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FOR THE HEALTH PROFESSIONS

Health Workforce Needs in California and the Role of Community Colleges

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Presentation outline

- **Health workforce education in community colleges**
 - What workers?
 - Who else provides the training and education?
- **Health industry and health workforce trends**
 - What is likely to happen in the next 5 to 10 years?
- **How Community Colleges can address future needs**
 - Program expansions?
 - Program refocusing?
 - Special strategies?

Why is the health workforce important to California?

- **Health care is the largest employer in the United States**
 - Over 14 million US jobs in the health care industry in 2006
 - *This includes non-health-occupations such as janitors & food service*
 - 1 million California jobs were in health occupations in 2006
 - *5.6% of California workers*
 - A study of six cities found that health services jobs accounted for 6.6% to 12% of urban jobs (Gitterman & Spetz, 2004)
- **Health care accounts for 16.6% of national GDP**
 - 60-70% of health care costs are labor costs
- **Health care represents opportunity for students, workers in career transition, and the underemployed**

What health workers are educated in Community Colleges?

- **Oral Health Care**
 - Dental hygienists
 - Dental assistants
- **Pharmacy**
 - Pharmacy technicians
- **Nursing**
 - Registered nurses (RNs)
 - Licensed vocational nurses (LVNs)
 - Nursing assistants
- **Allied Health Workforce**
 - Psychiatric technicians
 - Respiratory therapy & technicians
 - Radiography
 - Medical assistants
 - Many, many more



Example: Dental Hygienists (RDHs)

- **23 Dental Hygiene Programs**

- 450-500 new graduates each year
- Associate Degree is required
 - *16 of 23 programs are in California Community Colleges*
 - *5 new programs in the Last 5 Years*

- **Policy Issues**

- Registered Dental Hygienists can have “Alternative Practice” license
 - *Licensed to practice unsupervised in homes, schools, residential facilities & other institutional settings as well as Dental Health Professional Shortage Areas*
 - *Policy changes needed to facilitate RDH – AP practice in underserved areas*

Example: Dental Assistants

- **Hundreds of Dental Assistant programs**

- Less than one year Certificate Program, or on-the-job training
- Widespread access to training programs
 - *Community Colleges, Private for-profit Vocational Schools, Public Adult Ed Programs, Regional Occupations Programs*

- **Policy Issues**

- Promoting incumbent workers into higher-paying occupations
- Rise of private, for-profit vocational training programs raises the cost of education for students

Example: Pharmacy Technicians

- **Many educational opportunities**

- Less than one-year Certificate required for practice
- Widespread access to training programs
 - Community Colleges, Private for-profit Vocational Schools, Public Adult Ed Programs, Regional Occupations Programs Policy Issues

- **Policy Issues**

- Promoting incumbent workers into higher-paying occupations
- Rise of private, for-profit vocational training programs raises the cost of education for students

