



University of California
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Supply & Demand of RNs in the Central Valley & Sierra region

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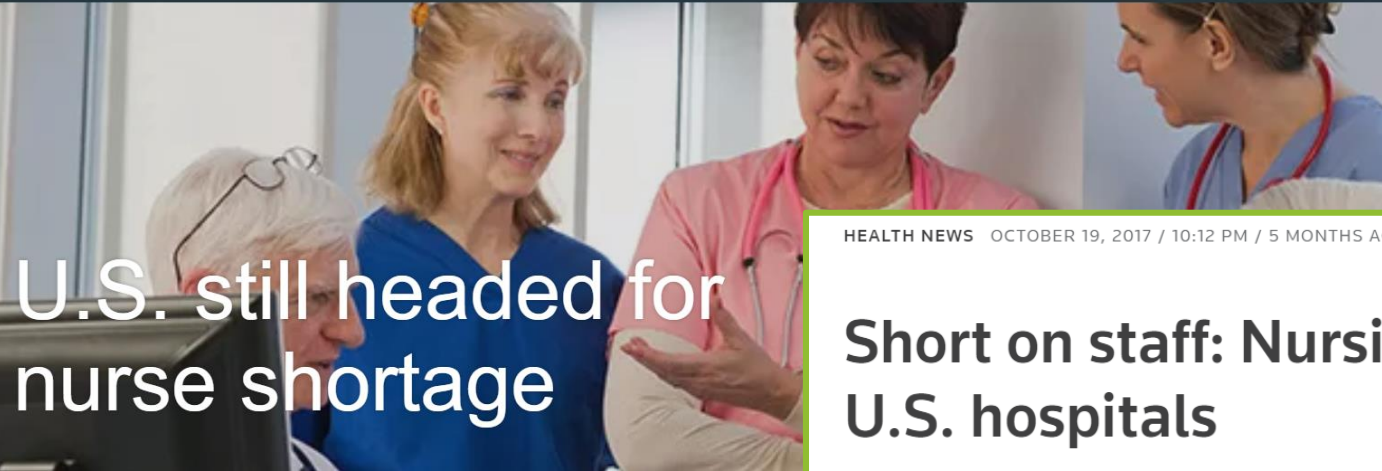
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September 2018

Tales of a nursing shortage...



U.S. still headed for nurse shortage


HEALTH NEWS OCTOBER 19, 2017 / 10:12 PM / 5 MONTHS AGO

Short on staff: Nursing crisis strains U.S. hospitals

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.

REBECCA GRANT | FEB 3, 2016 | HEALTH

COLUMNISTS 77,973 SHARES    

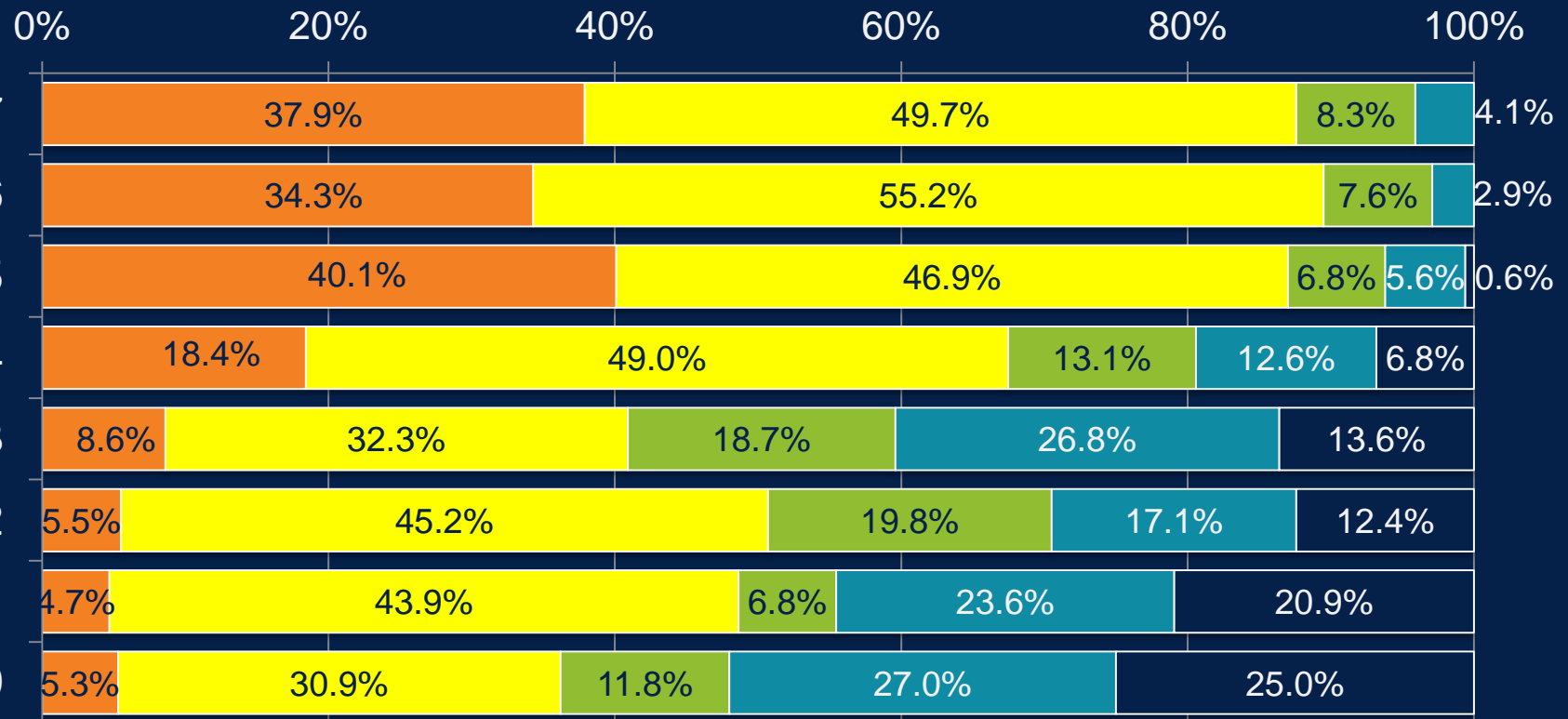
Is US headed for worst nursing shortage?

