

2013

Texas Governmental Public

Health Nurse Staffing Study



Texas Center for Nursing Workforce Studies

Center for Nursing Workforce Studies Advisory Committee

The Statewide Health Coordinating Council

Texas Department of State Health Services Center for Health Statistics



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The following is a description of the key organizations that were instrumental in the development and production of this report.

The Texas Center for Nursing Workforce Studies

The Texas Center for Nursing Workforce Studies (TCNWS) was established under the governance of the Statewide Health Coordinating Council. The Center for Health Statistics at the Department of State Health Services provides administrative oversight. The TCNWS serves as a resource for data and research on the nursing workforce in Texas. The TCNWS is charged to collect and analyze data and publish reports related to educational and employment trends of nursing professionals; the supply and demand of nursing professionals; nursing workforce demographics; migration of nursing professionals; and other issues concerning nursing professionals in Texas as determined necessary by the TCNWSAC and SHCC.

One of the roles of the TCNWS includes collaboration and coordination with other organizations (such as the Board of Nursing, the Texas Higher Education Coordinating Board, Texas Nurses Association, Texas Hospital Association, and regional healthcare

organizations and educational councils) that gather and use nursing workforce data. The coordination is needed in order to avoid duplication of efforts in gathering data; to avoid overloading employers and educators with completing a large number of duplicate surveys; to share resources in the development and implementation of studies; and to establish better sources of data and methods for providing data to legislators, policy makers and key stakeholders. The TCNWS is currently working on several statewide studies that will provide current and pertinent supply and demand trends on the nursing workforce in Texas. More information about the TCNWS and TCNWSAC and published reports and information on the nursing workforce are available on the TCNWS website: <http://www.dshs.state.tx.us/chs/cnws/>.

Texas Center for Nursing Workforce Studies Advisory Committee

In response to the passage of House Bill 3126 from the 78th Regular Legislative Session, the Texas Center for Nursing Workforce Studies (TCNWS) and the Texas Center for Nursing Workforce Studies Advisory Committee (TCNWSAC) were established in 2004. The TCNWSAC was added to the structure of the SHCC and serves as a steering committee for the TCNWS. This is a 21-member committee with representation from nursing and healthcare organizations, employers of nurses, state agencies, nurse researchers, and nurse educators as well as a consumer member. A list of the members of the TCNWSAC is located on page 5.

The TCNWSAC is charged with the following responsibilities:

- Develop priorities and an operations plan for the TCNWS;
- Review, critique, and develop policy recommendations regarding nursing workforce issues;
- Identify other issues concerning nursing professionals in Texas that need further study; and
- Critique and analyze reports and information coming from the TCNWS before dissemination.

Statewide Health Coordinating Council

In accordance with Chapter 104-105 of the Health and Safety Code, the purpose of the Statewide Health Coordinating Council (SHCC) is to ensure health care services and facilities are available to all citizens through the development of health planning activities. The SHCC is a 17-member council, with 13 members appointed by the governor and four members representing specified state agencies. The SHCC meets quarterly and oversees the Health Professions Resource Center and Texas Center for Nursing Workforce Studies (TCNWS) in the Center for Health Statistics as well as the TCNWS Advisory Committee. Information on such things as the State Health Plan, telemedicine and telehealth, primary care and health professions workforce issues, and tracking of selected legislation are available at the following website: <http://www.dshs.state.tx.us/chs/shcc/>.

Center for Health Statistics

The Center for Health Statistics is the Department of State Health Services' focal point for the collection, analysis, and dissemination of useful health-related information to evaluate and improve public health in Texas.

The mission of the Center for Health Statistics is accomplished by:

- Evaluating existing data systems for availability, quality, and quantity;
- Defining data needs and analytic approaches for addressing these needs;
- Adopting standards for data collection, summarization, and dissemination;
- Coordinating, integrating, and providing access to data;
- Providing guidance and education on the use and application of data;
- Providing data analysis and interpretation; and
- Initiating participation of stakeholders while ensuring the privacy of the citizens of Texas.

Health related and health professions workforce information and reports produced through the Center for Health Statistics are available at the following website: <http://www.dshs.state.tx.us/chs/>. 

Executive Summary

This study provides an overview of the current state of the Texas governmental public health nursing workforce. The main findings are:

- Nurses make up approximately 10% of the total Texas governmental public health workforce, and the majority of nurses work in positions that require a nurse license.
 - RNs made up the majority (63.5%) of the nursing staff mix within Texas governmental public health agencies.
 - LVN positions accounted for 32.7% of nurse positions.
 - APRNs made up only 3.8% of all nurse staff positions.
- Most public health RNs work in a variety of program areas and have diverse job functions.
 - The program area most commonly staffed by RNs is immunization programs/services, followed by communicable disease and TB control.
 - More than a third of RNs, LVNs, and APRNs' main job function is clinic-based care.
- Vacancy rates for RN, LVN, and APRN positions in Texas governmental public health agencies are higher than vacancy rates for these positions within Texas hospitals, but lower than Texas home health/hospice agency vacancy rates.
 - 33.3% of agencies surveyed reported having vacant RN positions. The overall statewide position vacancy rate for RN positions was 12.9%.
 - 80.4% of agencies surveyed reported zero LVN position vacancies. Overall, the statewide position vacancy rate was 11.8% for LVN positions.
 - Few agencies reported staffing APRNs (n=17), but those that did reported nine FTE vacancies and 29.5 occupied FTEs.
 - Most agencies reported that it takes between 31 and 60 days to fill vacant RN, LVN, and APRN positions, though the number of days varied among agency types.
 - 47.5% of agencies reported increasing the workload, but not work hours, of existing staff in order to compensate for vacant positions.
- Turnover rates varied greatly by agency type and agency location.
 - Median statewide turnover rates for RNs were lowest in local health departments (0.0%) and highest in DSHS health service regions (26.1%).
 - Agencies located in metropolitan counties reported a higher median turnover rate for RN positions (n=44, 9.1%) than agencies located in non-metropolitan counties (n=11, 0.0%).
 - Agencies located in border counties reported a higher median turnover rate for RN positions (n=6, 38%) than agencies located in non-border counties (n=49, 0%).
- Few agencies plan on increasing the number of budgeted nurse positions in the next fiscal year.
 - A total of 22 RN positions are expected to be added in the next fiscal year, six LVN positions, and eight APRN positions.
 - 13.1% of responding agencies will increase RN positions, 6.6% will increase LVN positions, and 8.2% will increase APRN positions.
 - 26.2% of responding agencies reported that budgeted nurse positions had increased within the past two years. Among these agencies, 56.3% reported that an increase in funding was the reason for the increase.
 - Reductions in the number of budgeted nurse positions in the past two years were reported by 32.6% of responding agencies. Agencies reporting a reduction in budgeted RN positions most often cited a reduction in funding as the catalyst for the decrease (21.3% of all agencies). 🇹🇽

Introduction

Public health nursing is defined as “the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences” (APHA, 2013). Public health nurses focus on the primary prevention of disease, illness, and injury and the promotion of health within the communities and population groups they serve through activities including community health assessments, health promotion and intervention application, disease surveillance, advocacy, and policy development (APHA, 2013). Although public health nurses make up only 2% of the general nursing workforce (Quad Council of Public Health Nursing Organizations, 2011), they account for approximately 20% of the national public health workforce (NAACHO, 2010). As of 2013, 1.9% of RNs, 2.2% of LVNs, and 1.7% of APRNs in Texas reported a primary specialty of community/public health.

This report includes data on three types of licensed nurses working in Texas governmental public health agencies: registered nurses (RNs), licensed vocational nurses (LVNs), and advanced practice registered nurses (APRNs). Each nurse type involves a different scope of practice. According to the Texas Board of Nursing (BON), RNs provide “nursing services that require substantial specialized judgment and skill” (BON, 2013a). The RN “may engage in independent nursing practice without supervision by another health care provider” (BON, 2013a). The RN may be responsible for supervising one or more LVNs. LVNs must practice “under the supervision of a RN, APRN, physician, physician assistant, podiatrist or dentist” (BON, 2013b) and use “a systematic problem-solving process in the care of multiple patients with predictable health care needs to provide individualized, goal-directed nursing care” (BON, 2013b). An APRN is a registered nurse approved by the BON to practice as an advanced practice nurse based on completing an advanced educational program acceptable to the BON. There are four types of APRNs: nurse practitioner, nurse-midwife, nurse anesthetist, and clinical nurse specialist. The APRN acts independently and/or in collaboration with other health care professionals in the delivery of health care services (BON, 2005).

The 2013 Texas Governmental Public Health Nurse Staffing Study (TGPHNSS) was undertaken in order to more fully understand the public health nursing population in Texas by surveying all local, regional, and state governmental public health departments in Texas. State-operated hospitals that may employ public health nurses were not surveyed in the present study in order to avoid double-counting in the TCNWS biannual hospital nurse staffing study. This is the first year that the TCNWS administered the TGPHNSS. Data from this survey are instrumental in developing projections for the number of public health nurses needed in Texas now and in the future. The results of this study will serve as a resource for TCNWS’ Advisory Committee, the Texas Governor’s Office, and the Texas Legislature in establishing legislative priorities and making legislative and policy decisions. 🗝



“Public health nursing is defined as “the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences” (APHA, 2013).”

Task Force

The TCNWS established a taskforce of governmental public health nursing experts to assist in the development and implementation of the 2013 Texas Governmental Public Health Nurse Staffing Study. The taskforce included employees of local health departments, Texas Department of State Health Services (DSHS) health service regions, and the DSHS central office. The members of the TGPHNSS task force helped to develop and edit the survey instrument to ensure questions were applicable and understandable to all governmental public health agencies. The task force also helped to test and market the survey, and reviewed the final report. Based on the results of the final report, the task force provided recommendations for policymakers and other stakeholders.

Survey Instrument

The 2013 TGPHNSS was modeled after a nurse staffing study conducted by the University of Michigan with the assistance of the Association of Public Health Nurses (APHN) in 2012, which was an organizational-level nurse staffing study distributed to a nationwide sample of 328 local health departments and 50 state health departments. The TGPHNSS instrument was also designed to align with the National Forum of State Nursing Workforce Centers' Minimum Nurse Demand Dataset. The final survey instrument included questions on public health agency characteristics, nurse job functions, program areas in which public health nurses work, nurse vacancies, and weeks to fill vacant positions. Nineteen questions were included in the final survey instrument. The instrument was tested internally by the TCNWS staff, the TGPHNSS task force, and was pilot tested by a selected group of agencies from the target population. The 2013 TGPHNSS survey instrument and its operational definitions can be found in Appendix A.

Data Collection

The 2013 TGPHNSS was launched on July 18, 2013. A link to the web-based survey along with the survey

instrument, cover letter, operational definitions, and instructions was sent out to all Texas local health departments and health service regions by email. Survey materials were also distributed by mail on July 18, 2013. Mailed materials included the survey instrument, cover letter, operational definitions, and instructions. DSHS central office divisions were emailed the survey materials on August 28, 2013. Agencies were strongly encouraged to complete the survey online; however, faxed, mailed, and emailed submissions were also accepted.

The initial survey deadline for local health departments and health service regions was August 9, 2013. However, the deadline was extended to August 30, 2013 to allow the submission of additional surveys. The submission deadline for DSHS central office divisions was set for September 13, 2013 and was extended to September 20, 2013 to allow the submission of additional surveys.

The survey was hosted by QuestionPro, an online survey software. In order to accommodate respondents who needed additional time, surveys were accepted through September 20, 2013 at which point the survey link was deactivated.

Strategies to Increase Response Rates

As part of a strategy to increase the survey response rate, a process of multiple announcements and reminders was implemented as follows:

Email announcements from the TCNWS

Email announcements and reminders were made throughout the survey period.

- July 18th, 2013 – Initial announcement of the survey to local health departments and health service regions. The email included the survey materials and the survey deadline of August 9th, 2013.
- August 5th, 2013 – Reminder email with a link to the survey reminding agencies of the August 9th, 2013 deadline.
- August 12th, 2013 – Announcement of survey deadline extension to August 30, 2013 with a link to the survey materials.
- August 28, 2013 - Initial announcement of the

survey to DSHS central office divisions. The email included the survey materials and the survey deadline of September 13, 2013.

- September 16, 2013 – Announcement of survey extension to September 20, 2013 with a link to the survey materials.

Phone calls

Follow-up phone calls were made by the Texas Center for Nursing Workforce Studies staff throughout the survey period to encourage participation from non-respondents and those who had started but not completed a survey.

Announcements by outside organizations

The Texas Local Public Health Directors Coalition (formerly the Texas Association of Local Health Officials (TALHO)) made an announcement about the survey at their August 8, 2013 membership meeting. The coalition also sent out an email announcement of the survey and a link to the online survey instrument to all members. Emails were sent on August 9, 2013.

