Hospital Nurse Staffing Study

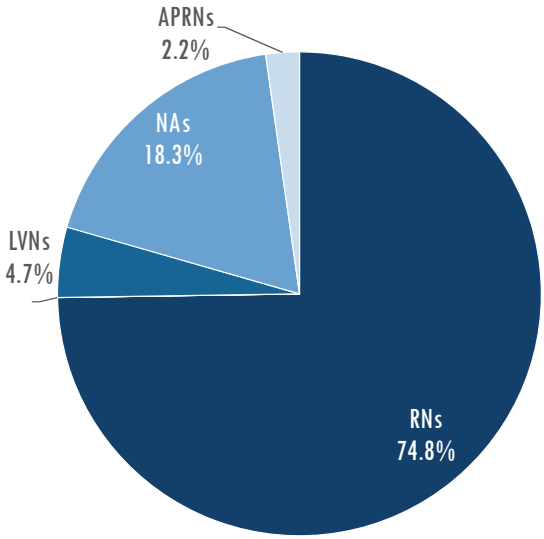
The Hospital Nurse Staffing Survey (HNSS) assesses the size and effects of the nursing shortage in hospitals, Texas' largest employer of nurses. During the spring of 2016, the TCNWS administered the HNSS to 666 Texas hospitals. These included for-profit, nonprofit, public, and Texas Department of State Health Services-operated hospitals, as well as hospitals linked to academic institutions; military hospitals were not surveyed. The facilities surveyed were general acute care, psychiatric, special, and rehabilitation hospitals. 345 (51.8%) hospitals responded to the survey.

This report presents the relevant findings of this survey related to staffing practices at Texas hospitals. It also reviews changes in numbers of occupied and vacant registered nurse (RN) positions at hospitals, the reasons for these changes, and how the country's recent economic recession has impacted staffing practices. Analyses are provided across Texas geographic regions.

Hospital Staff Mix

Figure 1 presents the percent of filled hospital staff positions in responding facilities by nurse type.

Figure 1. 2016 HNSS nursing staff mix



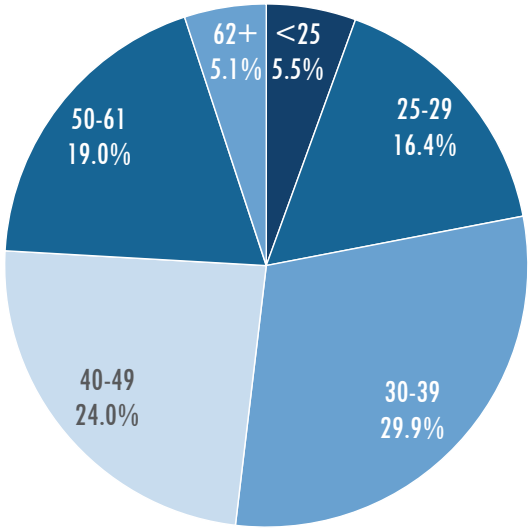
- Registered nurses (RNs) made up the largest proportion of nurses in hospitals, followed by nurse aides (NAs). 10.1% of these RN positions were filled by first-year RNs.
- Advanced practice registered nurses (APRNs) made up only 2.2% of the staff mix.
- The staff mix has not changed significantly since 2014.

In 2016, 336 hospitals reported employing a total of 496.5 nursing informaticist FTEs.

- This is a decrease from 2014, when 183 hospitals reported employing 833 nursing informaticists.

The 2016 HNSS introduced a question asking facilities to report the number of direct patient care RNs employed the week of 01/18/2016-01/24/2016 by age. The results are shown in Figure 2.

Figure 2. Age of direct resident care RNs employed the week of 01/18/2016-01/24/2016



- 53.9% of direct care RNs were between the ages of 30 – 49.
- The proportion of direct care RNs over the age of 50 was 24.1%.

Changes in Budgeted FTEs

In addition to providing employment numbers for the specified periods, hospitals also described changes in the past two years in their numbers of direct patient care RN FTEs, the reasons for these changes, and their hiring plans for the coming fiscal year. Table 1 shows the number of hospitals by region reporting increased, decreased, or unchanged numbers of budgeted direct patient care RN FTEs.