Example: Respiratory Technicians and Therapists

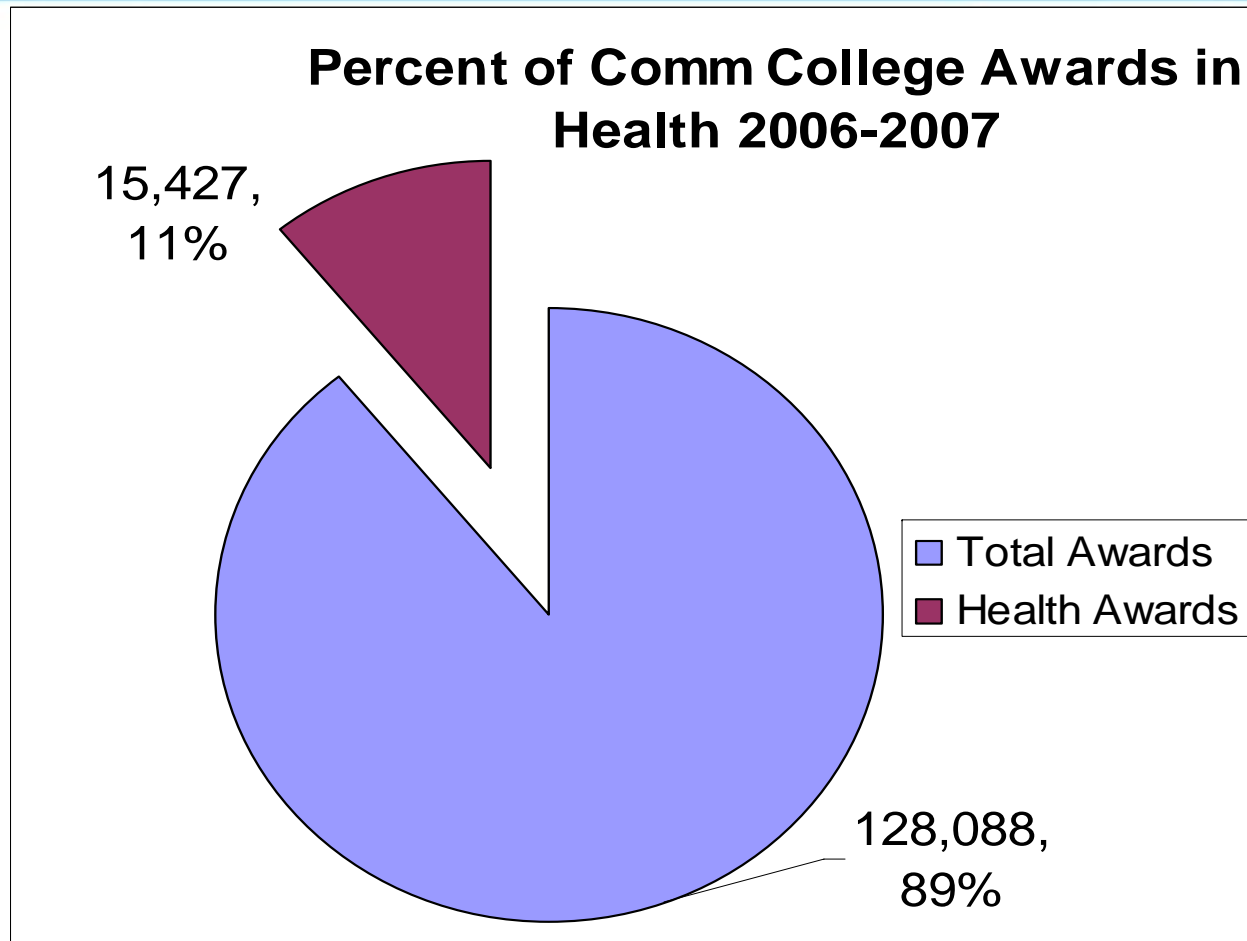
- **Respiratory Therapy Education**

- 35 programs in California
 - Changes in educational requirements for licensure caused program closings & decline in number of graduates
 - 8 new programs in last 5 years have led to regional concerns about oversupply of entry-level therapists
- Training opportunities are widely distributed
 - Community Colleges, Private for-profit Vocational Schools, Public Adult Ed Programs in all regions of CA

- **Policy Issues**

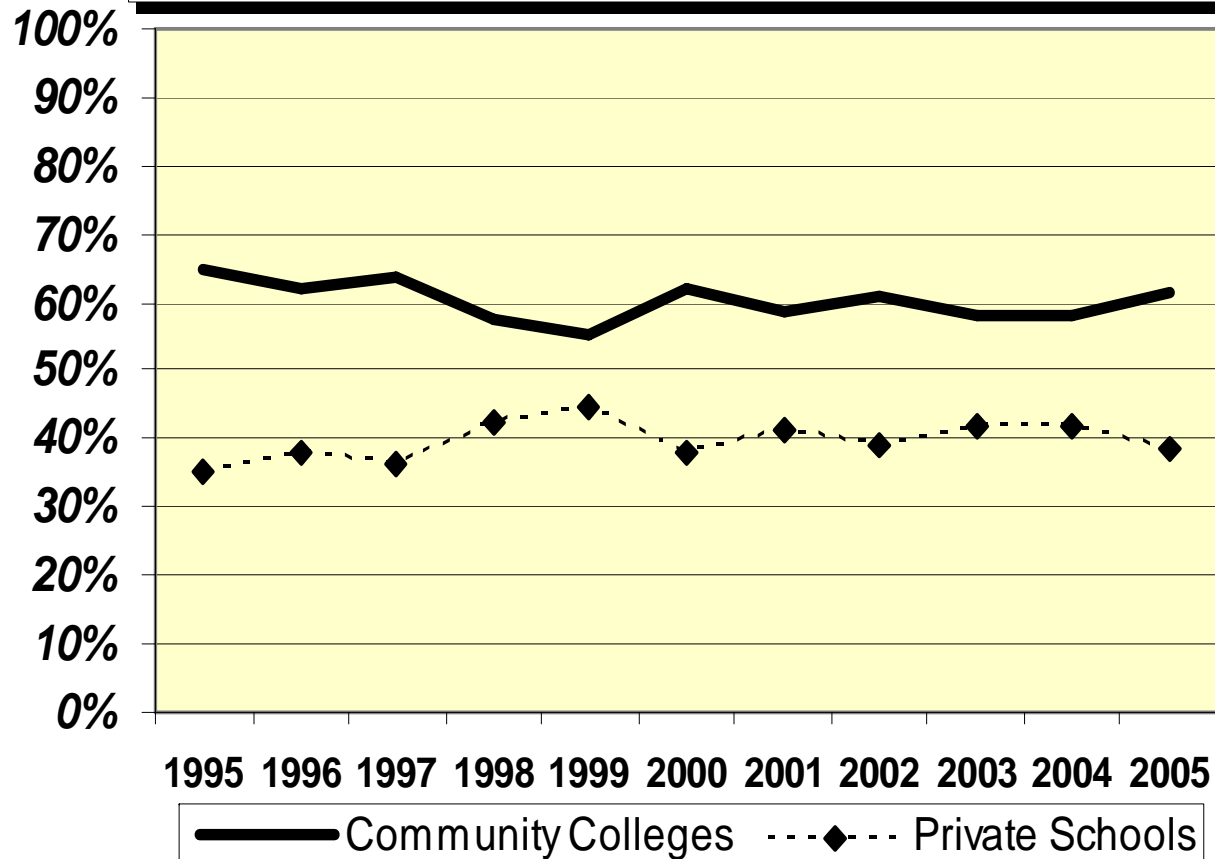
- Need to monitor regional labor market conditions for signs of over-supply of entry-level therapists

