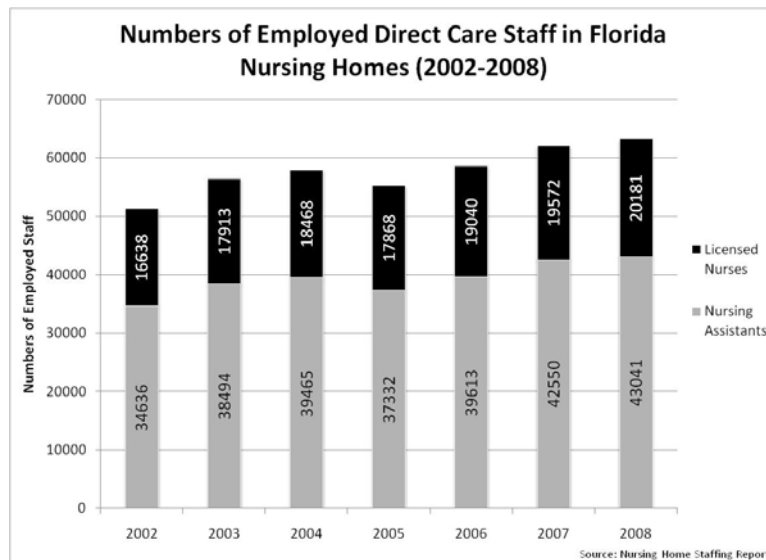


Figure 1.2, CNA Hours per Resident Day in Florida Nursing Homes (2002-2008), indicates CNA hours average 2.49 hprd in 2002, 2.71 in 2003 and 2.98 in 2007. These data support the conclusion nursing homes are complying with the mandate for a minimum of 2.3, 2.6, and 2.9 hprd. They also indicate average staffing has decreased slightly in 2008 from 2.98 in 2007 to 2.94 in 2008 when the Legislature no longer required strict compliance with the 2.9 minimum hprd. Figure 1.2 highlights another point: legislative requirement of “minimum number of hours per resident day” results in higher average hprd than increasing staffing requirements “on average”. In 2002, the minimum staffing was 2.3 hprd but average nurse staffing was 2.49 hprd. Similarly, when staffing was a minimum of 2.6 hprd, staffing across the state averaged 2.71 in 2003. The average hprd staffing remains reasonably constant in 2004-2006 at 2.73-2.76 hprd. The variation (standard deviation) around the mean decreases in 2006 suggesting that homes were better at managing nurse staffing levels. While the Legislature may have expected the increase in staffing from 2.6 to 2.9 hprd to result in an additional 18 minutes of care (0.3 hprd), the actual average increase was 13.2 minutes (0.22 hprd). The subtle change in language from a minimum level of hprd to an average number of hprd obtained over one week, resulted in an increase in staffing but a smaller increase than if the minimum standard had been imposed.

**Figure 1-2: CNA Hours per Resident Day in Florida Nursing Homes (2002-2008)**

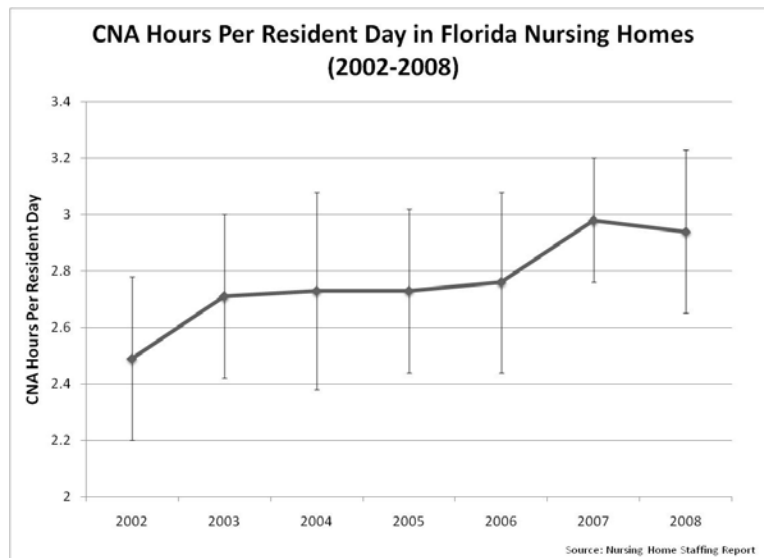
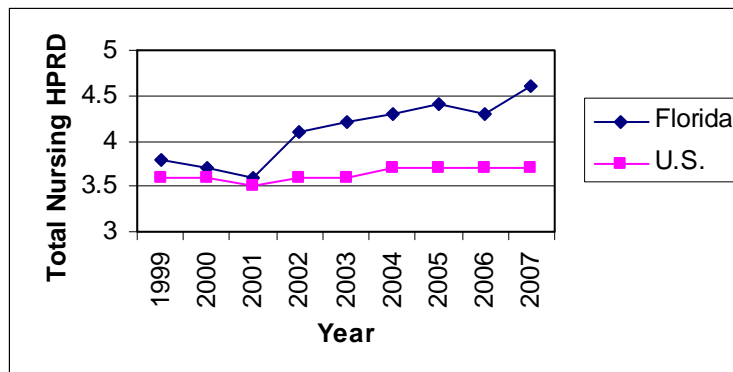


Figure 1.3, Total Nursing Hours per Resident Day in the U.S. and Florida Facilities (1999-2007) indicates that staffing as measured by hprd increases when legislatively required, not with

financial incentives. In 2000, Florida allocated \$40 million in financial incentives to improve quality in nursing homes with the direct care staffing adjustment. These monies were spent on direct care as required by the law, but as the figure indicates, the total average hours per resident day did not increase until minimum staffing requirements were established. Figure 1.3 clearly indicates that when providers are allowed to spend reimbursement as they deem appropriate, direct care hours per resident day decrease. The trend line of average staffing per resident day suggests that only when minimum standards are established and enforced do hours of per resident care increase. Figure 1.2 above shows, beginning in July 2008 when the Legislature prohibited the Agency from imposing sanctions against a nursing home that was not staffing at 2.9 hprd, the CNA hprd decreased. As of the 3rd quarter of 2008, CNA hprd averaged 2.84. While some facilities were clearly maintaining the 2.9 level, the average was below 2.9 hprd. The final report will track changes in fourth quarter 2008 and first quarter 2009 and report the staffing levels and direct care staff terminated.

**Figure 1-3: Total Nursing Hours per Resident Day in the U.S. and Florida Facilities (1999-2007)**



Source: Harrington, Carrillo, & Blank (2008).

