



The Texas Governmental Public Health Nurse Staffing Survey (TGPHNSS) assesses nurse staffing and related issues in Texas governmental public health agencies. During the summer of 2015, the Texas Center for Nursing Workforce Studies (TCNWS) administered the TGPHNSS to 83 public health agencies in Texas. These included local health departments, health service regions, and Department of State Health Services (DSHS) central offices in Austin. A total of 58 agencies participated for a final response rate of 69.9%.

Vacancy and turnover rates are among the key measures for assessing nurse staffing adequacy. The Institute of Medicine has asserted that vacancy rates “are widely accepted as evidence of supply shortages of RNs” and can be used to estimate current and future nursing shortages.<sup>1</sup> Vacancy rates indicate the ability of an organization to recruit and fill nursing positions and turnover rates indicate the ability of the organization to retain its current employees.<sup>2,3</sup> This report features the results of the 2015 TGPHNSS nurse vacancy and turnover in Texas governmental public health agencies. It includes statewide vacancy and turnover rates as well as vacancy and turnover by region, geographic designation, and agency type.

<sup>1</sup>IOM (Institute of Medicine). (2011). *The Future of nursing: Leading change, advancing health*. Washington, DC: The National Academies Press.  
<sup>2</sup>Rondeau, K.V., Williams, E.S., & Wagar, T.H. (2008). Turnover and vacancy rates for registered nurses: Do local labor market factors matter?. *Health Care Management Review*, 33(1), 69-78.  
<sup>3</sup>Hayes, L., O'Brien-Pallas, L., Duffield, C., Shamian, J., Buchan, J., Hughes, E., Laschinger, K.S., & North, N. (2012). Nurse turnover: A literature review – An update. *International Journal of Nursing Studies*, 49(7), 887-905.

## Vacancy

In the current study, position vacancy rates and median agency vacancy rates were assessed for April 30, 2015.

The position vacancy rate describes the proportion of all full-time equivalent (FTE) positions that are vacant across all responding agencies, whereas the median agency vacancy rate provides the midpoint of vacancy rates

among all agencies, regardless of agency or staff size. The methods for calculating both types of vacancy rates are described in the Design and Methods section.

Table 1 displays vacancy data for all governmental public health agencies that responded to the survey.

**Table 1. Statewide Vacancy Rates Among Responding Agencies by Nurse Type, 2015**

|       | n  | Occupied FTE positions | Vacant FTE positions | Statewide position vacancy rate | Statewide median agency vacancy rate | % of agencies that reported zero vacancies |
|-------|----|------------------------|----------------------|---------------------------------|--------------------------------------|--|
| RNs   | 54 | 499.0                  | 69.5                 | 12.2%                           | 0.0%                                 | 42.6%                                      |
| LVNs  | 46 | 273                    | 33                   | 10.8%                           | 0.0%                                 | 60.9%                                      |
| APRNs | 25 | 52.4                   | 10.5                 | 16.7%                           | 0.0%                                 | 80.0%                                      |

Note: n=number of agencies in Texas that reported FTE positions for each nurse type. Agencies with inconsistent staffing data were excluded from these calculations.

- For the 54 agencies that reported employing RNs 36 (66.7%) of those agencies had a 0% vacancy rate.
- 46 agencies reported employing LVNs, 34 (74%) of those agencies had a 0% vacancy rate.
- 25 agencies reported having APRN positions, 17 (68%) of those agencies had a 0% vacancy rate.
- Overall, the statewide position vacancy rate was lowest for LVN positions (10.8%) and highest for APRN positions (16.7%).

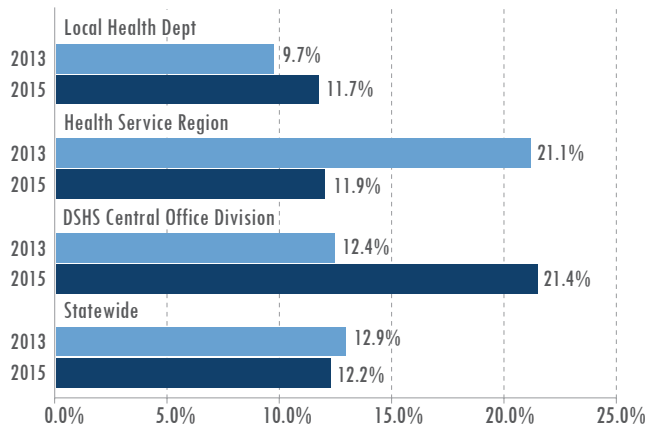
**Table 2. Position Vacancy Rates in Responding Agencies by Agency Type, 2015**