The importance of health education in Community Colleges



Medical Radiography degrees in California by Sector: Community Colleges versus Private Schools

source: IPEDS



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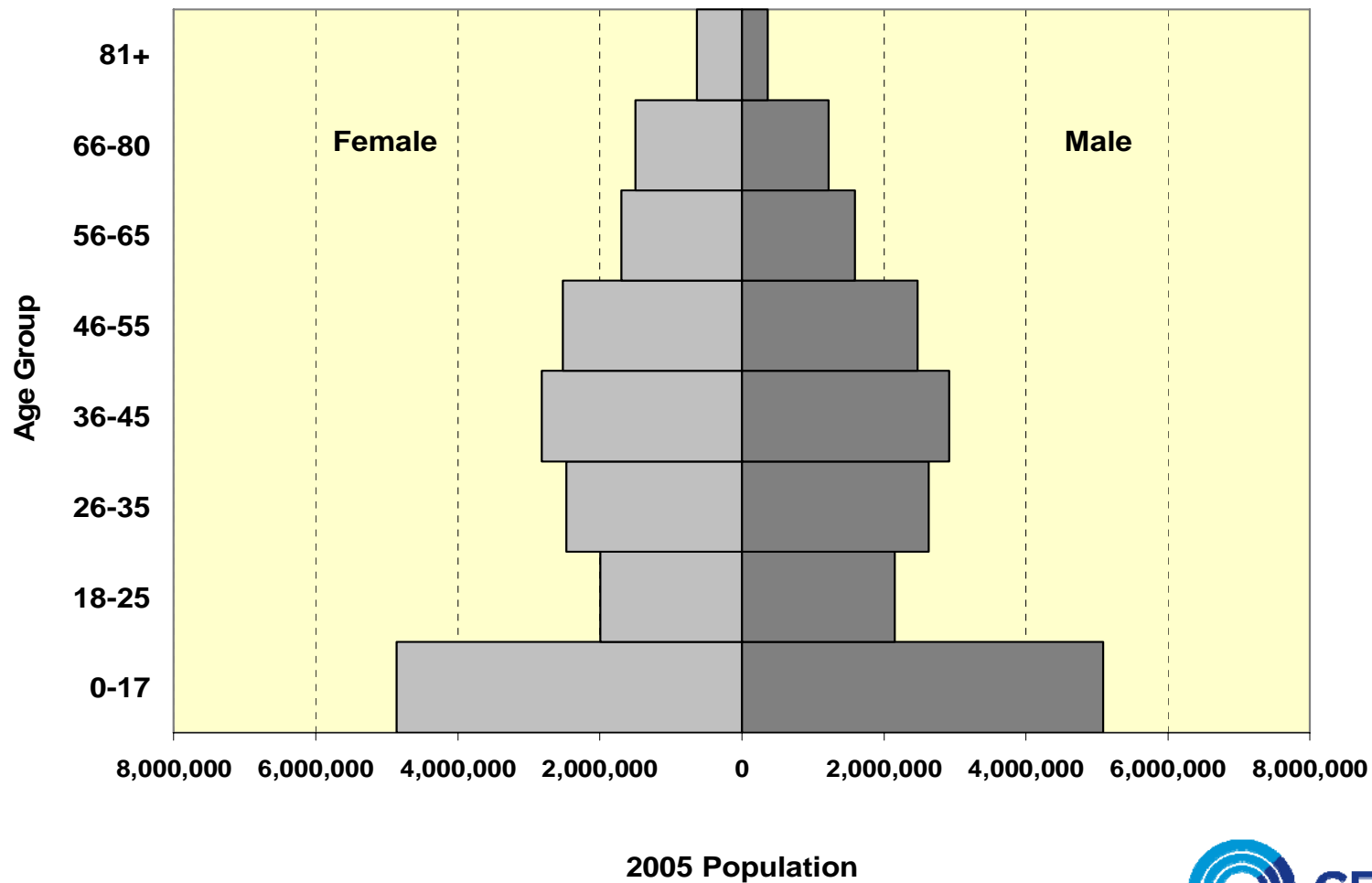
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Population changes will drive health care growth

- **Growth**
 - California's population is projected to grow by 12 million over the next 2 decades
- **Increasing diversity**
 - Over 90% of this growth will be Latino (75%) and Asian (17%)
 - Latinos will represent 45% of California's population by 2030
 - No projected growth in the White and African American populations
- **Aging of the population will change health needs**
 - Greater need overall
 - More long-term and supportive care

