Supply & Demand of Registered Nurses in the Southern Border region

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September 2018
Tales of a nursing shortage…

U.S. still headed for nurse shortage

The U.S. Is Running Out of Nurses
The country has experienced nursing shortages for decades, but an aging population means the problem is about to get worse.

Is US headed for worst nursing shortage?

By: Howard Gerber - @inquirerdotnet
INQUIRER.net US Bureau / 01:51 AM November 30, 2017
Forecasting future RN supply & demand

- **National forecasts:** market is balanced
  - National Center for Health Workforce Analysis, 2017
    - National surplus of 293,800 RNs by 2030 (8.2%)
    - Assumes supply = demand in 2014
  - Auerbach et al. 2015 – 128,000 RN shortage by 2025 (4%)

- **California**
  - NCHWA 2017 – 44,500 short (11.5%)
  - Auerbach et al. 2017 – only 0.7% per capita supply growth in Pacific region
  - Spetz 2017 – no shortage overall, but skills & regional imbalance
### Perceptions of employers: Overall labor market

<table>
<thead>
<tr>
<th>Year</th>
<th>High demand: difficult to fill open positions</th>
<th>Moderate demand: some difficulty filling open positions</th>
<th>Demand is in balance with supply</th>
<th>Demand is less than supply available</th>
<th>Demand is much less than supply available</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>37.9%</td>
<td>49.7%</td>
<td>8.3%</td>
<td>4.1%</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>34.3%</td>
<td>55.2%</td>
<td>7.6%</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>40.1%</td>
<td>46.9%</td>
<td>6.8%</td>
<td>5.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>2014</td>
<td>18.4%</td>
<td>49.0%</td>
<td>13.1%</td>
<td>12.6%</td>
<td>6.8%</td>
</tr>
<tr>
<td>2013</td>
<td>8.6%</td>
<td>32.3%</td>
<td>18.7%</td>
<td>26.8%</td>
<td>13.6%</td>
</tr>
<tr>
<td>2012</td>
<td>5.5%</td>
<td>45.2%</td>
<td>19.8%</td>
<td>17.1%</td>
<td>12.4%</td>
</tr>
<tr>
<td>2011</td>
<td>4.7%</td>
<td>43.9%</td>
<td>6.8%</td>
<td>23.6%</td>
<td>20.9%</td>
</tr>
<tr>
<td>2010</td>
<td>5.3%</td>
<td>30.9%</td>
<td>11.8%</td>
<td>27.0%</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

- **High demand: difficult to fill open positions**
- **Moderate demand: some difficulty filling open positions**
- **Demand is in balance with supply**
- **Demand is less than supply available**
- **Demand is much less than supply available**

Source: Chu & Spetz, 2018, Survey of Nurse Employers Fall 2017
Differences across regions:
Overall RN labor market

Source: Chu & Spetz, 2018, Survey of Nurse Employers Fall 2017
Differences across regions: Experienced RNs

Source: Chu & Spetz, 2018, Survey of Nurse Employers Fall 2017
Differences across regions: New Grad RNs

- S. Border: 1.5
- Inland Empire: 2.2
- LA: 2.1
- Central CA: 2.5
- SF Bay: 2.6
- Sacramento & North: 2.6

Source: Chu & Spetz, 2018, Survey of Nurse Employers Fall 2017
New Graduate Employment

Source: HealthImpact, 2018, Survey of Recent RN Graduates
Regional Differences in New Grad Employment

Source: HealthImpact, 2018, Survey of Recent RN Graduates
A model of the supply of RNs

Inflow of nurses → Nurses with Active Licenses Living in California → Outflow of nurses

Share of nurses who work, and how much they work

Full-time equivalent supply of RNs
Forecasting demand is harder

- Number of nurses per capita
  - What is the target?
    - National average?
    - Some arbitrary benchmark?
    - Estimates of how many providers are needed to provide XYZ?
- Demand-based models can be based on economic demand models
  - Easier said than done….
Age distribution of licensed RNs

Source: Spetz et al., 2016 California Survey of RNs
RN graduations per year

Source: California Board of Registered Nursing, Annual Schools Reports
California RN supply and demand forecasts, 2017-2035

- Best Supply Forecast
- Low Supply Forecast
- National 25th percentile FTE RNs/population
- National average FTE RNs/population
- OSHPD hours per patient day-based forecast
Regional differences are important Supply & demand forecasts for Southern Border
Statewide graduations are expected to hold steady

<table>
<thead>
<tr>
<th>Year Range</th>
<th>New enrollment</th>
<th>Projected enrollment from 1 yr</th>
<th>Projected enrollment from 2 yrs</th>
<th>Graduations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>13,318</td>
<td>12,162</td>
<td>13,347</td>
<td>11,119</td>
</tr>
<tr>
<td>2015-2016</td>
<td>13,152</td>
<td>13,110</td>
<td>12,177</td>
<td>11,191</td>
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<tr>
<td>2016-2017</td>
<td></td>
<td>13,862</td>
<td>13,236</td>
<td>10,761</td>
</tr>
<tr>
<td>2017-2018</td>
<td></td>
<td></td>
<td>14,219</td>
<td>10,627</td>
</tr>
<tr>
<td>2018-2019</td>
<td></td>
<td></td>
<td></td>
<td>11,200</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td>11,489</td>
</tr>
</tbody>
</table>

Source: California Board of Registered Nursing Annual Schools Report, 2016-2017
Border region graduations are steady

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<tr>
<th>Year</th>
<th>New enrollment</th>
<th>Projected enrollment from 1 yr</th>
<th>Projected enrollment from 2 yrs</th>
<th>Graduations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
<td>1,354</td>
<td>1,350</td>
<td>1,322</td>
<td>1,250</td>
</tr>
<tr>
<td>2016-2017</td>
<td>1,394</td>
<td>1,405</td>
<td>1,345</td>
<td>1,136</td>
</tr>
<tr>
<td>2017-2018</td>
<td>1,406</td>
<td>1,405</td>
<td></td>
<td>1,210</td>
</tr>
<tr>
<td>2018-2019</td>
<td></td>
<td>1,406</td>
<td></td>
<td>1,246</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td>1,257</td>
</tr>
<tr>
<td>2020-2021</td>
<td></td>
<td></td>
<td></td>
<td>1,257</td>
</tr>
</tbody>
</table>

Source: California Board of Registered Nursing Annual Schools Report, 2017-2018
Inflows and outflows for the Border region

- **Inflows** = ~2,150 now
  - Graduations: ~1,200 per year
  - Migration into the region: 478 per year 2016-2018
  - Endorsements from other states: 475 in 2017

- **Outflows** = ~2,351 now
  - Migration out of the region: 1,139 per year 2016-2018
    - Concentrated among younger nurses
  - Lapsed licenses: 1,212 per year 2016-2018

- **Conclusion**: Almost perfectly balanced labor market!!
How do we move forward?

San Diego has a very well-balanced labor market

Population growth projected & education is keeping up

Employers indicate there are too many new graduates – but the region needs them & they want to stay