By: [Howard Gerber](#) - @inquirerdotnet INQUIRER.net US Bureau / 01:51 AM November 30, 2017

Forecasting future RN supply & demand

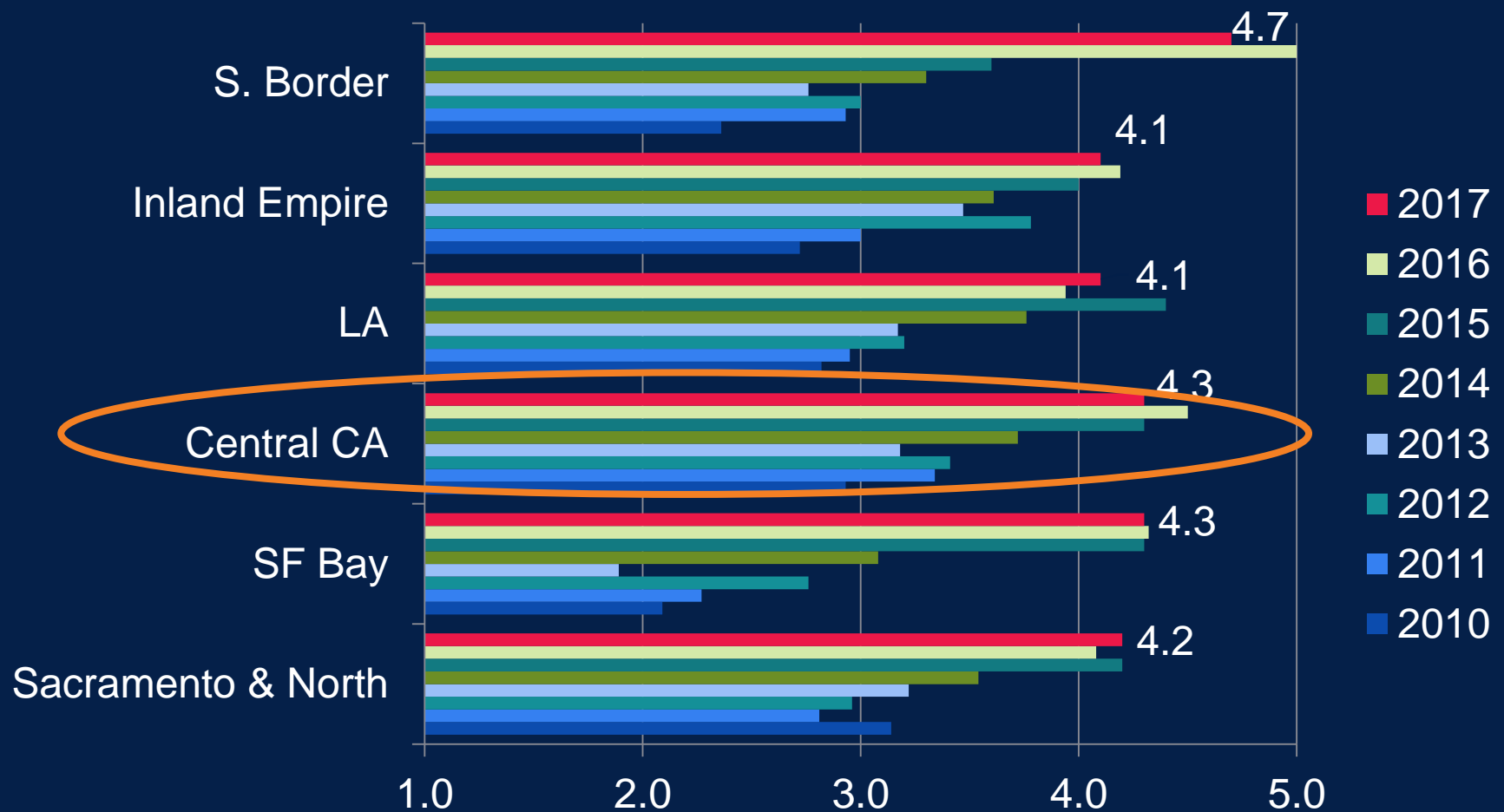
- **National forecasts:** market is balanced
 - National Center for Health Workforce Analysis, 2017
 - National surplus of 293,800 RNs by 2030 (8.2%)
 - Assumes supply = demand in 2014
 - Auerbach et al. 2015 – 128,000 RN shortage by 2025 (4%)
- **California**
 - NCHWA 2017 – 44,500 short (11.5%)
 - 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

