Vision

Quality health care for all Texans through an optimal nursing workforce based on reliable, valid and useful data.

Mission

Develop and maintain a statewide system that describes and forecasts the supply and demand of the changing nursing workforce in Texas.
Reports & Surveys

Demographics & Trends
- Based on licensing files
- Biennial report
- Information on RNs, APRNs, LVNs, and Certified Nurse Aides

NEPIS & Faculty Reports
- Nursing Education Program Information Survey (NEPIS)
- Annually
- Pre-licensure RN & LVN programs
- Student enrollment, graduation, and demographic information

Nurse Employer Surveys
- Vacancy & turnover rates
- Interim staffing
- Recruitment & retention
- Home Health & Hospice, Hospitals, Public Health Agencies, & more

www.dshs.state.tx.us/chs/cnws/publications
<table>
<thead>
<tr>
<th>Demographics &amp; Trends</th>
<th>Employer Surveys</th>
<th>NEPIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNs, LVNs, APRNs, NAs</td>
<td>Hospital</td>
<td>RN</td>
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<td></td>
<td>Long Term Care</td>
<td>APRN</td>
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<td>VN</td>
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<tr>
<td>2013</td>
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<td>2015**</td>
<td>2015*</td>
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<td>2004</td>
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<td>2008</td>
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<tr>
<td></td>
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<td>2007</td>
</tr>
</tbody>
</table>

* Final data will be available in November; ** Final data will be available in March
Nursing Workforce Studies

Supply of Nurses

Demand for Nurses

Education of Nurses
Supply of RNs

Registered Nurses per 100,000 Population, U.S. and Texas. 1988-2014

- U.S. RNs
- Texas RNs

2014 Data
Supply of RNs

2004 Data

2004

2014

2014 Data
Texas RNs by the Numbers

206,027 RNs in 2014

- Average age: 45
- **88%** Female
- **12%** Male

65% are employed by hospitals

Race/Ethnicity
- **61.8%** Hispanic/Latino
- 13.9% Black/African American
- 11.8% Other
- 12.5% White/Caucasian

Highest Degree
- **43.1%** Bachelor's Degree
- **40.0%** Associate's Degree
- 10.0% Master's Degree
- 6.2% Diploma
- 0.6% Doctorate

Find out more at [www.dshs.state.tx.us/chs/cnws](http://www.dshs.state.tx.us/chs/cnws)
RNs by Sex

Female Nurses

Male Nurses

32 Border Counties

2014 Data
Aging of RNs

2014 Data

% of RNs

Age in Years

20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85-89
90-94

Male
Female

% of RNs
The median age of RNs by employment setting is shown in the bar chart. In 2004:
- Hospitals: 44
- School of Nursing: 53
- Community/Public Health: 50
- Home Health Agency: 48
- Nursing Home/Extended Care: 50

In 2014:
- Hospitals: 43
- School of Nursing: 57
- Community/Public Health: 49
- Home Health Agency: 48
- Nursing Home/Extended Care: 50

The chart indicates that the median age of RNs in all settings increased from 2004 to 2014.
Age of RNs Employed in Schools of Nursing

- <56: 49.4%
- 57: 3.5%
- 58-61: 16.8%
- 62-65: 14.2%
- >65: 16.1%
Race/Ethnicity of RNs

- White/Caucasian: 71.0% (2008), 61.8% (2010), 58.2% (2012), 53.9% (2014)
- Black/African American: 8.3% (2008), 11.8% (2010), 13.9% (2012), 12.5% (2014)
- Hispanic/Latino: 9.8% (2008), 9.8% (2010), 13.9% (2012), 10.9% (2014)
- Other: 10% (2008), 12% (2010), 9.9% (2012), 12.5% (2014)
Indicator 1: Increase the proportion of nurses with a baccalaureate or higher degree in nursing to 80% by 2020

2010 Baseline: 48.5%

2013 52.1%

2020 Goal: 80%

Data source: Texas Board of Nursing Registered Nurse Licensure Files, 2010, 2011.
Created by: Texas Center for Nursing Workforce Studies, 2013