In addition to these efforts, the TGPHNSS taskforce members made phone calls and sent emails throughout the survey period to encourage agency administrators to complete the survey.

Data Analysis

All data analyses were conducted in SPSS version 20. Variables were analyzed by agency type (i.e. local health department, health service region or DSHS central office division), county designation (i.e. metropolitan vs non-metropolitan, border vs. non-border), and health service region.

Survey Population

As of July 2013, the Texas Department of State Health Services (DSHS) website listed sixty-one full service local health departments, eighty non-participating local health departments, and eight health service regions. See Appendix F for a map of the locations of the survey population. TCNWS administered the survey to directors or administrators of all sixty-one full service local health departments and eight health service regions. Texas non-participating local health departments were contacted prior to survey administration to determine whether or not each

agency employed public health nurses. Surveys were administered only to those non-participating local health departments that indicated they employed public health nurses (n=4). Specific DSHS central office divisions that employed nurses and were not covered by other TCNWS surveys were also surveyed, including the Division for Disease Control and Prevention Services, the Division for Regulatory Services, the Division for Regional and Local Health Services, and the Division for Family & Community Health Services. Nurses working in state-owned hospitals were counted through the TCNWS Hospital Nurse Staffing Study and thus were not included in the current study population. Other governmental agencies that may employ nurses were not included in the survey population. There were several reasons for the exclusion of other potential employers of public health nurses from the study, including a limited study scope and difficulty in determining where nurses work within state agencies. A total of 79 governmental public health agencies were surveyed.

Response Rate and Respondent Demographics

The final response rate, with 61 out of 79 public health agencies responding, was 77.2%. As shown in Table 1, all eight DSHS health service regions responded to the survey (100% response rate). Forty-eight out of 65 local health departments responded to the survey (73.8%) and five of six central office division sections responded (83.3%). The breakdown of the respondents by agency type was not significantly different from the breakdown of the total population of agencies ($p>0.05$).

Table 2 displays the response rate by metropolitan statistical area (MSA) designation and border status and the study population broken down by MSA designation and border status. Metropolitan county status was assigned based on the 2013 designations of the U.S. Office of Management and Budget. In Texas, 82 counties were designated as metropolitan and 174 were designated as non-metropolitan. The border designation for Texas counties refers to an area comprised of 32 counties within 100 kilometers of the US-Mexico border as defined by the “La Paz Agreement”. Table 1 in Appendix B lists of all Texas counties by MSA designation and border status.

Agencies located in border counties had the highest

response rates with both metropolitan and non-metropolitan border agencies responding at 100%, but these agencies represented only 8.9% of the total population of agencies. Agencies located in metropolitan non-border counties made up the majority of the responding agencies (n=43) and had a

response rate of 78.2%. Agencies in non-metropolitan non-border counties had the lowest response rate at 64.7%. The breakdown of respondents by MSA and border status was not significantly different from that of the breakdown of the total population of agencies ($p>0.05$). 🇺🇸

Table 1. Survey response rate by agency type

	Number of agencies in population	Number of responding agencies	Response rate
Local Health Departments*	65	48	73.8%
Health Service Regions	8	8	100.0%
DSHS Central Office Division Sections	6	5	83.3%

*Note: Local health departments include the 61 full-service local health departments as well as the four non-participating local health departments that indicated they employed public health nurses.

Table 2. Survey response rate and population distribution by MSA/border designation

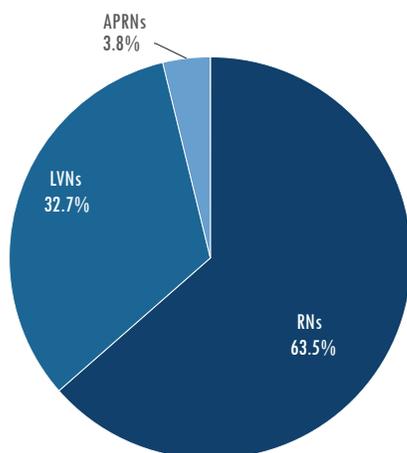
	Number of agencies in population	Number of responding agencies	Response rate
Metropolitan Border	6	6	100.0%
Metropolitan Non-Border	55	43	78.2%
Non-Metropolitan Border	1	1	100.0%
Non-Metropolitan Non-Border	17	11	64.7%
Total	79	61	77.2%

Staffing

Staff Mix

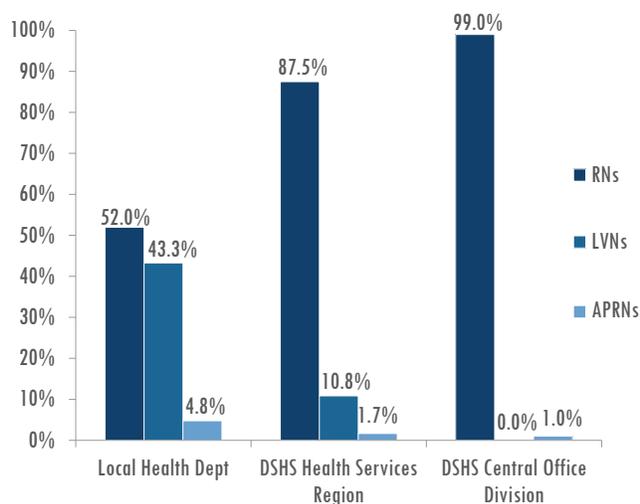
Overall, nurses occupied 10.9% of all staffed full-time equivalent (FTE) positions within the responding Texas governmental public health agencies. Within the responding agencies, approximately 9.9% of all FTE governmental public health positions required an RN or LVN license. Please note that these numbers only include governmental public health agencies that employ public health nurses and responded to the survey.

Figure 1. Texas Governmental Public Health Agency Nursing Staff Mix, 2013



As shown in Figure 1, RNs made up the majority (63.5%) of the nursing staff mix among survey

Figure 2. Nursing Staff Mix by Agency Type, 2013



respondents. LVN positions accounted for 32.7% of nurse positions, and APRNs made up only 3.8% of all nursing staff positions.

The Texas governmental public health nursing staff mix was also analyzed by agency type. As shown in Figure 2, RNs made up the vast majority of nurse positions in DSHS health service regions (87.5%) and DSHS central office division sections (99%). Local health departments were more diverse, with 52% of positions filled by RNs and 43.3% of positions filled by LVNs.

Administration of Nursing Services

Agencies were asked if they had a position designated with overall administrative responsibility for nursing services. As shown in Table 3, 70.8% of local health departments, 62.5% of health service regions, and 60% of central office division sections reported having such a position. Of those agencies that reported having a nurse administrator/director position, 85.7% indicated that this position was filled by a registered nurse.

Table 3. Percent of responding agencies that reported having a position designated with overall administrative responsibility for nursing services

Agency Type	% of agencies with an administration of nursing services position	% of agencies with an administration of nursing services position filled by RN
Local Health Departments*	70.8%	60.4%
Health Service Regions	62.5%	50.0%
DSHS Central Office Divisions	60.0%	60.0%

*Note: Local health departments include the 61 full-service local health departments as well as the four non-participating local health departments that indicated they employed public health nurses.

Program Areas

Agencies were asked to select the programs administered by their agency and whether they were staffed by nurses. The majority of governmental public health agencies that responded served a variety of functions and provided a range of programs to

the public. Please see Table 2 in Appendix C for a table of governmental public health program areas and the nurse types that are staffed in each program area. The most common program area among responding agencies was immunization programs/services (92%); 79% reported employing RNs in the area. 67% of responding agencies employed LVNs in the immunization programs/services area, but only 2% of agencies reported employing APRNs in immunization programs. Other common program areas included communicable disease (87% of agencies reported having a program and 62% reported employing RNs in the area) and tuberculosis (TB) control (80% of agencies reported having a TB program and 69% reported employing RNs in the area). Agencies that reported employing RNs in a case management/care coordination program made up 43% of all responding agencies. The most common program area in which agencies reported employing APRNs (15% of agencies) was the Family Planning Services clinical program area.

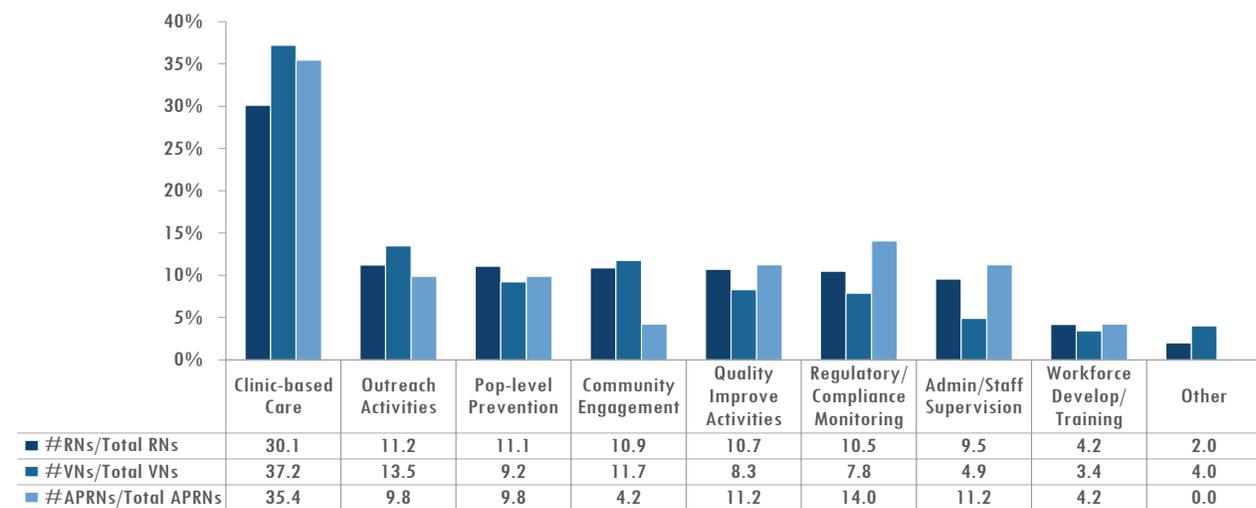
Program area data were also analyzed by agency type. Of the 48 local health departments surveyed, 83.3% employed RNs in immunization programs/services, 68.8% employed RNs in TB control, and 60.4% employed RNs in communicable disease. Among the eight health service regions, 87.5% employed RNs in immunization programs/services, and 100%

employed RNs in TB control and communicable disease. 75% of the health service regions employed RNs in emergency preparedness, compared to only 31.3% of local health departments. Among responding DSHS central office sections, 80% employed RNs in access to care/health systems, compared with only 22.9% of local health departments and 12.5% of health service regions.

Job Functions

Agencies provided the number of nurse FTEs that were involved in various job functions as part of their main job duties within the agency. Job functions among public health nurses were similar across nurse types, as shown in Figure 3 below. 30.1% of RNs, 37.2% of LVNs, and 35.4% of APRNs who were employed by governmental public health agencies worked in clinic-based care. These numbers are similar to the 2012 Enumeration and Characterization of the Public Health Nurse Workforce study (University of Michigan, 2012), which reported that around 33% of all public health RNs work in clinic-based care. Among Texas governmental public health agencies, a greater percentage of RNs (11.1%) and slightly more APRNs (9.8%) worked in population-level prevention than LVNs (9.2%). More RNs (10.5%) and APRNs (14%) were tasked with regulatory/compliance monitoring than LVNs (7.8%). 

Figure 3. Percent of nurses working in specific job functions, by nurse type



Vacancy & Turnover

Recent studies have reported that staffing adequacy was a concern for public health agencies in the United States (University of Michigan, 2012; ASTHO, 2011). 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” (IOM, 2011, p.388) and can be used to estimate current and future nursing shortages. Vacancy rates indicate the ability of an organization to recruit and fill nursing positions (Rondeau et al., 2008). The number of nurse vacancies in an organization may be due to a variety of individual, organizational, and environmental factors (Hayes, et al., 2012).

“**The overall statewide position vacancy rate for governmental public health RNs was 12.9%.**”

In contrast to vacancy rates, turnover rates indicate the ability of the organization to retain its current employees (Hayes, et al., 2012). Turnover rates are used to determine the overall instability within the nursing workforce (Hayes, et al., 2006). Both voluntary and involuntary separations are included in the turnover calculation, as both have been found to have an impact on the organization (Hayes, et al., 2006). Direct costs of turnover include recruiting, hiring, and orientation of new nurses (The Lewin Group, 2009), though few studies have been conducted specifically within public health organizations.

The U.S. Health Services Resource Administration (HRSA) has reported that recruitment of qualified

nurses is more difficult in public health agencies than in other health organizations such as hospitals due to a shortage of qualified applicants, non-competitive salaries, and a longer administration time for new hires (HRSA, 2005). The HRSA also reported that retention can be an issue in public health agencies due to the allure of better opportunities in other health care settings (HRSA, 2005). It is therefore important to determine the vacancy and turnover rates of nurses in public health organizations in Texas to help stakeholders plan for the future need for public health nurses and to determine strategies for recruiting and retaining nurses in the public health setting.