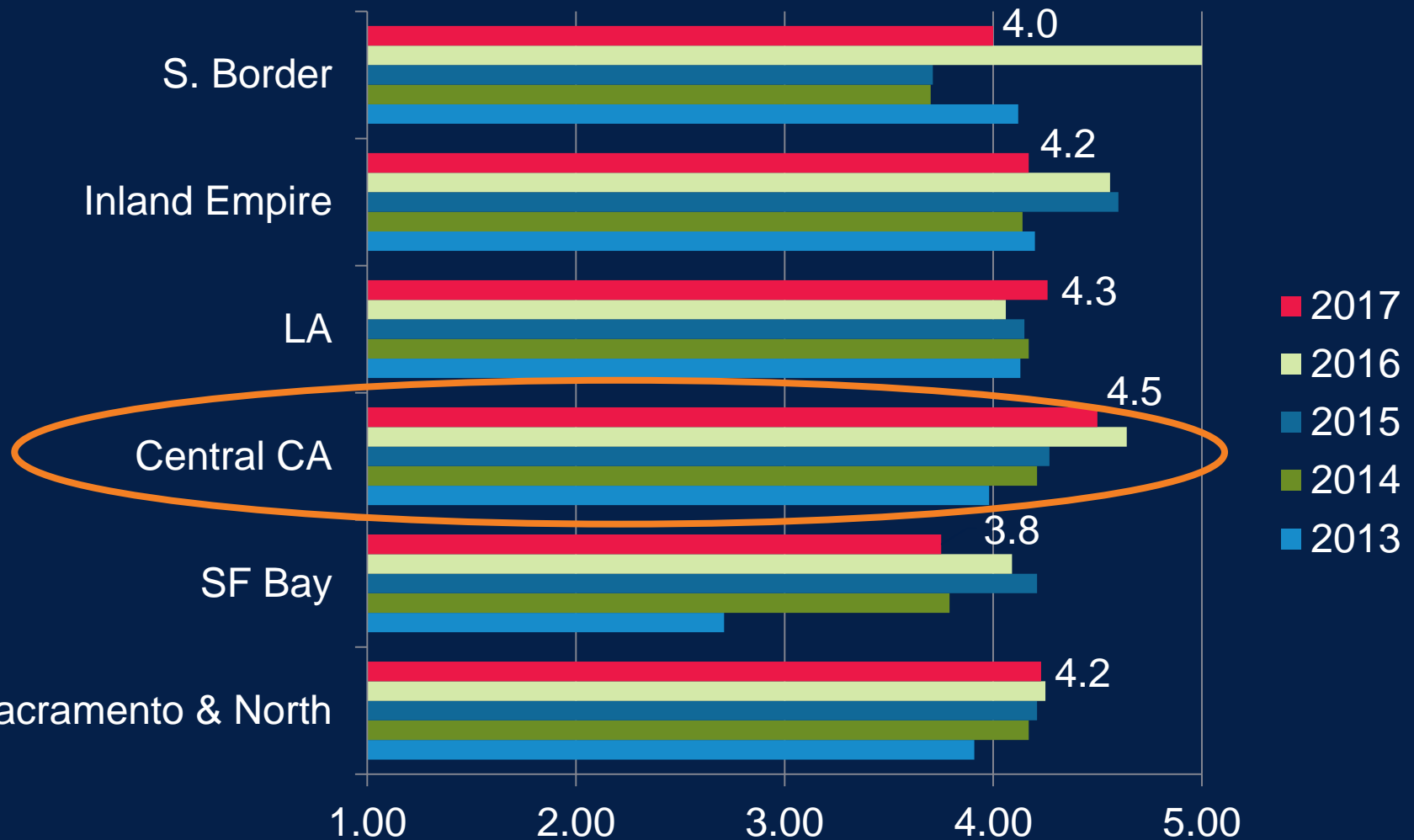


- High demand: difficult to fill open positions
- Moderate demand: some difficulty filling open positions
- Demand is in balance with supply
- Demand is less than supply available
- Demand is much less than supply available

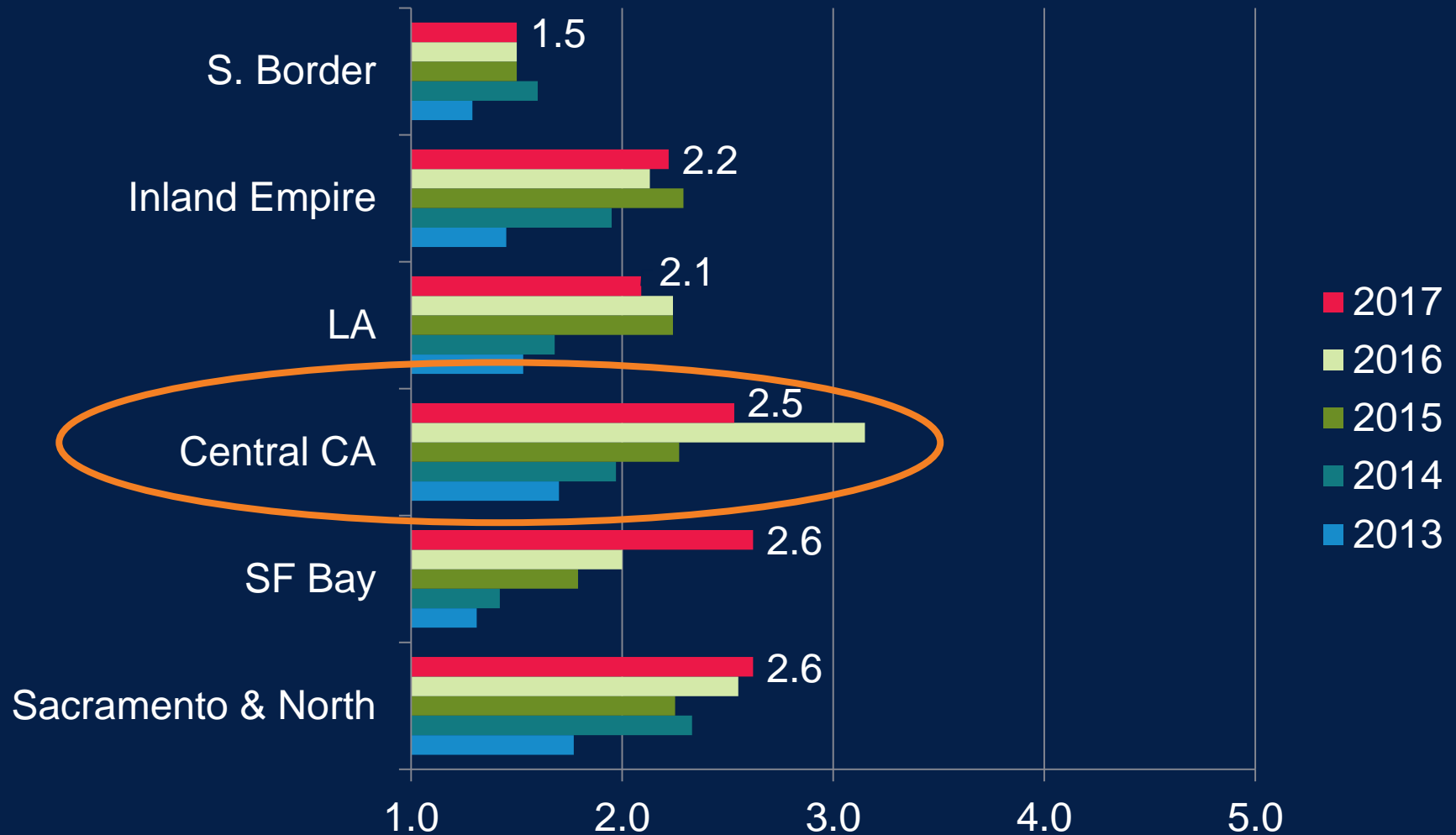
Differences across regions: Overall RN labor market