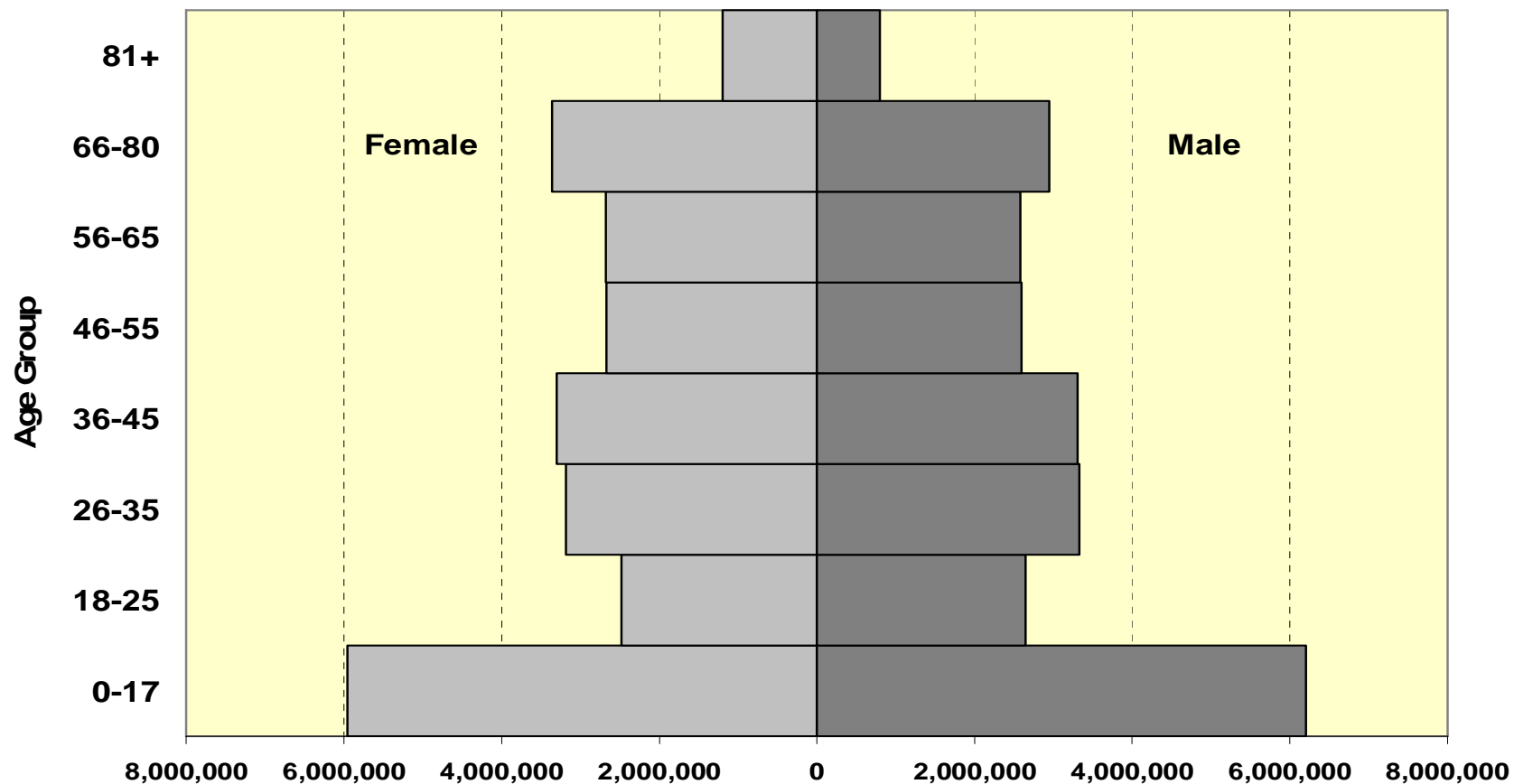
2005 California Population by Age Group

Source: California Department of Finance



2030 California Population by Age Group

Source: California Department of Finance



2030 Population



Changes in Federal programs can have a large effect

- **Over \$473 billion was spent by the federal government in 2002 on federal health programs**
 - Programs include...
 - *Medicare*
 - *Medicaid & SCHIP*
 - *TriCare (military) & Veterans Affairs*
 - *National Institute of Health, Health Resources & Services Administration, etc.*
 - San Diego gets \$5 billion in federal funds per year
 - *4.4% of metropolitan gross product*
 - Oakland gets \$3.5 billion in federal funds per year
 - *3.7% of metropolitan gross product*
- **National health reform could have a substantial impact on the flow of health care dollars**

