

**Report of Findings**  
**2007 AHCA Survey**  
**Nursing Staff Vacancy and Turnover**  
**In Nursing Facilities**

American Health Care Association  
Department of Research

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The logo for the American Health Care Association (AHCA) features the lowercase letters "ahca" in a bold, orange, sans-serif font. A small orange cross is positioned above the letter "h". A registered trademark symbol (®) is located to the right of the "a".  
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## **Abstract**

This report presents findings from the 2007 AHCA survey of nursing staff vacancy and turnover in nursing facilities. Approximately 109,900 full-time equivalent (FTE) nursing staff were needed to fill vacant direct-care positions at nursing facilities across the United States in 2007. The majority of the vacancies, nearly 60,300, were for Certified Nurse Assistant (CNA) positions. An additional 19,400 Staff Registered Nurse (RN) and 24,200 Licensed Practical Nurse (LPN) positions were estimated to be vacant. Vacancy rates among Staff RNs and LPNs were 16 percent and 11 percent, respectively. The substantial number of vacancies and the high level of turnover, 66 percent overall, among CNAs has been of particular concern. Overall, America's nursing facilities, which provide essential facility-based long term care and services for frail, elderly, and disabled Americans, are facing a serious workforce shortage.

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# Executive Summary

America's nursing facilities have been facing a chronic direct-care workforce shortage for more than a decade. In order to measure the extent of the difficulty that nursing facilities are having in retaining and recruiting nursing staff, the American Health Care Association (AHCA) conducted a nursing position survey to examine employment vacancy and turnover in nursing facilities in 2007.

## Survey Design and Conduct

AHCA distributed its 2007 nursing position vacancy and turnover survey to each of the 15,558 eligible nursing facilities in the United States. 3,828 nursing facilities, or 25 percent of eligible facilities, completed and returned the survey questionnaire. The survey instrument collected information about six nursing staff positions; specifically, the number of established and vacant positions as of June 30, 2007, the number of employees who left the facility during the six-month period from January 1 through June 30, 2007, and the relative difficulty the nursing home experienced in recruiting key nursing staff. The six nursing staff categories for which data was collected include: Directors of Nursing (DONs), Registered Nurses (RNs) with administrative responsibilities (Administrative RNs), Staff RNs, Licensed Practical and Vocational Nurses (LPNs), Certified Nurse Assistants (CNAs), and non-certified nursing aides. Data for the five main nursing staff categories are reported, although data on non-certified aides was insufficient for meaningful analysis and is therefore not included in this report.

## Vacancies and Vacancy Rates

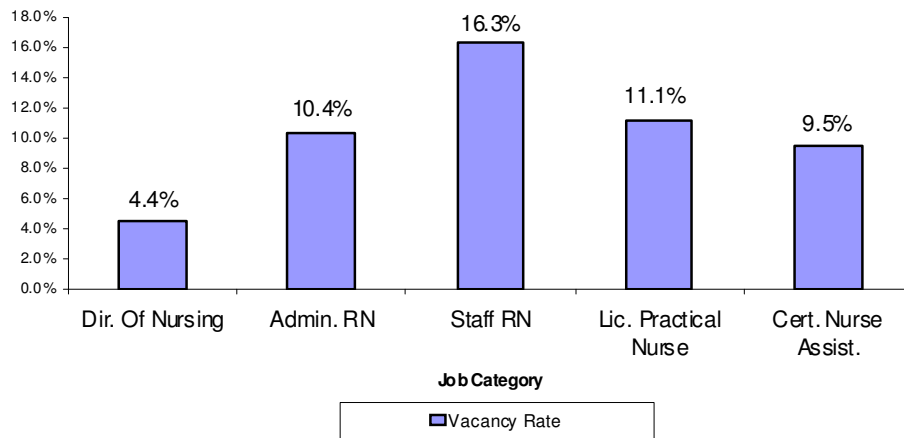
In 2007, nearly 109,900 full-time equivalent (FTE) health care personnel were needed to fill vacant nursing positions at nursing facilities across the United States. While approximately 19,400 Staff RN and 24,200 LPN positions were estimated to be vacant, the majority of staffing vacancies – nearly 60,300 positions – were for CNA positions.

Nationally, vacancy rates exhibited a high degree of variability across nursing positions. As shown in Figure 1, vacancy rates in nursing facilities were particularly high among Staff RNs (16 percent) and among LPNs (11 percent). Vacancy rates for CNAs and Administrative RNs stood at 9.5 and above 10 percent, respectively. Vacancy rates for DONs were about 4 percent, which compares to about 7 percent of vacancies for nursing home administrator positions in 2007.

A comparison of hospital-based and freestanding nursing facilities in urban and rural locations shows that, with the exception of CNAs and DONs, rural hospital-based facilities have the lowest vacancy rate. Conversely, urban hospital-based facilities generally had the highest vacancy rates. Vacancy rates for Staff RNs ranged from a relative low of 8.7 percent at rural hospital-based facilities to a relative high of 22.7 percent at urban hospital-based facilities, a substantial difference of 14 percentage points. CNA vacancy rates were relatively stable across facility types, ranging from 9 to 15 percent.

State level analysis shows that vacancy rates among Staff RNs and LPNs were high across the majority of states. Average state vacancy rates for Staff RNs were over 15 percent in 19 states and over 10 percent in 45 states. State level vacancy rates for LPNs were over 14 percent in 11 states and above 9 percent in 41 states. The vacancy rates for CNAs, Administrative RNs, and DONs were relatively lower, with 29, 34, and 48 states having average vacancy rates of less than 10 percent for each position, respectively.

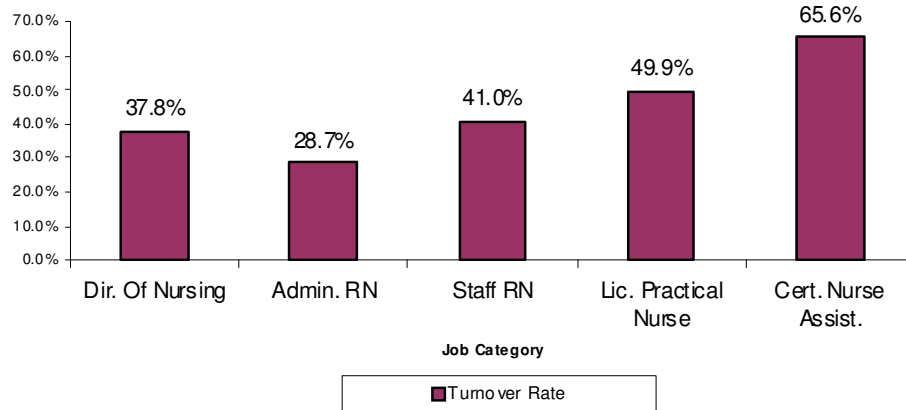
**Figure 1. National Vacancy Rates in Nursing Facilities, 2007**



## Turnover Rates

Staff turnover continued to be high in 2007. As shown in Figure 2, annual turnover for Staff RNs, LPNs, and DONs stood at about 38 to 50 percent across all three positions. Although turnover among Administrative RNs was only about 29 percent, turnover among CNAs remained very high. Nationally, CNA turnover was estimated at 66 percent in 2007. The turnover rate was consistently high across the country with average annual CNA turnover rates below 40 percent in only 4 states. CNA turnover rates were above 50 percent in 42 states, and above the national average of 66 percent in 26 states. The large number of vacancies and the high level of turnover among CNAs continues to be a particular concern to nursing facilities as CNAs are responsible for much of the direct, hands-on resident care.

Figure 2. National Turnover Rates in Nursing Facilities, 2007



The findings from the 2007 AHCA survey of nursing position vacancy and turnover in nursing facilities indicate that America's nursing facilities continue to experience difficulties in recruitment and retention of nursing staff.

## 1.0 Introduction

America's nursing facilities are facing a chronic workforce shortage. Long term care industry, the public, and the government have expressed concern about the ability of nursing facilities to recruit and retain nursing staff. Government reports refer to growing apprehension about the availability of nurses and nurse aides to serve current and future long term care needs of our nation's aging population. At the same time, studies suggest that increases in nurse staffing levels can further improve quality of care.<sup>1</sup> Many complex factors contribute to the difficulties that nursing facility administrators face in staffing nursing services, including competition for health care workers from other health care providers and the challenge of creating a rewarding and satisfying work environment. Given the complexity of nursing services staffing issues, it is beyond the scope of this study to examine the myriad of facets of these issues. Instead, the American Health Care Association (AHCA) has focused this study on the extent of vacancies and turnover in nursing facilities—the results of which highlight the need for continued action by the government in the form of new policies and programs, and by nursing facilities to better recruit and maintain the personnel who in turn provide more consistent quality care.

Although nursing staff turnover rates and accompanying vacancies in nursing facilities have long been recognized as major issues, most studies on the subject have focused on turnover and vacancies within a specific state or metropolitan area.<sup>2</sup> To satisfy the need for more comprehensive data, the research staff at the American Health Care Association (AHCA) has conducted three national studies of vacancies and turnover in nursing facilities since 2001.

In this report, we present the results of the third national study on vacancy and turnover conducted by AHCA. As we did in our 2002 study, the extent of vacancies and turnover in nursing facilities in 2007 is reported for five staff categories (Directors of Nursing, Registered Nurses with Administrative Duties, Staff Registered Nurses, Licensed Practical Nurses, and Certified Nurse Assistants). In Section 2.0, we provide a brief overview of the survey design and methods, with a more detailed overview contained in Appendix D. The national results are presented in Section 3.0. A comparison of national vacancy and turnover rates for rural and urban freestanding facilities, as well as rural and urban hospital-based facilities, is provided in Section 4.0 with additional reference tables in Appendix A. Regional and state-level results are outlined in Sections 5.0 and 6.0, respectively, with additional reference tables in Appendices B and C. Concluding remarks are provided in Section 7.0.

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<sup>1</sup> GAO (United States General Accounting Office), *Nursing Workforce: Recruitment and Retention of Nurses and Nurse Aides Is a Growing Concern*, GAO-01-750T, May 17, 2001; Health Resources and Services Administration, U.S. Department of Health and Human Services, *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2002*, July 2002.

Assistant Secretary for Planning and Evaluation (ASPE), 2003, *Report to Congress: the Future Supply of Long-Term Care Workers in Relation to the Aging Baby Boom Generation*, Washington, DC: ASPE. Institute of Medicine, the National Academies, 2008, *Retooling for an Aging America: Building the Health Care Workforce*, Washington, DC: the National Academies Press.

<sup>2</sup> Centers for Medicare and Medicaid Services (CMS), U.S. Department of Health and Human Services, *Appropriateness of Minimum Staffing Ratios in Nursing Homes: Phase II Final Report*, December 2001.

## **2.0 Overview of Survey Design and Methodology**

This section includes a brief overview of the design of the survey and the survey methodology. A more detailed description of the content of the survey, the editing procedures used to ensure the reliability of the data, the categories used in the analysis, and the computation of vacancy and turnover rates can be found in Appendix D.

As with the 2002 study, the 2007 vacancy and turnover survey sample included a census sample of all nursing facilities in the United States. Of the 15,558 nursing facilities eligible to participate in the survey, 3,828 returned the questionnaire and are included in the analysis, resulting in a 25 percent response rate.

### **Survey Contents**

The survey instrument collected the following data for the period of January 1, 2007 through June 30, 2007: the number of established and vacant positions; average number of employees; and the total number of terminations, both voluntary and involuntary. The staff categories surveyed include: Directors of Nursing (DONs), Registered Nurses with Administrative Duties (Administrative RNs), Staff Registered Nurses (Staff RNs), Licensed Practical and Licensed Vocational Nurses (LPNs), Certified Nurse Assistants (CNAs), and other non-certified nursing aides. Results for the five main nursing staff categories are presented in the report; however, data on non-certified nursing aides was insufficient for meaningful analysis.

Information on nursing facility administrator vacancy and turnover also was collected in 2007. Respondents were asked to rate the relative difficulty their nursing facility experienced in recruiting new Staff RNs, LPNs, and CNAs at the time of the survey in 2007 compared to the previous year. Respondents could indicate that recruitment was easier, about the same, more difficult than a year ago, or that they did not know.

### **Data Edits**

Conventional editing procedures were applied to the data to ensure reliability of the information. These edits included examining frequency distributions for relevant variables and omitting data from the analysis where individual and/or derived responses were at the extremes of the distribution, such as the 1<sup>st</sup> and 99<sup>th</sup> percentile of the distribution for some edits. The data edits used are listed in Appendix D, along with the criteria for each edit.

### **Categories of Analysis**

As noted in this report's introduction, vacancy and turnover results are presented in four categories: in the aggregate at the national level, in a comparison of national vacancy and turnover rates for rural and urban freestanding and hospital-based facilities, by region in the United States, and by state. Results from the question about the relative difficulty of recruiting are reported for the nation, by rural and urban freestanding and hospital-based facilities, and by region. Given sample sizes, reporting answers to the perceived difficulty of recruitment is not meaningful or reliable at the state level.