*Includes all nurses actively practicing in Texas.
RN Academic Progression

<table>
<thead>
<tr>
<th>Basic Level of Education</th>
<th>Diploma/ADN</th>
<th>BSN</th>
<th>MSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Level of Education</td>
<td>77.8%</td>
<td>83.8%</td>
<td>97.3%</td>
</tr>
<tr>
<td>Diploma/ADN</td>
<td>77.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSN</td>
<td>16.0%</td>
<td>15.2%</td>
<td></td>
</tr>
<tr>
<td>MSN</td>
<td>0.4%</td>
<td>1.0%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

2014 Data
80/20 Goal

IOM’s 80% Goal

% of RNs who have obtained a BSN, MSN, or doctorate in nursing

- 2007: 43.3%
- 2008: 44.9%
- 2009: 47.8%
- 2010: 48.6%
- 2011: 49.7%
- 2012: 50.7%
- 2013: 52.1%
- 2014: 53.7%

2014 Data
Highest Degree by Age Categories

- Diploma or ADN
- BSN, MSN, or doctorate in nursing

<table>
<thead>
<tr>
<th>Age Category</th>
<th>&lt;26</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41-45</th>
<th>46-50</th>
<th>51-55</th>
<th>56-60</th>
<th>61-65</th>
<th>&gt;65</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>71.7%</td>
<td>67.0%</td>
<td>57.8%</td>
<td>54.0%</td>
<td>54.5%</td>
<td>51.6%</td>
<td>49.3%</td>
<td>51.6%</td>
<td>47.7%</td>
<td>40.3%</td>
</tr>
</tbody>
</table>

Legend:
- Diploma or ADN: Dark blue
- BSN, MSN, or doctorate in nursing: Light blue
Where do RNs work?

RN Employment Settings, 2004 and 2014

- Hospitals: 64.8% (2004), 65.5% (2014)
- Home Health: 5.4% (2004), 6.9% (2014)
- Physician or Dentists/ Private Practice: 4.9% (2004), 3.8% (2014)
- School/College Health: 4.1% (2004), 3.4% (2014)
- Other: 20.8% (2004), 20.4% (2014)
<table>
<thead>
<tr>
<th>Specialty</th>
<th># of Nurses</th>
<th>% of Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical/Surgical</td>
<td>29,489</td>
<td>14.3</td>
</tr>
<tr>
<td>Intensive/Critical Care</td>
<td>21,491</td>
<td>10.4</td>
</tr>
<tr>
<td>Operating/Recovery Care</td>
<td>14,599</td>
<td>7.1</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>13,503</td>
<td>6.6</td>
</tr>
<tr>
<td>Emergency Care</td>
<td>13,358</td>
<td>6.5</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>12,897</td>
<td>6.3</td>
</tr>
<tr>
<td>Home Health</td>
<td>10,471</td>
<td>5.1</td>
</tr>
<tr>
<td>General Practice</td>
<td>9,808</td>
<td>4.8</td>
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<tr>
<td>Neonatology</td>
<td>7,802</td>
<td>3.8</td>
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<tr>
<td>Geriatrics</td>
<td>6,820</td>
<td>3.3</td>
</tr>
<tr>
<td>Oncology</td>
<td>6,041</td>
<td>2.9</td>
</tr>
<tr>
<td>Psychiatric/Mental Health/Substance Abuse</td>
<td>6,008</td>
<td>2.9</td>
</tr>
<tr>
<td>Community/Public Health</td>
<td>5,452</td>
<td>2.6</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3,392</td>
<td>1.6</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>2,999</td>
<td>1.5</td>
</tr>
<tr>
<td>Occupational/Environmental</td>
<td>1,259</td>
<td>0.6</td>
</tr>
<tr>
<td>Other</td>
<td>32,477</td>
<td>15.8</td>
</tr>
</tbody>
</table>
Distribution of RNs by Employment Specialties
Distribution of RNs by Employment Specialties
Demand for Nurses

www.dshs.state.tx.us/chs/cnws/publications
Hospital RN Vacancy Rates, 2014

Panhandle: 5.2%
North Texas: 6.8%
East Texas: 5.5%
Gulf Coast: 7.5%
Central Texas: 15.6%
South Texas: 7.6%
Rio Grande Valley: 8.6%
West Texas: 8.7%
Hospital Median Facility RN Turnover Rates, 2014