|       | Local Health Department |                       | Health Service Region |                       | DSHS Central Office Division Section |                       | Statewide          |                       |
|-------|-------------------------|-----------------------|-----------------------|-----------------------|--------------------------------------|-----------------------|--------------------|-----------------------|
|       | Number of Agencies      | Position Vacancy Rate | Number of Agencies    | Position Vacancy Rate | Number of Agencies                   | Position Vacancy Rate | Number of Agencies | Position Vacancy Rate |
| RNs   | 42                      | 11.7%                 | 7                     | 11.9%                 | 5                                    | 21.4%                 | 54                 | 12.2                  |
| LVNs  | 41                      | 8.7%                  | 5                     | 31.0%                 | 0                                    | -                     | 46                 | 10.8                  |
| APRNs | 23                      | 15.9%                 | 2                     | 33.3%                 | 0                                    | -                     | 25                 | 16.7                  |

Note: Agencies that reported zero nurse positions for a nurse type were excluded from that vacancy rate calculation.



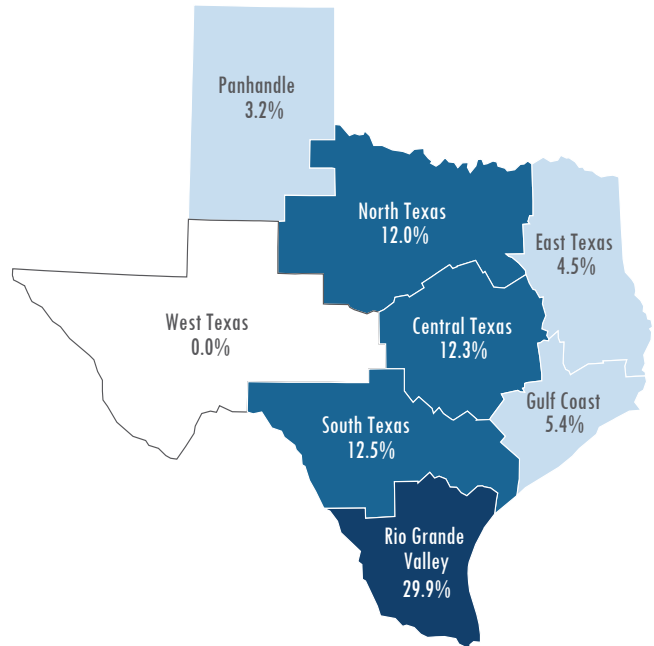
**Figure 1. RN Position Vacancy Rate by Agency Type, 2015**



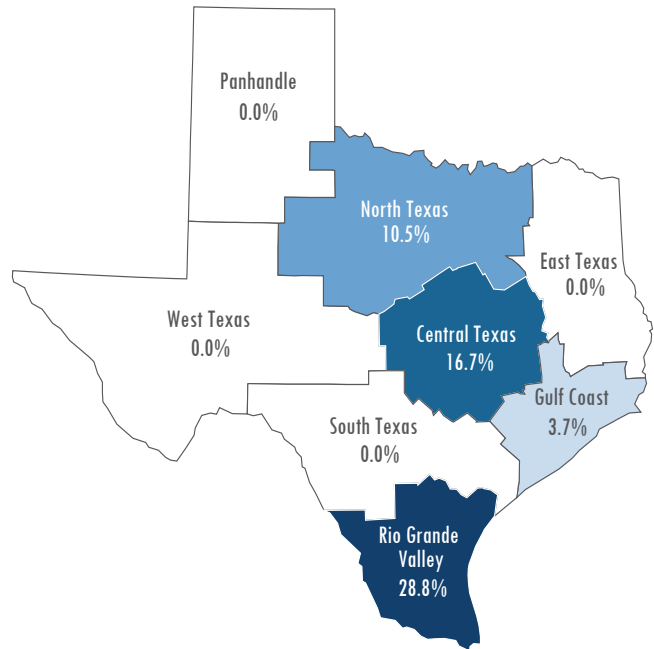
- The position vacancy rate for RNs was 12.2%, slightly less than reported for 2013 (12.9%).
- 25 agencies reported employing APRNs. The total APRN position vacancy rate among those agencies was high at 16.7%, but there were only 10.5 total vacant APRN positions and 62.9 occupied APRN positions among responding agencies.
- Statewide median agency vacancy rates were 0% for RNs, LVNs and APRNs.
- The highest position vacancy rate for RNs (21.4%) was found among DSHS central office divisions. The highest reported in 2013 (21.2%) was in the health service regions.
- Among local health departments, the position vacancy rate for RNs (11.7%) was close to that reported for the health service regions (11.9%).
- Approximately 50% (31% for 2013) of local health departments surveyed reported employing APRNs. Among these local health departments, the position vacancy rate was 15.9%.