Health care job growth has been significant in the 2000s

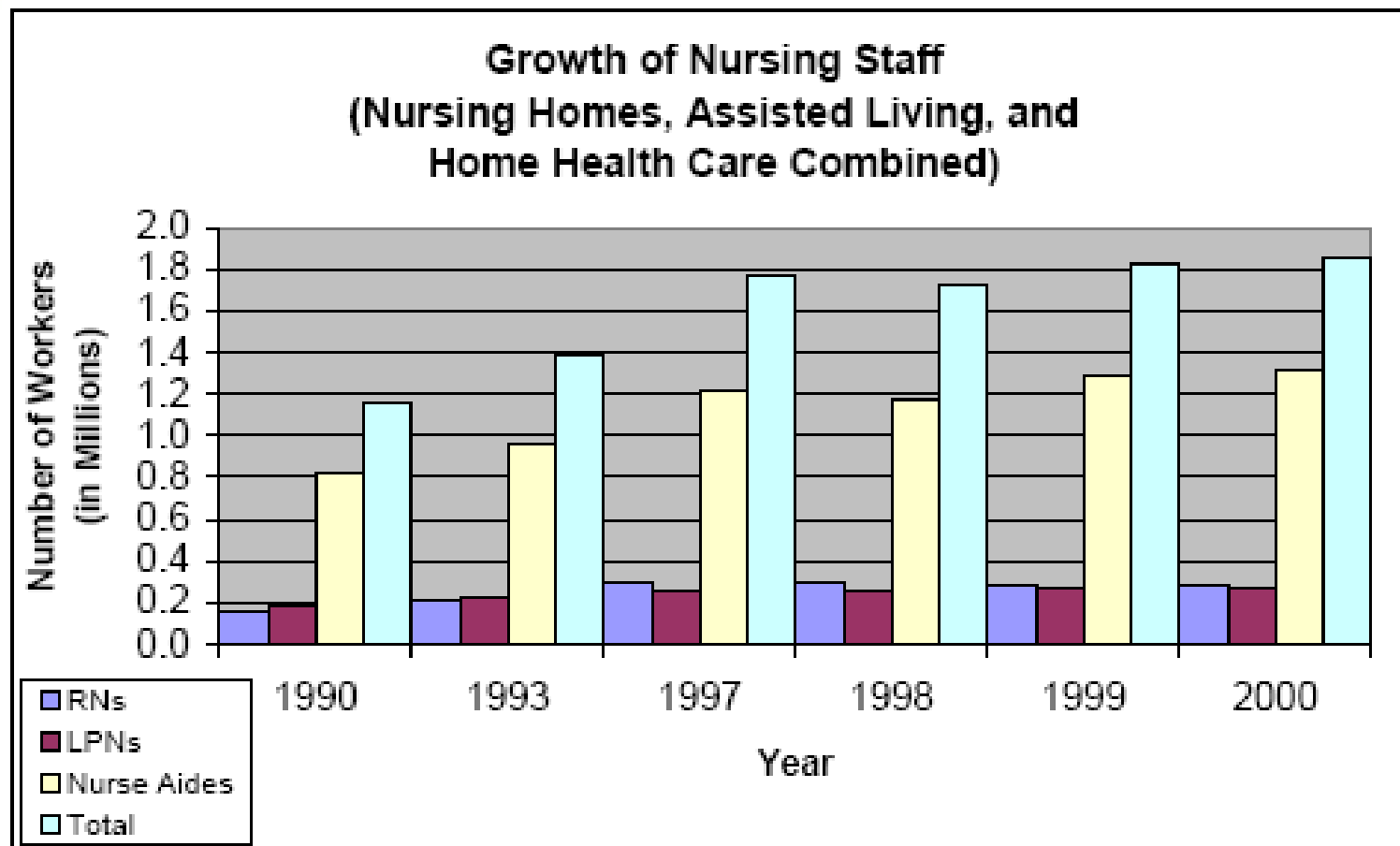
- **Healthcare and related industries have added 1.7 million jobs between 2001 and 2006**
 - Housing & construction added 900,000
 - All other private sector industries combined lost 1.2 million jobs
- **Between 1993 and 2002, the number of jobs in major health industries grew at an average rate of 20% in 6 cities.**
 - San Diego – 6.9% of employment was in health care (2003)
 - *Hospital employment grew 9% from 1993-2003*
 - *Nursing & residential care grew 29.5% from 1993-2003*
 - *Ambulatory care grew 28.6% from 1993-2003*
 - Oakland – 8.2% of employment was in health care (2003)
 - *Hospital employment grew 26.1% from 1993-2003*
 - *Nursing & residential care grew 23.9% from 1993-2003*
 - *Ambulatory care grew 9% from 1993-2003*



Health care job opportunities are growing rapidly

- 9.4% of all jobs created between 2006 and 2016 are projected to be health services occupations.
- Demand for allied health workers in the U.S. is expected to increase by 26% over next decade (Campaign for College Opportunity)
 - Overall employment in the U.S. is expected to grow by 16%
- 7 of 20 fastest-growing occupations in the U.S. will be in health care between 2006 and 2016
- Continued growth of the aged and disabled population will result in an increasing demand for long-term care
 - The demand for professionals (physicians, nurses, physical therapists, etc.) will be dwarfed by the need for unlicensed formal and informal caregivers.