Table 1. Number of hospitals reporting changes in budgeted direct patient care RN FTEs by region

Geographic Designation	Increased	Decreased	No Change
Panhandle	10	3	11
Rio Grande Valley	10	1	7
North Texas	71	13	36
East Texas	13	2	10
Gulf Coast	31	6	15
Central Texas	19	12	14
South Texas	15	3	13
West Texas	14	1	15
Texas	183	41	121

- Statewide, 53.0% of hospitals reported an increase in budgeted RN FTEs.
- North Texas and the Gulf Coast had the highest percentage of responding hospitals reporting an increase in budgeted RN FTEs.

Table 2 shows the number of hospitals by geographic designation reporting increased, decreased, or unchanged numbers of budgeted direct patient care RN FTEs.

Table 2. Number of hospitals reporting changes in budgeted direct patient care RN FTEs by geographic designation

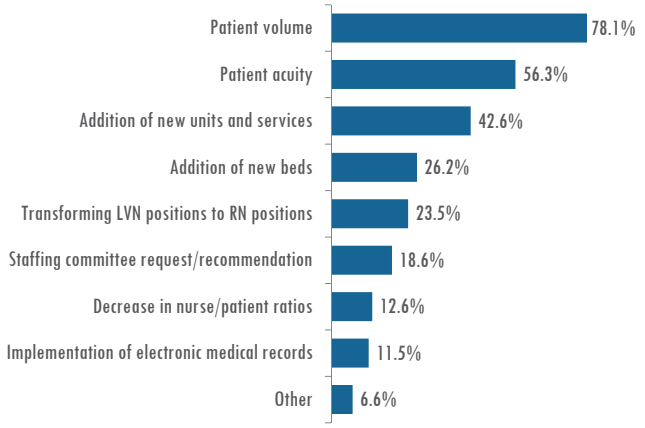
Geographic Designation	Increased	Decreased	No Change
Metro Border	11	0	9
Metro Non-Border	131	28	68
Non-Metro Border	3	2	4
Non-Metro Non-Border	38	11	40

- The majority of responding hospitals in metropolitan counties reported an increase in budgeted RN FTEs (57.5%), compared to responding hospitals in non-metropolitan counties (41.8%).

Reasons Hospitals Increased Budgeted RN FTEs

183 hospitals reported having increased budgeted direct patient care RN FTEs in the past two years. These hospitals were then asked to indicate reasons why they had done so (Figure 3).

Figure 3. Reasons hospitals increased budgeted RN FTEs

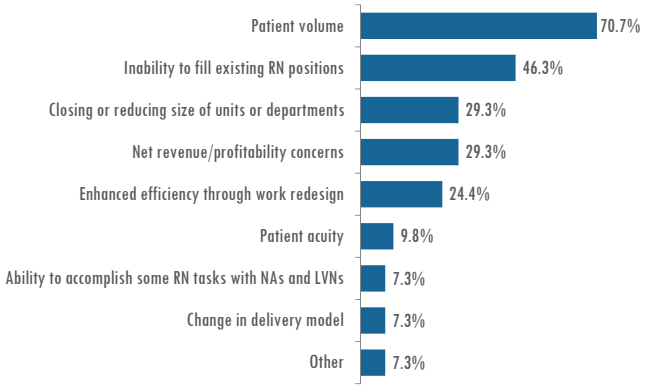


- Other reasons included physician shortages and increased availability of RNs.

Reasons Hospitals Decreased Budgeted RN FTEs

41 hospitals reported having decreased budgeted direct patient care RN FTEs in the past two years. These hospitals were asked to indicate reasons why they had done so (Figure 4).

Figure 4. Reasons hospitals decreased budgeted RN FTEs



- Other reasons included changes in staffing benchmarks.

Additional Budgeted FTEs

Table 4 shows the number of FTEs that responding hospitals expect to budget in the next fiscal year, by nurse type and region.

- Most positions will be added in the Rio Grande Valley and North Texas.
- RNs were the most commonly reported nurse type to be added. 23.1% of the RN positions being added are for first-year RNs.