Vacancy

In the current study, position vacancy rates and median agency vacancy rates were assessed for April 30, 2013. 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 Appendix D. Table 4 displays vacancy data for all governmental public health agencies that responded to the survey. Overall, the statewide position vacancy rate was lowest for LVN positions (11.8%) and highest for APRN positions (23.4%). The position vacancy rate for RNs was 12.9%, which was much higher than the 1.7% vacancy rate of public health RNs in Florida in 2011, the only other state with recently reported public health nursing workforce data. In 2010, the Association of State and Territorial Health Officials (ASTHO) reported that there were approximately 100,000 public health FTEs overall in

Table 4. Vacancy rates among responding agencies by nurse type, 2013

	n	Occupied FTE positions	Vacant FTE positions	Statewide position vacancy rate	Statewide median agency vacancy rate	% of agencies that reported zero vacancies
RNs	60	493	73	12.9%	0.0%	66.7%
LVNs	46	254	34	11.8%	0.0%	80.4%
APRNs	17	29.5	9	23.4%	0.0%	70.6%

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.

the nation and approximately 12,400 vacancies, for an estimated vacancy rate of 11% (ASTHO, 2011). Though the ASTHO vacancy rate includes all public health workers, not just RNs, it more closely mirrors the vacancy rate among RNs working in Texas governmental public health agencies. Within the current study, only 17 agencies reported employing APRNs. The total APRN position vacancy rate

2013.

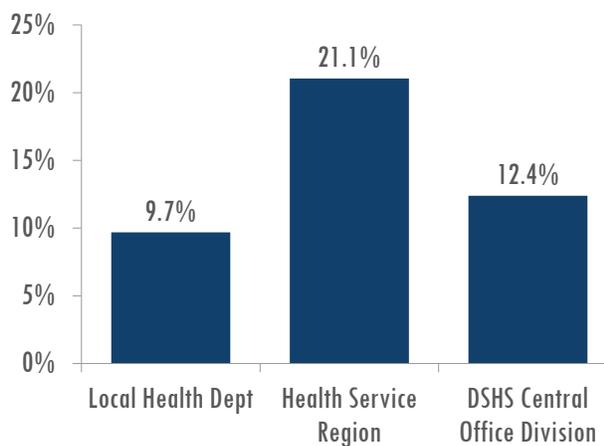
Table 5 and Figure 4 display position vacancy rates for each type of governmental public health agency surveyed. The highest position vacancy rate for RNs (21.1%) was found among health service regions. Among local health departments, the position vacancy rate for RNs (9.7%) was relatively low compared to the health service regions. Approximately 25% of local

Table 5. Position vacancy rates in responding agencies by agency type, 2013

	Local Health Department		Health Service Region		DSHS Central Office Division Section	
	Number of Agencies	Position Vacancy Rate	Number of Agencies	Position Vacancy Rate	Number of Agencies	Position Vacancy Rate
RNs	47	9.7%	8	21.1%	5	12.4%
LVNs	44	12.1%	3	7.1%	0	-
APRNs	15	25.4%	1	0.0%	0	-

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

Figure 4. RN position vacancy rate by agency type, 2013



among those agencies was high at 23.4%, but there were only nine total vacant APRN positions and 29.5 occupied APRN positions among responding agencies. Median agency vacancy rates were 0% for each nurse type. This indicates that at least 50% of agencies reported zero nurse vacancies as of April 30,

health departments surveyed reported employing APRNs. Among these local health departments, the position vacancy rate was 25.4% for APRN positions; however, this number represents only nine vacant APRN positions, compared to 31 vacant RN positions in local health departments.

As shown in Table 6, 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. Additionally, agencies in border counties reported higher nurse position vacancy rates than agencies in non-border counties.

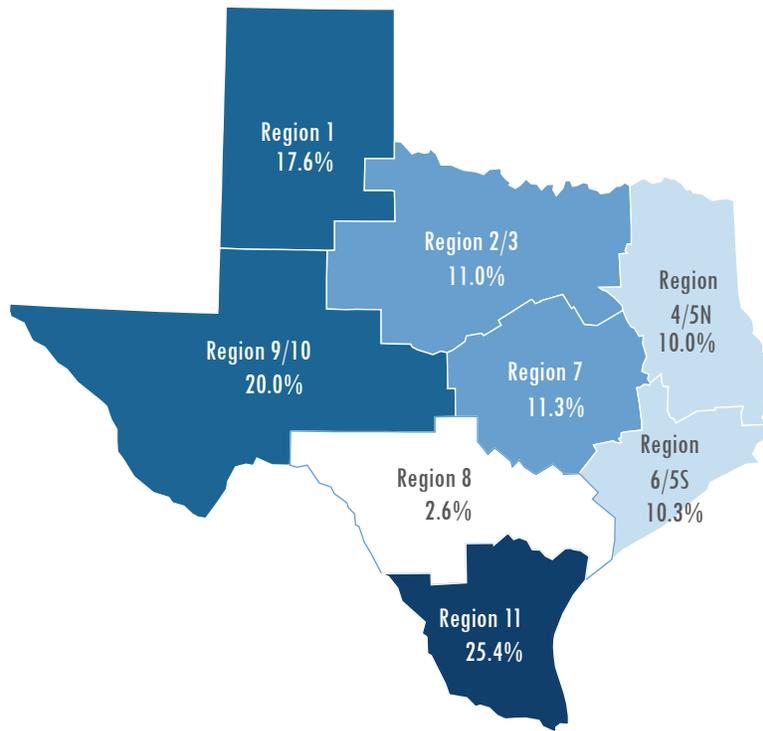
RN position vacancy rates were also analyzed by DSHS health service region. Texas was originally divided into eleven health service regions by the former Texas Department of Health. Figure 5 displays the RN position vacancy rates by region. Region 8 agencies reported the lowest position vacancy rate

Table 6. Nurse position vacancy rates in responding agencies by MSA/border designation, 2013

	Metropolitan		Non-Metropolitan		Border		Non-Border	
	n	%	n	%	n	%	n	%
RNs	49	13.3%	11	0.0%	7	28.9%	53	10.1%
LVNs	35	12.6%	12	5.8%	6	30.6%	41	5.6%
APRNs	13	24.6%	4	16.7%	2	62.5%	15	13.1%

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.

Figure 5. RN position vacancy rate by DSHS health service region, 2013



(2.6%) and region 11 agencies reported the highest (25.4%).

Turnover

Turnover rates were assessed for the calendar year of 2012 (January 1, 2012 to December 31, 2012). The method used to calculate turnover rates is described in Appendix D. Table 7 displays the total average headcount for the year 2012, total number of separations, and median agency turnover rate for RNs, LVNs, and APRNs in responding governmental public health agencies. The median turnover rate was 0% for RN, LVN, and APRN positions indicating that at least half of the responding agencies did not have any staff turnover during the reporting period.

Fewer agencies reported employing LVNs and APRNs than RNs. The median turnover rate for RN positions (0%) was relatively low compared to Florida’s public health RN turnover rate (15.6%).

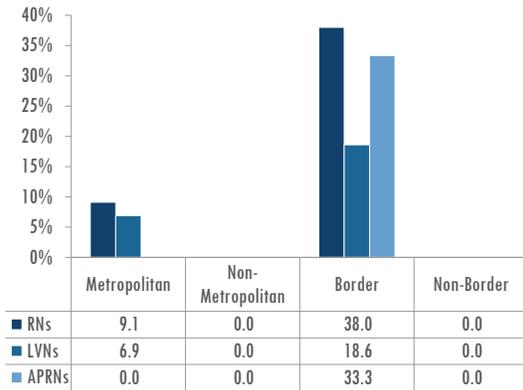
Turnover rates were also analyzed by metropolitan and border county status, as shown in Figure 6. The median turnover rate for RN positions is higher among agencies in metropolitan counties (n=44, 9.1%) than non-metropolitan counties (n=11, 0%). This disparity also holds true among agencies that employ LVNs; agencies that are located in metropolitan counties have a higher median agency turnover rate for LVNs (6.9%) than agencies located in non-metropolitan counties (0%). Among agencies located in border counties (n=6), the median

Table 7. Headcount and separations in responding agencies by nurse type, 2012

	n	Total Average Head Count 01/01/12 – 12/31/12	Total Number of Separations 01/01/12 – 12/31/12	Median Agency Turnover Rate	Number of Agencies that Reported Zero Separations
RNs	55	487	76	0.0%	28
LVNs	40	240	31	0.0%	23
APRNs	17	33	4	0.0%	13

Note: n=number of agencies in Texas that reported FTE positions for each nurse type. Agencies with inconsistent staffing data (n=6) were excluded from these calculations.

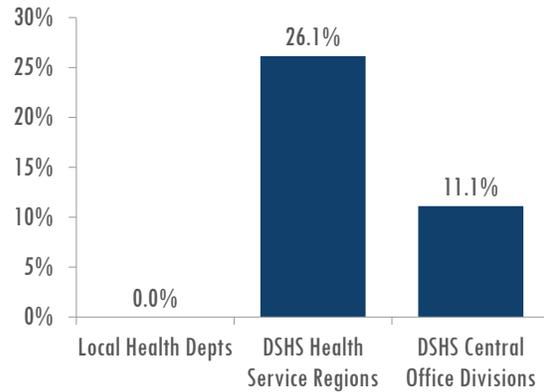
Figure 6. Median turnover by geographic designation



Note: Agencies with inconsistent staffing data were excluded from these calculations.

turnover rate for RNs is 38%, compared to a median turnover rate of 0% among agencies in non-border counties (n=49). The median turnover rate was also higher among agencies located in border counties for LVNs (18.6%) and APRNs (33.3%) than agencies in non-border counties (0% median turnover rates for both LVNs and APRNs). However, it is important to keep in mind only two governmental public health agencies located in border counties reported employing APRNs and only four reported employing LVNs. In Figure 7, median turnover rate for RNs is displayed by agency type. The median turnover rate for RNs was lowest among the 42 responding local

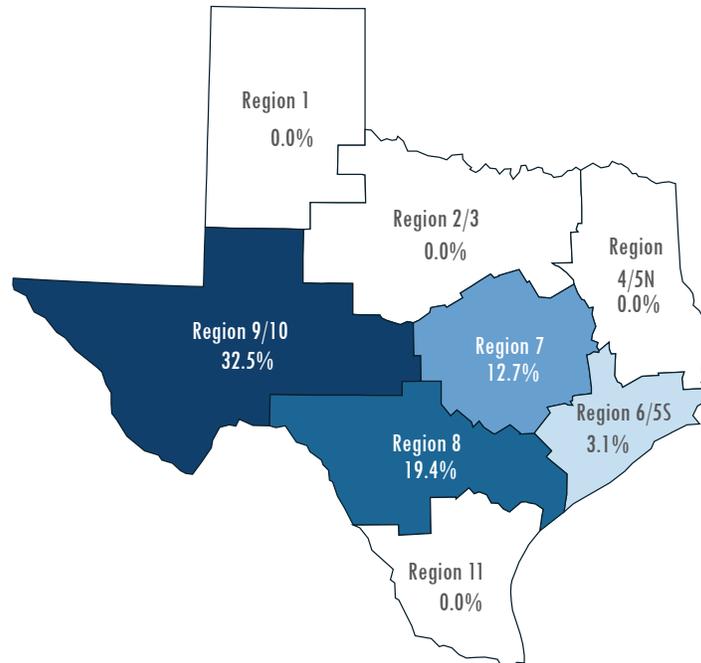
Figure 7. Median turnover rate for RNs by agency type



health departments (0%) and highest among the eight health service regions (26.1%). DSHS central office divisions sections (n=5) reported a median turnover rate of 11.1% for RN positions. Median turnover rate among local health departments was also 0% for LVNs and APRNs. Few health service regions and central office divisions reported employing LVNs or APRNs, so they were excluded from this analysis.

In Figure 8, median RN turnover rates are displayed by DSHS health service region. Agencies in four regions of Texas reported a 0% median turnover rate. Agencies in region 9/10 reported the highest median turnover rate at 32.5%.