### **Deriving National Vacancy and Turnover Rates**

National vacancy and turnover rates were estimated by applying population adjustments to the relevant subgroups of nursing facilities. The results were weighted so that the estimates proportionally accounted for the representation of each subgroup in the universe of nursing facilities. National estimates were adjusted by four subgroups including: rural freestanding facilities; urban freestanding nursing facilities; rural hospital-based facilities; and urban hospital-based facilities.

### **Region and State Analysis**

Region and state vacancy and turnover rates are not population adjusted like the national estimates because the decrease in sample size at the region and state level makes such weighted estimation unreliable. The states included in each region are identified in appendix D.

### **Calculation of Vacancy Rates**

All vacancy rates are presented as percentages. Vacancy rates were calculated for each job category by dividing the sum of vacant positions for the job category by the sum of established positions. For national estimates, the total sum of established and vacant positions is derived using the population adjustment to represent all 15,558 nursing facilities included in the study. For region and state rates, the established and vacant positions used in calculating the rate were the positions reported in the sample of facilities with usable data only. The estimate of the total number of vacancies for a region or state were imputed by dividing the number of vacancies for each staff category in the sample of responding facilities by the response rate for that category. Given the small sample sizes for the regional and state estimates, the results are less reliable and should be interpreted with caution and keeping these limitations in perspective.

### **Calculation of Turnover Rates**

All turnover rates are presented as percentages. Turnover rates were calculated for each job category by dividing the sum of terminations reported during the six month time period by the sum of established positions. This resulting six-month rate was multiplied by two to derive an annual turnover rate estimate. For national turnover estimates, the sum of established positions and terminations are those derived by the population adjustment. For region and state turnover rates, the established positions and terminations used in calculating the rate were the positions and terminations reported by the sample of facilities with usable data only.

As mentioned previously, a more detailed description of the survey design and methodology is provided in Appendix D.

## 3.0 National Results

### 3.1 Vacancies and Vacancy Rates in 2007

In 2007, nursing facilities continued to have substantial openings for nursing-related staff (Table 1). Overall, nearly 109,900 full-time-equivalent (FTE) health care staff were needed to fill vacant nursing positions at nursing facilities across the United States. Vacancy rates were highest among Staff RNs (16.3 percent) and LPNs (11.1 percent), which corresponded to about 19,400 and 24,200 vacant FTE positions, respectively.

CNA positions represent the greatest nursing staff skills need in nursing facilities. Although the vacancy rate was a relatively low 9.5 percent, nearly 60,300 (FTE) CNA positions were estimated to be vacant. There were about 690 DON and 5,300 Administrative RN FTE positions estimated to be vacant in the United States in 2007, which corresponds to vacancy rates of 4.4 and 10.4 percent, respectively.

Table 1: Population Adjusted National Vacancy Rate Estimates, as of June 30, 2007

Job Category	Facilities in Sample	Percentage of Total Facilities	Estimated Total Established Positions	Estimated Total Vacant Positions	Population Adjusted Vacancy Rate
DON	3,624	23.3%	15,700	686	4.4%
Admin RN	3,069	19.7%	51,469	5,343	10.4%
Staff RN	3,235	20.8%	119,216	19,431	16.3%
LPN	3,477	22.4%	218,515	24,152	11.1%
CNA	3,541	22.8%	637,803	60,266	9.5%
Total			1,042,703	109,877	

Table 2: Comparing Estimated Total Vacant Positions

Job Category	2002	2007
DON	797	686
Admin RN	3,998	5,343
Staff RN	13,922	19,431
LPN	25,118	24,152
CNA	51,959	60,266
Total	95,794	109,877

### 3.2 Turnover and Turnover Rates in 2007

Staff turnover continues to be high in America's nursing facilities (Table 3), and turnover rates were highest among CNAs (65.6 percent). The high level of turnover among CNAs is of particular concern to nursing facilities as CNAs are responsible for much of the direct, hands-on nursing facility resident care.

Table 3: Population Adjusted National Annualized Turnover Rate  
(based on six months ending June 30, 2007)

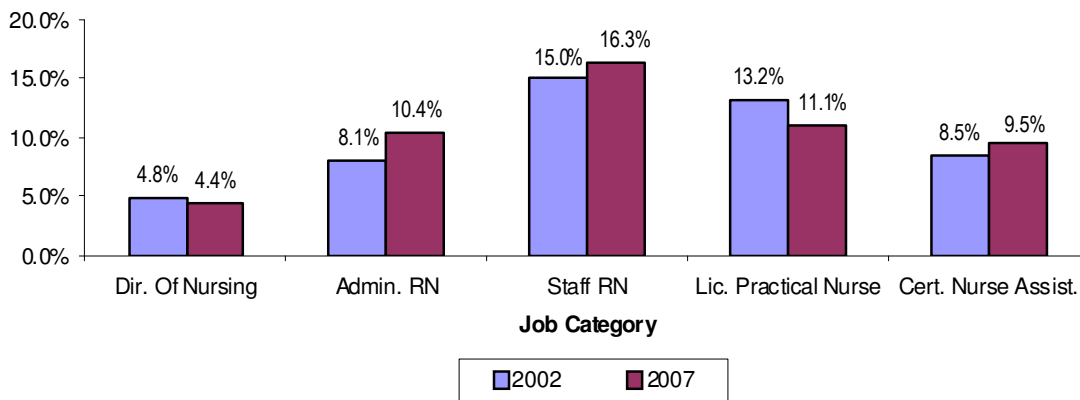
Job Category	Facilities in Sample	Percentage of Total Facilities	Estimated Average Number of Employees	Estimated Total Turnover	Population Adjusted Turnover Rate
DON	3,617	23.3%	16,139	6,095	37.8%
Admin RN	3,025	19.5%	52,253	14,979	28.7%
Staff RN	3,433	21.1%	131,918	54,095	41.0%
LPN	3,644	23.4%	240,622	120,199	50.0%
CNA	3,652	23.5%	699,385	458,715	65.6%

### 3.3 Comparison of National Vacancy and Turnover Rates from 2002 Survey and 2007 Survey

#### 2002 and 2007 Vacancy Rates

Overall nursing position vacancies increased from 2002 to 2007, resulting in an estimated 14.7 percent increase in vacant nursing positions in nursing facilities, from about 95,800 vacancies in 2002 to about 109,900 in 2007. Although the vacancy rate for CNAs increased only 1.0 percentage points from 8.5 percent in 2002 to 9.5 percent in 2007, the number of vacant CNA positions increased from 51,960 in 2002 to 60,270 in 2007. The vacancy rates for other positions also increased from 2002 to 2007—2.3 percentage points for Administrative RNs, and 1.3 percentage points for Staff RN. The vacancy rates for two positions dropped from 2002 to 2007—0.4 percentage points for DONs and 2.1 percentage points for LPNs.

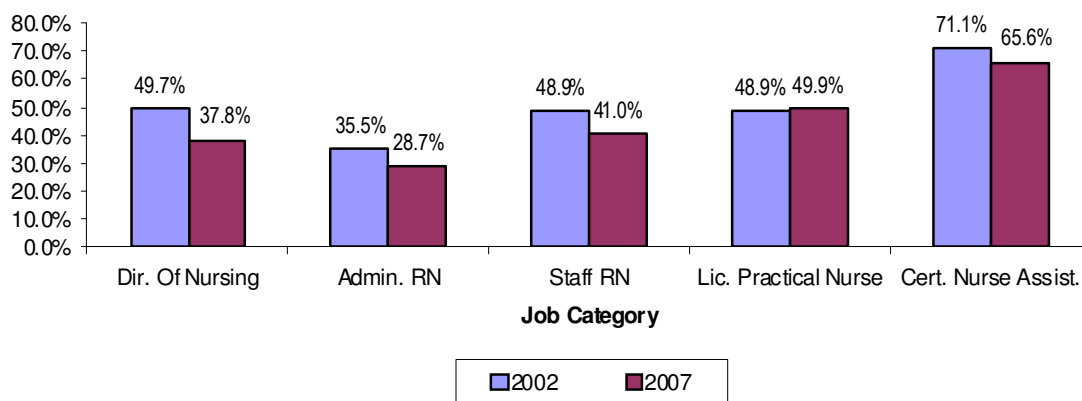
Figure 1: National Vacancy Rates: 2002 and 2007



## 2002 and 2007 Turnover Rates

Nursing facility staff turnover rates fell moderately between 2002 and 2007 for all positions except LPNs. Turnover decreased 11.9 percentage points for DONs, 6.8 percentage points for Administrative RNs, 7.9 percentage points for Staff RNs, and 5.5 percentage points for CNAs. The increase for LPNs was 1.0 percentage points between 2002 and 2007<sup>3</sup>.

Figure 2: National Turnover Rates: 2002 and 2007



## 3.4 Difficulty in Recruiting Staff

Recruiting new direct care staff remains a challenge for nursing facilities, even though the percentage of facilities reporting difficulty with recruitment decreased from the 2002 survey. Overall, about 51.8 percent and 38.7 percent of facilities indicated that it was harder to recruit RNs and LPNs, respectively, in 2007 than a year earlier (Table 4). In the 2002 survey, about two-thirds of the nursing facilities in the sample found it harder to recruit RNs and LPNs than the previous year (Table 5).

While there was a reduction in the percentage of nursing facilities that had more difficulty in recruiting licensed nursing staff, many nursing facilities found it much more difficult to recruit CNAs in 2007 than the year before. About 41 percent of the facilities found it more difficult to recruit CNAs in 2007, which is an 11 percentage point increase over the 2002 survey results, when nearly 30 percent of facilities found it more difficult to recruit CNAs.

The 2007 survey found a striking difference in the recruitment of RNs/LPNs and CNAs. The most noteworthy change between the 2002 and 2007 surveys is the perceived difficulty in recruiting. In 2002, facilities reported greater difficulty recruiting RNs and LPNs, whereas in 2007, facilities had more difficulty recruiting for CNA positions.

<sup>3</sup> In 2007, turnover was defined in same way as the 2002 report - the total number of terminations, both voluntary and involuntary terminations, during the six months between January 1, 2007 and June 30, 2007. See more detail on the turnover rate calculation methodology in Appendix D.

<b>Table 4: Difficulty in Recruiting Staff in 2007 Relative to 2006</b>			
	Percent of Facilities		
	Easier	Same	More Difficult
RN	5.2	43.0	51.8
LPN	10.3	50.9	38.7
CNA	10.5	48.2	41.2

<b>Table 5: Difficulty in Recruiting Staff in 2002 Relative to 2001</b>			
	Percent of Facilities		
	Easier	Same	More Difficult
RN	3.1	29.0	67.9
LPN	4.0	33.0	63.1
CNA	20.7	49.8	29.6

## **4.0 National Rural/Urban and Freestanding/Hospital-Based Results**

### **4.1 Vacancy Rates in 2007**

Across most nursing positions, the rural hospital-based facilities had the lowest vacancy rate (Table 6). The vacancy rate for Administrative RNs ranged from 1.9 percent at rural hospital-based facilities to 23.1 percent at urban hospital-based facilities. The rate for Staff RNs ranged from 8.7 percent at rural hospital-based facilities to 22.7 percent at urban hospital-based facilities. For LPNs, the vacancy rate ranged from 8.6 percent at rural hospital-based facilities to 14.8 percent at urban hospital-based facilities. The rate for CNAs ranged from 9.0 percent at urban freestanding facilities to 15.4 percent for urban hospital-based facilities.

### **4.2 Turnover Rates in 2007**

In 2007, urban freestanding nursing facilities experienced the highest turnover rate in every job category except CNAs. Rural freestanding facilities had the greatest turnover rate for CNAs. The CNA turnover rate at rural freestanding facilities was 70.1 percent, while the rate for urban freestanding facilities was 65.9 percent. Hospital-based facilities, whether rural or urban, experienced lower turnover rates across all job categories.

### **4.3 Difficulty in Recruiting Staff**

For all three major direct-care job categories – Staff RNs, LPNs, and CNAs – the number of nursing facilities that reported recruitment was “more difficult” was two or three times greater than facilities reporting that recruitment was easier in 2007 (Table 7). A greater proportion of urban facilities (both freestanding and hospital-based) perceived that recruitment for CNAs was easier in 2007 than the previous year, compared to rural facilities. About 34.4 percent of the urban freestanding facilities and 26.6 percent of urban hospital-based facilities indicated recruitment of CNAs was more difficult, compared to 52.7 percent of rural freestanding and 49.5 percent of rural hospital-based facilities.