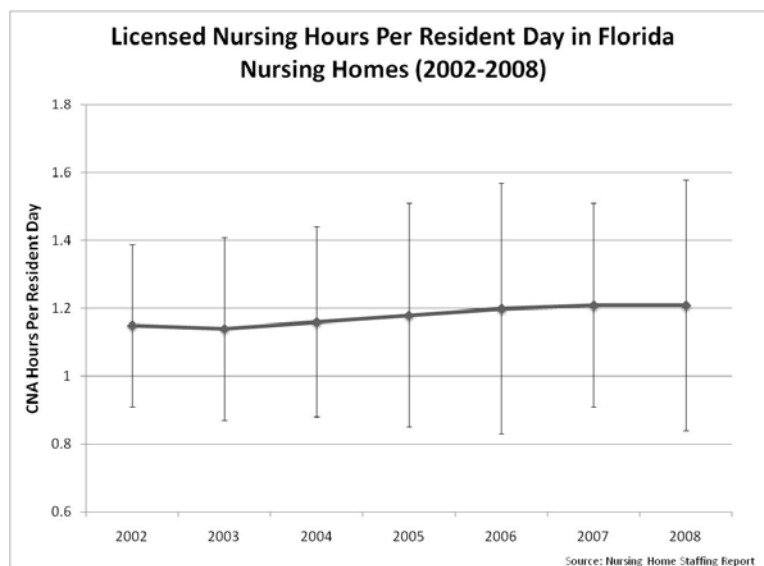
Note: Total nursing hours per resident day (HPRD) includes registered nurses, licensed practical nurses, and certified nursing assistants.

Figure 1.4 Licensed Nursing Hours per Resident Day in Florida Nursing Homes (2002-2008), provides another insight into nursing home operations. Florida standards increased nurse staffing levels from 36 minutes of licensed nurse staffing per resident (0.6 hprd) to 60 minutes or 1.0 hprd; however, licensed staffing was, on average 20% above the 1.0 hprd when the standard was established in 2002. Figure 1.4 indicates the licensed hours have increased slightly since 2002. Licensed nursing combines the hours of licensed practical nurses and registered nurses and the mix

of licensed practical nurse to registered nurse has changed. There is a steady decline with fewer registered nurses employed and lower registered nursing hours over the study years. Using data from Medicaid cost reports, the specific skill mix change was examined in the two types of licensed staffing (RNs and LPNs). Registered Nurses time with residents declined from 18 minutes (0.31 hprd) in 2002 to 16.8 minutes per resident (0.28 hprd) in 2007, while LPN hprd increased from 0.87 hprd in 2002 to 0.98 HPRD in 2007. The RN level of time with residents in 2007 is at 36% of the “optimal” CMS level and IOM recommended level of RN staffing. Florida is at 62% of the CMS preferred rate minimum rate for RN hprd staffing at 27 minutes (0.45 hprd) of registered nursing care.

The decline in registered nurse staffing is a concern because a number of studies reviewed earlier suggest that high quality patient care for complex nursing home residents requires the skills and supervision of a registered nurse. As Table 1 suggests, CMS studies calculated 0.75 hours or 45 minutes of registered nursing care per day as the optimal level- the level of registered nurse staffing found in the top 10% of nursing homes providing the highest quality of care when the studies were conducted ten years ago. Florida’s continuous decrease in nursing skill mix suggests establishing minimum standards for registered nurse hours per resident day within the 1.0 hprd of licensed care may be warranted. National RN shortages may contribute to the decline in RN staffing hours<sup>15</sup>.

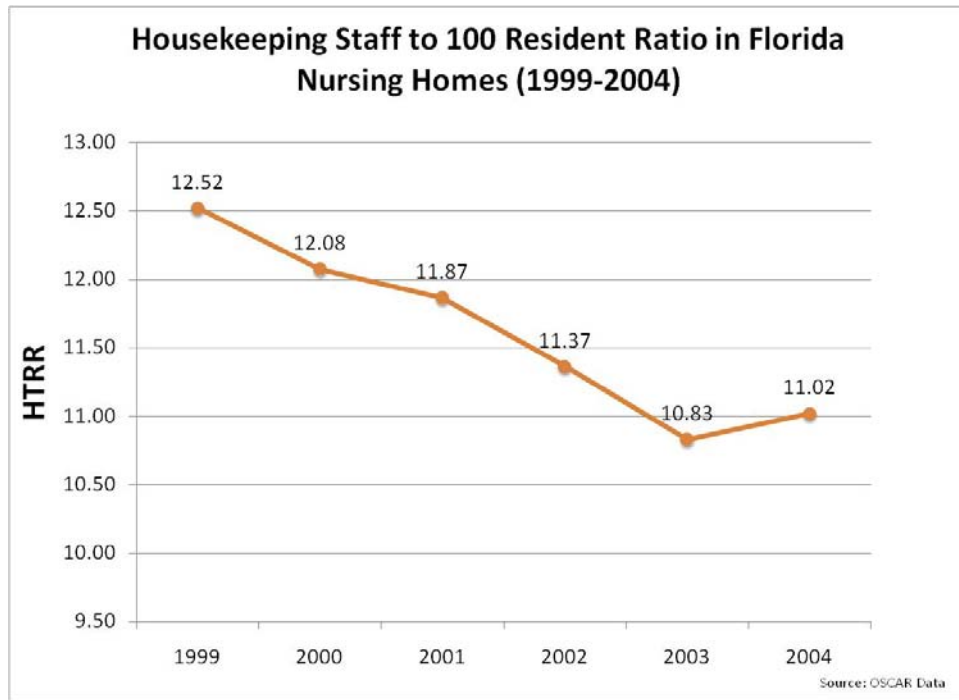
**Figure 1-4: Licensed Nursing Hours per Resident Day in Florida Nursing Homes (2002-2008)**



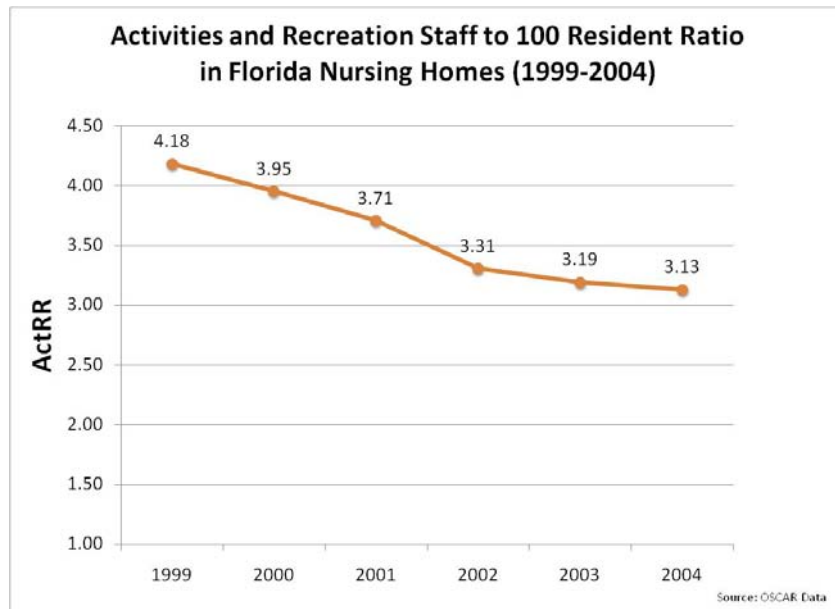
<sup>15</sup> American Association of Colleges of Nursing (AACN) Nursing Shortage Fact Sheet, *Updated September 2008*  
<http://www.aacn.nche.edu/Media/FactSheets/NursingShortage.htm>