Figure 8. RN median turnover rate by DSHS health service region



Days to Fill Nursing Positions

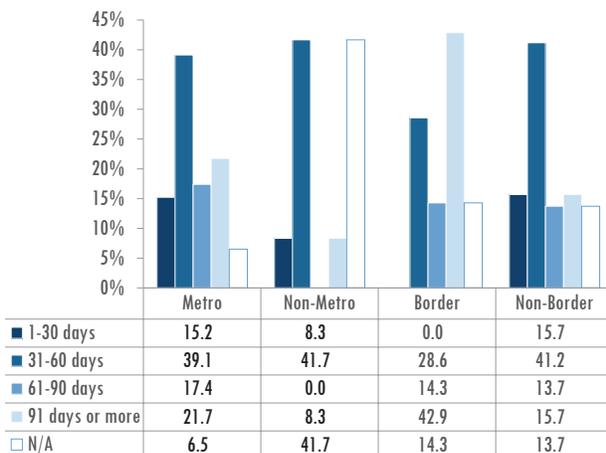
Governmental public health agencies were asked to select the range of days it typically takes to fill a position in their agency that requires an RN license. Table 8 shows the percent of agencies that selected each range, by agency type. Overall, most agencies reported that it took 31 to 60 days to fill an RN position (39.7% of all agencies). However, the number of days varied among agency types. While 43.8% of local health departments reported filling RN positions in 31 to 60 days, only 25% of DSHS health service regions were able to fill RN positions within that time frame. The majority of DSHS health service regions (62.5%) reported that it took 91 days or more to fill an RN position. The majority of DSHS central office divisions (80%) reported that it took 61 days or more to fill an RN position.

Agencies who reported days to fill RN positions were

Table 8. Agencies reporting average number of days to fill an RN position, by agency type

	1-30 days	31-60 days	61-90 days	91 days or more	N/A
Local Health Departments	16.7%	43.8%	14.6%	10.4%	14.6%
Health Service Regions	0.0%	25.0%	12.5%	62.5%	0.0%
DSHS Central Office Division Sections	0.0%	0.0%	40.0%	40.0%	20.0%

Figure 9. Percent of agencies reporting number of days to fill RN positions by MSA/border designation



also analyzed by metropolitan statistical area and border status, as shown in Figure 9. Notably, 42.9% of agencies located in border counties reported that it took 91 days or more to fill RN positions, compared with only 15.7% of agencies located in non-border counties.

Interim Staffing

Governmental public health agencies were asked to mark all of the interim staffing methods they use when they have vacant nursing positions. Table 9 displays the percent of agencies that use each method. Many agencies reported not using any type of interim staffing (42.6%). The interim staffing method agencies used most often when faced with vacant nursing positions was an increased workload, but not work hours, for existing staff (47.5%). Other popular methods of interim staffing included using temporary workers, such as contract or staffing agency nurses (26.2%), and voluntary overtime of current staff (13.1%). Very few agencies reported referring clients to other providers in the community or using an in-house staffing pool.

Table 9. Most frequently used methods of interim staffing

	% Agencies
We do not use interim staffing	42.6%
Increased workload (but not work hours) of existing staff	47.5%
Temporary nurses such as contract or staffing agency nurses	26.2%
Voluntary overtime	13.1%
Identified other providers of services in the community for client referrals	8.2%
In-house staffing pool/per diem	4.9%

Temporary/interim RN staff accounted for only 1.1% of the total number of RNs employed by public health agencies who responded to the survey. Temporary LVN staff made up 5% of the total LVN staff employed by responding agencies, and temporary APRNs filled 6.3% of all filled APRN positions. 🇹🇽

Future Staffing Needs

As shown in Table 10, responding governmental public health agencies reported that a total of 36 FTE nurse positions are expected to be added in the next fiscal year. However, only 13.1% of all responding agencies indicated that they will increase budgeted RN positions, 6.6% of agencies reported that they will increase LVN positions, and 8.2% of agencies reported that they will increase APRN positions. Among these agencies, budgeted RN positions are expected to increase by 22 FTE positions, budgeted LVN positions by 6 FTE positions, and budgeted APRN positions by 8 FTE positions.

Governmental health agencies were also surveyed to find reasons, if applicable, that a reduction in budgeted RN positions had occurred during the past two years. 75.4% of responding agencies reported no reduction in budgeted RN positions over the past two years. Agencies who did report a reduction in budgeted RN positions most often cited a reduction in funding as the catalyst for the decrease (21.3% of all agencies). The second most cited reason for a reduction in nurse positions was an inability to fill existing nursing positions (6.6% of all agencies). 

Table 10. Additional budgeted nurse FTEs

	Total FTE positions 2012	Additional FTEs budgeted	% increase
RNs	566	22	3.9%
LVNs	287.5	6	2.1%
APRNs	38.5	8	20.8%

Note: Agencies with inconsistent data (n=2) were excluded from these calculations.

Governmental public health agencies were surveyed about the reasons they had increased budgeted RN positions over the past two years. The majority of agencies (73.8%) reported no increase in budgeted RN positions within the past two years.

“The majority of agencies (73.8%) reported no increase in budgeted RN positions within the past two years.”

Among agencies that reported an increase in budgeted RN positions, reasons for the increase included an increase in available funding (14.8% of all responding agencies), opening of new units or departments (6.6% of agencies), changes in policy (3.3% of agencies), and 14.8% of agencies reported “other” reasons for an increase in positions. Other reasons included expanded case loads, new/pilot programs or projects, and restructuring of functions within the agency.

Comparison of Study Results to Other Nurse Employer Surveys

The TCNWS is charged to collect and analyze data and publish reports related to educational and employment trends of nursing professionals; the supply and demand of nursing professionals; nursing workforce demographics; migration of nursing professionals; and other issues concerning nursing professionals in Texas as determined necessary by the TCNWSAC and SHCC. In the summer of 2013, TCNWS conducted a nurse staffing study of all home health and hospice agencies in Texas. 1,278 of 3,006 agencies responded to the survey. The responding agencies were found to be representative of the home health/hospice population in terms of geographic location and patient census. In the summer of 2012, TCNWS conducted a nurse staffing study of all Texas hospitals. 373 of 603 hospitals responded to the survey and were found to be representative of all Texas hospitals by region and bed size. To view these reports in full, please visit the TCNWS website: <http://www.dshs.state.tx.us/chs/cnws/>.

Below, the results of the 2013 Texas Governmental Public Health Nurse Staffing Study are compared to the above mentioned study results from the 2013 Home Health & Hospice Nurse Staffing Study and the 2012 Hospital Nurse Staffing Study. This section describes the differences between nurse employment settings in Texas and displays a broader view of nurse staffing in Texas.

Staff Mix

The public health nursing staff mix, shown in Figure 10, differed considerably from other nurse employer staff mixes of RN, LVN, and APRN positions, as shown in Figure 11, Texas hospitals, and Figure 12, Texas home health and hospice agencies.

A larger percentage of the Texas public health agency nursing staff is made up of RNs (63.5%) compared to home health agencies (56.1%). However, RNs accounted for a greater percentage of the hospital nursing staff mix (90.1%). Additionally, LVNs made up considerably more of the staff mix in Texas public health agencies (32.7%) compared to hospitals (8.2%), though home health/hospice agencies had the largest percentage of LVNs (42.8%). APRNs made up a small percentage of the nursing staff in all

Figure 10. Texas Governmental Public Health Agency Nursing Staff Mix, 2013

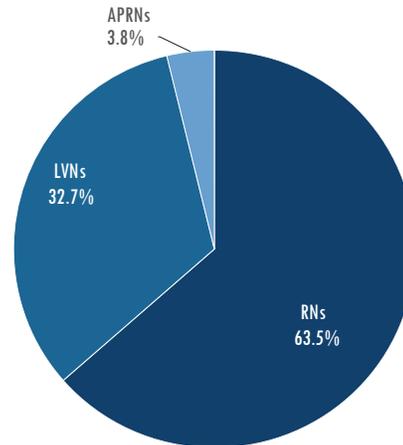


Figure 11. Hospital Staff Mix, 2012

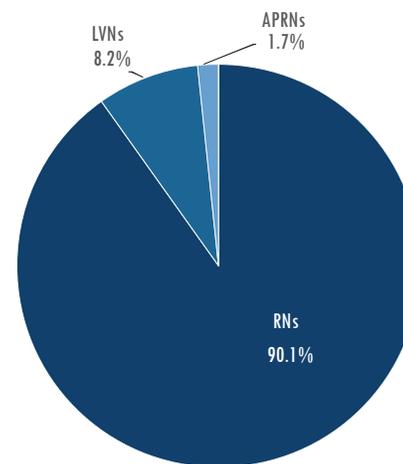
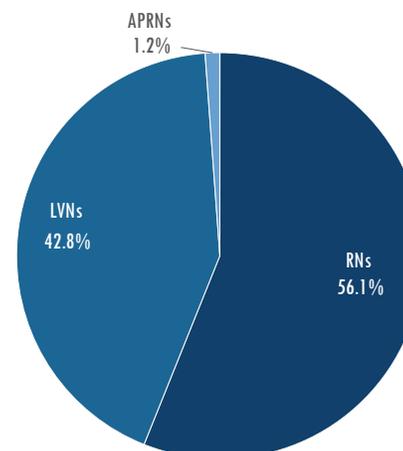


Figure 12. Home Health/Hospice Staff Mix, 2013

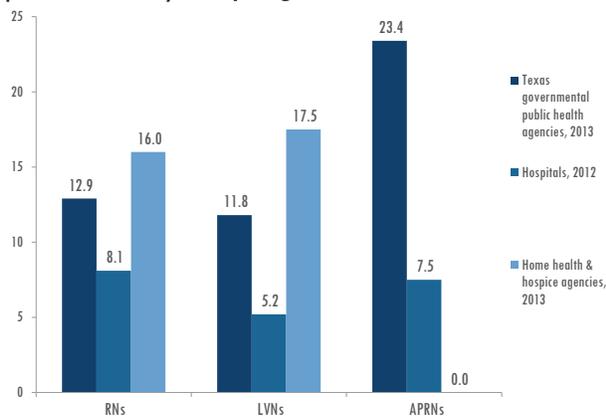


three settings, but Texas governmental public health agencies reported a greater percentage of APRN staff (3.8%) than home health/hospice agencies (1.2%) and hospitals (1.7%).

Vacancy and Turnover

Figure 13 displays the statewide position vacancy rates for governmental public health agencies compared with the rates in hospitals and home health/hospice agencies. The position vacancy rates for RNs and LVNs among governmental public health agencies were higher than the 2012 RN and LVN position vacancy rates for hospitals (8.1% and 5.2%, respectively). Compared to home health agencies, governmental public health agencies reported a lower position vacancy rate for RN positions (12.9% in public health agencies compared to 16.0% in home health and hospice agencies) and for LVN positions (11.8% among public health agencies compared to 17.5% in home health and hospice agencies).

Figure 13. Statewide nurse position vacancy rate by nurse type compared to hospital and home health/hospice position vacancy rates, 2013



The median turnover rate for RN positions (0%) was relatively low compared to rates reported by other nurse employers, such as hospitals (21.4% for RNs) and home health agencies (22.0% for RNs).

Interim Staffing Needs

Overall, interim staffing is used less often by governmental public health agencies than by other nurse employers. Among hospitals surveyed in 2012, 94.1% reported using at least one method of interim staffing over the past year, compared to only 57.4%

of responding governmental public health agencies. In 2013, home health and hospice agencies reported using more temporary staff than governmental public health agencies; 26% of home health/hospice agency RNs were temporary staff and 26.5% of LVNs were temporary staff.

Future Staffing Needs

The percentage growth in budgeted RN and LVN positions among governmental public health agencies is lower than that reported by Texas hospitals in 2012 and Texas home health/hospice agencies in 2013. Responding governmental public health agencies reported that a total of 36 FTE nurse positions are expected to be added in the next fiscal year. Overall, budgeted RN positions are expected to increase over the next year by 3.9% and budgeted LVN positions by 2.1%. In 2012, Texas hospitals reported an expected 7% increase in budgeted RN positions for the next fiscal year and a 6.2% increase in budgeted LVN positions. In 2013, Texas home health & hospice agencies reported an expected growth of 27% for RN positions (more than six times the growth in public health agencies) and 22.5% for LVN positions (more than 10 times the growth in public health agencies) over the next fiscal year. 🇹🇽

“The percentage growth in budgeted RN and LVN positions among governmental public health agencies is lower than that reported by Texas hospitals in 2012 and Texas home health/hospice agencies in 2013.”

Discussion

The results of this study provide an accurate picture of the current state of the Texas governmental public health nursing workforce. There were several key findings that could impact population health in Texas. The vacancy rate for RN positions (12.9%) among Texas governmental public health agencies is high compared to Florida (1.7%), which is the only other state with recently reported public health nursing workforce data. The response rate in Florida was similar to that of the current study, with 46 out of 67 Florida county health departments responding, and position vacancy rate was calculated in the same way. A study by the ASTHO in 2011 reported that approximately 11% of state health agency workforce positions were vacant across the U.S., which is slightly lower than the 13% of total nurse positions reported vacant by Texas governmental public health agencies. Please note, however, that the ASTHO numbers cannot be directly compared, as they include all public health staff, not just nurses.