Long-term care is a significant area of future need



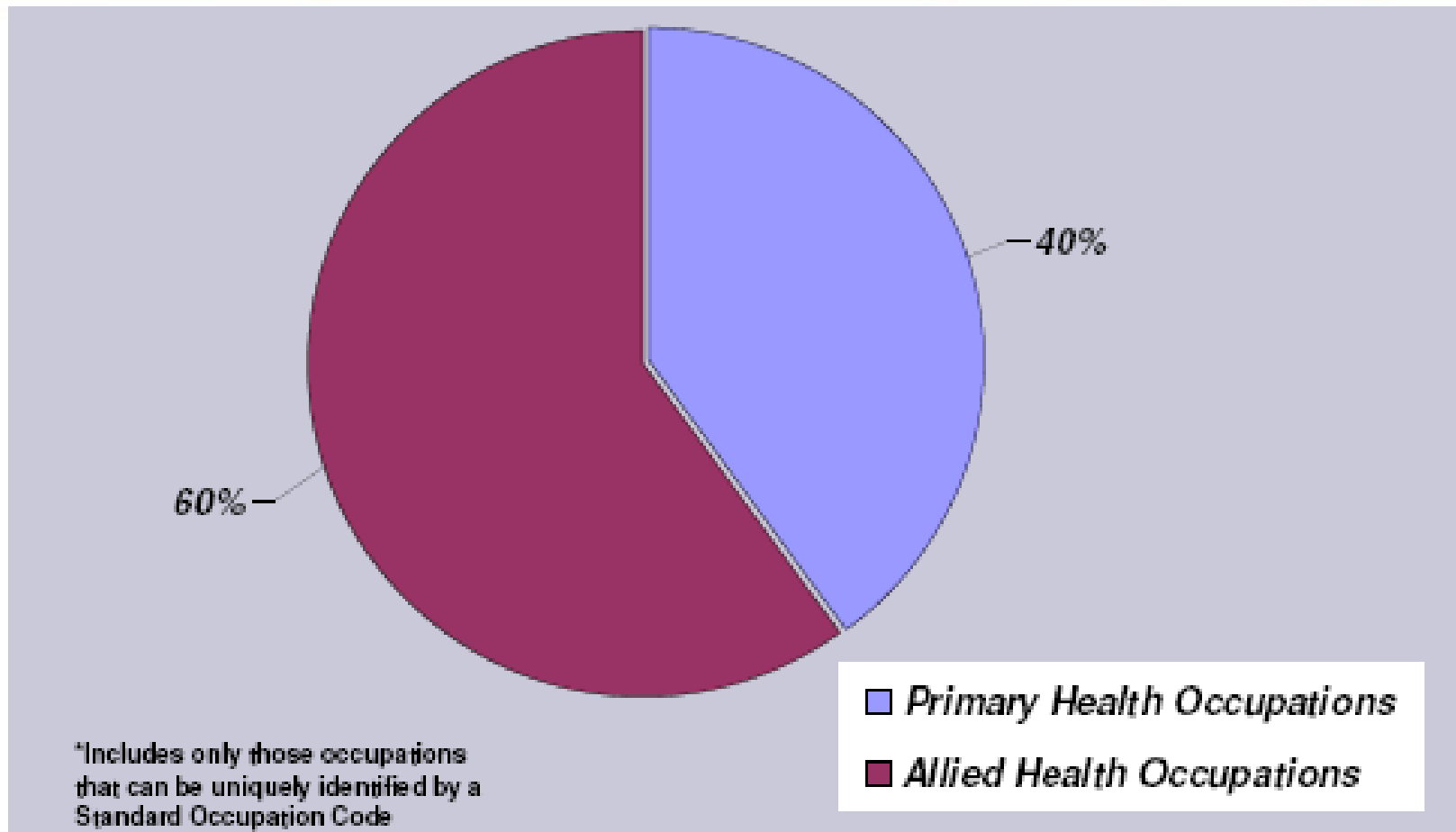
Source: BLS Occupational Employment Statistics Survey



Focus on opportunity in Allied Health Workforce

- Allied health workers are not
 - Nurses
 - Physicians
 - Dentists
 - Pharmacists
- Many allied health professions are projected to reach or have reached critical shortages
- There is a lack of awareness, visibility, and advocacy for allied health occupations
- Like other health professions, California lags behind the U.S. in proportion of allied health workers to population

2005 U.S. health workforce – Allied Health vs. Other Health occupations



Health care job opportunities are growing rapidly in California (source: Calif. Employment Development Dept.)

<i>Employment by <u>industry</u></i>	2006	2016	Change
Total employment	17,173,500	19,683,800	14.6%
Health care & social assistance	1,338,000	1,645,100	23.0%
Ambulatory Health	537,400	680,600	26.6%
Hospitals	380,000	448,400	18.0%
Nursing & Residential Care	223,600	278,000	24.3%
Social assistance	196,900	238,100	20.9%

Health care job opportunities are growing rapidly in California

<i>Employment by <u>occupation</u></i>	2006	2016	Change
Total employment	17,173,500	19,683,800	14.6%
Health care practitioners & technical occupations	650,300	795,700	22.4%
Registered Nurses	238,400	298,000	25.0%
Health Technologists & Technicians	224,100	274,700	22.6%
Healthcare Support Occupations	341,200	432,500	26.8%

Health care job opportunities are growing rapidly in California

<i>Employment of <u>health techs</u></i>	2006	2016	Change
Medical & clinical lab techs	22,800	26,600	16.7%
Dental hygienists	22,400	30,400	35.7%
Radiology techs	15,200	17,700	16.4%
EMTs & Paramedics	12,100	14,800	22.3%
Pharmacy techs	23,300	31,700	36.1%
Licensed Vocational Nurses	57,700	67,800	17.5%
Medical records techs	13,700	16,300	19.0%

Health care job opportunities are growing rapidly in California

<u>Employment of healthcare support occupations</u>	2006	2016	Change
Home health aides	48,000	66,700	39.0%
Nursing aides/assistants, orderlies	100,400	122,200	21.7%
Occupational & physical therapist assistants/aides	11,100	14,800	33.3%
Dental assistants	41,600	56,100	34.9%
Medical assistants	59,500	77,800	30.8%