Figure 1.5 compares Housekeeping and Activity Staffing per 100 residents, for Florida. The direct care staffing standards monitor only staff that are considered direct nursing staff- certified nursing assistants, licensed practical nurses and registered nurses providing hands-on care. These numbers do not include other nursing home staff who provide non-nursing care for residents, such as dietary aides, activities, administrative and therapy staff. While reports are not available that show total nursing home staff changes since the implementation of SB1202, the report includes changes in two non-direct care staff - the number of housekeeping and activities staff. Housekeeping to resident ratio (HTRR) rates per 100 residents fell beginning in 1999 and continued to decrease as direct care staffing increases occur in 2002 and 2003. There was a slight upturn in housekeeping in 2004 but the rate was .85 housekeepers per 100 residents lower than in 2001 before direct care staffing increases were established. Similarly, activity and recreational staff per 100 residents (ActRR) decreased from 4.18 staff per 100 residents in 1999 to 3.13 staff per 100 residents in 2004. Unlike housekeeping, this rate continued to decline with almost .5 activity or recreational staff per 100 residents lost per facility between 2001 and 2004.

**Figure 1.5a: Rates of Housekeeping Staff per 100 Residents Florida (1999- 2004)**



**Figure 1.5b: Rates of Activities Staff per 100 Residents Florida (1999-2004)**

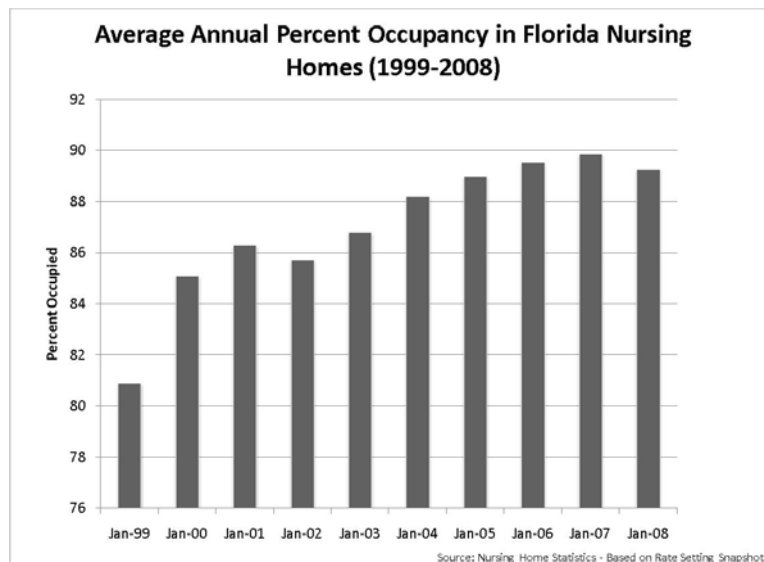


Standards were set for direct care staff only. There were no changes in standards for non-patient care staff such as activities, housekeeping, dietary and maintenance staff. Figures 1.5-1.6 provide evidence on the decline in the rate of two non-direct care staff, specifically housekeeping

and activities staff per hundred residents during the 1999-2004 period. This data is presented because housekeeping, dietary and activity staff provide important services in nursing homes. Decline in this staff may be coincidental, and the data is only through 2004. Changes in housekeeping and activities staff for the entire period of 1999-2008 in the final report.

It is also important to note the growth in direct care nursing home staff reflects both the increased numbers of staff that had to be hired to comply with the state regulations but also an overall growth in nursing home residents. Unlike many nursing homes nationally, Florida nursing homes are increasing the number of residents and improving occupancy rates. As shown in figure 1.6, it appears the imposition of the moratorium on issuance of certificates of need for the establishment of new nursing home in July of 2001 coincides with an improvement in the occupancy rates for nursing home. In January 1999, average nursing home occupancy was 80.9%, in comparison to an average occupancy of 87.80% in June 2008.

**Figure 1.6: Average Annual Percent Occupancy in Florida Nursing Homes (1999-2008)**



## 2. Quality of Nursing Home Care Findings

*This section addresses quality of nursing home care as measured by total federal deficiencies, quality of care deficiencies, quality of life deficiencies.*

As described earlier, Florida inspects its nursing homes yearly within 6-15 months of the previous annual survey. Surveys are unannounced and can begin at any hour or on a weekend. Facilities with poor records of quality are visited more frequently. During each inspection, nursing homes are evaluated on their ability to provide care meeting the state and federal standards for quality. If homes fail to meet the standards, inspectors issue citations for deficient care – generally referred to as “deficiencies.” Each deficiency is linked to specific violations of the federal or state code. The federal code categories deficiencies as quality of care violations (e.g., care provided was not consistent with what was planned), quality of life violations (e.g., activities are not appropriate; environment is not clean or safe) and, resident rights violations (e.g., free from inappropriate use of physical or chemical restraint). Every deficiency is then rated on the scope and severity of the violation. Scope measures the number of residents affected and is categorized as isolated (one or a very few residents), pattern of deficient care (more than limited but violation occurs repeatedly), or, widespread (pervasive) practice. The severity rating measures the potential for resident harm. Four severity categories rank violations as: no actual harm or potential for minimal harm; no actual harm but potential for more than minimal harm; actual harm but no immediate serious risk; and, immediate jeopardy-the highest severity.

Deficiencies in this report are grouped into the following categories: (a) the average total number of deficiencies per nursing home as cited on the state/federal quality survey; (b) the average quality of care deficiencies per facility cited on the state quality survey; and (c) the average quality of life deficiencies per facility cited on the state quality survey. In addition to the average violations per nursing home, the report included the more serious violations by highlighting deficiencies that are cited as actual resident harm or potential for harm.