Table 4. Number of additional RN, LVN, and NA FTEs hospitals plan to budget next fiscal year

	n	Panhandle	Rio Grande Valley	North Texas	East Texas	Gulf Coast	Central Texas	South Texas	West Texas	Texas
All RNs	242	66.0	1,263.8	1,262.3	61.2	388.7	202.0	44.0	23.0	3,311.0
*First-year RNs	215	51.0	123.0	235.7	121.0	105.0	61.9	61.0	7.0	765.6
LVNs	216	5.0	12.0	52.0	6.0	31.0	2.0	12.0	1.0	121.0
NAs	227	2.0	28.0	399.2	10.0	87.3	63.6	13.5	6.5	610.1
Total	-	73.0	1,303.8	1,713.5	77.2	507.0	267.6	69.5	30.5	4,042.1

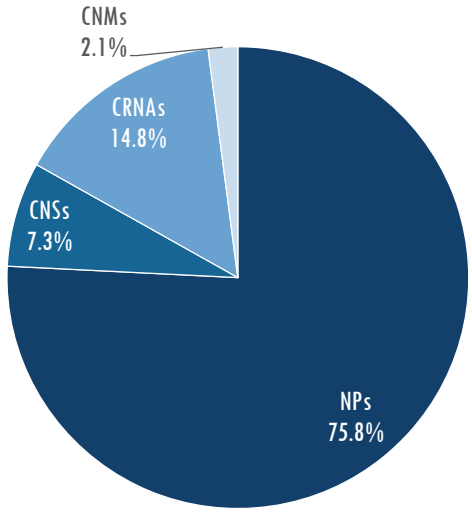
* First-year RNs are included in the "All RNs" totals.

Advanced Practice Registered Nurses (APRNs)

Advance Practice Registered Nurses (APRNs) are classified as one of four types: Nurse Practitioners (NPs), Clinical Nurse Specialists (CNSs), Certified Registered Nurse Anesthetists (CRNAs), and Certified Nurse Midwives (CNMs).

Figure 5 presents the percent of filled APRN positions in responding hospitals by APRN type.

Figure 5. 2016 HNSS APRN staff mix



- NPs were the most common APRN type in hospitals (75.8%), followed by CRNAs (14.8%).

Hospitals were asked to specify how their facility employs APRNs - directly, contracted through another entity, unknown, or the facility does not employ the APRN type (Figure 6).

- NPs were the most common APRN type to be employed directly by hospitals (43.8%), while CRNAs were most commonly contracted through another entity (33.9%).

Figure 6. How hospitals in Texas employed APRNs in 2016

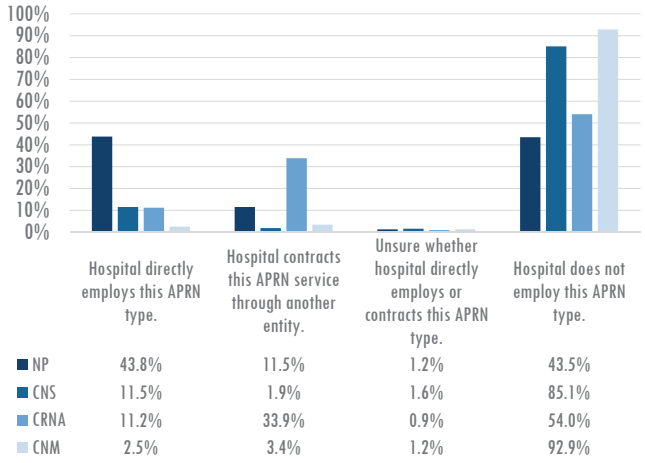


Table 5 shows the number of FTEs that responding hospitals expect to budget in the next fiscal year, by APRN and region.

- Most new positions will be for NPs.

Table 5. Number of additional APRN FTEs hospitals plan to budget next fiscal year

	n	Panhandle	Rio Grande Valley	North Texas	East Texas	Gulf Coast	Central Texas	South Texas	West Texas	Texas
NPs	106	4.0	2.0	75.3	28.0	68.5	11.0	2.0	0.0	190.8
CNSs	28	0.0	0.0	13.5	1.0	11.6	0.0	2.0	0.0	28.1
CRNAs	25	2.0	0.0	8.0	6.0	0.0	3.0	0.0	0.0	19.0
CNMs	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	-	6.0	2.0	96.8	35.0	80.1	14.0	4.0	0.0	237.9

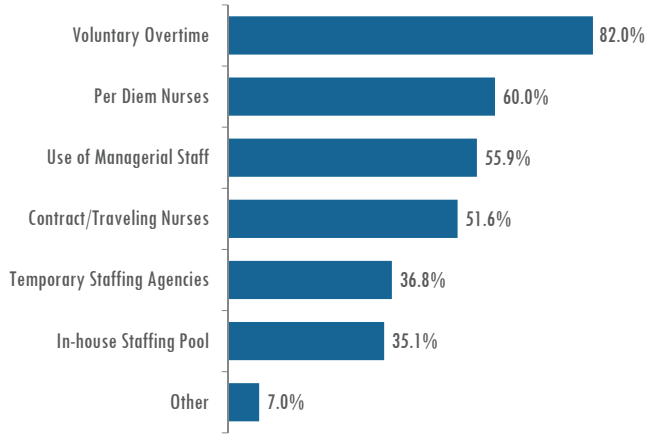
Interim and Inadequate Staffing

Methods of Interim Staffing

To replace sick or absent RNs, cover budgeted but vacant positions, and handle unusual workloads, hospitals reported using voluntary overtime, managerial staff in patient care positions, and in-house staffing pools, among other methods of interim staffing.