**Table 6: Estimates of Vacancy and Annualized Turnover Rates for 2002 and 2007 by Rural/Urban Status and Hospital Affiliation**

Job Category	Facility Characteristics	Vacancy Rate		Turnover Rate	
		2002	2007	2002	2007
DON	<i>Rural/Urban Status - Hospital Affiliation</i>				
	Rural, Freestanding	4.6%	5.0%	50.1%	36.2%
	Urban Freestanding	5.4%	4.5%	53.9%	40.8%
	Rural, Hospital-Based	3.2%	1.7%	27.8%	19.0%
	Urban, Hospital-Based	2.3%	1.6%	25.4%	23.1%
Admin RN	<i>Rural/Urban Status - Hospital Affiliation</i>				
	Rural, Freestanding	7.4%	8.6%	33.0%	25.8%
	Urban Freestanding	8.7%	9.2%	37.7%	32.6%
	Rural, Hospital-Based	5.6%	1.9%	20.3%	9.5%
	Urban, Hospital-Based	5.6%	23.1%	28.1%	13.5%
Staff RN	<i>Rural/Urban Status - Hospital Affiliation</i>				
	Rural, Freestanding	13.7%	13.9%	47.0%	48.5%
	Urban Freestanding	16.2%	14.6%	54.2%	50.8%
	Rural, Hospital-Based	9.6%	8.7%	24.9%	28.9%
	Urban, Hospital-Based	12.1%	22.7%	29.2%	17.2%
LPN	<i>Rural/Urban Status - Hospital Affiliation</i>				
	Rural, Freestanding	11.4%	10.0%	45.8%	46.4%
	Urban Freestanding	14.0%	11.1%	52.5%	52.3%
	Rural, Hospital-Based	10.0%	8.6%	29.2%	27.5%
	Urban, Hospital-Based	13.9%	14.8%	30.6%	44.6%
CNA	<i>Rural/Urban Status - Hospital Affiliation</i>				
	Rural, Freestanding	8.3%	9.6%	76.4%	70.1%
	Urban Freestanding	8.6%	9.0%	72.4%	65.9%
	Rural, Hospital-Based	8.3%	11.1%	41.1%	41.0%
	Urban, Hospital-Based	8.9%	15.4%	38.1%	51.6%

**Table 7: Difficulty in Recruiting Staff in 2007 Relative to One Year Ago by Job Category, Rural/Urban Status and Hospital Affiliation**

Job Category	Facility Characteristics	Easier	Same	Harder
Staff RN	Rural, Freestanding	4.7%	43.8%	51.5%
	Urban Freestanding	5.3%	41.4%	53.3%
	Rural, Hospital-Based	4.9%	58.3%	36.9%
	Urban, Hospital-Based	10.9%	56.3%	32.8%
LPN	Rural, Freestanding	7.5%	48.1%	44.4%
	Urban Freestanding	11.6%	52.6%	35.7%
	Rural, Hospital-Based	13.6%	51.5%	35.0%
	Urban, Hospital-Based	18.8%	51.6%	29.7%
CNA	Rural, Freestanding	6.1%	41.2%	52.7%
	Urban Freestanding	13.0%	52.6%	34.4%
	Rural, Hospital-Based	12.6%	37.9%	49.5%
	Urban, Hospital-Based	14.1%	59.4%	26.6%

## **5.0 Regional Results**

### **5.1 Vacancy Rates in 2007**

Vacancy rates differed considerably across regions and job categories in 2007, particularly in the case of Administrative RNs (Table 8). Vacancy rates for RNs were, compared to other job categories, more consistent across regions. The DON vacancy rates ranged from 2.6 percent in the East South Central region to 6.3 percent in West South Central, a 3.7 percentage point difference. The vacancy rates for Administrative RNs were higher, ranging from 4.8 percent in West North Central to 11.4 percent in South Atlantic, while the rates for Staff RNs ranged from a low of 10.2 percent in West South Central to a high of 15.0 percent in New England and South Atlantic. Regional vacancy rates for LPNs ranged from 8.6 percent in Pacific to 13.9 percent in the Middle Atlantic. CNA vacancy rates ranged from 6.6 percent in New England states to 12.4 percent in Mountain states, a 5.8 percentage point range.

### **5.2 Turnover Rates in 2007**

CNA turnover rates in 2007 were highest and exhibited the most volatility across regions when compared with the other four staff categories, ranging from 40.9 percent in New England to 96.7 percent in West South Central (Table 8). Following the same pattern observed in 2002, turnover rates were the greatest in West South Central in three of the five staffing categories — DONs, LPNs, and CNAs. The East South Central region experienced the greatest turnover rate among Staff RNs.

DON turnover rates ranged from 25.1 percent in Middle Atlantic to 43.8 percent in West South Central, while the rates for Administrative RNs went from a low of 22.7 percent in West North Central to a high of 42.9 percent in Mountain states. Among Staff RNs, Middle Atlantic experienced the lowest turnover (28.3 percent), while East South Central states experienced the greatest turnover (62.4 percent). LPN turnover ranged from a low of 34.6 percent in Middle Atlantic to a high of 68.5 percent in West South Central.

### **5.3 Recruitment Difficulties**

Perceived difficulty in recruitment of RNs was relatively high across regions (Table 9). Nationwide, the perceived difficulty for RN recruitment in 2007 ranged from 48.1 percent in South Atlantic to 57.3 percent in East North Central. Difficulty varied greatly for CNA recruitment, ranging from a low of 25.8 percent for facilities in New England to a high of 53.5 percent in West South Central.

The greatest variation among regions is the facilities that found recruiting CNAs was easier in 2007 than in 2006. In New England, 19.7 percent of the respondents found recruitment for CNAs easier in 2007 than in the previous year, while in West North Central only 5.4 percent found CNA recruitment easier. Even though CNA recruitment is more difficult in 2007 than previously reported, regions still found it much easier to recruit CNAs than LPNs or Staff RNs.

**Table 8: Vacancy Rate, Estimated Vacancies, and Annualized Turnover Rate  
on June 30, 2007 by Job Category and Region**

Job Category	Region	Total Facilities	Facilities in Sample	Percent of Total Facilities	Vacancy Rate	Turnover Rate
DON	New England	1,004	323	32.2%	4.9%	43.4%
	Middle Atlantic	1,718	327	19.0%	3.3%	25.1%
	South Atlantic	2,303	665	28.9%	4.5%	43.3%
	East South Central	1,023	298	29.1%	2.6%	31.2%
	West South Central	1,937	335	17.3%	6.3%	43.8%
	East North Central	3,023	596	19.7%	5.2%	38.4%
	West North Central	2,100	587	28.0%	4.2%	38.1%
	Mountain Pacific	759	207	27.3%	2.8%	41.7%
Admin RN	New England	1,004	260	25.9%	11.1%	25.5%
	Middle Atlantic	1,718	308	17.9%	9.1%	24.9%
	South Atlantic	2,303	616	26.7%	11.4%	37.1%
	East South Central	1,023	245	23.9%	6.7%	32.1%
	West South Central	1,937	243	12.5%	9.7%	42.3%
	East North Central	3,023	492	16.3%	7.0%	27.5%
	West North Central	2,100	505	24.0%	4.8%	22.7%
	Mountain Pacific	759	167	22.0%	6.7%	42.9%
Staff RN	New England	1,004	275	27.4%	15.0%	42.0%
	Middle Atlantic	1,718	314	18.3%	13.9%	28.3%
	South Atlantic	2,303	605	26.3%	15.0%	51.6%
	East South Central	1,023	251	24.5%	11.6%	62.4%
	West South Central	1,937	220	11.4%	10.2%	35.1%
	East North Central	3,023	550	18.2%	14.2%	51.2%
	West North Central	2,100	561	26.7%	12.5%	47.6%
	Mountain Pacific	759	190	25.0%	14.2%	56.4%
LPN	New England	1,004	272	27.1%	11.1%	35.0%
	Middle Atlantic	1,718	330	19.2%	13.9%	34.6%
	South Atlantic	2,303	656	28.5%	10.2%	53.7%
	East South Central	1,023	278	27.2%	9.7%	55.7%
	West South Central	1,937	341	17.6%	13.0%	68.5%
	East North Central	3,023	554	18.3%	8.8%	49.9%
	West North Central	2,100	584	27.8%	10.3%	47.4%
	Mountain Pacific	759	191	25.2%	12.2%	57.2%
CNA	New England	1,004	282	28.1%	6.6%	40.9%
	Middle Atlantic	1,718	329	19.2%	9.2%	46.0%
	South Atlantic	2,303	653	28.4%	9.2%	69.4%
	East South Central	1,023	283	27.7%	9.1%	85.7%
	West South Central	1,937	337	17.4%	12.1%	96.7%
	East North Central	3,023	596	19.7%	8.8%	68.4%
	West North Central	2,100	589	28.0%	9.5%	68.0%
	Mountain Pacific	759	195	25.7%	12.4%	81.0%

**Table 9: Difficulty in Recruiting Staff by Job Category and Region in 2007 Relative to 2006**

Job Category	Region	Facilities			
		Responding	Easier	Same	Harder
Staff RN	New England	229	7.4	41.9	50.7
	Middle Atlantic	278	6.8	42.8	50.4
	South Atlantic	599	6.0	45.7	48.1
	East South Central	277	5.1	44.4	50.5
	West South Central	325	3.1	48.0	48.9
	East North Central	592	4.1	38.7	57.3
	West North Central	557	4.3	40.4	55.3
	Mountain	185	5.9	43.2	50.8
	Pacific	271	6.3	44.3	49.4
LPN	New England	229	16.6	57.6	25.8
	Middle Atlantic	278	14.0	52.2	33.8
	South Atlantic	599	11.0	56.1	32.7
	East South Central	277	6.9	45.1	48.0
	West South Central	325	5.8	37.2	56.9
	East North Central	592	12.2	53.9	34.0
	West North Central	557	6.3	48.1	45.6
	Mountain	185	10.3	49.2	40.5
	Pacific	271	13.7	54.6	31.7
CNA	New England	229	19.7	54.6	25.8
	Middle Atlantic	278	11.9	52.5	35.6
	South Atlantic	599	10.7	51.8	37.4
	East South Central	277	9.4	51.3	39.4
	West South Central	325	6.5	40.0	53.5
	East North Central	592	10.6	51.7	37.7
	West North Central	557	5.4	41.8	52.8
	Mountain	185	13.0	37.8	49.2
	Pacific	271	15.9	49.4	34.7

## **6.0 State Results**

### **6.1 Vacancy Rates in 2007**

Overall, vacancy rates vary across job categories and across states. As shown in Table 10, average vacancy rates for DONs were 5 percent or less in 31 states and 10 percent or less in 48 states. Vacancy rates for Administrative RNs were higher, with 35 states reporting average vacancy rates of 10 percent or less.

Vacancy rates for Staff RNs and LPNs were considerably higher than for DONs and Administrative RNs. Average state vacancy rates for Staff RNs were over 10 percent in 45 states and over 15 percent in 18 states. State level vacancy rates vary for LPNs from 23.1 percent in Maryland to 5.3 percent in Ohio. Vacancy rates for LPNs were over 10 percent for 34 states.

Average state vacancy rates for CNAs were more modest with 28 states reporting CNA vacancy rates between 5 and 10 percent. The state with the lowest reported CNA vacancy rate was Connecticut (4.1 percent), while Oklahoma (16.1 percent) had the highest CNA vacancy rate.

A summary of vacancy rates and vacancies for each job category by state is provided in Table 10, with more detail provided in the reference tables in Appendix C.

Table 10: Vacancy Rates on June 30, 2007 by Job Category and State

STATE	DON	Admin. RN	Staff RN	LPN	CNA
Alabama	0.0%	4.6%	12.4%	11.8%	8.6%
Alaska*					
Arizona	2.5%	10.3%	16.6%	11.0%	9.2%
Arkansas	7.9%	12.8%	5.4%	16.1%	13.9%
California	6.1%	7.8%	11.6%	7.3%	6.5%
Colorado	1.9%	6.5%	11.4%	14.9%	13.0%
Connecticut	7.1%	10.5%	12.4%	9.7%	4.1%
Delaware	13.3%	1.7%	16.5%	11.9%	8.8%
District of Columbia	0.0%	0.0%	17.5%	7.1%	9.3%
Florida	2.2%	9.4%	12.3%	9.1%	8.4%
Georgia	10.7%	14.8%	15.5%	6.6%	9.1%
Hawaii	6.7%	9.3%	10.9%	10.1%	6.1%
Idaho	3.1%	3.0%	14.2%	9.2%	14.3%
Illinois	3.4%	6.0%	12.3%	10.1%	10.1%
Indiana	8.8%	14.0%	26.0%	11.3%	13.7%
Iowa	2.2%	8.4%	13.9%	8.5%	9.1%
Kansas	4.4%	4.9%	9.8%	11.4%	10.1%
Kentucky	4.5%	7.2%	14.7%	8.9%	8.5%
Louisiana	7.9%	11.3%	19.7%	14.9%	14.9%
Maine	4.2%	20.2%	14.3%	11.7%	7.9%
Maryland	0.0%	11.1%	21.4%	23.1%	7.6%
Massachusetts	6.6%	10.5%	16.0%	10.9%	6.5%
Michigan	1.9%	4.7%	12.3%	10.3%	7.6%
Minnesota	5.4%	2.9%	10.6%	10.7%	8.5%
Mississippi	3.3%	8.6%	6.2%	6.8%	6.3%
Missouri	5.6%	8.2%	14.3%	10.8%	10.4%
Montana	7.7%	3.2%	15.8%	9.4%	14.0%
Nebraska	3.3%	2.4%	15.0%	10.2%	9.7%
Nevada	0.0%	3.0%	20.0%	11.5%	10.9%
New Hampshire	3.0%	10.5%	19.8%	16.3%	9.4%
New Jersey	2.9%	7.8%	11.0%	12.6%	7.2%
New Mexico	0.0%	10.3%	20.2%	15.2%	14.9%
New York	5.2%	9.6%	18.6%	16.6%	9.5%
North Carolina	2.2%	9.7%	14.9%	10.4%	10.8%
North Dakota	2.3%	4.7%	11.3%	12.1%	9.5%
Ohio	6.0%	5.5%	13.8%	5.3%	7.0%
Oklahoma	3.7%	6.1%	15.1%	17.6%	16.1%
Oregon	5.1%	9.0%	16.5%	14.4%	13.4%
Pennsylvania	2.1%	8.9%	12.7%	11.3%	10.0%
Rhode Island	0.0%	7.1%	14.2%	10.9%	7.5%
South Carolina	4.8%	11.1%	12.6%	10.0%	9.9%
South Dakota	7.1%	0.0%	12.7%	8.8%	10.3%
Tennessee	2.1%	6.7%	11.9%	10.4%	11.8%
Texas	5.8%	8.8%	9.5%	9.8%	8.7%
Utah	0.0%	3.0%	6.3%	9.7%	11.9%
Vermont	0.0%	5.4%	12.3%	8.0%	9.8%
Virginia	2.5%	11.6%	17.1%	10.3%	8.7%
Washington	6.1%	10.0%	13.3%	11.6%	10.9%
West Virginia	2.0%	20.4%	20.1%	17.6%	10.9%
Wisconsin	4.1%	7.7%	10.4%	11.2%	8.0%
Wyoming	7.7%	17.6%	16.3%	21.9%	14.0%

\* Data is insufficient for meaningful analysis. State estimated vacancies do not equal national total since state-level estimates are not derived using a population adjustment weight, as was applicable in the national estimate.