Whenever possible deficiency-related outcomes for all Florida nursing homes were calculated. For this preliminary report, charts use national published data to calculate national rates because we were not able to buy and analyze data before this preliminary report was due. Because the data were not calculated by the authors, federal average includes Florida rather than reporting a national average excluding Florida’s data.

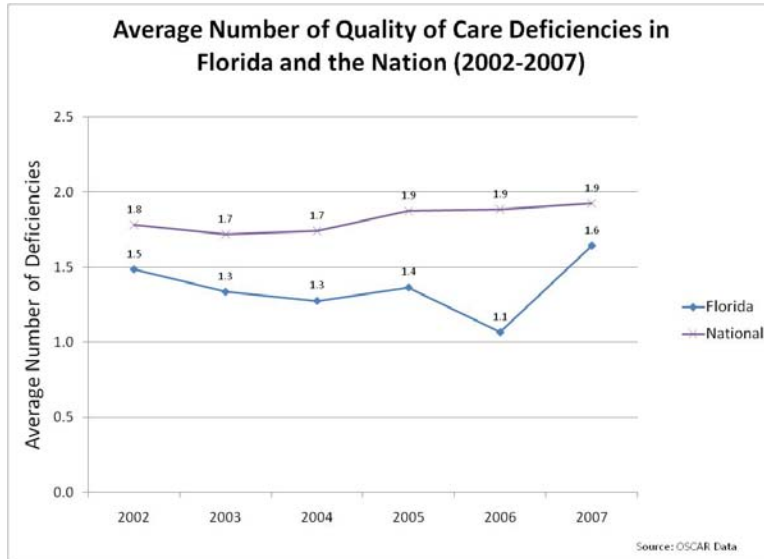
**Table 4: Average Quality of Care, Quality of Life and Total Quality Deficiencies per Facility in Florida vs. Nation (2002-2007)**

	Florida			National		
	Quality of Care Deficiencies	Quality of Life Deficiencies	Total Quality Deficiencies	Quality of Care Deficiencies	Quality of Life Deficiencies	Total Quality Deficiencies
2002	1.5	0.9	2.4	1.8	0.7	2.5
2003	1.3	1.0	2.4	1.7	0.7	2.4
2004	1.3	1.0	2.3	1.7	0.7	2.4
2005	1.4	1.0	2.4	1.9	0.7	2.6
2006	1.1	1.5	2.6	1.9	0.8	2.7
2007	1.6	1.1	2.7	1.9	0.8	2.7

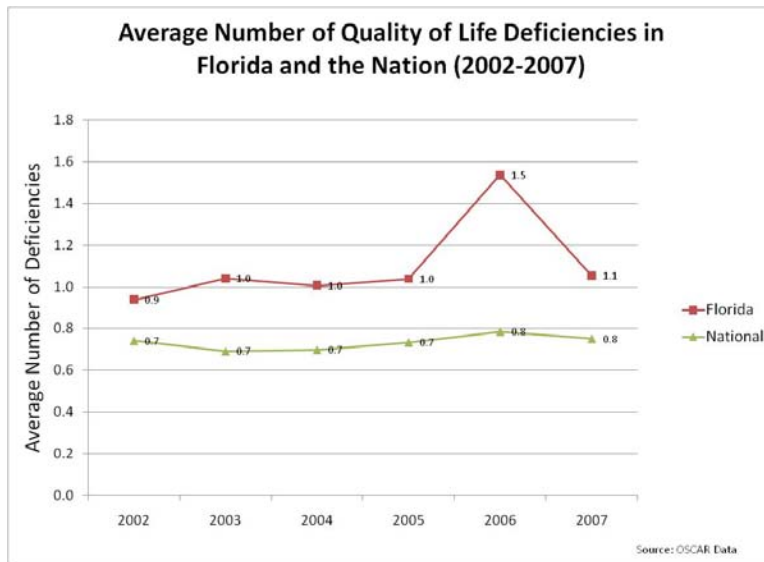
Table 4 presents information on the effect of the legislation on nursing home quality as measured by federal deficiencies by providing the average number of quality of care deficiencies, quality of life, and total quality deficiencies in Florida from 2002-2007 when compared to the nation. For each year, Florida nursing homes are below the national rates of average quality of care deficiencies per home. Of particular concern, however, is the increase in average number of quality of care deficiencies in 2007 when the 2.9 staffing standard was implemented. While Florida still remains below the national average level of quality of care deficiencies in every year, the jump of average quality of care deficiencies between 2006 and 2007 warrants more careful analysis. It is important to note that Florida is also not below the average quality of life deficiencies per home nor is Florida below the total number of deficiencies consistently.

A new federal survey process, the quality indicator survey process (QIS), was implemented in Florida during this time period, although is not likely to have had a significant impact in 2007; it is unclear if the change in average number of deficiencies relates to the new process which focuses more on resident-centered care and is supposed to be more sensitive to quality of life issues. Because Florida is one of the first states to adopt the quality indicator survey process, the initial trend in increased quality of life deficiencies would not be found in the rest of the country. The final report will explore the increased rates of deficiencies with AHCA and to determine if the shift is related to the new survey process.

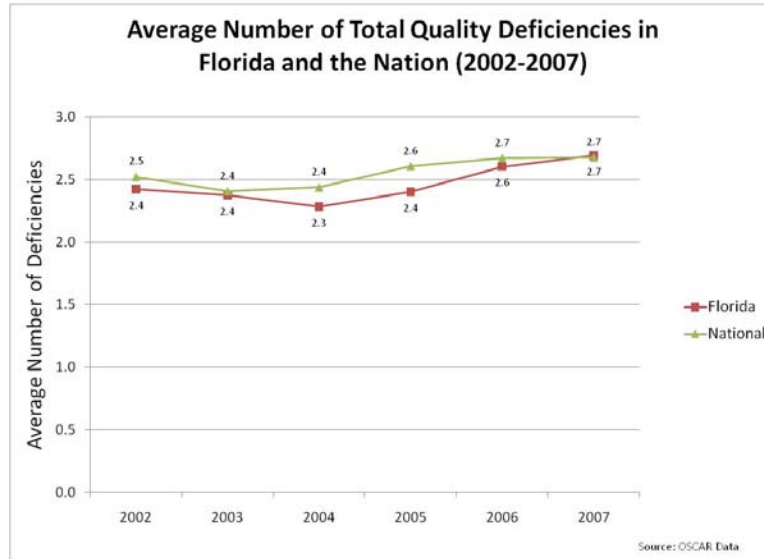
**Figure 2.1: Average Number of Quality of Care Deficiencies per Facility (2002-2007)**