As shown in Table 5, nurse position vacancy rates in responding governmental public health agencies varied by geographic designation. Position vacancy rates for nurses were higher among agencies in metropolitan areas compared to agencies in non-metropolitan areas. Except for APRNs, agencies in border counties reported higher

**Figure 2. RN Position Vacancy Rate by DSHS Health Service Region, 2015**



**Figure 3. LVN Position Vacancy Rate by DSHS Health Service Region, 2015**



**Table 5. Nurse Position Vacancy Rates in Responding Agencies by MSA/Border Designation, 2015**

|       | Metropolitan |       | Non-Metropolitan |      | Border |       | Non-Border |       |
|-------|--------------|-------|------------------|------|--------|-------|------------|-------|
|       | n            | %     | n                | %    | n      | %     | n          | %     |
| RNs   | 46           | 12.5% | 8                | 0.0% | 4      | 16.1% | 50         | 11.8% |
| LVNs  | 38           | 11.5% | 8                | 0.0% | 4      | 22.0% | 42         | 8.6%  |
| APRNs | 21           | 18.1% | 4                | 0.0% | 2      | 25%   | 23         | 16.1% |

Note: n= number of agencies in Texas that reported FTE positions for each nurse type. Agencies that report zero nurse positions for a nurse type were excluded from the calculations. %= position vacancy rate.



nurse position vacancy rates than agencies in non-border counties.

RN position vacancy rates were also analyzed by DSHS health service region. Texas was originally divided into eight health service regions by the former Texas Department of Health. Figure 2 displays the RN position vacancy rates by region.

- West Texas reported the lowest position vacancy rate (0%). This region reported the second highest vacancy rate in 2013 (20.0%).

- The Rio Grande Valley had the highest vacancy rate at 29.4%. This was a moderate increase from 2013 (25.4%).

## Turnover

Turnover rates were assessed for the calendar year of 2014 (January 1, 2014 to December 31, 2014). Table 6 displays the total average headcount for the year 2014, total number of separations, and median agency turnover rate for RNs, LVNs, and APRNs in responding governmental public health agencies.

- For the 54 agencies that reported employing RNs, 23 (42.6%) of those agencies had a 0% turnover rate.
- 46 agencies reported employing LVNs, 28 (60.9%) of those agencies had a 0% turnover rate.
- 25 agencies reported having APRN positions, 20 (80%) of those agencies had a 0% turnover rate.
- The statewide median turnover rate was 0% for LVNs and APRNs. The median turnover rate for RN positions was 12.5%.
- The median turnover rate for RN positions was higher among agencies in metropolitan counties (n=46, 15.5%) than non-metropolitan counties (n=8, 0%).

Figure 4. Median Turnover Rate by Border Classification

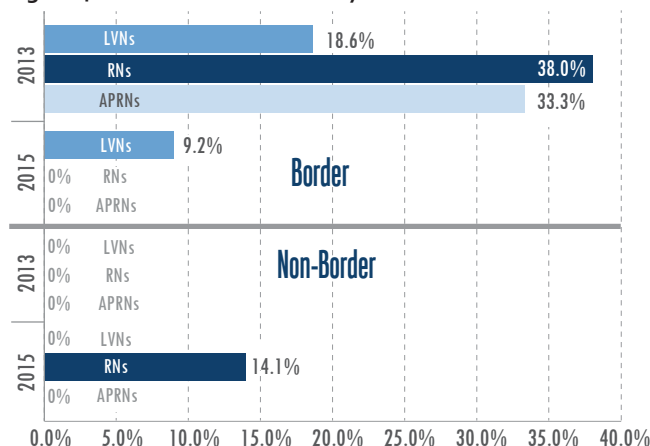
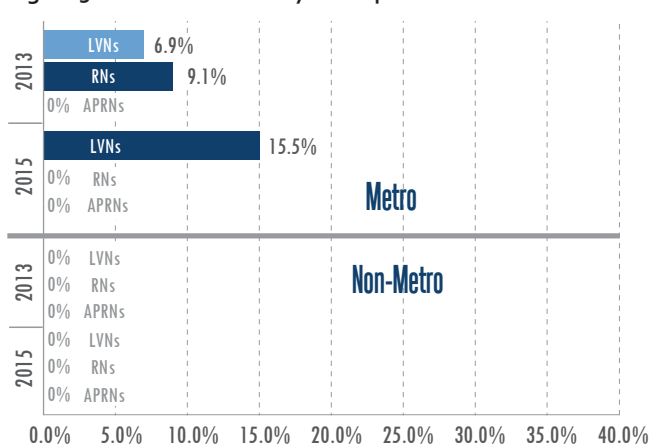