## **6.2 Turnover Rates in 2007**

Turnover rates varied across states within each job category. As noted previously, turnover rates are by far the highest among CNAs. Average annual CNA turnover rates were below 40 percent in only 4 states (Connecticut, Hawaii, New Hampshire, and New Jersey), and 50 percent or less in only 8 states. CNA turnover rates exceeded 60 percent in 31 states, 70 percent in 23 states, and 90 percent in 10 states.

State level turnover rates vary greatly for LPNs ranging from 16.4 percent in Hawaii to 98.2 percent in Oregon. For Staff RNs, turnover rates ranged from a low of 21.4 percent in New Jersey to a high of 107.4 percent in Nevada. Turnover rates were over 40 percent for Staff RNs in 38 states. Average turnover rates for DONs and Administrative RNs were relatively low, with turnover rates for DONs and Administrative RNs at 40 percent or above in 23 and 11 states, respectively.

A summary of turnover rates for each job category by state is provided in Table 11, with more detail provided in the reference tables in Appendix C.

Table 11: Annualized Turnover Rate Estimates by Job Category and State  
(based upon six months ending June 30, 2007)

STATE	DON	Admin. RN	Staff RN	LPN	CNA
Alabama	27.6%	26.1%	40.9%	45.3%	72.2%
Alaska*					
Arizona	43.9%	36.5%	69.6%	68.8%	83.6%
Arkansas	47.7%	44.4%	52.1%	65.7%	89.0%
California	36.3%	25.6%	43.3%	51.0%	50.6%
Colorado	50.9%	37.4%	48.4%	44.7%	66.4%
Connecticut	40.7%	43.3%	42.1%	30.4%	25.5%
Delaware	12.5%	24.2%	59.2%	58.0%	66.0%
District of Columbia	40.0%	0.0%	30.0%	40.0%	59.6%
Florida	49.0%	41.7%	37.7%	54.4%	56.6%
Georgia	54.3%	35.6%	64.9%	49.8%	75.0%
Hawaii	13.3%	18.9%	44.8%	16.4%	23.8%
Idaho	20.0%	60.0%	47.3%	42.9%	73.3%
Illinois	43.2%	24.0%	44.1%	51.9%	78.9%
Indiana	47.5%	30.7%	66.7%	56.2%	93.0%
Iowa	36.2%	28.6%	58.0%	51.4%	57.5%
Kansas	47.1%	22.8%	46.5%	46.4%	75.4%
Kentucky	37.8%	37.5%	78.8%	63.2%	93.7%
Louisiana	44.1%	37.3%	53.9%	62.1%	104.3%
Maine	64.2%	21.1%	44.7%	30.6%	51.2%
Maryland	24.4%	34.5%	55.6%	40.3%	61.6%
Massachusetts	46.8%	22.9%	42.0%	37.3%	43.3%
Michigan	41.9%	20.9%	49.3%	58.7%	54.4%
Minnesota	44.0%	19.3%	42.9%	45.2%	58.0%
Mississippi	35.5%	49.2%	55.7%	55.6%	72.6%
Missouri	52.3%	28.5%	59.2%	63.6%	109.7%
Montana	33.3%	19.4%	27.7%	49.0%	76.2%
Nebraska	33.3%	28.4%	46.8%	36.6%	56.8%
Nevada	50.0%	95.7%	107.4%	82.1%	102.7%
New Hampshire	25.0%	6.7%	37.9%	33.3%	39.1%
New Jersey	33.4%	26.8%	21.4%	28.1%	37.6%
New Mexico	0.0%	25.0%	84.2%	74.4%	106.8%
New York	30.5%	25.3%	27.9%	40.5%	47.2%
North Carolina	55.6%	42.3%	62.1%	62.6%	85.0%
North Dakota	4.8%	12.3%	39.2%	35.8%	53.9%
Ohio	30.8%	27.9%	50.7%	42.5%	69.2%
Oklahoma	47.3%	53.1%	51.2%	83.3%	118.3%
Oregon	33.3%	40.6%	59.1%	98.2%	72.3%
Pennsylvania	16.5%	23.2%	34.3%	31.1%	49.3%
Rhode Island	13.3%	19.3%	39.5%	32.0%	46.2%
South Carolina	20.5%	27.1%	85.0%	52.0%	66.4%
South Dakota	19.5%	12.7%	33.7%	23.8%	63.4%
Tennessee	24.2%	21.7%	62.9%	57.2%	96.4%
Texas	41.0%	41.1%	28.4%	69.3%	91.2%
Utah	42.1%	27.8%	65.0%	68.4%	118.2%
Vermont	50.0%	11.1%	48.6%	45.6%	61.2%
Virginia	33.3%	41.2%	58.5%	58.6%	79.8%
Washington	36.0%	18.4%	52.6%	59.1%	86.4%
West Virginia	18.2%	24.6%	52.2%	44.3%	54.0%
Wisconsin	31.9%	34.4%	48.6%	41.9%	53.9%
Wyoming	87.5%	21.1%	39.3%	45.8%	65.1%

\* Data is insufficient for meaningful analysis. State estimated vacancies do not equal national total since state-level estimates are not derived using a population adjustment weight as was applicable in the national estimate.

## 7.0 Discussions and Conclusions

The findings of the 2007 AHCA nursing position vacancy and turnover survey indicate that the nursing facility sector, a principal component of America's long term care system, continues to experience difficulties in recruitment and retention of nursing staff. In 2007 alone, nursing facilities had a direct-care workforce shortage of approximately 109,900 full-time equivalent nursing care staff.

Demographic changes, economic conditions, capacity of the nursing education system, regulatory and legislative activities, nursing facility operating environments, and the individual needs of nursing facility residents factor into the supply and demand problem of the nursing workforce. Continuing efforts to sustain and enhance quality long term care has increased the demand for well-trained nursing staff. From 2002 to 2007, established direct-care positions in nursing facilities have increased 11 percent from approximately 960,000 to over 1,040,000. At the same time, total vacant direct-care positions have increased 15 percent from 96,000 to 110,000. In the next five years, if the current nursing staff shortage trend persists as in the last decade, total established direct-care positions in nursing facilities could rise to more than 1,170,000<sup>4</sup> and total vacant nursing positions could increase to over 120,000 FTEs.

Nursing facilities continued to have problems retaining nursing staff as evidenced by high rates of turnover in 2007. Overall turnover rates remain at 41 percent or higher for Staff RN and LPN positions, while the turnover rate was over 66 percent for CNAs. Approximately 38 percent of DONs left their positions in 2007. There were also 654,100 changes in nursing staff positions during 2007. In fact, nursing staff turnover may cost America's nursing facilities from \$1.6 billion to \$2.3 billion in 2007.<sup>5</sup>

Although CNAs had the highest turnover rates, they had relatively lower vacancy rates than Staff RNs and LPNs in 2007. Furthermore, the survey respondents found that it was more difficult to recruit Staff RNs than CNAs. A few factors could explain this differential. The pool of potential applicants for CNAs is likely larger than for LPNs and Staff RNs, and the education timeline for CNAs is far shorter than for LPNs and Staff RNs (CNA training can last six weeks compared to the two to four year education track necessary to train LPNs and Staff RNs). Since nursing facilities must rely on external financial resources and institutions to provide enough direct-care workers to fill Staff RN and LPN positions, it is far more difficult for nursing facilities to respond to a shortage of Staff RNs and LPNs. The high vacancy rates for Staff RNs and LPNs compared to other nursing positions confirms that there is a continuing need for government policy and educational initiatives to promote careers in long term care nursing.

High quality nursing facility services depend upon a stable, well-trained workforce. Promoting sound fiscal policies, designed to strengthen America's long term care workforce and facilitate the continuing improvement in quality nursing facility care, is imperative and should be a top national priority.

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<sup>4</sup> This estimate is based on the two percent annual increase rate. Long-term care workforce has increased by two percent annually since at least 2000. Vacant positions are calculated as 15 percent of the total established positions.

<sup>5</sup> This cost was estimated based on a study conducted by Dr. Dorie Seavey in 2004 (*The cost of frontline turnover in long-term care*. <http://www.bjbc.org/content/docs/TOCostReport.pdf>).

## **Appendix A**

# **National Vacancy and Turnover Results by Rural/Urban Status and Hospital Affiliation**

**Table A1: Population Adjusted Estimates of Vacancies and Vacancy Rates  
by Rural/Urban Status and Hospital Affiliation, as of June 30, 2007**

Job Category	Facility Characteristics	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Estimated Total Established Positions	Estimated Total Vacancies	Vacancy Rate
DON	<i>Overall</i>	15,552	3,624	23.3%	15,700	686	4.4%
	Rural	4,886	1,370	28.0%	4,960	225	4.5%
	Urban	10,666	2,254	21.1%	10,740	461	4.3%
	Freestanding	14,256	3,452	24.2%	14,348	664	4.6%
	Hospital-Based	1,296	172	13.3%	1,351	22	1.6%
	Rural, Freestanding	4,280	1,260	29.4%	4,321	214	5.0%
	Urban Freestanding	9,976	2,192	22.0%	10,027	450	4.5%
	Rural, Hospital-Based	606	110	18.2%	639	11	1.7%
	Urban, Hospital-Based	690	62	9.0%	712	11	1.6%
Admin RN	<i>Overall</i>	15,552	3,069	19.7%	51,469	5,343	10.4%
	Rural	4,886	1,137	23.3%	11,780	925	7.9%
	Urban	10,666	1,932	18.1%	39,689	4,417	11.1%
	Freestanding	14,256	2,922	20.5%	44,564	4,037	9.1%
	Hospital-Based	1,296	147	11.3%	6,904	1,306	18.9%
	Rural, Freestanding	4,280	1,045	24.4%	10,420	899	8.6%
	Urban Freestanding	9,976	1,877	18.8%	34,144	3,138	9.2%
	Rural, Hospital-Based	606	92	15.2%	1,360	26	1.9%
	Urban, Hospital-Based	690	55	8.0%	5,545	1,280	23.1%
Staff RN	<i>Overall</i>	15,552	3,235	20.8%	119,216	19,431	16.3%
	Rural	4,886	1,225	25.1%	24,230	3,044	12.6%
	Urban	10,666	2,010	18.8%	94,986	16,387	17.3%
	Freestanding	14,256	3,061	21.5%	81,767	11,822	14.5%
	Hospital-Based	1,296	174	13.4%	37,449	7,609	20.3%
	Rural, Freestanding	4,280	1,116	26.1%	17,961	2,498	13.9%
	Urban Freestanding	9,976	1,945	19.5%	63,806	9,324	14.6%
	Rural, Hospital-Based	606	109	18.0%	6,269	546	8.7%
	Urban, Hospital-Based	690	65	9.4%	31,180	7,063	22.7%
LPN	<i>Overall</i>	15,552	3,477	22.4%	218,515	24,152	11.1%
	Rural	4,886	1,335	27.3%	51,030	5,026	9.8%
	Urban	10,666	2,142	20.1%	167,485	19,126	11.4%
	Freestanding	14,256	3,304	23.2%	199,756	21,743	10.9%
	Hospital-Based	1,296	173	13.3%	18,759	2,409	12.8%
	Rural, Freestanding	4,280	1,225	28.6%	45,116	4,520	10.0%
	Urban Freestanding	9,976	2,079	20.8%	154,639	17,223	11.1%
	Rural, Hospital-Based	606	110	18.2%	5,914	506	8.6%
	Urban, Hospital-Based	690	63	9.1%	12,846	1,903	14.8%
CNA	<i>Overall</i>	15,552	3,541	22.8%	637,803	60,266	9.4%
	Rural	4,886	1,369	28.0%	158,456	15,420	9.7%
	Urban	10,666	2,172	20.4%	479,348	44,847	9.4%
	Freestanding	14,256	3,362	23.6%	592,270	54,002	9.1%
	Hospital-Based	1,296	179	13.8%	45,533	6,264	13.8%
	Rural, Freestanding	4,280	1,254	29.3%	141,320	13,518	9.6%
	Urban Freestanding	9,976	2,108	21.1%	450,950	40,484	9.0%
	Rural, Hospital-Based	606	115	19.0%	17,135	1,901	11.1%
	Urban, Hospital-Based	690	64	9.3%	28,398	4,363	15.4%