**Figure 2.2: Average Number of Quality of Life Deficiencies Per Facility (2002-2007)**

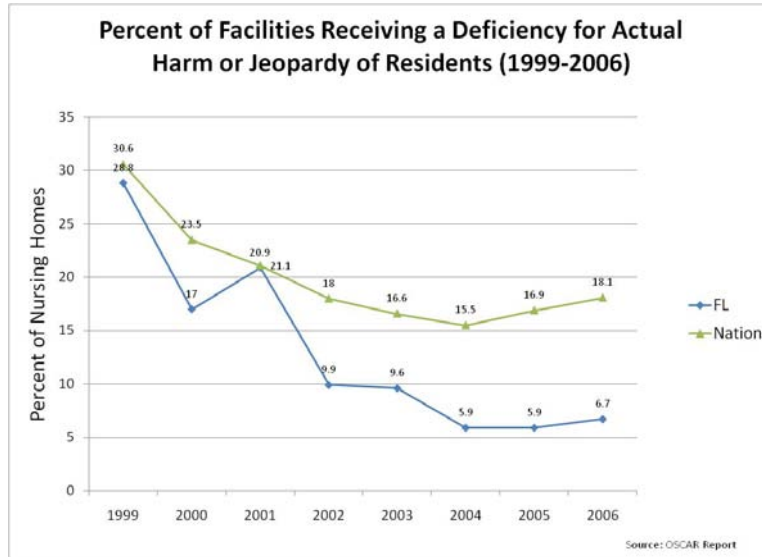


**Figure 2.3: Average Number of Total Quality Deficiencies per Facility (2002-2007)**



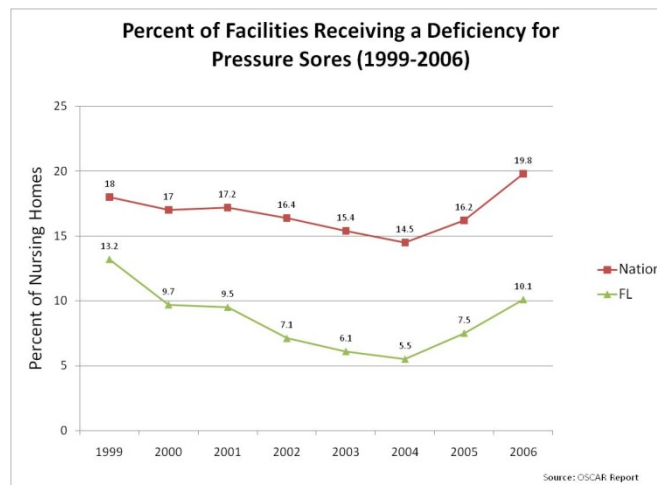
A deficiency citation for actual harm or jeopardy of residents is considered the most severe of all deficiency citations. Figure 2.4 shows the percent of facilities that received one or more deficiencies that caused harm or immediate jeopardy to residents (G-level deficiency or higher). It is evident beginning in 2002, the percent of facilities receiving a G+ deficiency citation decreased dramatically from 21.1 in 2001 to 9.9. In 2004 and 2005, only 5.9 percent of Florida nursing homes received a deficiency for actual harm or jeopardy of residents. Florida’s averages are lower than the national averages and the gap is larger following the introduction of SB1202 in 2001.

**Figure 2.4: Percent of Facilities Receiving a Deficiency for Actual Harm or Jeopardy of Residents (1999-2006)**



Pressure sores are areas of the skin that die as a result of lack of blood supply. This is often caused by pressure or friction on bony prominences associated with lying in one position for too long. Pressure sores are often used as a measure to indicate adequate staffing and quality of care. Facilities that have residents who develop pressure sores may be cited for failing to meet care standards. As seen in Figure 2.5, Florida's rate of quality of care deficiencies because of pressure sores is lower than the nation and the gap expands beginning in 2002.

**Figure 2.5: Percent of Facilities Receiving a Deficiency for Pressure Sores (1999-2006)**



Residents who are unable to maintain their activities of daily living independently should be given “necessary services to maintain nutrition, grooming, and personal and oral hygiene” according to the federal standards of care. As seen in Figure 2.6, Florida receives substantially fewer citations than the national average for lack of providing activities of daily living services. The decline is particularly noteworthy after the staffing increases in 2002 and the decline continues until 2004 with fewer than four percent of all Florida facilities receiving a citation related to activities of daily living (ADL) services. Given the growth in paraprofessional staff, staff should be more available to help residents with activities of daily living. This is a very important quality of life and quality of care indicator. Declining ADL levels means that residents are becoming more debilitated and dependent. Some decline may be unavoidable but declines increase costs of care because residents are unable to do things for themselves and, this also decreases the quality of life for residents.