<table>
<thead>
<tr>
<th>Region</th>
<th>Turnover Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panhandle</td>
<td>20.2%</td>
</tr>
<tr>
<td>North Texas</td>
<td>26.5%</td>
</tr>
<tr>
<td>East Texas</td>
<td>27.6%</td>
</tr>
<tr>
<td>Gulf Coast</td>
<td>18.1%</td>
</tr>
<tr>
<td>Central Texas</td>
<td>23.8%</td>
</tr>
<tr>
<td>South Texas</td>
<td>20.5%</td>
</tr>
<tr>
<td>Rio Grande Valley</td>
<td>20.3%</td>
</tr>
<tr>
<td>West Texas</td>
<td>28.6%</td>
</tr>
</tbody>
</table>
RN Vacancy and Turnover Rates by State and Year

- Texas, 2014: Position Vacancy Rate 8.1%, Median Facility Turnover Rate 23.6%
- California, 2013: Position Vacancy Rate 4.2%, Median Facility Turnover Rate 2.3%
- Florida, 2013: Position Vacancy Rate 6.0%, Median Facility Turnover Rate 18.4%
- New York, 2012: Position Vacancy Rate 5.6%, Median Facility Turnover Rate 10.1%
RN Vacancy and Turnover Rates by Setting

<table>
<thead>
<tr>
<th>Setting</th>
<th>Position Vacancy Rate</th>
<th>Median Facility Turnover Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital (2014)</td>
<td>8.1</td>
<td>23.6</td>
</tr>
<tr>
<td>Long Term Care (2014)</td>
<td>16.7</td>
<td>40.0</td>
</tr>
<tr>
<td>Home Health (2013)</td>
<td>16.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Governmental Public Health (2013)</td>
<td>12.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>
## Consequences of Inadequate Staffing in Hospitals, 2014

<table>
<thead>
<tr>
<th>Consequence</th>
<th># of hospitals</th>
<th>% of hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in voluntary overtime</td>
<td>261</td>
<td>61.0%</td>
</tr>
<tr>
<td>Increased workloads</td>
<td>225</td>
<td>52.6%</td>
</tr>
<tr>
<td>Increased use of temporary/agency nurses</td>
<td>208</td>
<td>48.6%</td>
</tr>
<tr>
<td>Low nursing staff morale</td>
<td>174</td>
<td>40.7%</td>
</tr>
<tr>
<td>Using administrative staff to cover nursing visits</td>
<td>136</td>
<td>31.8%</td>
</tr>
<tr>
<td>Increased nursing staff turnover</td>
<td>127</td>
<td>29.7%</td>
</tr>
<tr>
<td>Difficulty completing required documentation on time</td>
<td>103</td>
<td>24.1%</td>
</tr>
<tr>
<td>Delayed admissions</td>
<td>100</td>
<td>23.4%</td>
</tr>
<tr>
<td>We had an adequate supply</td>
<td>88</td>
<td>20.6%</td>
</tr>
<tr>
<td>Increased absenteeism</td>
<td>62</td>
<td>14.5%</td>
</tr>
<tr>
<td>Increased patient/family complaints</td>
<td>59</td>
<td>13.8%</td>
</tr>
<tr>
<td>Delays in providing care</td>
<td>52</td>
<td>12.1%</td>
</tr>
<tr>
<td>Wage increases</td>
<td>48</td>
<td>11.2%</td>
</tr>
<tr>
<td>Inability to expand services</td>
<td>41</td>
<td>9.6%</td>
</tr>
<tr>
<td>Increased number of incident reports</td>
<td>36</td>
<td>8.4%</td>
</tr>
<tr>
<td>Declined referrals</td>
<td>29</td>
<td>6.8%</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>4.9%</td>
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</tbody>
</table>
## Costs of Interim Staffing in Hospitals, 2014