The RN vacancy rate among responding Texas governmental public health agencies is also high compared to the vacancy rate in Texas hospitals (8.1%). However, it is important to note that the overall number of nurses working in Texas governmental public health is very different from that of hospitals. There were 73 vacant RN positions reported by responding governmental public health agencies, and 493 occupied RN positions. In contrast, Texas hospitals reported a total of 4,923 RN position vacancies and 56,032 occupied RN positions. In the 2013 Texas Board of Nursing licensure renewal file, only 3,670 nurses reported community/public health as their primary specialty (and only a small proportion of those work in governmental public health), while 125,642 nurses reported a primary specialty of inpatient or outpatient hospital care. Although the RN position vacancy rate among Texas public health agencies is higher than that of hospitals, the number of vacancies is small by comparison. A small change in funding or slight efforts to increase the number of nurses with a specialty in governmental public health could greatly affect the governmental public health nurse vacancy rate.

While the median statewide turnover rate for all nurse types is 0%, certain areas of the state are experiencing higher rates. High levels of vacancy and turnover can have detrimental impacts on the agency and the health of the community that agency serves. A recent article on nurse turnover reports that high turnover can have an economic impact on the agency including the costs of separation administration, interim staffing, recruitment, and lost productivity (Hayes, et al., 2012). High turnover can also impact the job satisfaction of remaining staff and can even affect quality of care (Hayes, et al.). It is important that we continue to monitor the vacancy and turnover rates of nurses in governmental public health agencies in order to evaluate the impacts on the health and well-being of the Texas population.

“ It is important that we continue to monitor the vacancy and turnover rates of nurses in governmental public health agencies in order to evaluate the impacts on the health and well-being of the Texas population.”

Agencies were also asked what methods of interim staffing were used when they experienced vacancies. The most frequently used method of interim staffing (used by 46.7% of agencies) was to increase the workload, but not work hours, of existing staff. Increasing the workload of nurses has been linked to negative patient outcomes among hospital nurses including increased patient falls, increased medication errors, (Duffield, et al., 2011) and increased patient mortality (Needleman, et al., 2011). Although there is little literature on the effects of increased nurse workload on the public health nursing patient population, it can be inferred that increasing the workload of nurses can be harmful to the population served. Vacancies and increased workload can also lead to a decrease in job satisfaction. A study of public health nurses in Canada reported an inverse

relationship between workload and job satisfaction; as a nurse's workload increased, job satisfaction decreased (Graham, Davies, Woodend, Simpson, & Mantha, 2011). If public health nurses experience an increased workload, the effects will be passed on to the population served, and could impact the health and well-being of Texas' most vulnerable residents.

An increase in vacancies and separations can also lead to more time spent recruiting and filling positions. Most responding agencies reported that it takes between 31 and 60 days to fill vacant RN, LVN, and APRN positions. This is the same average number of days to fill nurse positions reported by Texas hospitals, but is less than the nationwide average of 9.5 to 9.8 weeks to fill RN positions reported by the 2012 Public Health Nurse Workforce Survey (University of Michigan, 2013). Although Texas appears to fill positions faster than the nationwide average, a lag time of one to two months still indicates that there are barriers to filling positions quickly within Texas governmental public health agencies. Barriers to filling a nurse position are not related to the type of nurse being recruited, since all nurse type positions take around 31-60 days to fill on average. Potential reasons for lag time could be governmental job posting practices that require jobs to be posted for a certain amount of time prior to interviewing or hiring, a longer lead time between finding a candidate and making an offer, or difficulty in locating qualified applicants. In the next iteration of the TGPHNSS, asking agencies to explain the delay between posting and filling a position may be helpful in addressing recruitment issues.

Additionally, it is clear that the level of funding available to governmental public health organizations has a critical impact on the governmental public health nursing workforce. Agencies who reported an increase in budgeted nursing positions during the past two years most often cited a rise in funding as the reason, while agencies that reported a decrease in positions most often cited a lack or reduction of funding as the reason for the decrease. The Institute of Medicine (2012) noted in a recent report on public health that the current "U.S. public health financing structure is broken" (IOM, 2012, p. 51). It is recommended by the IOM that in order to ensure that public health agencies are able to protect and promote the health

of the populations they serve, an adequate supply of public health services must be available at the national, state, and local levels. It is suggested by the IOM that governmental public health should develop a single, integrated understanding of the basic level of rights of the community to public health services so that funds can be consistently provided and appropriately directed. Reductions in the number of budgeted nurse positions in the past two years were reported by 32.6% of responding agencies. A lack of funding and a decrease in budgeted governmental public health nursing positions will impact the number and quality of services provided to the Texas community.

Limitations

There were some limitations to the current study. First, the study population was limited to public health nurses who work in state and local governmental public health agencies in Texas and did not include nurses in other settings that work as public health nurses based on the definition provided by the APHA. In addition, the study did not include school nurses, who provide a number of essential public health services for Texas children and adolescents who are enrolled in schools. It is also possible that some governmental public health nurses in Texas were not counted in this study due to such nurses working in a non-nursing position. The population surveyed in this study is similar to the population surveyed by other major public health staffing studies, including the 2012 public health nurse workforce enumeration study by the University of Michigan, the 2011 Florida Nurse Demand report, and the 2011 ASTHO Profile of State Public Health. Another potential limitation of the study is the wide diversity in the size, geographic location, jurisdiction, menu of programs/services, etc., of governmental public health agencies that were surveyed. This may have caused the survey questions to be perceived differently based on the environment in which the agency was based. In order to account for this potential bias, returned surveys were reviewed carefully and respondents were contacted if the answer did not make sense in relation to other data provided by that respondent. Additionally, in several instances data in the report was broken out by agency type to display the differing responses and perspectives. 🇹🇽

Recommendations

- The Texas Department of State Health Services (DSHS) should sustain a Director of Nursing (DON) position within the Texas Department of State Health Services (DSHS) agency. This position would lead state-wide efforts to promote public health nursing practice and ensure adherence to standards of practice.
- Stakeholders should develop and implement solutions to address governmental public health nursing issues including nurse recruitment, retention, and promotion opportunities, specifically:
 - Local health departments, health service regions, and DSHS (public health agencies) should increase capacity to provide nursing students with meaningful clinical experiences in public health.
 - Schools of nursing should work with public health agencies across the state to create internship and fellowship programs for students in order to prepare them for career opportunities in public health.
 - Professional organizations and public health agencies should identify and implement mechanisms for advertising positions in public health agencies that may attract nurses who wish to change their job roles or practice settings.
 - Professional organizations and public health agencies should create and implement opportunities to ensure that public health nurses receive continuing professional education and training in order to promote and maintain a high level of competence in public health practice.
 - Public health agencies should expand opportunities for nurses to further their formal education so that nurses may achieve upward career mobility within public health.
 - Public health agencies should implement formal career ladders that provide experienced public health nurses with greater autonomy and responsibility and opportunities to serve in leadership roles.
 - Public health agencies should seek new, sustainable funding sources to create a long term mechanism to hire and retain licensed nurses in governmental public health nursing.
- Nurse researchers should focus on the following issues for further study:
 - Cost of public health nursing staff turnover.
 - Effect of public health nursing compensation and promotion opportunities on recruitment and retention in governmental public health agencies.
 - Effect of increasing workload as an interim staffing method and how this affects governmental public health nursing recruitment and retention.
 - Relationships among planning, funding, and optimal nurse staffing levels in public health agencies.
 - Unique factors that may adversely affect public health nursing recruitment and turnover in West Texas and along the Texas-Mexico border.

Conclusion

This study provides essential Texas governmental public health nurse staffing data on nurse job functions and program areas, vacancy and turnover, interim staffing, and future staffing needs. It is evident from the data that public health nursing in Texas makes up a small but vital part of the Texas healthcare system. However, governmental public health agencies face particular challenges with vacancy and retention that should be addressed. Efforts to educate, recruit, and retain public health nurses must remain a priority for governmental public health agencies, as well as legislators and policymakers.

This report is designed to be a source of data and information for legislators, policy makers, and public health leaders who need this information in order to develop legislation and policy in response to the nursing workforce needs in the governmental public health setting. This report is also a resource for those who are planning projects, developing proposals, and conducting research regarding the Texas public health nursing workforce. 🇹🇽

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2013 Texas Governmental Public Health Nurse Staffing Study (TGPHNSS) SURVEY INSTRUCTIONS

Completion deadline:

Friday, September 20, 2013

STEPS IN THE PROCESS:

1. Complete a paper version of the survey. You will receive a pdf version of the survey via email on August 28th, 2013, which you can print out and complete. You may also access the pdf version of the survey at <http://www.dshs.state.tx.us/chs/cnws/TGPHNSS/>.
2. Visit <http://2013TGPHNSS.questionpro.com> and complete the online survey using your paper survey as reference.



We encourage you to complete the survey online. You may also submit a completed copy of the survey by:

- Fax: 512-776-7344
- Scan and email: TCNWS@dshs.state.tx.us, or
- Mail:

Department of State Health Services
Center for Health Statistics—MC1898
Texas Center for Nursing Workforce Studies
P.O. Box 149347
Austin, TX 78714 - 9347

REPORTING PERIOD

There are two reporting periods for this survey:

- Census date: April 30, 2013
- Last full calendar year: January 1, 2012 – December 31, 2012

Please read each question carefully to determine the reporting period that applies to that question.



NAVIGATING THROUGH THE ONLINE SURVEY

Visit <http://2013TGPHNSS.questionpro.com/> and select the <CONTINUE> button at the bottom of the first screen to begin the TGPHNSS. Selecting the <CONTINUE> button on each subsequent screen will allow you to proceed through the survey to the end.

It is not possible to return to previous pages to change your entries. If any entries require revision, please email the corrections to Allison Dubin at the Texas Center for Nursing Workforce Studies, TCNWS@dshs.state.tx.us.

STOPPING THE SURVEY AND CONTINUING LATER

We strongly encourage you to assemble all your data on the paper survey document before you begin the online survey so you can complete the TGPHNSS in one session. However, in the event you are unable to complete the survey in one sitting, QuestionPro will allow you to stop and resume at a later time.

- You must complete all of the questions on the current page before you can save. When you click on the <SAVE PAGE AND CONTINUE LATER> button, the following text box will appear:

Warning: Please make sure you have answered all the questions on this page. If you haven't answered all the questions, please click on the Cancel button to return to the page and finish your responses. If you have answered all the questions, please click on the OK button.

- After you select 'OK' , a new page will open, and the system will ask for your email address:

Please enter in your email address so we can send you a link to the location you have saved.

Email Address

Confirm Email Address

Email me the link

- After you click on the "Email me the link" button, TCNWS will email you an electronic link to your partially-completed survey.



- When you are ready to return to the survey, click on the link in the email. The survey should direct you to the page following the one on which you selected the <SAVE PAGE AND CONTINUE LATER> button.

Please remember: You may stop the survey and continue later, but you may only submit the survey one time. Once you click <SUBMIT SURVEY> at the end, you will no longer be able to resume the survey!

PRINTING & REVISING YOUR COMPLETED SURVEY

- After you complete your survey and click the <Submit Survey> button, you will have the opportunity to review and print your survey.

After reviewing your survey, if you find any entries that require revision, please email the corrections to Allison Dubin at the Texas Center for Nursing Workforce Studies, TCNWS@dshs.state.tx.us.

ADDITIONAL QUESTION INFORMATION

Please note that clicking on the  icon next to any question will provide you with additional information (definitions) for that question. A list of the operational definitions is also enclosed with the paper copy of the survey.

PDF versions of the survey materials are also available on our website at:
<http://www.dshs.state.tx.us/chs/cnws/TGPHNSS/>.

REQUIRED QUESTIONS

We request that you complete all applicable questions in the TGPHNSS before submission. Some questions, however, **MUST** be completed before the system will accept survey submission. Questions marked with an “*” are required.

VALIDATION CHECKS AND FORMATTING DATA

Validation checks have been built into the survey to help prevent errors. A validation error occurs when you fail to answer a required question or to format an answer correctly.

You will not know you entered an invalid answer until you click the <CONTINUE> button. When there is an error, QuestionPro will not let you move to the next page of the survey. An error message will appear at the top of the page letting you know how many errors are on the



current page. Additionally, QuestionPro will explain the error next to the appropriate question as in the example below.

 There are 1 Validation Error(s)

Main office zip code: *
Value has to be a numeric value.

Please submit the survey by Friday, September 20, 2013.

If you have any questions or need assistance with the online survey, please contact Allison Dubin at the Texas Center for Nursing Workforce Studies at (512) 776-6575 or TCNWS@dshs.state.tx.us.

Thank you for completing the 2013 TGPHNSS.



Texas Center for Nursing Workforce Studies
Department of State Health Services

P.O. Box 149347 • Austin, TX 78714-9347 • Phone: 512-776-6575 • www.dshs.state.tx.us/chs/cnws

2013 Texas Governmental Public Health Nurse Staffing Study (TGPHNSS) SURVEY FORM

Purpose: The primary purpose of this study is to assess the size and effects of the nursing shortage in Texas governmental public health agencies. State hospitals are not included in this study. The aggregated results of this survey will be available to you following the completion of the data collection and analysis. The aggregated survey results will serve as a guide in developing policy recommendations by the Texas Center for Nursing Workforce Studies Advisory Committee. The data you provide will also be instrumental in developing projections for the number of public health nurses needed in Texas. Your participation in this study is voluntary but highly encouraged, since a better response rate for this survey will provide for more credible information that could affect future public health legislation.