**Figure 2.6: Percent of Facilities Receiving a Deficiency for Lack of Activities of Daily Living Services (1999-2006)**

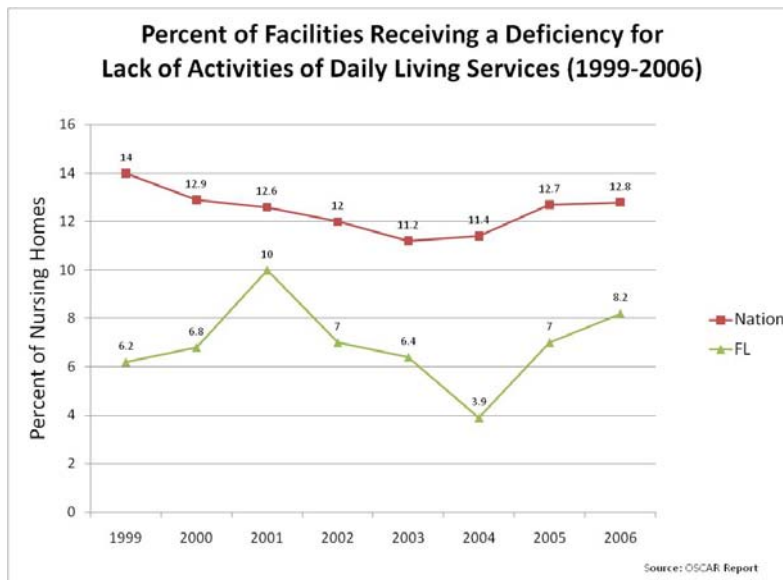
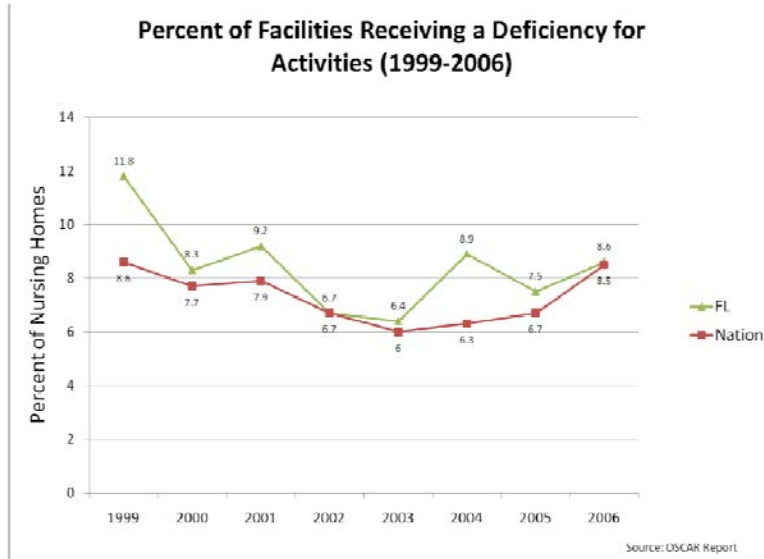
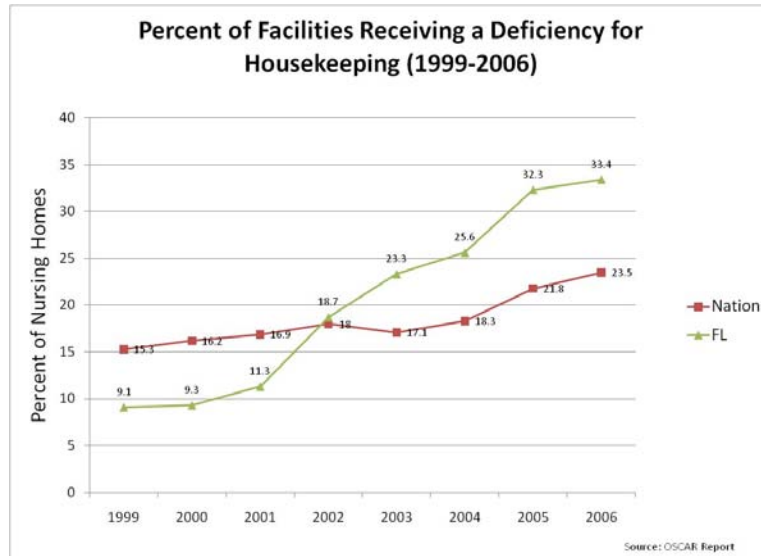


Figure 2.7 provides a information on the percent of facilities receiving a deficiency for activities. Florida is above the national average for this citation. Similarly Figure 2.8, presents the percent of facilities receiving a citation for housekeeping. It is not known if the decline in the numbers of activity staff and housekeeping staff is related to the percentage of facilities that receive these citations, although the final report will more fully examine this issue to determine if any relationship exists.

**Figure 2.7: Percent of Facilities Receiving a Deficiency for Activities (1999-2006)**



**Figure 2.8: Percent of Facilities Receiving a Deficiency for Housekeeping (1999-2006)**

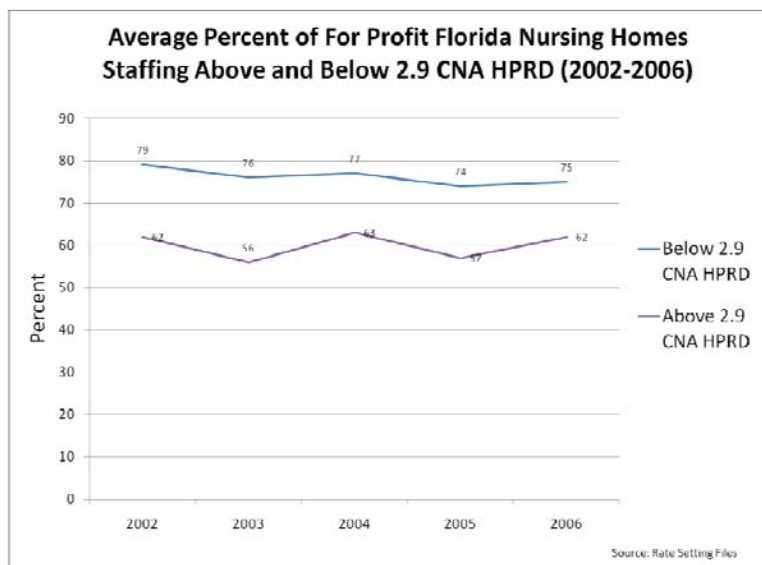


**Variations by Facility Characteristics-** To assess the impact of the 2.9 ratio on quality of care and quality of life before the Legislature required all nursing homes to staff at 2.9 hprd in 2007, this report compares differences between facilities staffing above 2.9 and those staffing below 2.9 from 2002-2006.

The first chart indicates the variation of staffing above and below the 2.9 hours per resident day standard. On average, 74% of Florida’s nursing homes are for profit. Prior research has indicated that higher staffing levels and better quality of care outcomes is related to not-for-profit ownership<sup>16</sup>. Consistent with these national findings, Florida has a higher percentage of not-for-profit facilities staffing above 2.9 CNA hprd. From 2002-2006, 60% of facilities staffing above 2.9 were for profit nursing homes; 76% of the facilities staffing below 2.9 were for-profit.

**Figure 2.9: Average Percent of For Profit Florida Nursing Homes**

**Staffing Above and Below 2.9 CNA HPRD  
(2002-2006)**



To examine the impact of staffing above 2.9 CNA hprd, we first present the differences in quality for facilities staffing above and facilities staffing below 2.9 CNA hprd during years 2002-2006. The determination of staffing above or below 2.9 for each year comes from the Nursing Home Staffing Report; it is self-reported data but provides the information for the largest number of facilities.

<sup>16</sup> Davis, MA. Nursing home ownership revisited: market, cost and quality relationships. (1993) Medical Care 31(11):1062-8.

**Table 5: Quality of Care, Quality of Life and Total Quality Deficiencies for Florida Nursing Homes by Staffing Levels Above and Below CNA 2.9 hprd**

	Below 2.9 CNA HPRD			Above 2.9 CNA HPRD		
	Quality of Care Deficiencies	Quality of Life Deficiencies	Total Quality Deficiencies	Quality of Care Deficiencies	Quality of Life Deficiencies	Total Quality Deficiencies
2002	1.5	0.9	2.4	1.3	0.6	1.9
2003	1.4	1.1	2.4	1.0	0.8	1.7
2004	1.3	1.0	2.4	0.7	0.7	1.4
2005	1.4	1.1	2.4	1.2	0.8	2.0
2006	1.6	1.1	2.7	1.0	0.9	1.9

This table indicates quality of care deficiencies are decreasing with increased staffing. Surprisingly, quality of life deficiencies have increased since staffing levels have increased for both those facilities staffing above 2.9 and those staffing below 2.9. Deficiencies, however, are clearly consistently lower in the higher staffed facilities. Quality of life deficiencies include activities staffing and housekeeping and the decline in those staff may be related to increases in these citations.