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Hours</th>
<th>Cost*</th>
<th>Cost/Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary Overtime</td>
<td>244</td>
<td>6,447,640</td>
<td>$218,691,861</td>
<td>$33.92</td>
</tr>
<tr>
<td>In-house Staffing Pool</td>
<td>86</td>
<td>5,287,081</td>
<td>$171,632,519</td>
<td>$32.46</td>
</tr>
<tr>
<td>Contract/Traveling Nurses</td>
<td>104</td>
<td>2,234,474</td>
<td>$131,046,964</td>
<td>$58.65</td>
</tr>
<tr>
<td>Per Diem Nurses</td>
<td>114</td>
<td>1,916,971</td>
<td>$73,314,746</td>
<td>$38.25</td>
</tr>
<tr>
<td>Temporary Staffing Agencies</td>
<td>74</td>
<td>569,603</td>
<td>$27,275,935</td>
<td>$47.89</td>
</tr>
<tr>
<td>Use of Managerial Staff</td>
<td>62</td>
<td>193,058</td>
<td>$10,003,293</td>
<td>$51.82</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>76,652</td>
<td>$3,144,068</td>
<td>$41.02</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-</td>
<td><strong>16,725,478</strong></td>
<td><strong>$635,109,386</strong></td>
<td><strong>$37.97</strong></td>
</tr>
</tbody>
</table>
Additional FTEs During Next FY

Additional FTEs Hospitals Expect to Budget Next Fiscal Year

2014
- Panhandle: 57
- North Texas: 46
- East Texas: 119
- Gulf Coast: 480
- Central Texas: 38
- South Texas: 455
- Rio Grande Valley: 301
- West Texas: 191

2012
- Panhandle: 86
- North Texas: 533
- East Texas: 382
- Gulf Coast: 469
- Central Texas: 855
- South Texas: 1,813
- Rio Grande Valley: 86
- West Texas: 86
Pre-licensure RN Enrollment

- **Total**
- **ADN**
- **BSN**

The graph shows the enrollment trend from 2004 to 2014:

- **Total** enrollment has increased steadily over the years, reaching its peak in 2013 and then declining slightly in 2014.
- **ADN** enrollment has also increased steadily, though at a slower rate than the total.
- **BSN** enrollment has shown a more varied trend, with some fluctuations over the years.
Pre-licensure RN Graduates

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>ADN</th>
<th>BSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>6,674</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>4,004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>2,477</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>5,141</td>
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<tr>
<td>2010</td>
<td>6,471</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>6,797</td>
<td></td>
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</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
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<td>2013</td>
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<td></td>
</tr>
<tr>
<td>2014</td>
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</tbody>
</table>
Barriers to Increasing RN Graduates

1. Lack of available clinical sites

2. Lack of qualified faculty

3. Lack of classroom or lab space
54.4% of program directors perceive that it is “EASY” or “VERY EASY” for their graduates to find a job.
The supply of nurses has increased and distribution has improved.

Nurses are more racially/ethnically diverse than a decade ago but still have a ways to go to mirror the TX population.

More nurses are obtaining higher levels of education.
Take-aways

• Vacancy and turnover rates continue to be an issue in hospitals leading to increased use of (costly) interim staffing methods

• More than half of the expected growth in FTEs will be in East and Central Texas.

• SON continue to increase the production of nurses across Texas
What’s Next?

Coming Soon:
• Results from the 2015 Governmental Public Health Nurse Staffing Study

Coming Soon but Not as Soon:
• Results from the 2015 Home Health and Hospice Study
• Results from the 2015 NEPIS
• 2015 Demographics and Trends Report
• Supply and Demand Projections
• Studies on Workplace Violence Against Nurses
Comments from 2014 HNSS

• “Our remote location makes it difficult to recruit staff.”
• “Unable to get experienced nurses in a rural hospital.”
• “New graduates rarely want to move to a rural facility.”
• “In rural communities, the nursing shortage […] decreases] revenues overall, [increases] operation costs, and [there is] constant pressure to lay off folks from direct care.”
• “It is more difficult to draw new nurses to the rural area because of the lack of jobs for the spouse. You hire and train them then they get a little experience under their belt and are offered more of a social life in a larger city and leave.”
Problem