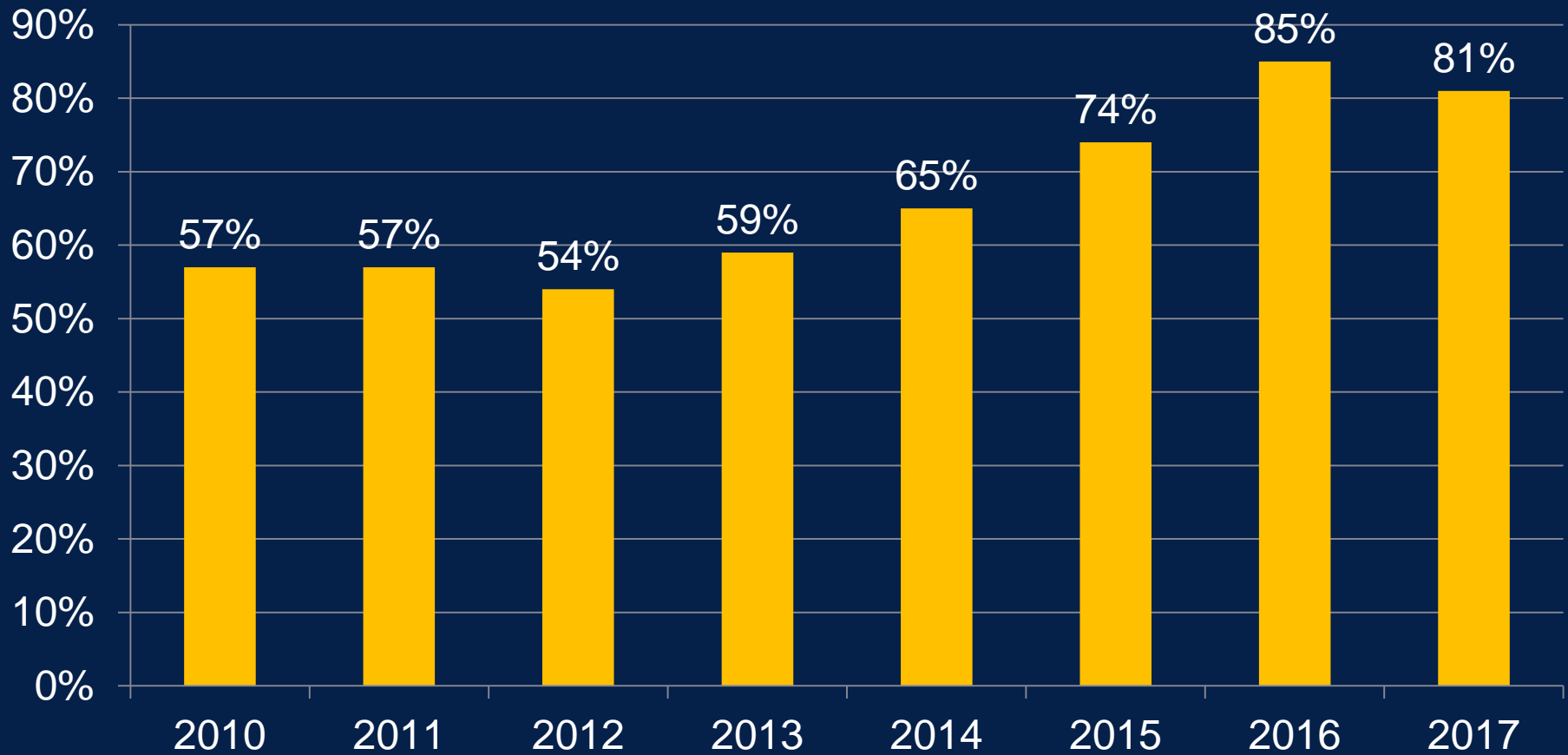
Differences across regions: Experienced RNs



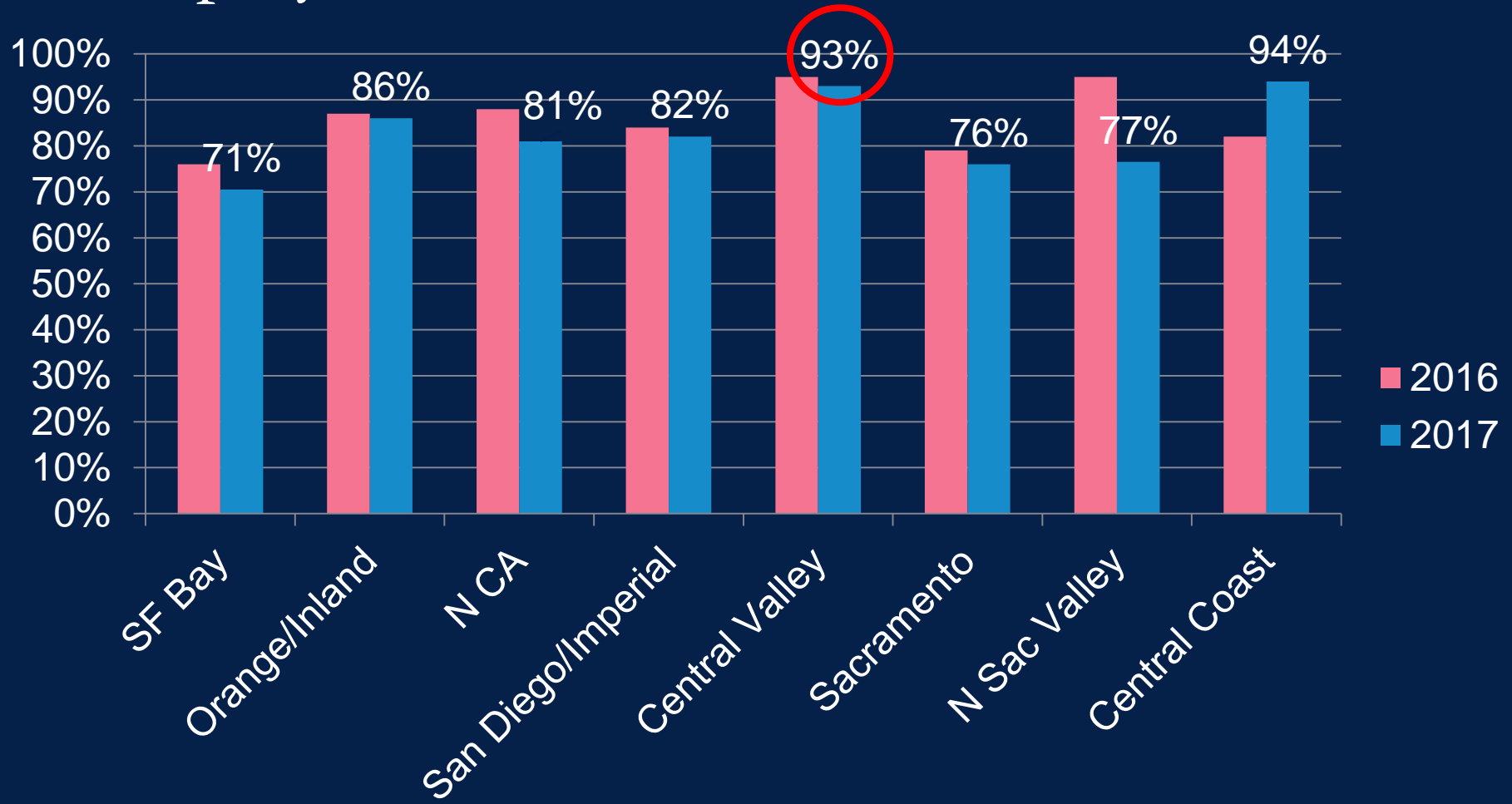
Differences across regions: New Grad RNs



