Supply & Demand of RNs in the LA-Orange-Ventura region

Joanne Spetz, PhD, FAAN
Professor, Philip R. Lee Institute for Health Policy Studies
Associate Director for Research, Healthforce Center
University of California, San Francisco

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 worsen.

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

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

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

These numbers do not include satellite campuses

Source: California Board of Registered Nursing, Annual Schools Reports
Statewide graduations are expected to hold steady

<table>
<thead>
<tr>
<th></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>
</tr>
<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, 2015-2016
LA-Orange-Ventura graduations are projected to continue to grow

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<tr>
<td>2015-2016</td>
<td>5,966</td>
<td>5,561</td>
<td>4,483</td>
<td>4,886</td>
</tr>
<tr>
<td>2016-2017</td>
<td>6,040</td>
<td>5,837</td>
<td>5,590</td>
<td>4,821</td>
</tr>
<tr>
<td>2017-2018</td>
<td></td>
<td>6,619</td>
<td>6,101</td>
<td>4,963</td>
</tr>
<tr>
<td>2018-2019</td>
<td></td>
<td></td>
<td>6,780</td>
<td>5,024</td>
</tr>
<tr>
<td>2019-2020</td>
<td></td>
<td></td>
<td></td>
<td>5,506</td>
</tr>
<tr>
<td>2020-2021</td>
<td></td>
<td></td>
<td></td>
<td>5,640</td>
</tr>
</tbody>
</table>

Source: California Board of Registered Nursing Annual Schools Report, 2017-2018
What is projected population growth in the region?

- Population (thousands)
- Graduation projection

<table>
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<tr>
<th>Year</th>
<th>Population (thousands)</th>
<th>Graduation projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>13,782</td>
<td>3,634</td>
</tr>
<tr>
<td>2021</td>
<td>14,639</td>
<td>5,640</td>
</tr>
</tbody>
</table>

Graph showing the increase in population and graduation projections from 2011 to 2021.
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 LA region.
Inflows and outflows for the LA region

- **Inflows = 6,438 now 7,257 by 2021**
  - Graduations: 4,821 in 2016-17 5,640 in 2020-21
  - Migration into the region: 896 per year 2016-2018
  - Endorsements from other states: 721 in 2017

- **Outflows = 5,334 now**
  - Migration out of the region/state: 2,101 per year 2016-2018
  - Lapsed licenses: 3,233 per year 2016-2018

**Conclusion:** Inflows exceed outflows >2000 in a few years
  - Even with low growth the region will overshoot demand
Impact of oversupply

- Unemployed new graduates
- Greater competition for clinical space than needed
- Will these new RNs move to other regions or states?
  - >50% of recent RN grads work within 40 miles of high school
  - This can be an opportunity to address shortages in other regions
How do we address the challenge?

LA-Orange-Ventura region faces a surplus

Projected new graduate growth is much higher than needed

Competition for clinical space

Need to encourage graduates to move elsewhere