### 3. Expenditure Findings

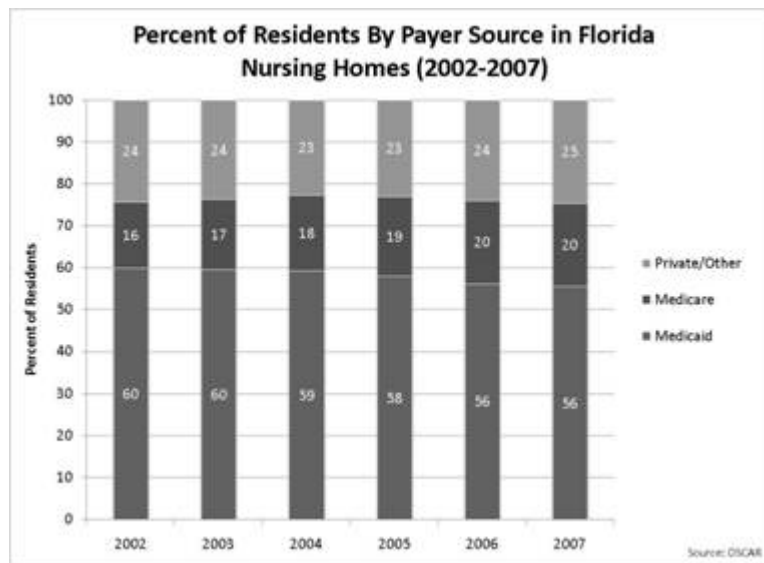
***This final section details the impact of the staffing legislation on Medicaid per diem rates and expenditures, and how wages of direct care nursing staff have changed since the implementation of the minimum nurse staffing levels.***

The final section provides an overview of the funding for the Medicaid residents in nursing homes. We provide data on the changing reimbursement pattern and the decreasing number of Medicaid residents. We also provide data on the increased reimbursement and how those costs have grown since the staffing standards were implemented in 2002. Nursing home costs are driven by labor costs. Providers would have been unable to implement the staffing standards if Medicaid reimbursement had not been provided as the staffing standards were implemented. However, facility total costs and reimbursement rates are cumulative and the state has paid for the 2.9 staffing standard even though the standards are no longer in effect. It is important to note the recently adopted nursing home quality assessment will increase the revenue available to nursing homes to care for residents.

Recognizing the focus on the 2.9 staffing standard, data on the direct care staffing costs for facilities staffing above and below the 2.9 standard before 2007 is provided, as is information on how expenses have been allocated as increased wages for direct care workers.

Figure 3-1, Percent of Residents by Payer Source in Florida Nursing Homes (2002-2007) indicates that Medicaid funding has decreased from 60% of revenue in 2002 to 56% in 2007. Medicare reimbursement has grown 25% to a rate that one in five revenue dollars is paid by Medicare with private pay remaining constant. The increased emphasis on Medicare is part of a national trend.

**Figure 3.1: Percent of Residents by Payer Source in Florida Nursing Homes (2002 -2007)**



Patient care encompasses both direct and indirect patient care components. As is evident from the figure below, there has been a significant increase in the Medicaid per diem rate, primarily with the patient care component. In 2002, the patient care component made up 69% of the average Medicaid rate and it has increased to 79% in 2007. Care costs money. The state indicated the importance of quality of care through increased Medicaid rates and its willingness to pay increased costs. The goal of the increased payments is to ensure Florida Medicaid nursing home residents are receiving quality care.

**Figure 3-2: Average Annual Patient Care and Operating per Diem Rates in Florida Nursing Homes (1999 - 2008)**

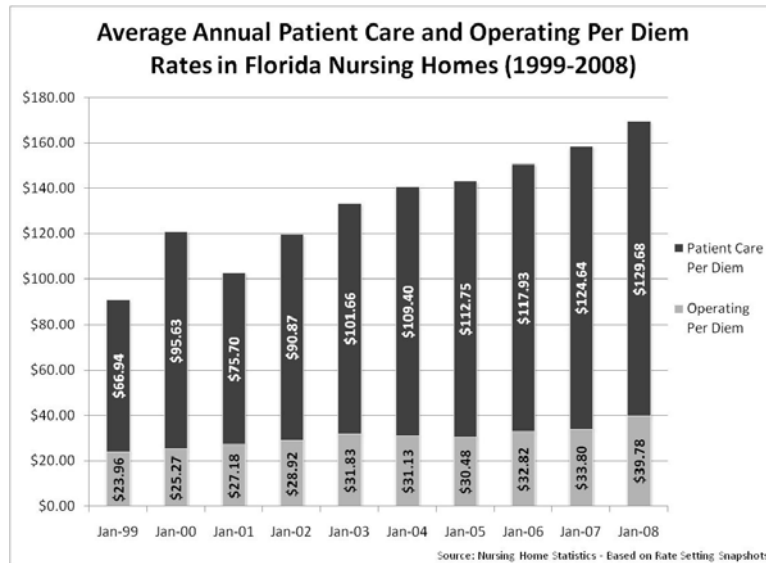
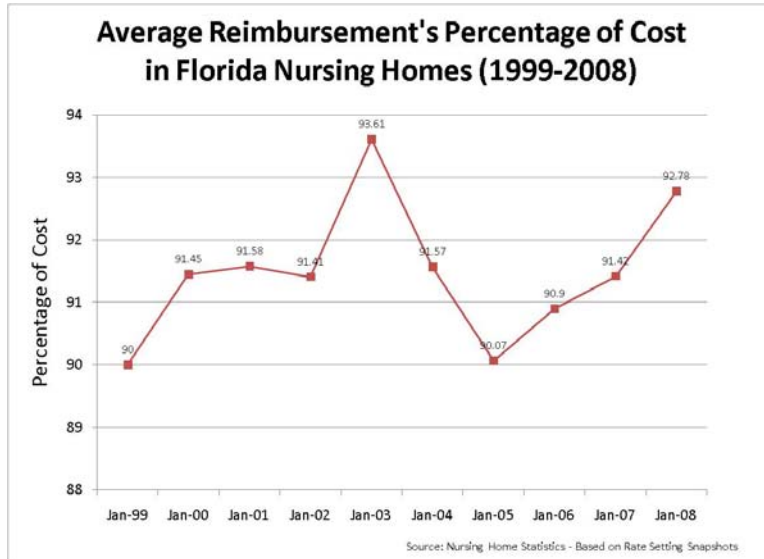