New Graduate Employment

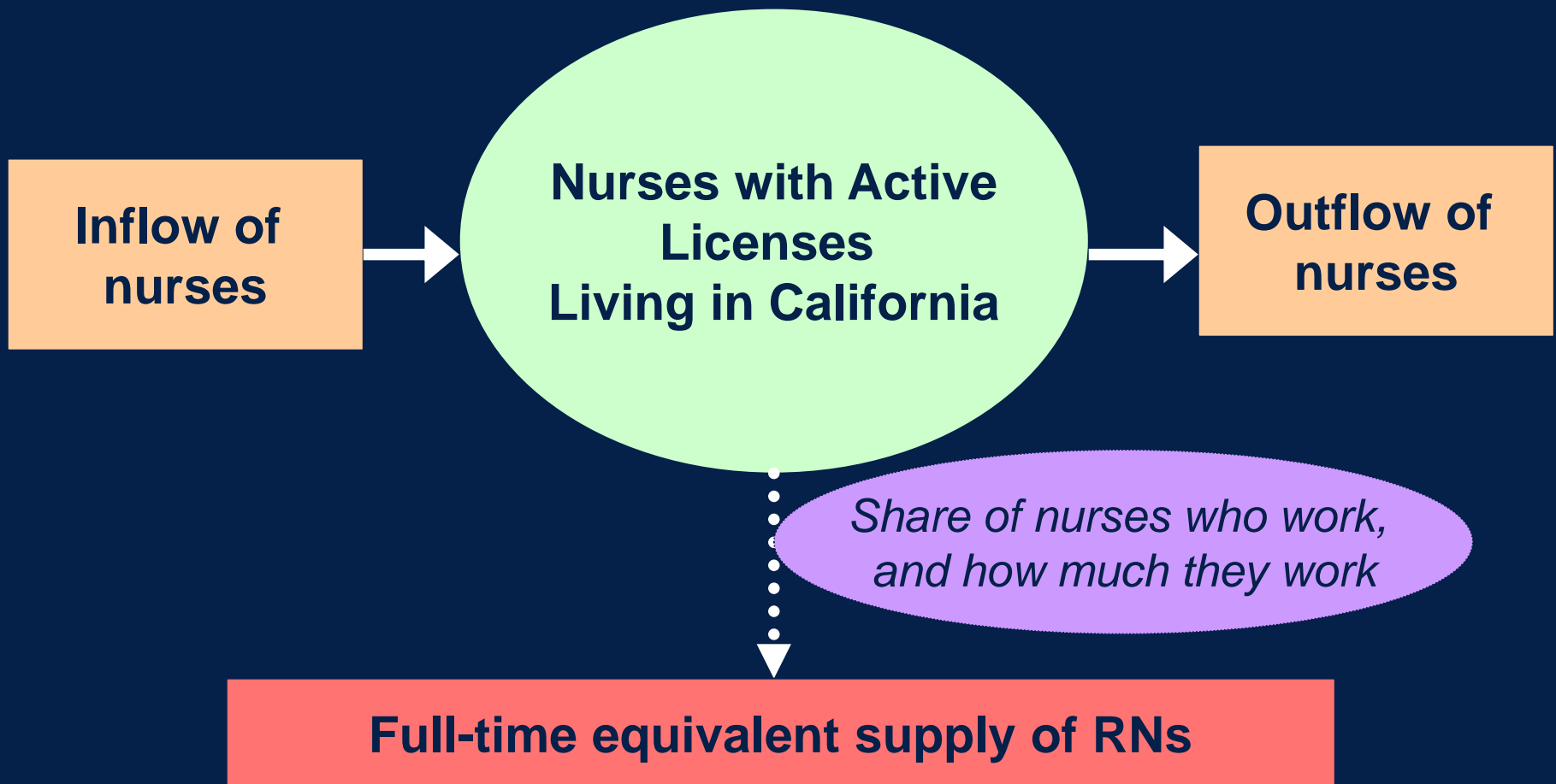


Regional Differences in New Grad Employment



Source: HealthImpact, 2018, Survey of Recent RN Graduates

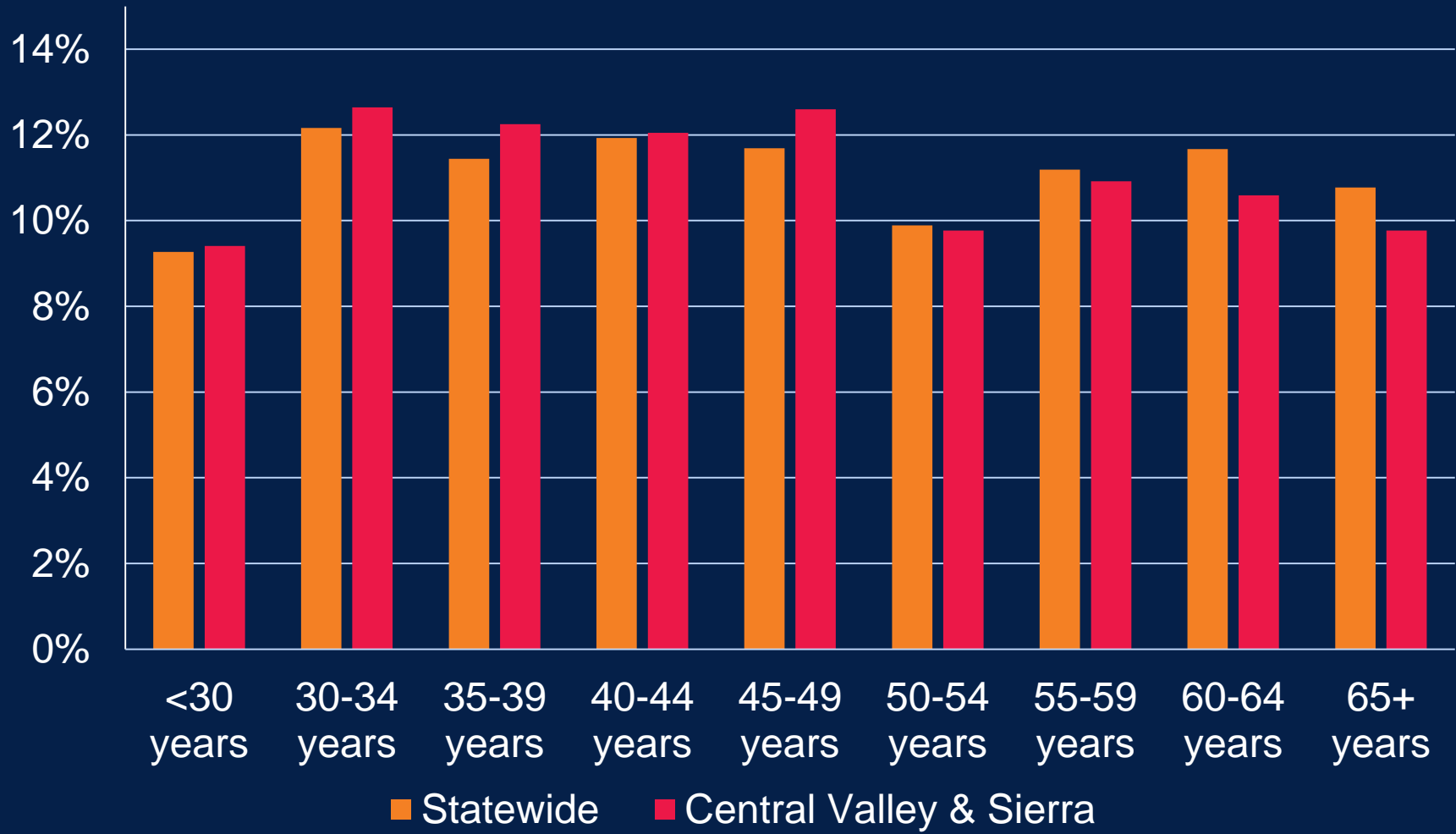
A model of the supply of RNs



Forecasting demand is harder