**Table A2: Population Adjusted Estimates of Annualized Terminations and Turnover Rates by Rural/Urban Status and Hospital Affiliation, as of June 30, 2007**

Job Category	Facility Characteristics	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Estimated Total Employees	Estimated Total Turnover	Turnover Rate
DON	<i>Overall</i>	15,552	3,618	23.3%	16,139	6,095	37.8%
	Rural	4,886	1,357	27.8%	5,046	1,715	34.0%
	Urban	10,666	2,261	21.2%	11,093	4,381	39.5%
	Freestanding	14,256	3,446	24.2%	14,647	5,778	39.4%
	Hospital-Based	1,296	172	13.3%	1,492	318	21.3%
	Rural, Freestanding	4,280	1,249	29.2%	4,395	1,591	36.2%
	Urban Freestanding	9,976	2,197	22.0%	10,252	4,187	40.8%
	Rural, Hospital-Based	606	108	17.8%	651	123	19.0%
	Urban, Hospital-Based	690	64	9.3%	841	194	23.1%
Admin RN	<i>Overall</i>	15,552	3,026	19.5%	52,253	14,979	28.7%
	Rural	4,886	1,103	22.6%	12,324	2,940	23.9%
	Urban	10,666	1,923	18.0%	39,929	12,038	30.1%
	Freestanding	14,256	2,882	20.2%	45,678	14,151	31.0%
	Hospital-Based	1,296	144	11.1%	6,575	828	12.6%
	Rural, Freestanding	4,280	1,015	23.7%	10,876	2,803	25.8%
	Urban Freestanding	9,976	1,867	18.7%	34,801	11,348	32.6%
	Rural, Hospital-Based	606	88	14.5%	1,448	138	9.5%
	Urban, Hospital-Based	690	56	8.1%	5,128	690	13.5%
Staff RN	<i>Overall</i>	15,552	3,434	22.1%	131,918	54,095	41.0%
	Rural	4,886	1,274	26.1%	27,022	11,743	43.5%
	Urban	10,666	2,160	20.3%	104,896	42,352	40.4%
	Freestanding	14,256	3,262	22.9%	92,387	46,470	50.3%
	Hospital-Based	1,296	172	13.3%	39,531	7,625	19.3%
	Rural, Freestanding	4,280	1,169	27.3%	20,076	9,734	48.5%
	Urban Freestanding	9,976	2,093	21.0%	72,311	36,735	50.8%
	Rural, Hospital-Based	606	105	17.3%	6,946	2,008	28.9%
	Urban, Hospital-Based	690	67	9.7%	32,584	5,617	17.2%
LPN	<i>Overall</i>	15,552	3,645	23.4%	240,622	120,199	50.0%
	Rural	4,886	1,371	28.1%	57,527	25,394	44.1%
	Urban	10,666	2,274	21.3%	183,095	94,805	51.8%
	Freestanding	14,256	3,476	24.4%	220,710	112,504	51.0%
	Hospital-Based	1,296	169	13.0%	19,913	7,695	38.6%
	Rural, Freestanding	4,280	1,267	29.6%	50,591	23,489	46.4%
	Urban Freestanding	9,976	2,209	22.1%	170,119	89,015	52.3%
	Rural, Hospital-Based	606	104	17.2%	6,936	1,905	27.5%
	Urban, Hospital-Based	690	65	9.4%	12,976	5,790	44.6%
CNA	<i>Overall</i>	15,552	3,653	23.5%	699,385	458,715	65.6%
	Rural	4,886	1,378	28.2%	179,835	120,473	67.0%
	Urban	10,666	2,275	21.3%	519,550	338,242	65.1%
	Freestanding	14,256	3,477	24.4%	651,062	435,836	66.9%
	Hospital-Based	1,296	176	13.6%	48,323	22,879	47.3%
	Rural, Freestanding	4,280	1,268	29.6%	160,509	112,544	70.1%
	Urban Freestanding	9,976	2,209	22.1%	490,553	323,292	65.9%
	Rural, Hospital-Based	606	110	18.2%	19,327	7,929	41.0%
	Urban, Hospital-Based	690	66	9.6%	28,997	14,950	51.6%

## **Appendix B**

# **Regional Vacancy and Turnover Tables**

**Table B1: Vacancy Rate Estimates by Job Category and Region, as of June 30, 2007**

Job Category	Region	Total Facilities	Facilities in Sample	Percent of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate
DON	New England	1,004	323	32.2%	325	16	4.9%
	Middle Atlantic	1,718	327	19.0%	330	11	3.3%
	South Atlantic	2,303	665	28.9%	666	30	4.5%
	East South Central	1,023	298	29.1%	302	8	2.6%
	West South Central	1,937	335	17.3%	336	21	6.3%
	East North Central	3,023	596	19.7%	601	31	5.2%
	West North Central	2,100	587	28.0%	597	25	4.2%
	Mountain	759	207	27.3%	211	6	2.8%
	Pacific	1,676	284	16.9%	284	17	6.0%
Admin RN	New England	1,004	260	25.9%	1,099	122	11.1%
	Middle Atlantic	1,718	308	17.9%	1,477	135	9.1%
	South Atlantic	2,303	616	26.7%	1,958	224	11.4%
	East South Central	1,023	245	23.9%	736	49	6.7%
	West South Central	1,937	243	12.5%	517	50	9.7%
	East North Central	3,023	492	16.3%	1,440	101	7.0%
	West North Central	2,100	505	24.0%	1,193	57	4.8%
	Mountain	759	167	22.0%	406	27	6.7%
	Pacific	1,676	231	13.8%	683	60	8.8%
Staff RN	New England	1,004	275	27.4%	2,458	369	15.0%
	Middle Atlantic	1,718	314	18.3%	3,294	459	13.9%
	South Atlantic	2,303	605	26.3%	3,890	585	15.0%
	East South Central	1,023	251	24.5%	1,151	133	11.6%
	West South Central	1,937	220	11.4%	1,064	109	10.2%
	East North Central	3,023	550	18.2%	3,040	431	14.2%
	West North Central	2,100	561	26.7%	2,737	343	12.5%
	Mountain	759	190	25.0%	1,222	173	14.2%
	Pacific	1,676	267	15.9%	1,894	231	12.2%
LPN	New England	1,004	272	27.1%	3,575	397	11.1%
	Middle Atlantic	1,718	330	19.2%	6,251	868	13.9%
	South Atlantic	2,303	656	28.5%	11,113	1,137	10.2%
	East South Central	1,023	278	27.2%	4,524	437	9.7%
	West South Central	1,937	341	17.6%	4,603	597	13.0%
	East North Central	3,023	554	18.3%	6,858	606	8.8%
	West North Central	2,100	584	27.8%	5,231	540	10.3%
	Mountain	759	191	25.2%	2,081	254	12.2%
	Pacific	1,676	269	16.1%	3,094	266	8.6%
CNA	New England	1,004	282	28.1%	13,604	903	6.6%
	Middle Atlantic	1,718	329	19.2%	17,390	1,600	9.2%
	South Atlantic	2,303	653	28.4%	29,142	2,683	9.2%
	East South Central	1,023	283	27.7%	11,738	1,073	9.1%
	West South Central	1,937	337	17.4%	11,957	1,450	12.1%
	East North Central	3,023	596	19.7%	22,074	1,940	8.8%
	West North Central	2,100	589	28.0%	18,900	1,800	9.5%
	Mountain	759	195	25.7%	6,690	827	12.4%
	Pacific	1,676	275	16.4%	10,902	858	7.9%

**Table B2: Annualized Turnover Rate Estimates by Job Category and Region, 2007**

Job Category	Region	Total Facilities	Facilities in Sample	Percent of Total Facilities	Numbers of Employees in Sample Facilities	Turnover in Sample Facilities	Turnover Rate
DON	New England	1,004	318	31.7%	327	142	43.4%
	Middle Atlantic	1,718	326	19.0%	335	84	25.1%
	South Atlantic	2,303	661	28.7%	683	296	43.3%
	East South Central	1,023	294	28.7%	301	94	31.2%
	West South Central	1,937	334	17.2%	347	152	43.8%
	East North Central	3,023	610	20.2%	620	238	38.4%
	West North Central	2,100	585	27.9%	599	228	38.1%
	Mountain	759	203	26.7%	211	88	41.7%
	Pacific	1,676	285	17.0%	300	104	34.7%
Admin RN	New England	1,004	257	25.6%	1,096	279	25.5%
	Middle Atlantic	1,718	308	17.9%	1,525	380	24.9%
	South Atlantic	2,303	604	26.2%	1,972	731	37.1%
	East South Central	1,023	242	23.7%	723	232	32.1%
	West South Central	1,937	234	12.1%	496	210	42.3%
	East North Central	3,023	480	15.9%	1,428	393	27.5%
	West North Central	2,100	500	23.8%	1,232	280	22.7%
	Mountain	759	161	21.2%	413	177	42.9%
	Pacific	1,676	238	14.2%	723	183	25.3%
Staff RN	New England	1,004	324	32.3%	3,107	1,304	42.0%
	Middle Atlantic	1,718	320	18.6%	3,897	1,101	28.3%
	South Atlantic	2,303	623	27.1%	4,519	2,331	51.6%
	East South Central	1,023	269	26.3%	1,278	797	62.4%
	West South Central	1,937	251	13.0%	1,127	396	35.1%
	East North Central	3,023	599	19.8%	3,826	1,959	51.2%
	West North Central	2,100	567	27.0%	3,127	1,488	47.6%
	Mountain	759	202	26.6%	1,467	828	56.4%
	Pacific	1,676	277	16.5%	2,260	1,054	46.6%
LPN	New England	1,004	321	32.0%	4,911	1,717	35.0%
	Middle Atlantic	1,718	332	19.3%	6,906	2,391	34.6%
	South Atlantic	2,303	671	29.1%	12,451	6,689	53.7%
	East South Central	1,023	292	28.5%	5,063	2,818	55.7%
	West South Central	1,937	338	17.4%	4,943	3,386	68.5%
	East North Central	3,023	619	20.5%	8,759	4,375	49.9%
	West North Central	2,100	587	28.0%	5,978	2,831	47.4%
	Mountain	759	202	26.6%	2,508	1,435	57.2%
	Pacific	1,676	281	16.8%	3,484	1,891	54.3%
CNA	New England	1,004	325	32.4%	16,444	6,731	40.9%
	Middle Atlantic	1,718	332	19.3%	19,268	8,861	46.0%
	South Atlantic	2,303	670	29.1%	32,287	22,416	69.4%
	East South Central	1,023	293	28.6%	13,008	11,153	85.7%
	West South Central	1,937	336	17.3%	12,551	12,134	96.7%
	East North Central	3,023	622	20.6%	26,690	18,243	68.4%
	West North Central	2,100	586	27.9%	22,331	15,189	68.0%
	Mountain	759	203	26.7%	7,629	6,181	81.0%
	Pacific	1,676	284	16.9%	12,084	6,891	57.0%