Figure 7 shows the percentage of the 345 responding hospitals using each type of interim staffing method.

Figure 7. Percentage of responding hospitals using methods of interim staffing

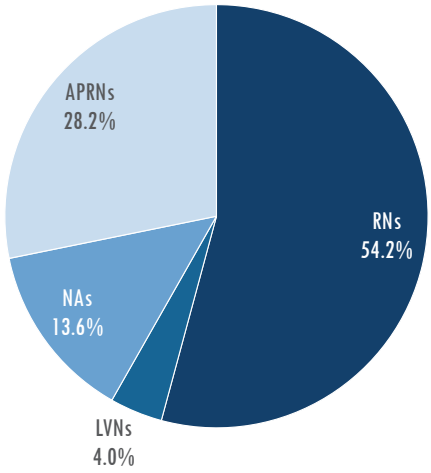


- Voluntary overtime was the most commonly used method of interim staffing (82.0%), followed by per diem nurses (60.0%).

169 responding hospitals reported filling 3,651.04 FTEs using contract/traveling nurses or temporary staffing agencies during the week of 1/18/2016-1/24/2016 (Figure 8).

- Of these FTEs, the majority of the contract, agency, and traveling staff hours were worked by RNs, followed by APRNs.

Figure 8. Temporary staffing agency and contract/traveling nurse hours by nurse type



- 30.3% of the reported contract, agency, and traveling staff were in the Gulf Coast region, and 28.0% were in North Texas.

In addition to the types of interim staffing methods used, hospitals were asked to detail the hours and cost* of each method (Table 6).

- A total of 4,743,025 hours of interim staffing were used by 112 responding facilities at a cost of over $212 million, for a cost per hour of $44.71. This is the highest cost per hour ever reported in the HNSS.
- Over half of the cost was expended on voluntary overtime and contract/traveling nurses.
- Although it is the most commonly used method of interim staffing, the percent of all interim staffing hours used by voluntary overtime has been decreasing, from 50.7% in 2012 to 38.5% in 2014 to 29.0% in 2016.

Table 6. Hours and cost* of interim staffing in Texas

Method of Interim Staffing	n	Hours	Cost*	Cost/Hour*
Voluntary Overtime	87	1,377,362	$64,574,998.64	$46.88
In-house Staffing Pool	21	544,881	$19,630,773.19	$36.03
Contract/Traveling Nurses	46	1,078,490	$66,213,566.57	$61.39
Per Diem Nurses	48	1,261,694	$38,942,446.15	$30.87
Temporary Staffing Agencies	33	259,537	$11,893,393.35	$45.83
Use of Managerial Staff	32	40,218	$1,547,270.28	$38.47
Other	11	180,843	$9,273,604.87	$51.28
Total	-	4,743,025	$212,076,053.05	$44.71

*The analysis on cost of interim staffing is to demonstrate the cost differential between staffing methods, and is not intended for use in estimating nurse wages.

- Fewer hospitals responded to the questions on hours and cost of interim staffing in 2016 (112) than in 2014 (285).

Consequences of Inadequate Staffing

Hospitals were asked to select consequences their facility had experienced in the past year as a result of an inadequate supply of nursing personnel (Table 7).

- The top 3 consequences were the same as in 2014; however, a larger percentage of hospitals reported an increase in voluntary overtime in 2016 (72.2%) than in 2014 (61.0%).