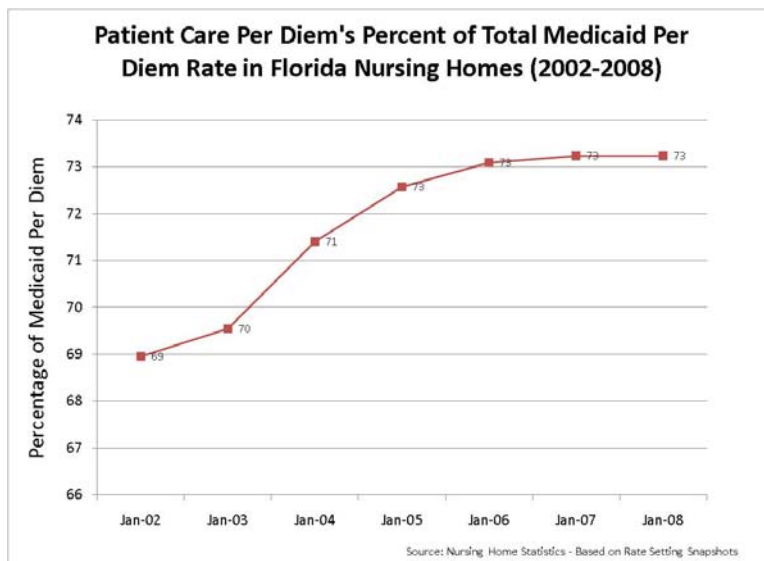
Figure 3-3, Average Reimbursement's Percentage of Total Cost in Florida Nursing Homes (1999-2008), provides another insight into funding Medicaid nursing home costs. Providers submit cost reports that reflect the total cost of providing care. Figure 3-3 shows the gap between costs and the average Medicaid reimbursement. The percentage of costs covered decreased to 90% in 2005 but has been steadily increasing since 2005. Percentage of total costs reimbursed spikes in January 2003 and January 2008. This is consistent with Florida's reimbursement system which pays providers prospectively based on the previous year's costs. We believe these increases in costs covered reflect a delay in paying providers their total direct care cost for new staffing requirements because 1) demand for new direct care workers increased wages; and, 2) actual average staffing hours exceeded the minimum required levels. Therefore, the increases in costs covered represents a lag in payment to providers being reimbursed for new staff. The January 2008 rate indicates almost 93% of all costs are covered.

**Figure 3-3: Average Reimbursement's Percentage of Cost in Florida Nursing Homes (1999-2008)**



Since 2002, Medicaid's Direct Care percentage of the per diem rate has increased in concert with the increases in staffing. In 2002, 43% of the per diem rate was allocated to pay for costs associated direct care. This increased in 2003 with the increase in the minimum staffing level to almost 45% of the per diem rate and reached 49% in 2007.

**Figure 3-4: Patient Care per Diem's Percent of Total Medicaid Per Diem Rate in Florida Nursing Homes (2002-2008)**

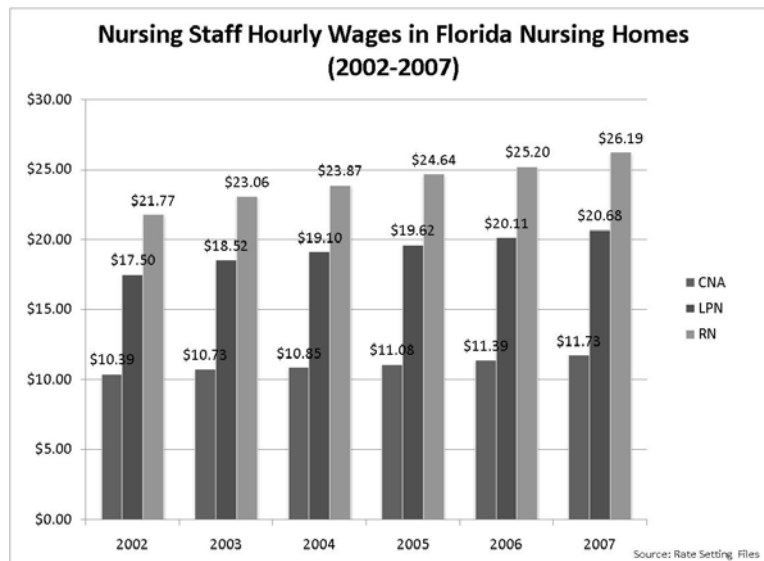


**Table 6: Nursing Facility Expenditures for Facilities Staffing Above and Below 2.9 HPRD  
2002-2006**

	2002		2003		2004		2005		2006	
	>2.9	<2.9	>2.9	<2.9	>2.9	<2.9	>2.9	<2.9	>2.9	<2.9
Medicaid Per-Diem	157.04	150.19	162.13	151.87	169.35	159.74	174.72	165.64	188.09	173.94
Average Operation cost per Day	53.91	40.54	45.63	38.07	52.96	39.34	48.26	39.41	48.94	39.56
Average Property Cost per Day	12.59	16.38	15.38	16.2	16.25	16.92	15.11	17.02	15.53	18.24
Average Patient Care Cost per Day	112.23	106.43	119.13	110.59	124.22	115.59	126.57	119.73	135.85	127.07
Average Total Expenses per Day	194.19	165.24	189.49	166.08	205.6	173.15	199.71	176.81	208.31	184.7
Percent Operating Cost	28	25	24	23	26	23	24	22	24	21
Percent Patient Care Cost	58	64	63	67	60	67	63	68	65	69

Workers' wages and benefits are important and expected to be related to quality of care. Nurses and CNAs are an important factor in the cost of nursing home care because of the large numbers employed. Nurses and CNAs are the people who work most closely with nursing home residents in dealing with their day-to-day needs, keeping them clean and fed and monitoring their vital signs. For this reason, it is important they are paid at adequate levels. Following SB1202 (2001), we see an increase in unadjusted dollars for all three levels of nursing staff. The greatest increase in wages is among RN's, whose wages in 2002 averaged \$21.77 and increased to \$26.19 in 2007. We see a \$1.39 increase in CNA wages from 2002-2007, and an increase in LPN wages from \$17.50 to \$20.68 during the six year period.

**Figure 3-5: Nursing Staff Hourly Wages in Florida Nursing Homes (2002-2007)**



## Closing Comments

This report has been prepared pursuant to Section 6 of House Bill 5003, of the 2008 regular legislative session. This preliminary report was prepared by the University of South Florida under contract with the Agency for Health Care Administration. This preliminary report finds evidence that quality of care has substantially improved in Florida nursing homes since the introduction of increased nurse staffing levels and other quality standards. This report is preliminary and a full report will be delivered to the Agency by June 30, 2009.