## **Appendix C**

### **State Vacancy and Turnover Tables**

**Table C1: Vacancy Rate Estimates by Job Category and State as of June 30, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate	Estimated Total Vacancies
DON	Alabama	229	55	24.0%	55	0	0.0%	0
	Alaska*							
	Arizona	134	40	29.9%	40	1	2.5%	3
	Arkansas	227	63	27.8%	63	5	7.9%	18
	California	1257	181	14.4%	181	11	6.1%	76
	Colorado	205	50	24.4%	52	1	1.9%	4
	Connecticut	242	55	22.7%	56	4	7.1%	18
	Delaware	43	15	34.9%	15	2	13.3%	6
	District of Columbia	20	6	30.0%	6	0	0.0%	0
	Florida	679	137	20.2%	138	3	2.2%	15
	Georgia	352	159	45.2%	159	17	10.7%	38
	Hawaii	45	15	33.3%	15	1	6.7%	3
	Idaho	77	31	40.3%	32	1	3.1%	2
	Illinois	775	87	11.2%	88	3	3.4%	27
	Indiana	504	124	24.6%	125	11	8.8%	45
	Iowa	449	132	29.4%	135	3	2.2%	10
	Kansas	333	66	19.8%	68	3	4.4%	15
	Kentucky	283	88	31.1%	89	4	4.5%	13
	Louisiana	278	62	22.3%	63	5	7.9%	22
	Maine	111	53	47.7%	53	2	4.2%	4
	Maryland	232	39	16.8%	39	0	0.0%	0
	Massachusetts	444	136	30.6%	137	9	6.6%	29
	Michigan	417	106	25.4%	106	2	1.9%	8
	Minnesota	394	109	27.7%	110	6	5.4%	22
	Mississippi	197	60	30.5%	61	2	3.3%	7
	Missouri	511	107	20.9%	108	6	5.6%	29
	Montana	95	26	27.4%	26	2	7.7%	7
	Nebraska	222	91	41.0%	91	3	3.3%	7
	Nevada	47	13	27.7%	13	0	0.0%	0
	New Hampshire	82	33	40.2%	33	1	3.0%	2
	New Jersey	363	70	19.3%	70	2	2.9%	10
	New Mexico	70	16	22.9%	16	0	0.0%	0
	New York	648	115	17.7%	115	6	5.2%	34
	North Carolina	413	136	32.9%	136	3	2.2%	9
	North Dakota	83	41	49.4%	43	1	2.3%	2
	Ohio	949	182	19.2%	184	11	6.0%	57
	Oklahoma	317	54	17.0%	54	2	3.7%	12
	Oregon	136	39	28.7%	39	2	5.1%	7
	Pennsylvania	707	142	20.1%	145	3	2.1%	15
	Rhode Island	86	31	36.0%	31	0	0.0%	0
	South Carolina	174	41	23.6%	41	2	4.8%	8
	South Dakota	108	41	38.0%	42	3	7.1%	8
	Tennessee	314	95	30.3%	97	2	2.1%	7
	Texas	1115	156	14.0%	156	9	5.8%	64
	Utah	93	19	20.4%	19	0	0.0%	0
	Vermont	39	15	38.5%	15	0	0.0%	0
	Virginia	267	81	30.3%	81	2	2.5%	7
	Washington	238	49	20.6%	49	3	6.1%	15
	West Virginia	123	51	41.5%	51	1	2.0%	2
	Wisconsin	378	97	25.7%	98	4	4.1%	16
Wyoming	38	12	31.6%	13	1	7.7%	3	

\* Data is insufficient for meaningful analysis.

**Table C1: Vacancy Rate Estimates by Job Category and State as of June 30, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate	Estimated Total Vacancies
Admin RN	Alabama	229	48	21.0%	176	8	4.6%	38
	Alaska*							
	Arizona	134	35	26.1%	78	8	10.3%	31
	Arkansas	227	58	25.6%	101	13	12.8%	51
	California	1257	137	10.9%	296	23	7.8%	211
	Colorado	205	42	20.5%	108	7	6.5%	34
	Connecticut	242	48	19.8%	276	29	10.5%	146
	Delaware	43	14	32.6%	59	1	1.7%	3
	District of Columbia	20	6	30.0%	14	0	0.0%	0
	Florida	679	134	19.7%	485	46	9.4%	234
	Georgia	352	137	38.9%	283	42	14.8%	108
	Hawaii	45	13	28.9%	65	6	9.3%	21
	Idaho	77	25	32.5%	67	2	3.0%	6
	Illinois	775	71	9.2%	182	11	6.0%	120
	Indiana	504	83	16.5%	207	29	14.0%	176
	Iowa	449	109	24.3%	214	18	8.4%	74
	Kansas	333	52	15.6%	102	5	4.9%	32
	Kentucky	283	66	23.3%	208	15	7.2%	64
	Louisiana	278	35	12.6%	71	8	11.3%	63
	Maine	111	43	38.7%	124	25	20.2%	65
	Maryland	232	37	15.9%	127	14	11.1%	88
	Massachusetts	444	101	22.7%	453	47	10.5%	207
	Michigan	417	94	22.5%	298	14	4.7%	62
	Minnesota	394	101	25.6%	331	10	2.9%	39
	Mississippi	197	50	25.4%	129	11	8.6%	43
	Missouri	511	89	17.4%	183	15	8.2%	86
	Montana	95	18	18.9%	31	1	3.2%	5
	Nebraska	222	77	34.7%	166	4	2.4%	12
	Nevada	47	12	25.5%	33	1	3.0%	4
	New Hampshire	82	30	36.6%	124	13	10.5%	36
	New Jersey	363	65	17.9%	268	21	7.8%	117
	New Mexico	70	15	21.4%	39	4	10.3%	19
	New York	648	107	16.5%	764	74	9.6%	448
	North Carolina	413	123	29.8%	428	42	9.7%	141
	North Dakota	83	39	47.0%	107	5	4.7%	11
	Ohio	949	161	17.0%	506	28	5.5%	165
	Oklahoma	317	31	9.8%	49	3	6.1%	31
	Oregon	136	36	26.5%	111	10	9.0%	38
	Pennsylvania	707	136	19.2%	445	40	8.9%	208
	Rhode Island	86	29	33.7%	85	6	7.1%	18
	South Carolina	174	39	22.4%	135	15	11.1%	67
	South Dakota	108	38	35.2%	90	0	0.0%	0
	Tennessee	314	81	25.8%	223	15	6.7%	58
	Texas	1115	119	10.7%	296	26	8.8%	243
	Utah	93	12	12.9%	33	1	3.0%	8
	Vermont	39	9	23.1%	37	2	5.4%	9
	Virginia	267	75	28.1%	260	30	11.6%	107
	Washington	238	45	18.9%	211	21	10.0%	111
	West Virginia	123	51	41.5%	167	34	20.4%	82
	Wisconsin	378	83	22.0%	247	19	7.7%	86
Wyoming	38	8	21.1%	17	3	17.6%	14	

\* Data is insufficient for meaningful analysis.

**Table C1: Vacancy Rate Estimates by Job Category and State as of June 30, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate	Estimated Total Vacancies
Staff RN	Alabama	229	41	17.9%	194	24	12.4%	134
	Alaska*							
	Arizona	134	38	28.4%	187	31	16.6%	109
	Arkansas	227	46	20.3%	112	6	5.4%	30
	California	1257	167	13.3%	994	115	11.6%	865
	Colorado	205	48	23.4%	350	40	11.4%	171
	Connecticut	242	51	21.1%	540	67	12.4%	318
	Delaware	43	15	34.9%	165	27	16.5%	77
	District of Columbia	20	6	30.0%	40	7	17.5%	23
	Florida	679	136	20.0%	1,591	196	12.3%	980
	Georgia	352	131	37.2%	353	55	15.5%	148
	Hawaii	45	15	33.3%	397	43	10.9%	129
	Idaho	77	27	35.1%	190	27	14.2%	77
	Illinois	775	82	10.6%	516	64	12.3%	604
	Indiana	504	107	21.2%	413	107	26.0%	505
	Iowa	449	131	29.2%	600	83	13.9%	284
	Kansas	333	63	18.9%	362	36	9.8%	190
	Kentucky	283	74	26.1%	270	40	14.7%	153
	Louisiana	278	36	12.9%	76	15	19.7%	116
	Maine	111	47	42.3%	360	51	14.3%	121
	Maryland	232	38	16.4%	383	82	21.4%	500
	Massachusetts	444	104	23.4%	882	141	16.0%	603
	Michigan	417	104	24.9%	661	81	12.3%	325
	Minnesota	394	101	25.6%	588	63	10.6%	246
	Mississippi	197	55	27.9%	226	14	6.2%	50
	Missouri	511	94	18.4%	291	42	14.3%	228
	Montana	95	25	26.3%	139	22	15.8%	84
	Nebraska	222	91	41.0%	388	58	15.0%	141
	Nevada	47	11	23.4%	75	15	20.0%	64
	New Hampshire	82	32	39.0%	300	59	19.8%	151
	New Jersey	363	71	19.6%	1,089	120	11.0%	612
	New Mexico	70	15	21.4%	84	17	20.2%	79
	New York	648	101	15.6%	1,002	186	18.6%	1,192
	North Carolina	413	122	29.5%	668	100	14.9%	339
	North Dakota	83	41	49.4%	248	28	11.3%	57
	Ohio	949	166	17.5%	828	114	13.8%	651
	Oklahoma	317	44	13.9%	93	14	15.1%	101
	Oregon	136	39	28.7%	179	30	16.5%	105
	Pennsylvania	707	142	20.1%	1,203	153	12.7%	761
	Rhode Island	86	27	31.4%	254	36	14.2%	115
	South Carolina	174	37	21.3%	167	21	12.6%	99
	South Dakota	108	40	37.0%	260	33	12.7%	89
	Tennessee	314	81	25.8%	461	55	11.9%	213
	Texas	1115	94	8.4%	783	74	9.5%	881
	Utah	93	16	17.2%	111	7	6.3%	41
	Vermont	39	14	35.9%	122	15	12.3%	42
	Virginia	267	68	25.5%	275	47	17.1%	184
	Washington	238	46	19.3%	324	43	13.3%	223
	West Virginia	123	52	42.3%	248	50	20.1%	118
	Wisconsin	378	91	24.1%	622	65	10.4%	270
Wyoming	38	10	26.3%	86	14	16.3%	53	

\* Data is insufficient for meaningful analysis.

**Table C1: Vacancy Rate Estimates by Job Category and State as of June 30, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate	Estimated Total Vacancies
LPN	Alabama	229	53	23.1%	1,054	125	11.8%	541
	Alaska*							
	Arizona	134	38	28.4%	595	66	11.0%	232
	Arkansas	227	64	28.2%	904	146	16.1%	518
	California	1257	176	14.0%	2,236	162	7.3%	1,157
	Colorado	205	46	22.4%	520	78	14.9%	348
	Connecticut	242	49	20.2%	863	83	9.7%	411
	Delaware	43	15	34.9%	259	31	11.9%	89
	District of Columbia	20	6	30.0%	70	5	7.1%	17
	Florida	679	137	20.2%	2,812	255	9.1%	1,262
	Georgia	352	156	44.3%	2,746	183	6.6%	413
	Hawaii	45	13	28.9%	129	13	10.1%	45
	Idaho	77	27	35.1%	272	25	9.2%	71
	Illinois	775	85	11.0%	763	77	10.1%	700
	Indiana	504	99	19.6%	1,436	163	11.3%	832
	Iowa	449	130	29.0%	925	78	8.5%	269
	Kansas	333	62	18.6%	447	51	11.4%	274
	Kentucky	283	75	26.5%	1,078	96	8.9%	362
	Louisiana	278	62	22.3%	959	143	14.9%	641
	Maine	111	46	41.4%	284	33	11.7%	80
	Maryland	232	41	17.7%	617	143	23.1%	808
	Massachusetts	444	106	23.9%	1,652	179	10.9%	749
	Michigan	417	106	25.4%	1,529	157	10.3%	618
	Minnesota	394	111	28.2%	1,348	144	10.7%	511
	Mississippi	197	62	31.5%	899	61	6.8%	194
	Missouri	511	107	20.9%	1,144	123	10.8%	589
	Montana	95	25	26.3%	181	17	9.4%	65
	Nebraska	222	94	42.3%	792	80	10.2%	189
	Nevada	47	12	25.5%	200	23	11.5%	90
	New Hampshire	82	31	37.8%	402	66	16.3%	175
	New Jersey	363	73	20.1%	1,232	155	12.6%	771
	New Mexico	70	16	22.9%	125	19	15.2%	83
	New York	648	115	17.7%	2,725	453	16.6%	2,559
	North Carolina	413	126	30.5%	1,814	189	10.4%	620
	North Dakota	83	42	50.6%	393	48	12.1%	95
	Ohio	949	171	18.0%	2,378	125	5.3%	694
	Oklahoma	317	55	17.4%	505	89	17.6%	511
	Oregon	136	35	25.7%	215	31	14.4%	121
	Pennsylvania	707	142	20.1%	2,294	260	11.3%	1,294
	Rhode Island	86	26	30.2%	222	24	10.9%	79
	South Carolina	174	43	24.7%	796	80	10.0%	324
	South Dakota	108	38	35.2%	182	16	8.8%	45
	Tennessee	314	88	28.0%	1,493	155	10.4%	554
	Texas	1115	160	14.3%	2,235	219	9.8%	1,531
	Utah	93	17	18.3%	124	12	9.7%	66
	Vermont	39	14	35.9%	152	12	8.0%	33
	Virginia	267	78	29.2%	1,374	141	10.3%	483
	Washington	238	45	18.9%	514	60	11.6%	317
	West Virginia	123	54	43.9%	625	110	17.6%	251
	Wisconsin	378	93	24.6%	752	84	11.2%	341
	Wyoming	38	10	26.3%	64	14	21.9%	53

\* Data is insufficient for meaningful analysis.