Fastest growing occupations

<u>Fastest growing occupations</u>	2006	2016	Change
Network systems & data comm. Analysts	28,900	45,900	58.8%
Computer software engineers	87,300	128,400	47.1%
Veterinary Techs	8,200	11,500	40.2%
Home Health Aides	48,000	66,700	39.0%
Occupational therapist asst	1,300	1,800	38.5%
Physical therapist assistants	3,600	4,900	36.1%
Pharmacy technicians	23,300	31,700	36.1%
Dental hygienists	22,400	30,400	35.7%
Substance abuse counselors	9,600	13,000	35.4%
Dental assistants	41,600	56,100	34.9%
Occupational & physical therapist assistants & aides	11,100	14,800	33.3%



Fastest growing occupations

<i>Fastest growing occupations</i>	2006	2016	Change
Graduate teaching assistants	19,200	25,500	32.8%
Special education teachers	19,800	26,200	32.3%
Health specialties teachers, postsecondary	8,500	11,200	31.8%
Physical therapist aides	5,100	6,700	31.4%
Medical assistants	59,500	77,800	30.8%
Surgical technologists	8,200	10,400	26.8%
Cardiovascular techs	2,700	3,400	25.9%
Registered nurses	238,400	298,000	25.0%
Veterinary assistants & lab animal caretakers	8,500	10,400	22.4%
EMTs & paramedics	12,100	14,800	22.3%
Nursing aides/assistants	100,400	122,200	21.7%



Slow-growing health occupations

<u><i>Slowest growing occupations</i></u>	2006	2016	Change
Total employment	17,173,500	19,683,800	14.6%
Medical equipment preparers	4,100	4,700	14.6%
Dietetic technicians	2,100	2,400	14.3%
Dietitians and Nutritionists	5,800	6,600	13.8%
Audiologists	1,500	1,700	13.3%
Medical transcriptionists	7,500	8,300	10.7%
Respiratory therapy technicians	1,000	1,000	0.0%
Pharmacy aides	7,300	6,800	-6.8%

What affects future demand?

- **General population distribution**
 - Demographics
 - Migration patterns
 - Rural vs. urban composition
- **Structural changes in the economy (service vs. manufacturing)**
- **New technologies**
- **Regulatory environment and payment system**

In health care, supply often creates demand

Methods for projecting demand

- **Complex**

- A complex model might include...
 - *Historical patterns of health service utilization, compared with projected population changes*
 - *Changes in health insurance coverages*
 - *Regulatory changes that affect services delivered*

- **Simple**

- Use the U.S. Bureau of Labor Statistics and California Employment Development Department employment projections
 - *Published every 2 years*

A shortage occurs when supply & demand are not aligned

- **Demand is growing – is supply growing enough to meet future needs?**
- **When there is more demand than supply, wages should rise**
 - More people will want to pursue the profession, so supply will increase when wages rise
 - Shortages should remedy themselves
- **Shortages might be persistent**
 - Most health professions require post-secondary education
 - Education programs are often in short supply
 - Wage increase might not lead to the supply growth required
- **Inter-state migration and international immigration can help remedy shortages**
 - Most policymakers prefer local solutions

What affects future supply?

- **Educational training system**
 - Set of schools & institutions that train health professionals
- **Economic opportunity**
 - Comparative wages
 - Geographic distribution
 - Structural changes in overall economy
 - New practice modes & increased specialization
- **General population distribution**
- **Workforce demographics**
 - Gender-associated professions

Methods for projecting supply

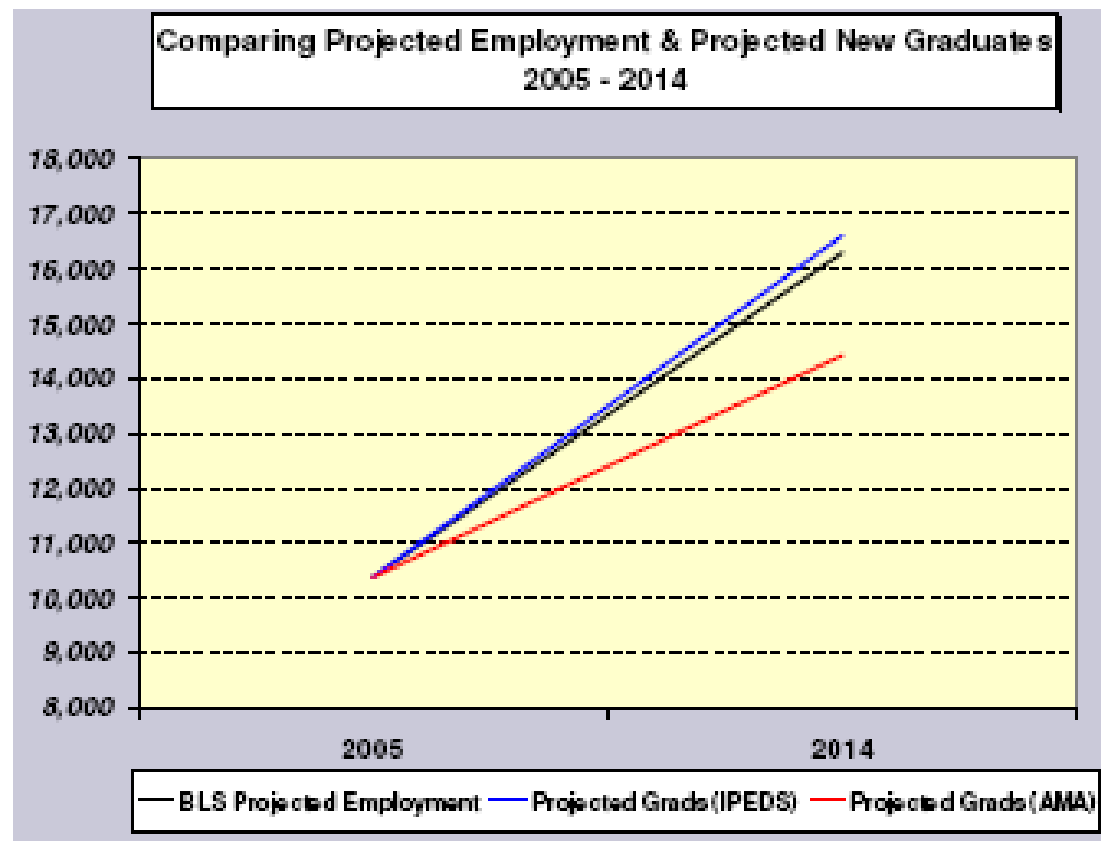
- **Complex: Multivariate behavioral model**
 - Can (relatively) accurately capture the effects of factors that most impact supply
 - Requires a lot of data, which are not necessarily easy to obtain
- **Simple: Employment-to-population comparison**
 - Straightforward
 - Easy access to data (Census & BLS)
 - Assumes that all factors impacting supply remain constant
- **Alternative: Measuring capacity to produce new graduates**
 - Examine data on in-state supply of graduates
 - Ignores migration state-to-state
 - Ignores age distribution