Complete the survey online at:
<http://2013TGPHNSS.questionpro.com>

Due Date: Your completed survey is due by **Friday, September 20, 2013.**

Confidentiality Statement: Your responses are completely confidential. We will report aggregate findings only.

See the survey instructions for information on completing and submitting the online survey. You can download a copy of the instructions and other survey materials at <http://www.dshs.state.tx.us/chs/cnws/TGPHNSS/>.

If you have questions at any time about the survey or procedures, you may contact Allison Dubin at 512-776-6575 or by email at TCNWS@dshs.state.tx.us. Thank you very much for your time and efforts.

For the purpose of this survey, please include data for all health services.

1. Please provide the following information about your division/section/agency*.

Official agency name:

Main office city:

Main office zip code:

Name of person submitting survey:

Title of person submitting survey:

Email of person submitting survey:

Phone # of person submitting survey (xxx-xxx-xxxx):

2. Which of the following best characterizes your division/section/agency? Select all that apply.*

- Local health department – city
- Local health department – county
- Local health department – health district
- DSHS – health service region
- DSHS – central office in Austin
- Other, please specify

3. Does your division/section/agency have a position designated with overall administrative responsibility for nursing services? *

- Yes
- No, skip to question 5.

4. If you answered yes to question 3, is the person with overall administrative responsibility for nursing services a registered nurse? *

- Yes
- No

5. For each of the following categories, how many total full-time equivalents (FTEs) are currently employed by your division/section/agency? *

Number of FTEs (all employees)	Number of FTE positions occupied by a registered nurse (RN), licensed vocational nurse (LVN), or advanced practice registered nurse (APRN)	Number of FTE positions that require an RN, LVN, or APRN license

6. Please select the nurse types that are currently used to staff the following program areas within your division/section/agency: *

Program Area	Staffed by RNs	Staffed by LVNs	Staffed by APRNs	Have program area but not staffed with nurses	N/A - Agency does not have this program area
Access to Care/Health Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ambulatory Services (Primary Care)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Case Management/Care Coordination (including home visits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Disease Services/Prevention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicable Disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correctional Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Preparedness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Family Planning Services (Clinical)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Home Health Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Immunization Programs/Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inspections (Daycares, Nursing homes, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maternal/Child Health Programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men's Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refugee Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
School Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Substance Abuse/Tobacco Prevention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuberculosis Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women, Infant, Children Supplemental Nutrition Program (WIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. For each of the following nurse types, please approximate how many full-time equivalents (FTEs) are currently involved in the following activities/functions as part of their main job duties. Please fill in with a "0" if there are no FTEs.*

Job Function	RN FTEs	LVN FTEs	APRN FTEs
Administration/Staff Supervision			
Community Engagement			
Clinic-based Care			
Population-level Prevention			
Quality Improvement Activities			
Workforce Development/Training			
Regulatory/Compliance Monitoring			
Outreach Activities			
Other, Specify:			

8. Please provide the total number of full-time equivalent (FTE) positions in your division/section/agency as of April 30, 2013 for each nurse type as indicated in the table below. Please enter "0" if your division/section/agency does not employ the particular type of nurse.*

	Total number of FTE positions occupied on 4/30/2013	Total number of vacant FTE positions being recruited on 4/30/2013	Total number of vacant FTE positions on hold/frozen on 4/30/2013
RNs			
LVNs			
APRNs			

9. Please provide the number of additional full-time equivalent (FTE) positions by nurse type your division/section/agency expects to budget for the next fiscal year.

	<u>Additional</u> number of FTE positions your division expects to budget next fiscal year
RNs	
LVNs	
APRNs	

10. Please provide the total number of temporary nurse full-time equivalents (FTEs) for each nurse type employed by your division/section/agency on April 30, 2013. Please enter "0" if your agency does not employ the particular type of nurse.*

	Number of temporary nurse FTEs such as contract or staffing agency nurses employed on 4/30/2013
RNs	
LVNs	
APRNs	

11. Please provide the total number of workers employed by your division/section/agency on 1/1/2012 and 12/31/2012 for each nurse type as indicated in the table below. Do not include contract or staffing agency nurses in this section. Please enter "0" if your division/section/agency does not employ the particular type of nurse. Please note that you are to report a head count in this question.*

	Head count of full-time workers employed on 1/1/2012	Head count of full-time workers employed on 12/31/2012	Head count of part-time workers employed on 1/1/2012	Head count of part-time workers employed on 12/31/2012
RNs				
LVNs				
APRNs				

12. Please provide the total number of separations during January 1, 2012 - December 31, 2012 for each nurse type as indicated in the table below. Do not include contract or staffing agency nurses in this section. Please enter "0" if your division/section/agency does not employ the particular type of nurse. Please note that you are to report a head count in this question.*

	Total head count of separations during January 1, 2012 – December 31, 2012
RNs	
LVNs	
APRNs	

13. Once the position is posted, how many days does it typically take to fill a position that requires a nurse license?*

	1-30 days	31-60 days	61-90 days	91 days or more	Not applicable
RN Positions	<input type="checkbox"/>				
LVN Positions	<input type="checkbox"/>				
APRN Positions	<input type="checkbox"/>				

14. Please indicate the methods of interim staffing used by your division to fill in for vacant or absent nurse staff positions. Select all that apply. *

- We do not use interim staffing
- Voluntary overtime
- Increased workload (but not work hours) of existing staff
- Identified other providers of services in the community for client referrals
- In-house staffing pool/per diem
- Temporary nurses such as contract or staffing agency nurses
- Other interim staffing methods (please specify)

15. Please indicate the reasons your division/section/agency has increased budgeted positions for each nurse type during the past two years. If you have not increased budgeted nurse positions, you may select that option. Select all that apply:*

	Opening of new units or departments	Increase in funding	Changes in policy	Other	We have not increased this type of budgeted position
RNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LVNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APRNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If other, please specify the reasons your division/section/agency has increased budgeted nurse positions.

16. Please indicate the reasons your division/section/agency has reduced budgeted positions for each nurse type during the past two years. If you have not reduced budgeted nurse positions, you may select that option. Select all that apply:*

	Changes in policy	Inability to fill existing nurse positions	Reduction in funding	Closing or reducing size of units or departments	Other	We have not reduced this type of budgeted position
RNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LVNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APRNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If other, please specify the reasons your division/section/agency has reduced budgeted nurse positions.

17. Please share with us how the recent economic recession has affected your nurse staffing and nurse hiring practices. Please indicate "no effect" if appropriate.

18. Please provide the following information regarding nursing informaticists (*registered nurses whose main job function is to process and manage data and information to support nursing practice, administration, education, research, and the expansion of nursing knowledge*) **within your division/section/agency on April 30, 2013. Enter "0" where applicable. ***

	Headcount on <u>04/30/2013</u>
Number of nursing informaticists employed	
Number of vacant nursing informaticist positions	

19. Please use this space to make any comments or suggestions regarding this survey.

You have reached the end of the 2013 Texas Governmental Public Health Nurse Staffing Survey! Thank you for your participation. If you have any questions or concerns, please contact Allison Dubin at (512) 776-6575 or by email at TCNWS@dshs.state.tx.us.

2013 Texas Governmental Public Health Nurse Staffing Study

OPERATIONAL DEFINITIONS

Administrator - The person who is responsible for the day-to-day operations of the local health department.

Advanced Practice Registered Nurse (APRN) – a registered nurse approved by the Texas Board of Nursing (BON) to practice as an advanced practice nurse based on completing an advanced educational program acceptable to the BON. The term includes a nurse practitioner, nurse-midwife, nurse anesthetist, and a clinical nurse specialist. The advanced practice nurse is prepared to practice in an expanded role to provide health care to individuals, families, and/or groups in a variety of settings including but not limited to homes, hospitals, institutions, offices, industry, schools, community agencies, public and private clinics, and private practice. The advanced practice nurse acts independently and/or in collaboration with other health care professionals in the delivery of health care services (Texas BON).

Full-Time – an employee who works a full work week and full work year, as defined by the employer.

Full-Time Equivalent (FTEs) - the equivalent of one (1) full-time employee working for one year or a staff position budgeted for 2,080 hours per year. This is generally calculated as 40 hours per week for 52 weeks (or other variations such as 80 hours in a 14 day time frame), for a total of 2,080 paid hours per year. This includes both productive and non-productive (vacation, sick, holiday, education, etc.) time. Two employees each working 20 hours per week for one year would be the same as one FTE.

Health Services Regions - eight regions designated by DSHS in Texas that provide preventive, protective, regulatory, and preparedness health services in areas without local health departments. Additionally, each region carries out required state governmental functions and assists local health departments (Texas DSHS).

Licensed Vocational Nurse (LVN) - an individual who holds a current license to practice as a practical or vocational nurse in Texas or a compact state (Texas BON).

Local Health Department (LHD) – a governmental body serving a jurisdiction or group of jurisdictions geographically smaller than a health region or state and recognized as having the primary statutory authority to promote and protect the public's health and prevent disease in humans. This authority is defined by the state's constitution, statute, or regulations or established by local ordinance or through formal local cooperative agreement or mutual aid. (Public Health Accreditation Board. *Guide to National Public Health Department Accreditation*. Alexandria, VA. May 2011).

Nurse Informaticist – registered nurses whose main job function is to process and manage data and information to support nursing practice, administration, education, research, and the expansion of nursing knowledge.

Part-Time – an employee who works less than full-time, as defined by the employer.

Per Diem – an arrangement wherein a nurse is employed directly on an as needed basis and usually has no benefits.

Public Health Nursing (PHN) – the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health science (American Public Health Association, Public Health Nursing Section, 1996).

Registered Nurse (RN) - an individual who holds a current license to practice within the scope of professional nursing in Texas or a compact state (Texas BON).

Separations - the number of people (head count) who left your organization in the specified time frame. Include voluntary and involuntary terminations or separations. Do NOT count contract/temporary labor, students in training, travelers or separations due to illness or death in the termination or separation numbers. Do not include within-organization transfers.

Program Areas

Access to Care/Health Systems – promotes strategies to improve access to healthcare services. The ability to obtain wanted or needed services may be influenced by many factors, including travel, distance, waiting time, available financial resources, and availability of a regular source of care. Access to care also refers to the extent to which a public health service is readily available to the community's individuals in need. (Turnock, BJ. *Public Health: What It Is and How It Works*. Jones and Bartlett. 2009).

Ambulatory Services (Primary Care) - focuses on cost-effective ways to maximize wellness, prevent illness, and manages acute and chronic diseases to effect the most attainable positive health status over the patient's life span up to and including a peaceful death. (Laughlin, C.B. (Ed.) (2006). *AAACN Core Curriculum for Ambulatory Care Nursing*, p. 4. Pitman, NJ: American Academy of Ambulatory Care Nursing).

Case Management/Care Coordination (including home visits) – maintains primary accountability for a patient case load in order to ensure organization of the costs, use, and quality of the health care system (ICONS).

Chronic Disease Services/Prevention - provides information, education, resources, and assistance to the individual and community to ensure healthy life choices, reduce the human and economic impact of chronic poor health, reduce the incidence of premature death and disability, and promote healthy communities (Texas DSHS).

Communicable Disease - controls and prevents communicable disease to protect the public health, including detention, restriction, and quarantine (Texas DSHS).

Correctional Health - provides nursing practice in prisons, jails, juvenile detention centers, and other restrictive settings.

Emergency Preparedness - plans for and responds to disasters and assist communities in recovery. Also provides emergency response preparation education (ACHNE. (2008). *Disaster Preparedness White Paper*. p.3).

Environmental Health - develops environmental health educational tools and resources, including online webcasts, environmental health curricula, pocket guides, and websites, and implements environmental health training programs (The Agency for Toxic Substances and Disease Registry, CDC).

Family Planning Services (Clinical) - provides comprehensive, low-cost, and easily accessible reproductive health care to women and men. Services may include physical exams, birth control method counseling, natural family planning, emergency contraception provision, lab tests and medications for sexually transmitted diseases, pregnancy testing, pre-conception counseling, and infertility counseling, delivered in a family planning setting (Texas DSHS).

General Administration - executes administrative tasks such as policy making, scheduling, planning, and budgeting. Administration may also include staff management, hiring, and training.

Home Health Care - provides skilled nursing services in the patient's home. Examples of skilled nursing care include: giving IV drugs, injections, or tube feedings; changing dressings; and teaching about prescription drugs or diabetes care (US Dept. of Health & Human Services, Centers for Medicaid & Medicare Services, *Medicare and Home Health Care*, p.8).