Table 7. Number and percent of responding hospitals experiencing consequences of inadequate nursing supply

Consequence of Inadequate Staffing	# of Hospitals	% of Hospitals
Increase in voluntary overtime	249	72.2%
Increased workloads	211	61.2%
Increased use of temporary/agency nurses	195	56.5%
Using administrative staff to cover nursing duties	186	53.9%
Low nursing staff morale	176	51.0%
Increased nursing staff turnover	151	43.8%
Delayed admissions	113	32.8%
Difficulty completing required documentation on time	98	28.4%
Wage increases	87	25.2%
Increased absenteeism	87	25.2%
Increased patient/resident and/or family complaints	70	20.3%
Delays in providing care	68	19.7%
Inability to expand services	54	15.7%
NONE, we had an adequate supply of nursing personnel	46	13.3%
Declined referrals	46	13.3%
Increased number of incident reports	29	8.4%
Other	3	0.9%

Conclusion

RNs made up the largest proportions of nurses in hospitals (74.8%), followed by NAs (18.3%), LVNs (4.7%), and APRNs (2.2%). 53.0% of responding hospitals reported an increase in budgeted RN FTEs in the past 2 years, and responding hospitals reported they expect to add 4,280 additional FTEs in the next fiscal year. NPs were the most common APRN type in hospitals (75.8%), followed by CRNAs (14.8%). NPs were most commonly employed directly by hospitals (43.8%), while CRNAs were most commonly contracted through another entity (33.9%).

Voluntary overtime was the most commonly used method of interim staffing (82.0%), followed by per diem nurses (60.0%). A total of 4,743,025 hours of interim staffing were used by 112 responding facilities at a cost of over $212 million, for a cost per hour of $44.71. Over half of the cost was expended on voluntary overtime and contract/traveling nurses.

The top 3 reported consequences of inadequate nurse staffing were an increase in voluntary overtime (72.2%), increased workloads (61.2%), and increased use of temporary/agency nurses (56.5%).

Texas is projected to face a shortage of nurses from 2015 through 2030.[1] By 2030, the supply of RN FTEs is expected to grow by 35.4% to 271,667, while demand will grow by 53.8% to 331,638, leaving a deficit of 59,970 RN FTEs. Based on these projections, 20% of the projected demand for RNs in 2030 will not be met. Between 2015 and 2030, the demand for RNs in inpatient hospital settings is projected to grow by 57%. This will account for more than half of the growth in demand for RNs across all settings. In order to meet the growing demand for RNs, employers should consider the following strategies:

- Provide safe working conditions for nurses by maintaining appropriate staffing levels and implementing work schedules that minimize fatigue. 72.2% of responding hospitals reported an increase in voluntary overtime, 61.2% reported increased workloads, and 53.9% reported using administrative staff to cover nursing duties in response to an inadequate supply of nurses.
- Encourage nurses to extend their work-life careers. Research suggests that states with larger proportions of nurses over 50 increase efforts to recruit new RNs and retain older RNs[2] and that retaining older, more experienced nurses is essential to curbing the nursing shortage.[3] In 2015, 39.8% of RNs in Texas were 50 years or older, and 24.1% of direct care RNs in responding hospitals were over 50.
- Continue to support endeavors to increase funding levels as well as provide resources such as mentors/preceptors and clinical space to nursing programs in order to increase capacity to admit and graduate nursing students. 46.3% of responding hospitals that reported having decreased budgeted direct patient care RN FTEs in the past 2 years did so because they were unable to fill existing RN positions.
- Continue the work that the Texas Team has begun on increasing nursing education capacity in Texas, including regional partnerships, with health care providers and participants (e.g. hospitals, health plans, and businesses) working in partnership with academic institutions to support development of the nursing workforce in Texas.[4] A total of 4,743,025 hours of interim staffing were used by 112 responding facilities at a cost of over $212 million, for a cost per hour of $44.71. This is the highest cost per hour ever reported in the HNSS. In 2016, a larger percentage of hospitals reported an increase in voluntary overtime (72.2%) than in 2014 (61.0%).

[1] Texas Center for Nursing Workforce Studies. (2016). Nurse supply and demand projections, 2015-2030. http://www.dshs.texas.gov/chs/cnws/WorkforceReports/SupplyDemand.pdf

[2] Buerhaus, P.I., Auerbach, D.I., Staiger, D.O., & Muench, U. (2013). Projections of the long-term growth of the registered nurse workforce: A regional analysis. Nursing Economics, 31(1): 13-17.

[3] Myer, Sharon K. and Amendolair, Darlene. (2014). Time is of the essence: Retain your older nurses. Nursing Management, 45(5). 12-16.

[4] Texas Team. (2010). A strategic plan for the state of Texas to meet nursing workforce needs of 2013. Austin, TX. http://www.dshs.state.tx.us/chs/cnws/TexasTeam/TexasStrategy.pdf