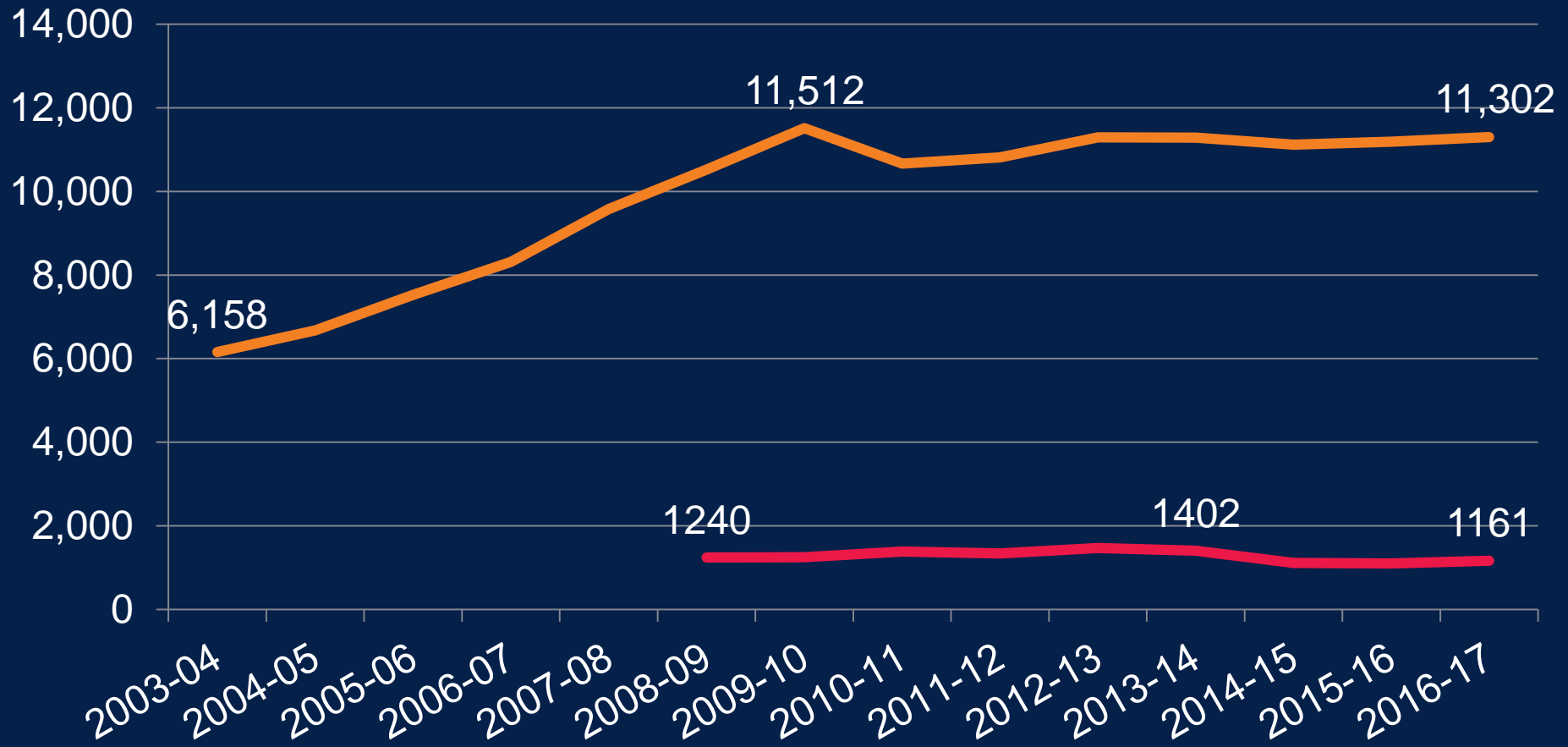
- Number of nurses per capita
 - What is the target?
 - National average?
 - Some arbitrary benchmark?
 - Estimates of how many providers are needed to provide XYZ?
- Demand-based models can be based on economic demand models
 - Easier said than done....