Immunization Programs/Services - provides immunizations to children and adults of all ages in order to prevent vaccine preventable diseases within the community. Oversees the proper storage, handling, and administration of vaccines (Texas DSHS).

Inspections (Daycares, Nursing homes, etc.) - conducts onsite inspections to determine whether nursing homes, daycares, etc. meet the minimum funding and/or regulatory quality and performance standards (Department of Aging and Disability Services).

Maternal/Child Health Programs - conducts programming focused on improving the physical and mental health, safety, and well-being of women, infants, children, and adolescents (other than Women, Infant, and Children Supplemental Nutrition Program (WIC)) (HRSA, *Maternal and Child Health*, 2013).

Men's Health - conducts programming focused on identifying, preventing, and treating conditions that are most common or specific to men (Men's Health Network).

Refugee Health - provides refugee clients with culturally and linguistically appropriate comprehensive health assessments, including follow-up and referrals for health conditions identified in the assessment process (CDC, 2011).

School Health - oversees school health policies and programs, provides expertise and oversight for the provision of school health services and promotion of health education, provides health care to students and/or staff, performs health screenings and coordinates referrals to the medical and dental home or private healthcare provider (National Association of School Nurses, 2011).

Substance Abuse/Tobacco Prevention - provides health education and/or cessation services to prevent tobacco and substance use (Texas DSHS).

Tuberculosis Control - provides a range of services to control, prevent, and eliminate tuberculosis (Texas DSHS).

Women, Infant, Children Supplemental Nutrition Program (WIC) - provides nutrition education and counseling, nutritious foods, and help accessing health care to eligible women, infants, and children (Texas DSHS).

Appendix B

Table 1. Counties by Metropolitan Statistical Area Designation and Border Status

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Anderson	Non-Metropolitan	Non-Border
Andrews	Non-Metropolitan	Non-Border
Angelina	Non-Metropolitan	Non-Border
Aransas	Metropolitan	Non-Border
Archer	Metropolitan	Non-Border
Armstrong	Metropolitan	Non-Border
Atascosa	Metropolitan	Non-Border
Austin	Metropolitan	Non-Border
Bailey	Non-Metropolitan	Non-Border
Bandera	Metropolitan	Non-Border
Bastrop	Metropolitan	Non-Border
Baylor	Non-Metropolitan	Non-Border
Bee	Non-Metropolitan	Non-Border
Bell	Metropolitan	Non-Border
Bexar	Metropolitan	Non-Border
Blanco	Non-Metropolitan	Non-Border
Borden	Non-Metropolitan	Non-Border
Bosque	Non-Metropolitan	Non-Border
Bowie	Metropolitan	Non-Border
Brazoria	Metropolitan	Non-Border
Brazos	Metropolitan	Non-Border
Brewster	Non-Metropolitan	Border
Briscoe	Non-Metropolitan	Non-Border
Brooks	Non-Metropolitan	Border
Brown	Non-Metropolitan	Non-Border
Burleson	Metropolitan	Non-Border
Burnet	Non-Metropolitan	Non-Border
Caldwell	Metropolitan	Non-Border
Calhoun	Non-Metropolitan	Non-Border
Callahan	Metropolitan	Non-Border
Cameron	Metropolitan	Border
Camp	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Carson	Metropolitan	Non-Border
Cass	Non-Metropolitan	Non-Border
Castro	Non-Metropolitan	Non-Border
Chambers	Metropolitan	Non-Border
Cherokee	Non-Metropolitan	Non-Border
Childress	Non-Metropolitan	Non-Border
Clay	Metropolitan	Non-Border
Cochran	Non-Metropolitan	Non-Border
Coke	Non-Metropolitan	Non-Border
Coleman	Non-Metropolitan	Non-Border
Collin	Metropolitan	Non-Border
Collingsworth	Non-Metropolitan	Non-Border
Colorado	Non-Metropolitan	Non-Border
Comal	Metropolitan	Non-Border
Comanche	Non-Metropolitan	Non-Border
Concho	Non-Metropolitan	Non-Border
Cooke	Non-Metropolitan	Non-Border
Coryell	Metropolitan	Non-Border
Cottle	Non-Metropolitan	Non-Border
Crane	Non-Metropolitan	Non-Border
Crockett	Non-Metropolitan	Border
Crosby	Metropolitan	Non-Border
Culberson	Non-Metropolitan	Border
Dallam	Non-Metropolitan	Non-Border
Dallas	Metropolitan	Non-Border
Dawson	Non-Metropolitan	Non-Border
Deaf Smith	Non-Metropolitan	Non-Border
Delta	Non-Metropolitan	Non-Border
Denton	Metropolitan	Non-Border
De Witt	Non-Metropolitan	Non-Border
Dickens	Non-Metropolitan	Non-Border
Dimmit	Non-Metropolitan	Border
Donley	Non-Metropolitan	Non-Border
Duval	Non-Metropolitan	Border
Eastland	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Ector	Metropolitan	Non-Border
Edwards	Non-Metropolitan	Border
Ellis	Metropolitan	Non-Border
El Paso	Metropolitan	Border
Erath	Non-Metropolitan	Non-Border
Falls	Metropolitan	Non-Border
Fannin	Non-Metropolitan	Non-Border
Fayette	Non-Metropolitan	Non-Border
Fisher	Non-Metropolitan	Non-Border
Floyd	Non-Metropolitan	Non-Border
Foard	Non-Metropolitan	Non-Border
Fort Bend	Metropolitan	Non-Border
Franklin	Non-Metropolitan	Non-Border
Freestone	Non-Metropolitan	Non-Border
Frio	Non-Metropolitan	Border
Gaines	Non-Metropolitan	Non-Border
Galveston	Metropolitan	Non-Border
Garza	Non-Metropolitan	Non-Border
Gillespie	Non-Metropolitan	Non-Border
Glasscock	Non-Metropolitan	Non-Border
Goliad	Metropolitan	Non-Border
Gonzales	Non-Metropolitan	Non-Border
Gray	Non-Metropolitan	Non-Border
Grayson	Metropolitan	Non-Border
Gregg	Metropolitan	Non-Border
Grimes	Non-Metropolitan	Non-Border
Guadalupe	Metropolitan	Non-Border
Hale	Non-Metropolitan	Non-Border
Hall	Non-Metropolitan	Non-Border
Hamilton	Non-Metropolitan	Non-Border
Hansford	Non-Metropolitan	Non-Border
Hardeman	Non-Metropolitan	Non-Border
Hardin	Metropolitan	Non-Border
Harris	Metropolitan	Non-Border
Harrison	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Hartley	Non-Metropolitan	Non-Border
Haskell	Non-Metropolitan	Non-Border
Hays	Metropolitan	Non-Border
Hemphill	Non-Metropolitan	Non-Border
Henderson	Non-Metropolitan	Non-Border
Hidalgo	Metropolitan	Border
Hill	Non-Metropolitan	Non-Border
Hockley	Non-Metropolitan	Non-Border
Hood	Metropolitan	Non-Border
Hopkins	Non-Metropolitan	Non-Border
Houston	Non-Metropolitan	Non-Border
Howard	Non-Metropolitan	Non-Border
Hudspeth	Metropolitan	Border
Hunt	Metropolitan	Non-Border
Hutchinson	Non-Metropolitan	Non-Border
Irion	Metropolitan	Non-Border
Jack	Non-Metropolitan	Non-Border
Jackson	Non-Metropolitan	Non-Border
Jasper	Non-Metropolitan	Non-Border
Jeff Davis	Non-Metropolitan	Border
Jefferson	Metropolitan	Non-Border
Jim Hogg	Non-Metropolitan	Border
Jim Wells	Non-Metropolitan	Non-Border
Johnson	Metropolitan	Non-Border
Jones	Metropolitan	Non-Border
Karnes	Non-Metropolitan	Non-Border
Kaufman	Metropolitan	Non-Border
Kendall	Metropolitan	Non-Border
Kenedy	Non-Metropolitan	Border
Kent	Non-Metropolitan	Non-Border
Kerr	Non-Metropolitan	Non-Border
Kimble	Non-Metropolitan	Non-Border
King	Non-Metropolitan	Non-Border
Kinney	Non-Metropolitan	Border
Kleberg	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Knox	Non-Metropolitan	Non-Border
Lamar	Non-Metropolitan	Non-Border
Lamb	Non-Metropolitan	Non-Border
Lampasas	Metropolitan	Non-Border
La Salle	Non-Metropolitan	Border
Lavaca	Non-Metropolitan	Non-Border
Lee	Non-Metropolitan	Non-Border
Leon	Non-Metropolitan	Non-Border
Liberty	Metropolitan	Non-Border
Limestone	Non-Metropolitan	Non-Border
Lipscomb	Non-Metropolitan	Non-Border
Live Oak	Non-Metropolitan	Non-Border
Llano	Non-Metropolitan	Non-Border
Loving	Non-Metropolitan	Non-Border
Lubbock	Metropolitan	Non-Border
Lynn	Metropolitan	Non-Border
Mcculloch	Non-Metropolitan	Non-Border
Mclennan	Metropolitan	Non-Border
Mcmullen	Non-Metropolitan	Border
Madison	Non-Metropolitan	Non-Border
Marion	Non-Metropolitan	Non-Border
Martin	Metropolitan	Non-Border
Mason	Non-Metropolitan	Non-Border
Matagorda	Non-Metropolitan	Non-Border
Maverick	Non-Metropolitan	Border
Medina	Metropolitan	Non-Border
Menard	Non-Metropolitan	Non-Border
Midland	Metropolitan	Non-Border
Milam	Non-Metropolitan	Non-Border
Mills	Non-Metropolitan	Non-Border
Mitchell	Non-Metropolitan	Non-Border
Montague	Non-Metropolitan	Non-Border
Montgomery	Metropolitan	Non-Border
Moore	Non-Metropolitan	Non-Border
Morris	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Matley	Non-Metropolitan	Non-Border
Nacogdoches	Non-Metropolitan	Non-Border
Navarro	Non-Metropolitan	Non-Border
Newton	Metropolitan	Non-Border
Nolan	Non-Metropolitan	Non-Border
Nueces	Metropolitan	Non-Border
Ochiltree	Non-Metropolitan	Non-Border
Oldham	Metropolitan	Non-Border
Orange	Metropolitan	Non-Border
Palo Pinto	Non-Metropolitan	Non-Border
Panola	Non-Metropolitan	Non-Border
Parker	Metropolitan	Non-Border
Parmer	Non-Metropolitan	Non-Border
Pecos	Non-Metropolitan	Border
Polk	Non-Metropolitan	Non-Border
Potter	Metropolitan	Non-Border
Presidio	Non-Metropolitan	Border
Rains	Non-Metropolitan	Non-Border
Randall	Metropolitan	Non-Border
Reagan	Non-Metropolitan	Non-Border
Real	Non-Metropolitan	Border
Red River	Non-Metropolitan	Non-Border
Reeves	Non-Metropolitan	Border
Refugio	Non-Metropolitan	Non-Border
Roberts	Non-Metropolitan	Non-Border
Robertson	Metropolitan	Non-Border
Rockwall	Metropolitan	Non-Border
Runnels	Non-Metropolitan	Non-Border
Rusk	Metropolitan	Non-Border
Sabine	Non-Metropolitan	Non-Border
San Augustine	Non-Metropolitan	Non-Border
San Jacinto	Non-Metropolitan	Non-Border
San Patricio	Metropolitan	Non-Border
San Saba	Non-Metropolitan	Non-Border
Schleicher	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Scurry	Non-Metropolitan	Non-Border
Shackelford	Non-Metropolitan	Non-Border
Shelby	Non-Metropolitan	Non-Border
Sherman	Non-Metropolitan	Non-Border
Smith	Metropolitan	Non-Border
Somervell	Metropolitan	Non-Border
Starr	Non-Metropolitan	Border
Stephens	Non-Metropolitan	Non-Border
Sterling	Non-Metropolitan	Non-Border
Stonewall	Non-Metropolitan	Non-Border
Sutton	Non-Metropolitan	Border
Swisher	Non-Metropolitan	Non-Border
Tarrant	Metropolitan	Non-Border
Taylor	Metropolitan	Non-Border
Terrell	Non-Metropolitan	Border
Terry	Non-Metropolitan	Non-Border
Throckmorton	Non-Metropolitan	Non-Border
Titus	Non-Metropolitan	Non-Border
Tom Green	Metropolitan	Non-Border
Travis	Metropolitan	Non-Border
Trinity	Non-Metropolitan	Non-Border
Tyler	Non-Metropolitan	Non-Border
Upshur	Metropolitan	Non-Border
Upton	Non-Metropolitan	Non-Border
Uvalde	Non-Metropolitan	Border
Val Verde	Non-Metropolitan	Border
Van Zandt	Non-Metropolitan	Non-Border
Victoria	Metropolitan	Non-Border
Walker	Non-Metropolitan	Non-Border
Waller	Metropolitan	Non-Border
Ward	Non-Metropolitan	Non-Border
Washington	Non-Metropolitan	Non-Border
Webb	Metropolitan	Border
Wharton	Non-Metropolitan	Non-Border
Wheeler	Non-Metropolitan	Non-Border