**Table C1: Vacancy Rate Estimates by Job Category and State as of June 30, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Established Positions in Sample Facilities	Total Vacancies in Sample Facilities	Vacancy Rate	Estimated Total Vacancies
CNA	Alabama	229	53	23.1%	2,633	225	8.6%	974
	Alaska*							
	Arizona	134	38	28.4%	1,634	151	9.2%	532
	Arkansas	227	63	27.8%	2,999	418	13.9%	1,504
	California	1257	176	14.0%	7,338	477	6.5%	3,407
	Colorado	205	49	23.9%	1,773	231	13.0%	967
	Connecticut	242	51	21.1%	3,445	142	4.1%	673
	Delaware	43	15	34.9%	635	56	8.8%	160
	District of Columbia	20	6	30.0%	191	18	9.3%	60
	Florida	679	135	19.9%	8,284	692	8.4%	3,477
	Georgia	352	156	44.3%	6,093	552	9.1%	1,246
	Hawaii	45	15	33.3%	722	44	6.1%	132
	Idaho	77	27	35.1%	871	125	14.3%	356
	Illinois	775	87	11.2%	2,643	267	10.1%	2,384
	Indiana	504	122	24.2%	3,751	513	13.7%	2,120
	Iowa	449	136	30.3%	3,844	350	9.1%	1,155
	Kansas	333	67	20.1%	1,915	193	10.1%	960
	Kentucky	283	80	28.3%	3,062	260	8.5%	919
	Louisiana	278	62	22.3%	2,289	342	14.9%	1,534
	Maine	111	48	43.2%	1,829	144	7.9%	333
	Maryland	232	41	17.7%	1,842	140	7.6%	791
	Massachusetts	444	108	24.3%	5,058	330	6.5%	1,358
	Michigan	417	111	26.6%	5,134	389	7.6%	1,462
	Minnesota	394	107	27.2%	4,009	341	8.5%	1,254
	Mississippi	197	62	31.5%	2,306	146	6.3%	463
	Missouri	511	106	20.7%	3,555	370	10.4%	1,787
	Montana	95	26	27.4%	716	100	14.0%	365
	Nebraska	222	93	41.9%	2,643	258	9.7%	616
	Nevada	47	12	25.5%	402	44	10.9%	173
	New Hampshire	82	32	39.0%	1,505	142	9.4%	364
	New Jersey	363	71	19.6%	3,700	268	7.2%	1,367
	New Mexico	70	16	22.9%	545	81	14.9%	354
	New York	648	115	17.7%	7,500	715	9.5%	4,040
	North Carolina	413	125	30.3%	5,141	557	10.8%	1,838
	North Dakota	83	40	48.2%	1,717	163	9.5%	338
	Ohio	949	184	19.4%	7,092	494	7.0%	2,546
	Oklahoma	317	52	16.4%	1,467	236	16.1%	1,439
	Oregon	136	39	28.7%	1,092	146	13.4%	509
	Pennsylvania	707	143	20.2%	6,190	617	10.0%	3,054
	Rhode Island	86	29	33.7%	1,228	92	7.5%	273
	South Carolina	174	44	25.3%	1,969	195	9.9%	771
	South Dakota	108	40	37.0%	1,217	125	10.3%	338
	Tennessee	314	88	28.0%	3,737	442	11.8%	1,579
	Texas	1115	160	14.3%	5,202	454	8.7%	3,175
	Utah	93	17	18.3%	441	52	11.9%	284
	Vermont	39	14	35.9%	539	53	9.8%	148
	Virginia	267	76	28.5%	3,196	278	8.7%	975
	Washington	238	45	18.9%	1,750	191	10.9%	1,011
	West Virginia	123	55	44.7%	1,791	195	10.9%	436
	Wisconsin	378	92	24.3%	3,454	277	8.0%	1,140
Wyoming	38	10	26.3%	308	43	14.0%	163	

\* Data is insufficient for meaningful analysis.

**Table C2: Annualized Turnover Rate Estimates by Job Category and State, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Numbers of Employees in Sample Facilities	Total Turnover in Sample Facilities	Turnover Rate
DON	Alabama	229	55	24.0%	58	16	27.6%
	Alaska*						
	Arizona	134	40	29.9%	41	18	43.9%
	Arkansas	227	62	27.3%	63	30	47.7%
	California	1257	181	14.4%	193	70	36.3%
	Colorado	205	53	25.9%	55	28	50.9%
	Connecticut	242	56	23.1%	59	24	40.7%
	Delaware	43	15	34.9%	16	2	12.5%
	District of Columbia	20	5	25.0%	5	2	40.0%
	Florida	679	136	20.0%	147	72	49.0%
	Georgia	352	157	44.6%	162	88	54.3%
	Hawaii	45	15	33.3%	15	2	13.3%
	Idaho	77	29	37.7%	30	6	20.0%
	Illinois	775	84	10.8%	88	38	43.2%
	Indiana	504	136	27.0%	139	66	47.5%
	Iowa	449	134	29.8%	138	50	36.2%
	Kansas	333	67	20.1%	68	32	47.1%
	Kentucky	283	90	31.8%	90	34	37.8%
	Louisiana	278	63	22.7%	68	30	44.1%
	Maine	111	52	46.8%	53	34	64.2%
	Maryland	232	42	18.1%	41	10	24.4%
	Massachusetts	444	133	30.0%	137	64	46.8%
	Michigan	417	104	24.9%	105	44	41.9%
	Minnesota	394	108	27.4%	109	48	44.0%
	Mississippi	197	59	29.9%	62	22	35.5%
	Missouri	511	108	21.1%	111	58	52.3%
	Montana	95	23	24.2%	24	8	33.3%
	Nebraska	222	88	39.6%	90	30	33.3%
	Nevada	47	12	25.5%	12	6	50.0%
	New Hampshire	82	32	39.0%	32	8	25.0%
	New Jersey	363	70	19.3%	72	24	33.4%
	New Mexico	70	14	20.0%	14	0	0.0%
	New York	648	116	17.9%	118	36	30.5%
	North Carolina	413	137	33.2%	140	78	55.6%
	North Dakota	83	41	49.4%	42	2	4.8%
	Ohio	949	186	19.6%	188	58	30.8%
	Oklahoma	317	52	16.4%	55	26	47.3%
	Oregon	136	40	29.4%	42	14	33.3%
	Pennsylvania	707	140	19.8%	145	24	16.5%
	Rhode Island	86	30	34.9%	30	4	13.3%
	South Carolina	174	39	22.4%	39	8	20.5%
	South Dakota	108	39	36.1%	41	8	19.5%
	Tennessee	314	90	28.7%	91	22	24.2%
	Texas	1115	157	14.1%	161	66	41.0%
	Utah	93	19	20.4%	19	8	42.1%
	Vermont	39	15	38.5%	16	8	50.0%
	Virginia	267	77	28.8%	78	26	33.3%
	Washington	238	49	20.6%	50	18	36.0%
	West Virginia	123	53	43.1%	55	10	18.2%
	Wisconsin	378	100	26.5%	100	32	31.9%
Wyoming	38	13	34.2%	16	14	87.5%	

\* Data is insufficient for meaningful analysis.

**Table C2: Annualized Turnover Rate Estimates by Job Category and State, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Numbers of Employees in Sample Facilities	Total Turnover in Sample Facilities	Turnover Rate
Admin RN	Alabama	229	48	21.0%	176	46	26.1%
	Alaska*						
	Arizona	134	34	25.4%	77	28	36.5%
	Arkansas	227	55	24.2%	99	44	44.4%
	California	1257	147	11.7%	368	94	25.6%
	Colorado	205	42	20.5%	107	40	37.4%
	Connecticut	242	49	20.2%	279	121	43.3%
	Delaware	43	15	34.9%	66	16	24.2%
	District of Columbia	20	6	30.0%	11	0	0.0%
	Florida	679	131	19.3%	482	201	41.7%
	Georgia	352	123	34.9%	287	102	35.6%
	Hawaii	45	12	26.7%	64	12	18.9%
	Idaho	77	23	29.9%	60	36	60.0%
	Illinois	775	68	8.8%	175	42	24.0%
	Indiana	504	78	15.5%	189	58	30.7%
	Iowa	449	105	23.4%	224	64	28.6%
	Kansas	333	54	16.2%	105	24	22.8%
	Kentucky	283	67	23.7%	213	80	37.5%
	Louisiana	278	38	13.7%	75	28	37.3%
	Maine	111	42	37.8%	123	26	21.1%
	Maryland	232	40	17.2%	139	48	34.5%
	Massachusetts	444	98	22.1%	455	104	22.9%
	Michigan	417	99	23.7%	297	62	20.9%
	Minnesota	394	101	25.6%	343	66	19.3%
	Mississippi	197	49	24.9%	122	60	49.2%
	Missouri	511	92	18.0%	190	54	28.5%
	Montana	95	17	17.9%	36	7	19.4%
	Nebraska	222	72	32.4%	162	46	28.4%
	Nevada	47	10	21.3%	46	44	95.7%
	New Hampshire	82	30	36.6%	120	8	6.7%
	New Jersey	363	67	18.5%	284	76	26.8%
	New Mexico	70	14	20.0%	32	8	25.0%
	New York	648	105	16.2%	784	198	25.3%
	North Carolina	413	123	29.8%	421	178	42.3%
	North Dakota	83	39	47.0%	113	14	12.3%
	Ohio	949	152	16.0%	512	143	27.9%
	Oklahoma	317	30	9.5%	49	26	53.1%
	Oregon	136	36	26.5%	106	43	40.6%
	Pennsylvania	707	136	19.2%	457	106	23.2%
	Rhode Island	86	29	33.7%	83	16	19.3%
	South Carolina	174	39	22.4%	125	34	27.1%
	South Dakota	108	37	34.3%	95	12	12.7%
	Tennessee	314	78	24.8%	212	46	21.7%
	Texas	1115	111	10.0%	273	112	41.1%
	Utah	93	12	12.9%	36	10	27.8%
	Vermont	39	9	23.1%	36	4	11.1%
	Virginia	267	72	27.0%	262	108	41.2%
	Washington	238	43	18.1%	185	34	18.4%
	West Virginia	123	55	44.7%	179	44	24.6%
	Wisconsin	378	83	22.0%	255	88	34.4%
Wyoming	38	9	23.7%	19	4	21.1%	

\* Data is insufficient for meaningful analysis.

**Table C2: Annualized Turnover Rate Estimates by Job Category and State, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Number of Employees in Sample Facilities	Total Turnover in Sample Facilities	Turnover Rate
Staff RN	Alabama	229	44	19.2%	186	76	40.9%
	Alaska*						
	Arizona	134	39	29.1%	237	165	69.6%
	Arkansas	227	46	20.3%	134	70	52.2%
	California	1257	173	13.8%	1,252	542	43.3%
	Colorado	205	52	25.4%	434	210	48.4%
	Connecticut	242	57	23.6%	650	274	42.1%
	Delaware	43	15	34.9%	179	106	59.2%
	District of Columbia	20	6	30.0%	40	12	30.0%
	Florida	679	135	19.9%	1,828	689	37.7%
	Georgia	352	135	38.4%	401	260	64.9%
	Hawaii	45	15	33.3%	415	186	44.8%
	Idaho	77	31	40.3%	224	106	47.3%
	Illinois	775	82	10.6%	572	252	44.1%
	Indiana	504	135	26.8%	547	365	66.7%
	Iowa	449	129	28.7%	652	378	58.0%
	Kansas	333	66	19.8%	421	196	46.5%
	Kentucky	283	85	30.0%	334	263	78.8%
	Louisiana	278	39	14.0%	89	48	53.9%
	Maine	111	53	47.7%	399	178	44.7%
	Maryland	232	41	17.7%	432	240	55.6%
	Massachusetts	444	136	30.6%	1,262	530	42.0%
	Michigan	417	105	25.2%	788	388	49.3%
	Minnesota	394	104	26.4%	676	290	42.9%
	Mississippi	197	56	28.4%	265	148	55.7%
	Missouri	511	101	19.8%	352	208	59.2%
	Montana	95	23	24.2%	155	43	27.7%
	Nebraska	222	88	39.6%	406	190	46.8%
	Nevada	47	12	25.5%	108	116	107.4%
	New Hampshire	82	34	41.5%	337	128	37.9%
	New Jersey	363	73	20.1%	1,236	264	21.4%
	New Mexico	70	15	21.4%	76	64	84.2%
	New York	648	102	15.7%	1,176	328	27.9%
	North Carolina	413	131	31.7%	825	512	62.1%
	North Dakota	83	40	48.2%	317	124	39.2%
	Ohio	949	180	19.0%	1,021	518	50.7%
	Oklahoma	317	45	14.2%	94	48	51.2%
	Oregon	136	39	28.7%	213	126	59.1%
	Pennsylvania	707	145	20.5%	1,485	509	34.3%
	Rhode Island	86	29	33.7%	319	126	39.5%
	South Carolina	174	38	21.8%	200	170	85.0%
	South Dakota	108	39	36.1%	303	102	33.7%
	Tennessee	314	84	26.8%	493	310	62.9%
	Texas	1115	121	10.9%	810	230	28.4%
	Utah	93	17	18.3%	126	82	65.0%
	Vermont	39	15	38.5%	140	68	48.6%
	Virginia	267	68	25.5%	333	195	58.5%
	Washington	238	50	21.0%	380	200	52.6%
West Virginia	123	54	43.9%	281	147	52.2%	
Wisconsin	378	97	25.7%	898	436	48.6%	
Wyoming	38	13	34.2%	107	42	39.3%	

\* Data is insufficient for meaningful analysis.