• Recruiting and retaining nurses in rural hospitals
• Look at:
  – Migration of nurses between urban and rural counties from 2010-2014
  – Characteristics of urban vs. rural hospitals
Methods

• Re-licensure and certification data
  – Texas Board of Nursing
  – Active, practicing professionals in Texas
  – Geocoded using practice address

<table>
<thead>
<tr>
<th>2010</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Stayed Urban</td>
</tr>
<tr>
<td>Rural</td>
<td>Rural to Urban</td>
</tr>
<tr>
<td></td>
<td>Urban to Rural</td>
</tr>
<tr>
<td></td>
<td>Stayed Rural</td>
</tr>
</tbody>
</table>
Results

• 176,498 RNs in 2010
  – 8% in rural counties
• 206,027 RNs in 2014
  – 7.4% in rural counties
• 149,256 in cohort
Results

• Most RNs stayed in the same designation
• Over 24,000 RNs changed counties
• 3,962 migrated between urban and rural
Percentage of 2010 Cohort Living in Different Designation in 2014

- **Urban**: 1.4%
- **Rural**: 17.4%
Nursing Demographics

• Race/ethnicity, age
  – In all of Texas 2014
  – In 2010-2014 migration cohort
Demographics: Race/Ethnicity

- **Black/African American**: 4.2%
- **Hispanic/Latino**: 10.3%
- **Other**: 3.3%
- **White/Caucasian**: 82.2%

**Urban**
- **Black/African American**: 12.4%
- **Hispanic/Latino**: 14.2%
- **Other**: 13.2%
- **White/Caucasian**: 60.2%

**Rural**
- **Black/African American**: 4.2%
- **Hispanic/Latino**: 10.3%
- **Other**: 3.3%
- **White/Caucasian**: 82.2%
• White/Caucasian more likely to move from urban to rural county
Demographics: Age

- <=25
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56-60
- 61-65
- >65

Rural vs. Urban breakdown for different age groups.
Hospital Characteristics

• Population
  – Urban: 76.2%
  – Rural: 23.8%

• Respondents
  – Urban: 72.4%
  – Rural: 27.6%
Vacancy and Turnover

• **Vacancy Rates**
  - Urban: 8.2%
  - Rural: 6.2%

• **Turnover Rates**
  - Urban: 23.3%
  - Rural: 26.3%
Time to Recruit Positions

Urban

- 1-30 days: 20.1%
- 31-60 days: 40.5%
- 61-90 days: 22.9%
- 91 days or more: 16.5%

Rural

- 1-30 days: 14.8%
- 31-60 days: 15.6%
- 61-90 days: 32.9%
- 91 days or more: 36.7%
Recruitment/Retention Strategies

**Urban**
- Tuition Reimbursement: 77.7%
- Bonus for Recruiting Nursing Staff: 48.4%
- Career Ladder for RNs/LVNs/APRNs: 44.2%
- Merit Bonus: 41.0%
- Employee Recognition Programs: 81.3%

**Rural**
- Tuition Reimbursement: 52.5%
- Bonus for Recruiting Nursing Staff: 23.7%
- Career Ladder for RNs/LVNs/APRNs: 22.0%
- Merit Bonus: 30.5%
- Employee Recognition Programs: 71.2%
Importance of BSN

- **Unimportant**: 1.9% Urban, 0% Rural
- **Of little importance**: 14.4% Urban, 10.4% Rural
- **Moderately important**: 28.8% Urban, 30.4% Rural
- **Important**: 28.8% Urban, 15.3% Rural
- **Very important**: 28.5% Urban, 3.4% Rural
Educational Preparation of RNs

Bar chart showing the percentage of RNs with Diploma/ADN and BSN or higher in rural and urban areas.
Further Study

• Migration of new graduates
• Other geographic designations:
  – Border vs. Non-border
  – By region
• Other employment settings
Thank you!

Contact Us

- Email: TCNWS@dshs.state.tx.us
- Phone: (512)776-6723
- Website: www.dshs.state.tx.us/chs/cnws