Figure 5. Median Turnover by Metropolitan Status



- Among agencies located in border counties (n=4), the median turnover rate for RNs was 0%, compared to a median turnover rate of 14.1% among agencies in non-border counties (n=50).
- The median turnover rate was higher in border counties for LVNs (9.2%) than agencies in non-border counties (0.0%).
- For APRNs the median turnover rate was 0.0% for both border and non-border counties.

Table 6. Headcount and Separations in Responding Agencies by Nurse Type, 2014

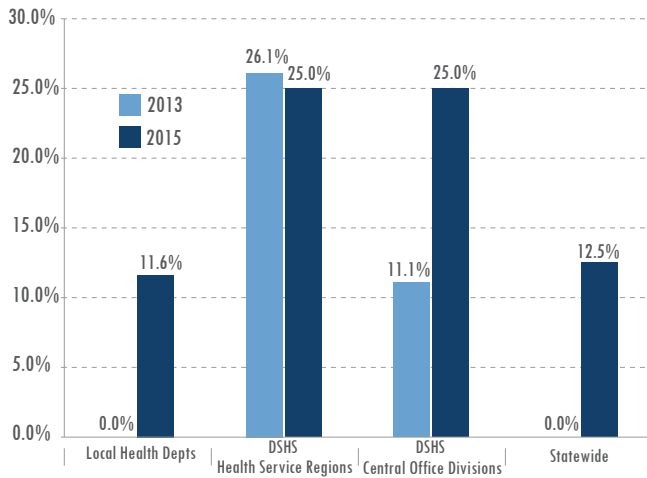
|       | n  | Average Head Count 01/01/14 – 12/31/14 | Number of Separations 01/01/14 – 12/31/14 | Median Agency Turnover Rate | Number of Agencies that Reported Zero Separations |
|-------|----|--|---|-----------------------------|---|
| RNs   | 54 | 497.5                                  | 116                                       | 12.5%                       | 23  |
| LVNs  | 46 | 277                                    | 33  | 0.0%                        | 28  |
| APRNs | 25 | 57.5                                   | 8   | 0.0%                        | 20  |

Note: n=number of agencies in Texas that reported both head counts and number of separations for each nurse type. FTE positions for each nurse type.



In Figure 6, median turnover rate for RNs is displayed by agency type.

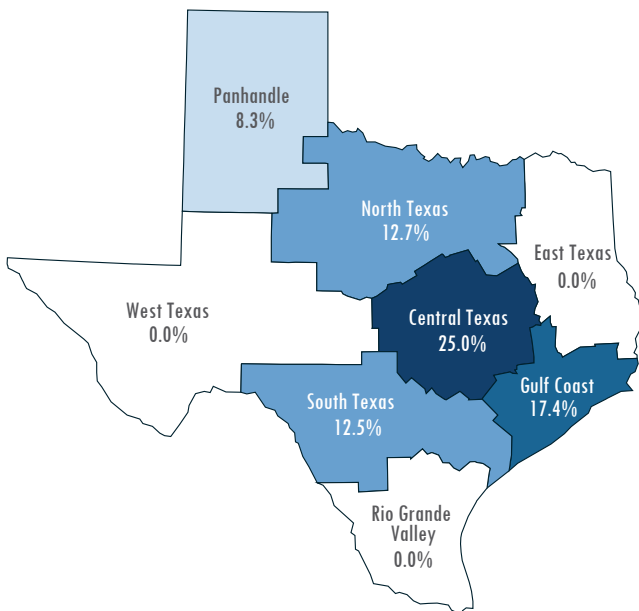
**Figure 6. Median Turnover Rate for RNs by Agency Type**



- The median turnover rate for RNs was lowest among the 42 responding local health departments (11.6%) and equal for the health service regions (n=7, 25.0%) and DSHS central office divisions sections (n=5, 25.0%).
- Median turnover rate among local health departments was also 0% for LVNs and APRNs.