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

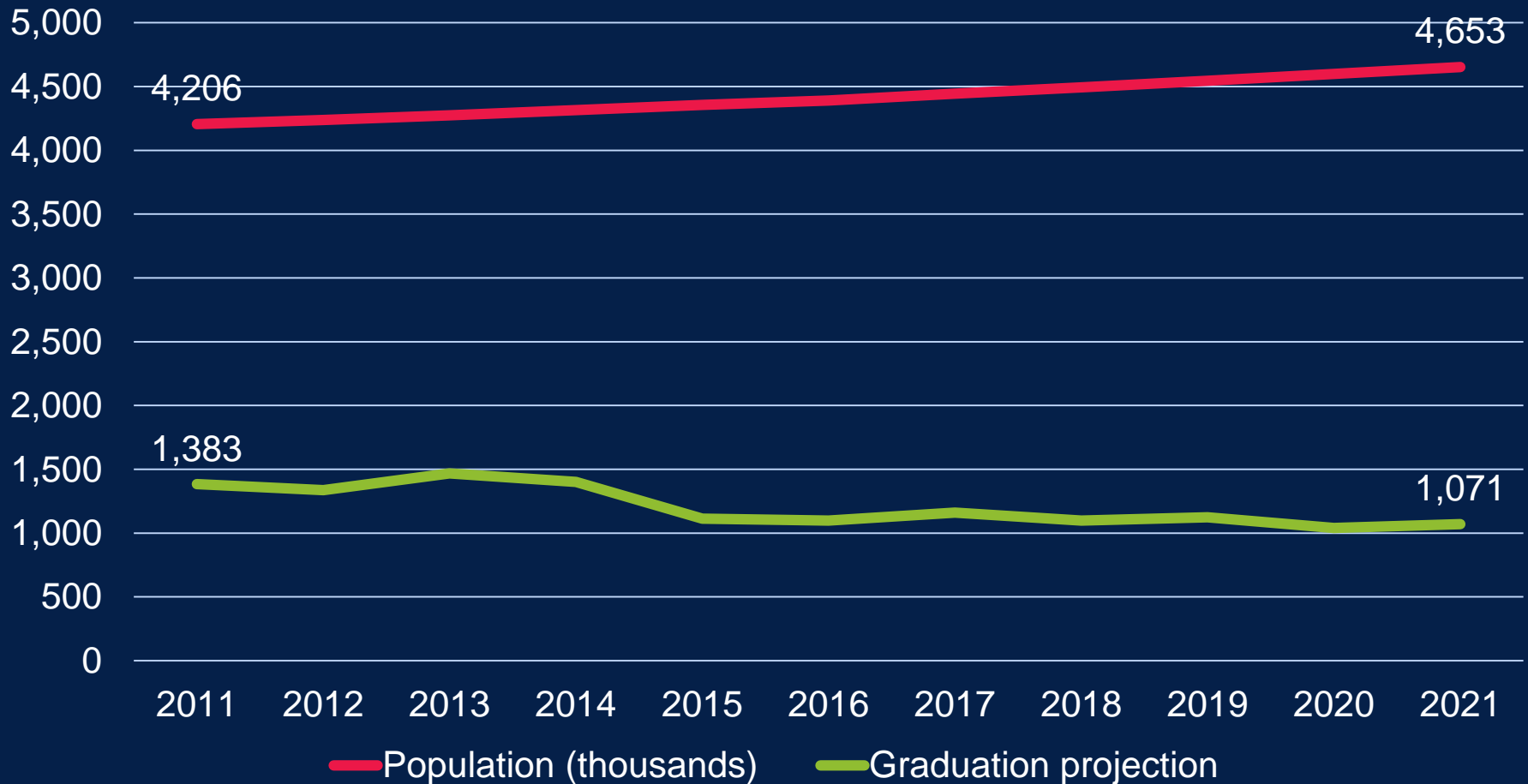
Statewide graduations are expected to hold steady

	New enrollment	Projected enrollment from 1 yr	Projected enrollment from 2 yrs	Graduations
2014-2015	13,318	12,162	13,347	11,119
2015-2016	13,152	13,110	12,177	11,191
2016-2017		13,862	13,236	10,761
2017-2018			14,219	10,627
2018-2019				11,200
2019-2020				11,489

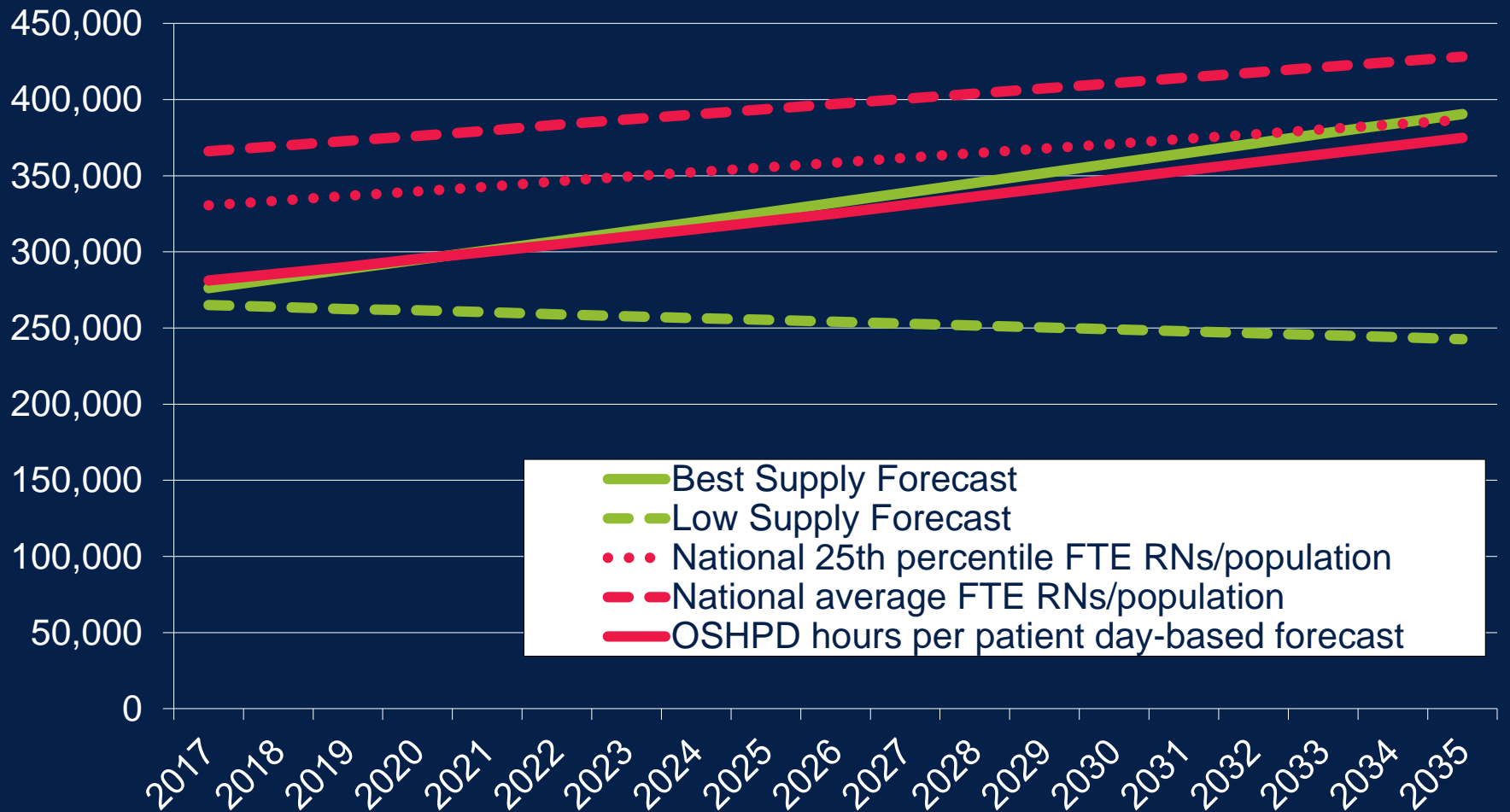
Central Valley & Sierra graduations are projected to hold steady