County Name	Metropolitan Statistical Area Designation	Border Status Designation
Wichita	Metropolitan	Non-Border
Wilbarger	Non-Metropolitan	Non-Border
Willacy	Non-Metropolitan	Border
Williamson	Metropolitan	Non-Border
Wilson	Metropolitan	Non-Border
Winkler	Non-Metropolitan	Non-Border
Wise	Metropolitan	Non-Border
Wood	Non-Metropolitan	Non-Border
Yoakum	Non-Metropolitan	Non-Border
Young	Non-Metropolitan	Non-Border
Zapata	Non-Metropolitan	Border
Zavala	Non-Metropolitan	Border

Appendix C

Table 2. Percent of agencies reporting program area

Program Area	% of all agencies	% of agencies that employ RNs	% of agencies that employ LVNs	% of agencies that employ APRNs	% of agencies that do no staff nurses in program area	N/A - Agency does not have program
Immunization Programs/Services	92	79	67	2	2	8
Tuberculosis Control	80	69	44	7	0	20
Communicable Disease	87	62	44	5	10	13
Case Management/Care Coordination (including Home Visits)	56	43	13	0	13	44
Emergency Preparedness	77	36	15	0	36	23
General Administration	74	34	2	2	38	26
Family Planning Services (Clinical)	33	28	21	15	0	67
Access to Care/Health Systems	41	26	13	5	15	59
Maternal/Child Health Programs	39	25	10	5	8	61
Chronic Disease Services/Prevention	48	23	18	5	15	52
Men's Health	21	18	8	8	3	79
Ambulatory Services (Primary Care)	23	13	11	8	3	77
Refugee Health	16	13	11	0	3	84
Correctional Health	20	11	7	0	5	80
School Health	13	11	8	2	0	87
Women, Infant, Children Supplemental Nutrition Program (WIC)	48	8	28	0	20	52
Environmental Health	67	5	5	0	59	33
Inspections (Day Cares, Nursing Homes, etc.)	49	5	10	0	38	51
Substance Abuse/Tobacco Prevention	31	3	0	0	28	69
Home Health Care	3	2	0	0	0	97
Other	25	21	5	3	5	75

Methods of Calculation

Vacancy

This report provides the position vacancy rate and the median agency vacancy rate for each of the nurse types. The two methods for calculating vacancy rates describe two different considerations: 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. In this report, the regional position vacancy rate was calculated by taking the sum of all vacant RN FTE positions in each DSHS health service region, dividing it by the total of all FTE positions, occupied or vacant, in each region and multiplying by 100. This was also done for the statewide position vacancy rate and for the MSA/border designation position vacancy rate. FTE positions are defined as the total number of occupied and vacant FTE positions in the agency. Vacant FTE positions are defined as the total number of FTE positions that were vacant in the agency regardless of whether they were being actively recruited or were on hold or frozen.

Regional position vacancy rate =

$$\left(\frac{\sum \text{Vacant FTE positions being recruited, on hold, or frozen in a region}}{\sum \text{Occupied and vacant FTE positions in a region}} \right) \times 100$$

MSA/Border Designation position vacancy rate =

$$\left(\frac{\sum \text{Vacant FTE positions being recruited, on hold, or frozen in an MSA/border designation}}{\sum \text{Occupied and vacant FTE positions in an MSA/border designation}} \right) \times 100$$

Statewide position vacancy rate =

$$\left(\frac{\sum \text{Vacant FTE positions being recruited, on hold, or frozen across the state}}{\sum \text{Occupied and vacant FTE positions across the state}} \right) \times 100$$

The agency vacancy rate was calculated by dividing the number of vacant FTE positions in an agency

by the total number of FTE positions (occupied and vacant) in that agency and multiplying by 100. Median values were used over mean values because medians are less sensitive to outliers.

Agency vacancy rate =

$$\left(\frac{\sum \text{Vacant FTE positions being recruited, on hold, or frozen in an agency}}{\sum \text{Occupied and vacant FTE positions in an agency}} \right) \times 100$$

When vacancy rate is calculated for each individual agency, the median agency vacancy rate represents the middle value for all agencies.

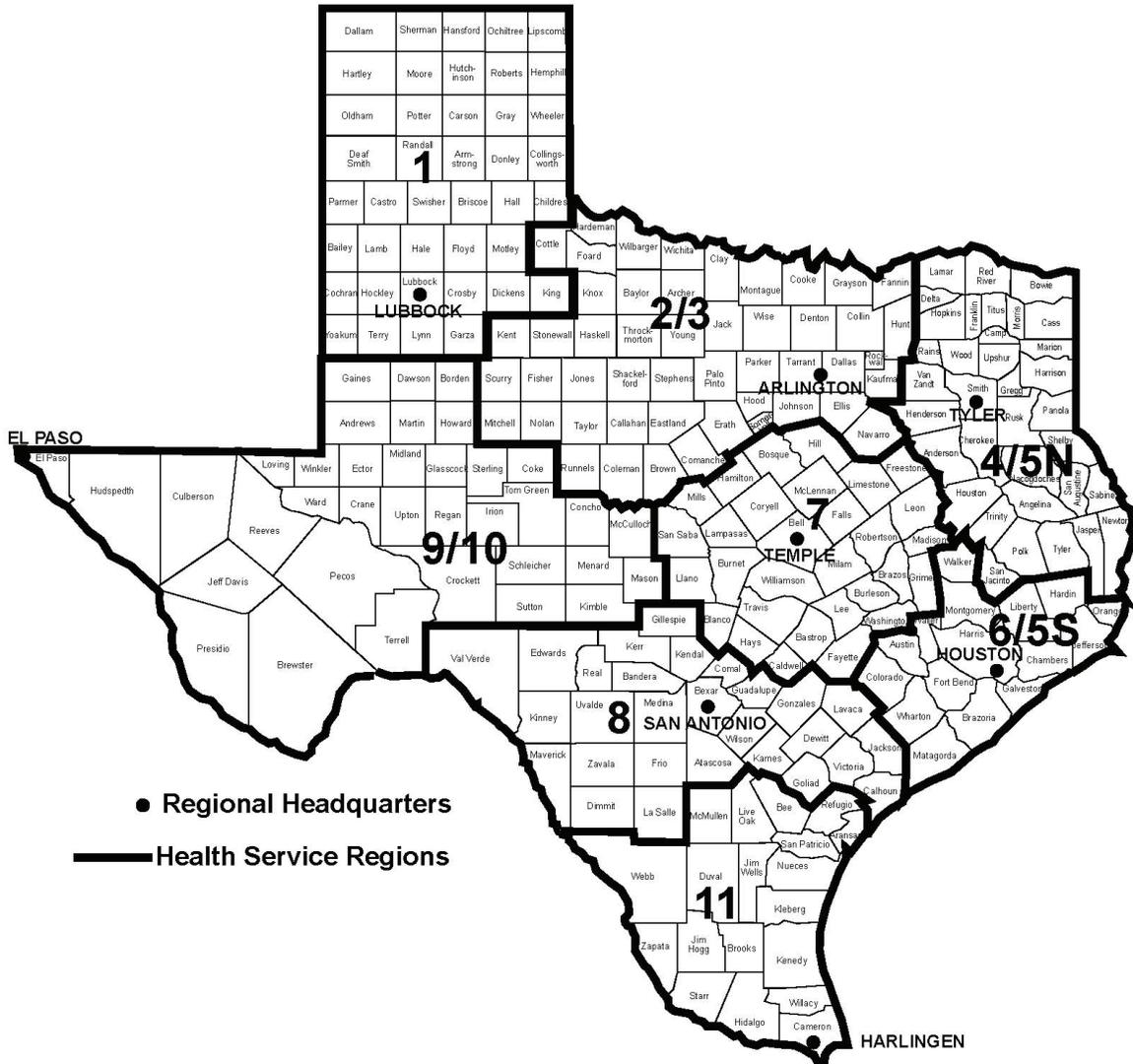
Turnover

The agency turnover rate was calculated by dividing the total number of separations in an agency by the average number of employees (both full-time and part-time) the agency had during the reporting period (01/01/2012 to 12/31/2012). That number was then multiplied by 100. The survey instrument asked agencies to provide the number of full and part-time positions at two points (1/1/2012 and 12/31/2012) and the numbers provided were then used to calculate the average number of employees.

Agency turnover rate =

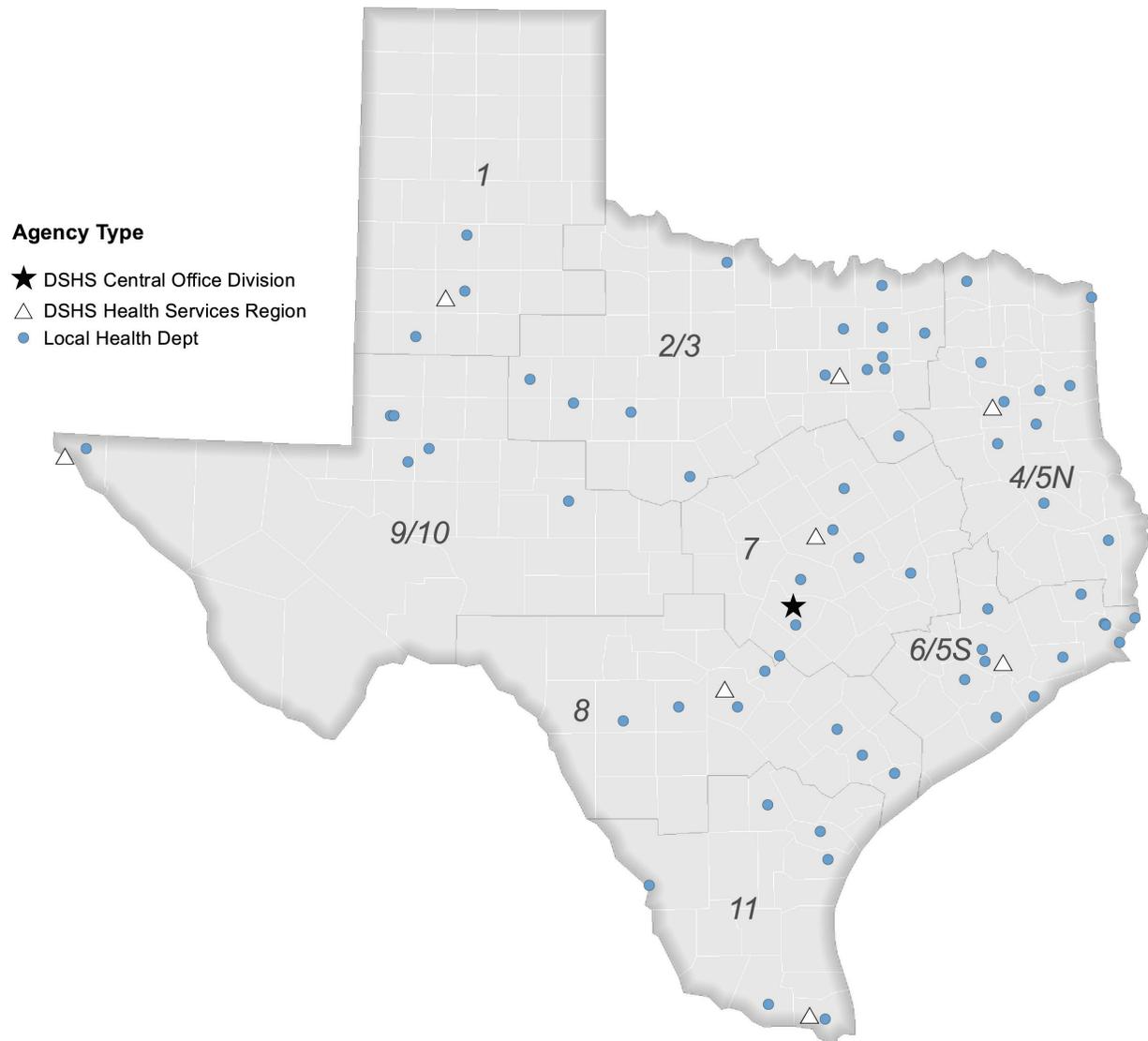
$$\frac{\text{Total number of full-time separations} \times 100}{\left(\text{Average \# full-time positions} + \text{Average \# of part-time positions} \right)}$$

Map I. Texas governmental public health service regions



Source: Texas Department of State Health Services, Division for Local & Regional Health Services
 Available at: <http://www.dshs.state.tx.us/regions/state.shtm>

Map 2. Texas governmental public health agencies, by type and region



Source: Texas Center for Nursing Workforce Studies
Map Source: Center for Health Statistics, GIS
March 2014