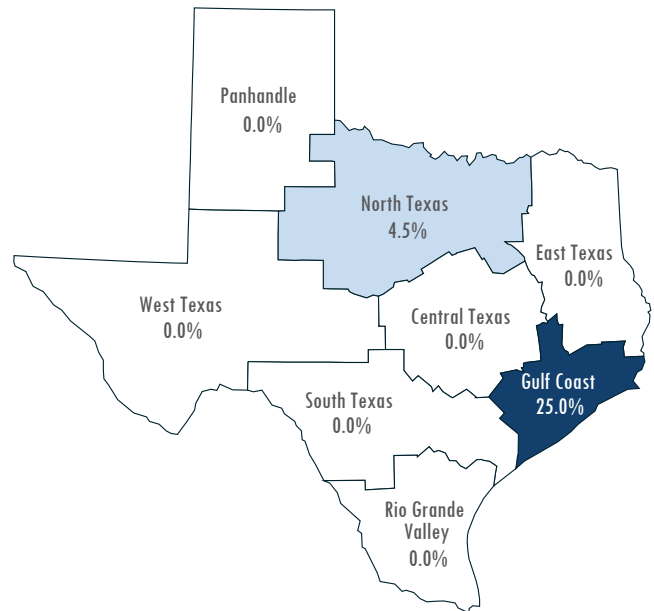
No central office divisions reported employing LVNs or APRNs, so they were excluded from this analysis.

**Figure 7. RN Median Turnover Rate by DSHS Health Service Region**



In Figure 7, median RN turnover rates are displayed by DSHS health service region. Agencies in three regions of Texas reported a 0% median turnover rate for RNs (East Texas, West Texas, Rio Grande Valley). Central Texas reported the highest median turnover rate at 25.0%.

**Figure 8. LVN Median Turnover Rate by DSHS Health Service Region**



## Conclusion

The statewide median agency vacancy rate did not change from 2013 (0%) for LVNs, RNs and APRNs. The statewide position vacancy rate was consistent with 2013 data with LVNs having the lowest rates (10.8%) and APRNs with the highest (16.7%). RNs fell in the middle of LVNs and APRNs at 12.2%, slightly less than reported for 2013 (12.9%).

The highest position vacancy rate for types of responding agencies for RNs (21.4%) were the DSHS central office divisions. The highest position vacancy rate reported in 2013 (21.2%) was the health service region agencies. Like 2013, position vacancy rates for nurses were higher among agencies in metropolitan areas compared to agencies in non-metropolitan areas, and agencies in border counties reported higher nurse position vacancy rates than agencies in non-border counties. For agency rates by DSHS HSRs, West Texas reported the lowest position vacancy rate (0%). This region reported the second highest vacancy rate in 2013 (20.0%). Agencies in The Rio Grande Valley reported the highest position vacancy rate at 29.4%, a moderate increase from 2013 (25.4%).

For 2013 the statewide median turnover rate was 0% for RN, LVN, and APRN positions. For 2015 the statewide median turnover rate was 0% for LVNs and APRN positions only, indicating that at least half of the responding agencies did not have any staff turnover for LVNs and APRNs during the reporting period. The RN statewide median turnover rate was 12.5%.

For the types of responding agencies the median turnover rate for RNs was lowest among the 42 responding local health departments (11.6%) and equal for the health service region agencies (n=7, 25.0%) and DSHS central office divisions sections (n=5, 25.0%).

Similar to 2013, the median turnover rate for RN positions was higher among agencies in metropolitan counties (n=46, 15.5%) than non-metropolitan counties (n=8, 0%). LVNs and APRNs were both at 0% for metro and non-metro counties, a reduction from 2013 in which LVNs had a rate of 6.9% in the metro counties. There was no change in APRNs, with 0% for both non-metro and metro for 2013 and 2015.

Among agencies located in border counties (n=4), the median turnover rate for RNs is 0%, compared to a median turnover rate of 14.1% among agencies in non-border counties (n=50). This is a stark contrast to the

2013 findings which had 38% for the border areas and 0% for non-border counties. LVNs were half (9.2%) of what was reported for 2013 (18.6%) in border counties and 0% for non-border counties. APRNs were at 0.0% for both border and non-border, a change from 2013 where 33.3% was reported for border counties. For RNs, agencies in three regions of Texas (East Texas, West Texas, Rio Grande Valley) reported a 0% median turnover rate with Central Texas reporting the highest at 25.0%. West Texas reported the highest rate for 2013 (32.5%).

## TGPHNSS Advisory Committee Recommendations

- To more fully understand the implications of these findings nurse researchers should focus on the following issues for further study:
  - Effect of public health nursing staff turnover on economic (e.g. costs of turnover, loss of human capital, cost of unrealized community/public health outcomes) and non-economic (e.g. quality of care) issues.