	New enrollment	Projected enrollment from 1 yr	Projected enrollment from 2 yrs	Graduations
2015-2016	1,276	1,101	1,094	1,097
2016-2017	1,305	1,099	1,101	1,161
2017-2018		1,208	1,122	1,099
2018-2019			1,244	1,124
2019-2020				1,040
2020-2021				1,071

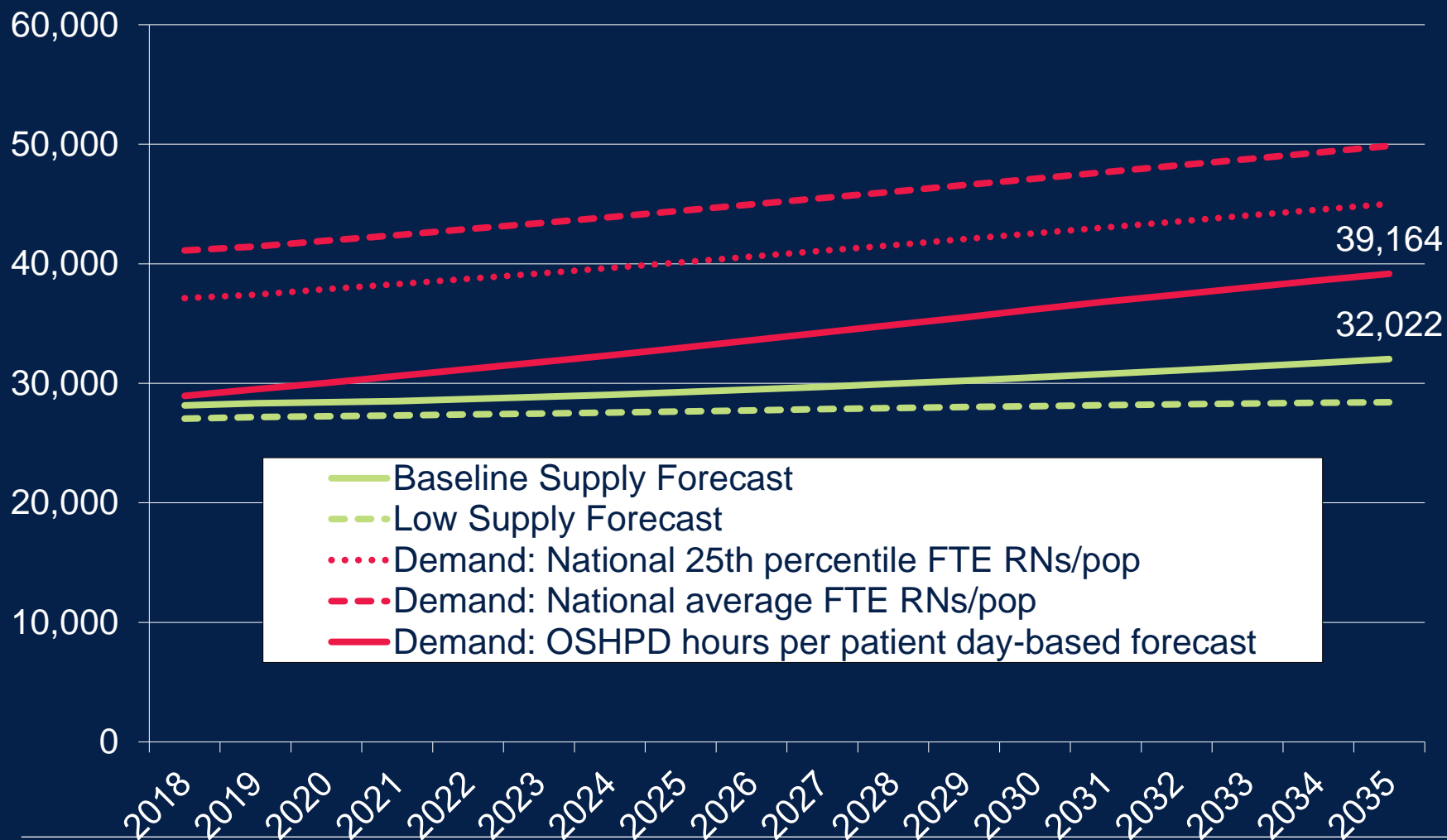
What is projected population growth in the region?



California RN supply and demand forecasts, 2017-2035



Regional differences are important: Forecasts for Central Valley & Sierra



Inflows and outflows for the Central region

- Inflows = ~1,830 now
 - Graduations: ~1,100 per year
 - Migration into the region: 529 per year 2016-2018
 - Endorsements from other states: 204 in 2017
- Outflows = 2,703 now
 - Migration out of the region: 777 per year 2016-2018
 - Concentrated among younger nurses
 - Lapsed licenses: 1,926 per year 2016-2018
- Conclusion: Outflows exceed inflows & population is growing
 - Not enough new graduates

Costs of shortages and turnover

- Productivity losses due to instability in the workforce
- Premiums paid to temporary RN staff
- Losses when beds are closed, patients are deferred
- Expense of overtime pay
- Training and orientation costs
- Patient safety failures when understaffed

How do we address the challenge?

Central Valley & Sierra faces a shortage of about 20% by 2035

Rapid population growth projected → workforce needs to keep up

Younger RN workforce, but not enough new graduates