**Table C2: Annualized Turnover Rate Estimates by Job Category and State, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Numbers of Employees in Sample Facilities	Total Turnover in Sample Facilities	Turnover Rate
LPN	Alabama	229	55	24.0%	1,149	520	45.3%
	Alaska*						
	Arizona	134	39	29.1%	657	452	68.8%
	Arkansas	227	65	28.6%	974	640	65.7%
	California	1257	181	14.4%	2,459	1,254	51.0%
	Colorado	205	50	24.4%	712	318	44.7%
	Connecticut	242	56	23.1%	1,097	334	30.4%
	Delaware	43	15	34.9%	283	164	58.0%
	District of Columbia	20	6	30.0%	45	18	40.0%
	Florida	679	136	20.0%	2,963	1,611	54.4%
	Georgia	352	157	44.6%	3,013	1,501	49.8%
	Hawaii	45	13	28.9%	146	24	16.4%
	Idaho	77	31	40.3%	359	154	42.9%
	Illinois	775	84	10.8%	882	458	51.9%
	Indiana	504	135	26.8%	2,066	1,161	56.2%
	Iowa	449	133	29.6%	1,054	542	51.4%
	Kansas	333	64	19.2%	466	216	46.4%
	Kentucky	283	87	30.7%	1,266	800	63.2%
	Louisiana	278	61	21.9%	1,085	674	62.1%
	Maine	111	52	46.8%	339	104	30.6%
	Maryland	232	42	18.1%	734	296	40.3%
	Massachusetts	444	138	31.1%	2,506	934	37.3%
	Michigan	417	109	26.1%	1,802	1,058	58.7%
	Minnesota	394	109	27.7%	1,612	728	45.2%
	Mississippi	197	59	29.9%	993	552	55.6%
	Missouri	511	108	21.1%	1,243	790	63.6%
	Montana	95	23	24.2%	190	93	49.0%
	Nebraska	222	91	41.0%	890	326	36.6%
	Nevada	47	12	25.5%	207	170	82.1%
	New Hampshire	82	33	40.2%	481	160	33.3%
	New Jersey	363	72	19.8%	1,380	388	28.1%
	New Mexico	70	16	22.9%	129	96	74.4%
	New York	648	115	17.7%	3,046	1,232	40.5%
	North Carolina	413	138	33.4%	2,172	1,359	62.6%
	North Dakota	83	42	50.6%	494	177	35.8%
	Ohio	949	192	20.2%	2,998	1,274	42.5%
	Oklahoma	317	54	17.0%	519	432	83.3%
	Oregon	136	37	27.2%	238	234	98.2%
	Pennsylvania	707	145	20.5%	2,480	771	31.1%
	Rhode Island	86	27	31.4%	278	89	32.0%
	South Carolina	174	43	24.7%	895	466	52.0%
	South Dakota	108	40	37.0%	219	52	23.8%
	Tennessee	314	91	29.0%	1,655	946	57.2%
	Texas	1115	158	14.2%	2,365	1,640	69.3%
	Utah	93	18	19.4%	158	108	68.4%
	Vermont	39	15	38.5%	210	96	45.6%
	Virginia	267	77	28.8%	1,641	962	58.6%
	Washington	238	50	21.0%	641	379	59.1%
	West Virginia	123	57	46.3%	705	312	44.3%
	Wisconsin	378	99	26.2%	1,011	424	41.9%
Wyoming	38	13	34.2%	96	44	45.8%	

\* Data is insufficient for meaningful analysis.

**Table C2: Annualized Turnover Rate Estimates by Job Category and State, 2007**

Job Category	State	Total Facilities	Facilities in Sample	Percentage of Total Facilities	Numbers of Employees in Facilities	Total Turnover in Sample Facilities	Turnover Rate
CNA	Alabama	229	56	24.5%	2,887	2,085	72.2%
	Alaska*						
	Arizona	134	39	29.1%	1,771	1,481	83.6%
	Arkansas	227	65	28.6%	3,242	2,886	89.0%
	California	1257	180	14.3%	8,007	4,054	50.6%
	Colorado	205	52	25.4%	2,070	1,374	66.4%
	Connecticut	242	57	23.6%	3,657	934	25.5%
	Delaware	43	15	34.9%	685	452	66.0%
	District of Columbia	20	6	30.0%	154	92	59.6%
	Florida	679	136	20.0%	8,828	5,001	56.6%
	Georgia	352	157	44.6%	6,317	4,736	75.0%
	Hawaii	45	15	33.3%	785	187	23.8%
	Idaho	77	31	40.3%	1,069	784	73.3%
	Illinois	775	86	11.1%	2,882	2,274	78.9%
	Indiana	504	136	27.0%	4,746	4,415	93.0%
	Iowa	449	133	29.6%	4,488	2,582	57.5%
	Kansas	333	68	20.4%	2,042	1,539	75.4%
	Kentucky	283	87	30.7%	3,581	3,354	93.7%
	Louisiana	278	61	21.9%	2,569	2,680	104.3%
	Maine	111	54	48.6%	2,160	1,106	51.2%
	Maryland	232	42	18.1%	2,279	1,404	61.6%
	Massachusetts	444	136	30.6%	6,717	2,910	43.3%
	Michigan	417	111	26.6%	6,099	3,318	54.4%
	Minnesota	394	106	26.9%	5,170	3,000	58.0%
	Mississippi	197	58	29.4%	2,481	1,802	72.6%
	Missouri	511	107	20.9%	3,776	4,140	109.7%
	Montana	95	23	24.2%	766	584	76.2%
	Nebraska	222	91	41.0%	3,182	1,809	56.8%
	Nevada	47	12	25.5%	452	464	102.7%
	New Hampshire	82	33	40.2%	1,714	670	39.1%
	New Jersey	363	70	19.3%	3,955	1,486	37.6%
	New Mexico	70	16	22.9%	521	556	106.8%
	New York	648	115	17.7%	8,546	4,038	47.2%
	North Carolina	413	138	33.4%	6,289	5,347	85.0%
	North Dakota	83	41	49.4%	2,199	1,185	53.9%
	Ohio	949	191	20.1%	8,180	5,658	69.2%
	Oklahoma	317	54	17.0%	1,547	1,830	118.3%
	Oregon	136	40	29.4%	1,382	1,000	72.3%
	Pennsylvania	707	147	20.8%	6,767	3,337	49.3%
	Rhode Island	86	30	34.9%	1,545	713	46.2%
	South Carolina	174	43	24.7%	2,042	1,356	66.4%
	South Dakota	108	40	37.0%	1,474	934	63.4%
	Tennessee	314	92	29.3%	4,059	3,912	96.4%
	Texas	1115	156	14.0%	5,193	4,738	91.2%
	Utah	93	18	19.4%	565	668	118.2%
	Vermont	39	15	38.5%	651	398	61.2%
	Virginia	267	76	28.5%	3,698	2,950	79.8%
	Washington	238	49	20.6%	1,910	1,650	86.4%
	West Virginia	123	57	46.3%	1,995	1,078	54.0%
	Wisconsin	378	98	25.9%	4,783	2,578	53.9%
Wyoming	38	12	31.6%	415	270	65.1%	

\* Data is insufficient for meaningful analysis.

## **Appendix D**

# **Survey Description and Methodology**

## **Survey Instrument**

The survey instrument was designed to collect information about the number of established positions and vacant positions in terms of Full-Time Equivalents (FTEs) as of June 30, 2007. The survey also collected information about the average number of employees and the number of nursing staff terminations, both voluntary and involuntary terminations, in term of full time and part time, between January 1 and June 30, 2007. The data was collected for the following six job categories:

- Director of Nursing (DON)
- Registered Nurses with Administrative Duties (Administrative RNs)
- Staff Registered Nurses (Staff RNs)
- Licensed Practical Nurses/Licensed Vocational Nurses (LPNs)
- Certified Nurse Assistants (CNAs)
- Non-Certified Aides

In this report, we present results for the first five job categories. Data on non-certified aides was insufficient for analysis.

Additionally, the survey instrument collected information about nursing home administrator position vacancy and turnover.

The survey instrument also asked three separate questions to respondents to indicate whether it has become easier or more difficult for their facility to recruit Staff RNs, LPNs, and CNAs relative to one year ago. Respondents could also indicate that there was no real change in the last year with respect to recruiting for these positions, or that they did not know.

## **Target Population and Response Rate**

In order to have data potentially representative of each state as well as the nation, a census sample was used. Survey questionnaires were mailed to facility administrators at all eligible nursing facilities based on the Online Survey Certification and Reporting (OSCAR) database, from the Centers for Medicare and Medicaid Services. A second mailing was made to nursing facilities that had not responded to the first request. Of the 15,558 nursing homes eligible to participate in the survey, 3,828 returned the questionnaire, resulting in a 25 percent response rate.

## **Data Edits**

To ensure the reliability of the data, frequency distributions were examined and data was omitted from the analysis where individual responses were out of range or a combination of responses were deemed implausible through contingency checks. In cases where implausible or out of range data was detected, responses were omitted for the specific job category, except where noted otherwise. Data was omitted for the following reasons:

- For each staff category where the number of vacancies were greater than the number of established positions, the staff category data was omitted;
- Where the number of positions in two or more staff categories from the survey were two or more times greater than that reported in OSCAR, and the number of beds in the survey were two or more times greater than that reported in OSCAR, the facility was omitted;
- Established DON positions less than one or greater than two, the staff category was dropped;
- For each staff category other than DONs, when the number of established positions was outside the range of the 1<sup>st</sup> to 99<sup>th</sup> percentile of the distribution for the specific job category, the staff category data was omitted;
- For each staff category other than DONs, when the ratio of established positions to beds was outside the range of the 1<sup>st</sup> to 99<sup>th</sup> percentile of the distribution for the specific job category, the specific staff category data was dropped; and
- For vacancy rates that were greater than 50 percent in 3 or more job categories, the facility was omitted.

## **Population Adjustments to Derive National Estimates**

Results were adjusted to provide national estimates representing the universe of nursing facilities eligible to participate in the survey. Population weights were calculated and applied for subgroups or characteristics of nursing facilities related to response rates and vacancy/turnover rates.

For population adjustment purposes, all facilities were classified into one of the following four facility categories:

1. Freestanding, rural
2. Freestanding, urban
3. Hospital-based, rural
4. Hospital-based, urban

Population adjustment factors for each category above were calculated in each job-specific analysis of vacancies and turnover by dividing the number of facilities in the population within each category by the number of responding facilities in the category with usable data. The resulting factors were incorporated into the calculation of national vacancy and turnover rate estimates as described below.

## **Calculation of Vacancy Rate Estimates**

Facilities were considered to have usable data for vacancy rates if their reported number of established positions was greater than zero and their reported number of vacant positions was greater than or equal to zero.

National Estimates: Population-adjusted vacancy rate estimates were calculated, for each specific job category, by first multiplying the number of vacant positions and established positions for all facilities with usable data within each of the four facility categories by the relevant population

adjustment factor described earlier. Then the sum of the population-adjusted vacant positions for all facilities with usable data was divided by the sum of the population adjusted established positions for all facilities with usable data.

Regional and State Estimates: Vacancy rate estimates were calculated, for each specific job category without population adjustments, by dividing the sum of vacant positions for all facilities with usable data by the sum of established positions for all facilities with usable data.

All vacancy rate estimates are presented as percentages.

The states within each region include:

Definition of Regions										
Region	States									
New England	CT	ME	MA	NH	RI	VT				
Middle Atlantic	NJ	NY	PA							
South Atlantic	DE	DC	FL	GA	MD	NC	SC	VA	WV	
East South Central	AL	KY	MS	TN						
West South Central	AR	LA	OK	TX						
East North Central	IL	IN	MI	OH	WI					
West North Central	IA	KS	MN	MO	NE	ND	SD			
Mountain	AZ	CO	ID	MT	NV	NM	UT	WY		
Pacific	AK	CA	HI	OR	WA					

## Calculation of Turnover Rate Estimates

Facilities were considered to have usable data for turnover rates if their reported number of established positions was greater than zero and their reported number of terminations was greater than or equal to zero.

National Estimates: Six-month population-adjusted turnover rate estimates were calculated, for each specific job category, by first multiplying the number of terminations and established positions for all facilities with usable data within each of the four facility categories by the relevant population adjustment factor described earlier. Then the sum of the population-adjusted terminations for all facilities with usable data was divided by the sum of the population-adjusted established positions for all facilities with usable data.

Regional and State Estimates: Six-month turnover rate estimates were calculated, for each specific job category without population adjustments, by dividing the sum of terminations for all facilities with usable data by the sum of established positions for all facilities with usable data.

Annualized turnover rate estimates were calculated by multiplying the six-month turnover rate estimates by a factor of two. All turnover rate estimates are presented as percentages.

## **Perception of Recruitment Ease/Difficulty for Staff RNs, LPNs, and CNAs**

Facilities had the opportunity to indicate whether the recruitment of RNs, LPNs, and CNAs was easier than one year ago, the same as one year ago, more difficult than one year ago, or that they did not know. Percentages were computed only for those facilities that responded by indicating the extent of difficulty for all three staff categories. Data for facilities with missing or did not know responses for any staff category were excluded from the analysis to determine relative difficulty of recruiting for each position at a facility.