The Hospital Nurse Staffing Survey (HNSS) assesses nurse staffing and related issues 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.

With the passing of House Bill 3126 from the 78th Regular Legislative Session, the Texas Center for Nursing Workforce Studies (TCNWS) was established and charged with collecting and analyzing data on demographic, educational, and employment trends of nursing professionals in Texas. Since 2004, TCNWS has administered the Hospital Nurse Staffing Survey (HNSS) on a biennial basis primarily to assess the size and effects of the nursing shortage across the state. Data from this survey are also instrumental in developing projections for the number of nurses needed in Texas now and in the future.

Survey Methods

As in prior years, the TCNWS established a task force of hospital industry experts to assist in the development and implementation of the 2016 HNSS. It was a goal of the TCNWS for the task force to be comprised of people from across the state in order to ensure that every region would be represented. The HNSS task force (see Appendix A) was involved in revising the survey instrument to ensure questions were applicable to hospitals of all sizes and across all regions and that the survey was user-friendly. The task force was also involved in promoting the 2016 HNSS to the hospitals in their respective regions in order to encourage participation.

The 2016 HNSS survey instrument was similar to that of previous years, though some changes were adopted. The question related to nursing staff retention and recruitment strategies was divided into separate questions for recruitment and retention, and each question was asked separately for full-time and part-time employees. A question was also added on the age of nurses employed during the week of 1/18/2016-1/24/2016.

The 2016 HNSS survey instrument and its operational definitions can be found in Appendices C and D, respectively.

Survey Distribution and Marketing

The 2016 HNSS was administered to 666 hospitals in Texas. These included Texas Department of State Health Services-operated hospitals as well as hospitals linked to academic institutions. Military hospitals were not surveyed. The hospitals surveyed included for-profit, public, and non-profit facilities. The facilities surveyed were general acute care, psychiatric, specialty, and rehabilitation hospitals.

Initial distribution

Survey materials were first distributed by mail during the last week of March 2016. The materials were addressed to the Chief Nursing Officer (CNO) of each hospital. A link to the active survey was sent out by email on March 28, 2016, with an initial survey deadline of May 6, 2016. The survey was hosted by Qualtrics, an online survey software. Hospitals were strongly encouraged to complete the survey online; however, faxed, emailed, and mailed submissions were also accepted.

Survey Extensions and Follow-up

In an attempt to boost response rates, the survey deadline was extended through June 3, 2016. The extension was announced via email.

TCNWS staff made phone calls and sent faxes throughout the months of April and May 2016 to encourage hospital

participation. Hospitals that started but did not complete a survey were also contacted. During this period, task force members also sent out emails and made phone calls to the CNOs of the hospitals in their region explaining the importance of submitting their data.

The Texas Organization of Nurse Executives and the Texas Hospital Association also included survey blurbs in their newsletters.

Survey Population

345 hospitals responded to the 2016 HNSS. The overall response rate was 51.8% in 2016 compared to 69.1% in 2014. Response rates by region ranged from 38.8% in the Gulf Coast region to 62.5% in West Texas and Central Texas.

Responding hospitals were compared to non-responding hospitals on 3 variables: Texas region, geographic designation, and bed size category. The location of each responding hospital was compared to the overall distribution of hospitals across the state in order to determine whether there was a geographically representative sample. Respondents and non-respondents were also compared based on hospital size. Hospitals' numbers of licensed beds were recoded into size categories and analyzed to determine if the sample was representative based on hospital size. Based on our findings, respondents to the 2016 HNSS were representative of Texas hospitals in regard to region (χ^2(7, N = 666) = 13.9, p = 0.052), geographic designation (χ^2(3, N = 666) = 6.8, p = 0.078), and bed size category (χ^2(3, N = 666) = 3.2, p = 0.533). Therefore, we consider the results generalizable to all hospitals in Texas based on region, geographic designation, and bed size category.

Data Analysis

All data were analyzed using SPSS (version 22). Variables on the 2016 HNSS were analyzed by HNSS region and county designation, with reports specific to rural and critical access hospitals and state hospitals as well. For a list of the regions and county designations, please see Appendix B. All 2016 HNSS data were reviewed and notable inconsistencies were excluded from analyses.

Hospital Characteristics

Frequency counts were conducted for each variable reported in the Hospital Characteristics report. These frequencies were analyzed by region, geographic designation, and bed size category. Attention was also given to the number of hospitals with Magnet, Pathway to Excellence, and Designated Trauma Center status.

Hospital Staffing

Data in the Hospital Staffing report pertain to number of nurses employed in the state. Frequency counts were used to demonstrate the magnitude of changes statewide, by region, and by geographic designation. Responses to open-ended free response questions were categorized and summarized.

The HNSS also asked hospitals about their needs for interim staffing and the methods they use to fill these needs. Hospitals reported the hours and cost of interim staffing for calendar year 2015. Only hospitals that reported both cost and hours for each method were included in this analysis. Outliers were not included in the analysis. For types of interim staffing methods used, frequency counts were conducted to show the number of hospitals that reported using each type of interim staffing method. Hospitals were asked to provide hours and costs of each interim staffing method. Total hours and costs were calculated by taking the sum of hours and costs by each method. Cost per hour was calculated by taking the total cost divided by the total hours for each method.

Vacancy and Turnover

The 2016 HNSS asked respondents to provide the total number of occupied and vacant RN positions in their facility during the week of 1/18/2016-1/24/2016, one of the year's peak occupancy times. These numbers were used to calculate vacancy rates as described in the 2016 HNSS Vacancy and Turnover Report. This report describes two methods for calculating vacancy rates: position vacancy rate and facility vacancy rate. The position vacancy rate describes the proportion of all FTE positions that are vacant across a group of responding hospitals, whereas the

facility vacancy rate is calculated for each facility.

In order to calculate turnover rates, respondents provided their numbers of occupied full-time and part-time nurse positions at two points in the year (1/1/2015 and 12/31/2015) and these numbers were averaged during analysis. Turnover rates were calculated for each facility and by each nurse type by dividing the number of reported employee separations during this period by the sum of average full-time and part-time nurses. The median facility turnover rate was reported for the state and for each region.

Recruitment and Retention

Respondents were asked four questions directly related to employee recruitment for nursing positions. First, hospitals were asked to indicate how long it took their organization to fill nursing vacancies by specialty area. Second, they were asked where they recruited - in Texas, in other states, or internationally. Third, hospitals responding that they recruited outside of Texas were then asked why they did so. Fourth, hospitals were asked about strategies they used to recruit and retain nurses. Frequency counts and analysis by region were conducted for this report.

Respondents were also asked about the importance of four attributes when hiring RNs: past relevant nursing experience, past nursing experience in a non-hospital setting, bilingual, and a bachelor's in nursing or higher education.

Transition to Practice Programs for Newly Licensed RNs

Responding to the Institute of Medicine's initiative to increase orientation programs for newly licensed RN graduates, the 2016 HNSS included questions on transition to practice programs. Hospitals were asked if they had a transition to practice program, to describe the model of the program, indicate whether it was an employment or non-employment model, report the length in weeks, and identify outcomes related to the program. This analysis used frequency counts to describe the extent to which transition to practice programs exist in Texas hospitals.

Rural and Critical Access Hospitals and State Hospitals

Additionally, the 2016 HNSS dataset was analyzed taking into account two important subsets of Texas hospitals: rural hospitals and state hospitals. Rural hospitals were further categorized as critical access hospitals (CAHs) or non-critical access rural hospitals. CAHs are located in mostly rural areas and receive federal funding to ensure that populations have local delivery of health care. Rural hospitals are those additional facilities that do not receive the additional federal funding that CAHs receive but that are either outside of a metropolitan statistical area, have 100 or fewer beds, or 4,000 or fewer admissions. State hospitals are predominantly inpatient mental health facilities (with the exception of the Texas Center for Infectious Disease) that are operated using public funds and controlled by an agency of state government. These two categories are of special interest given their public funding mechanisms and provision of service to at-need populations.

Analyses of these two categories of hospitals were conducted using the variables of interest described above and provide for comparisons between CAHs or state hospitals and Texas hospitals at-large