Some data sources for supply data

- **AMA Health Professions Education Data Book**
 - Survey of accredited Allied Health education programs, aggregated to state level
 - Unaccredited programs are not included
- **Integrated Postsecondary Education Data System (IPEDS)**
 - Battery of surveys on program enrollments & completions, time to degree, etc.
 - IPEDS data are more thorough
- **Profession-specific sources**
 - Board of Registered Nursing surveys & education data
 - National Sample Survey of Registered Nurses

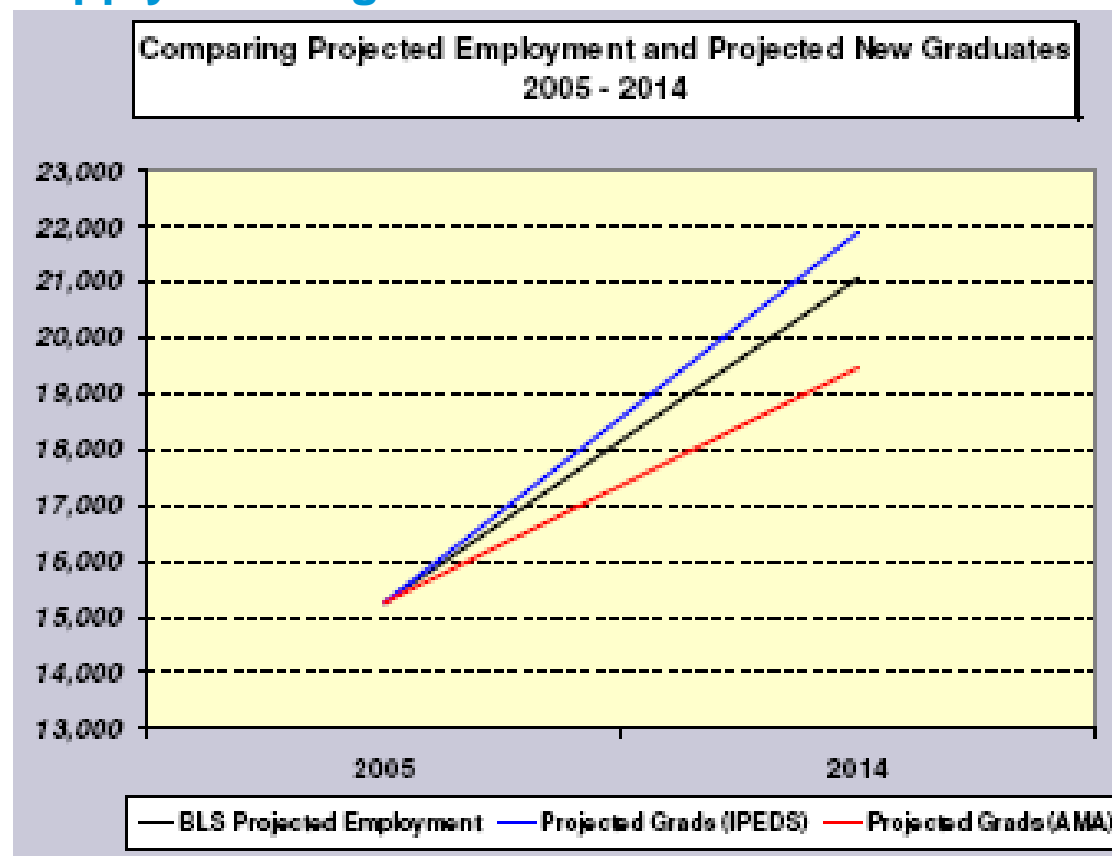
Example: Respiratory Therapy

- Anecdotal evidence of shortage of respiratory therapists
- Compare BLS/EDD employment projections with linear projection of supply of new graduates



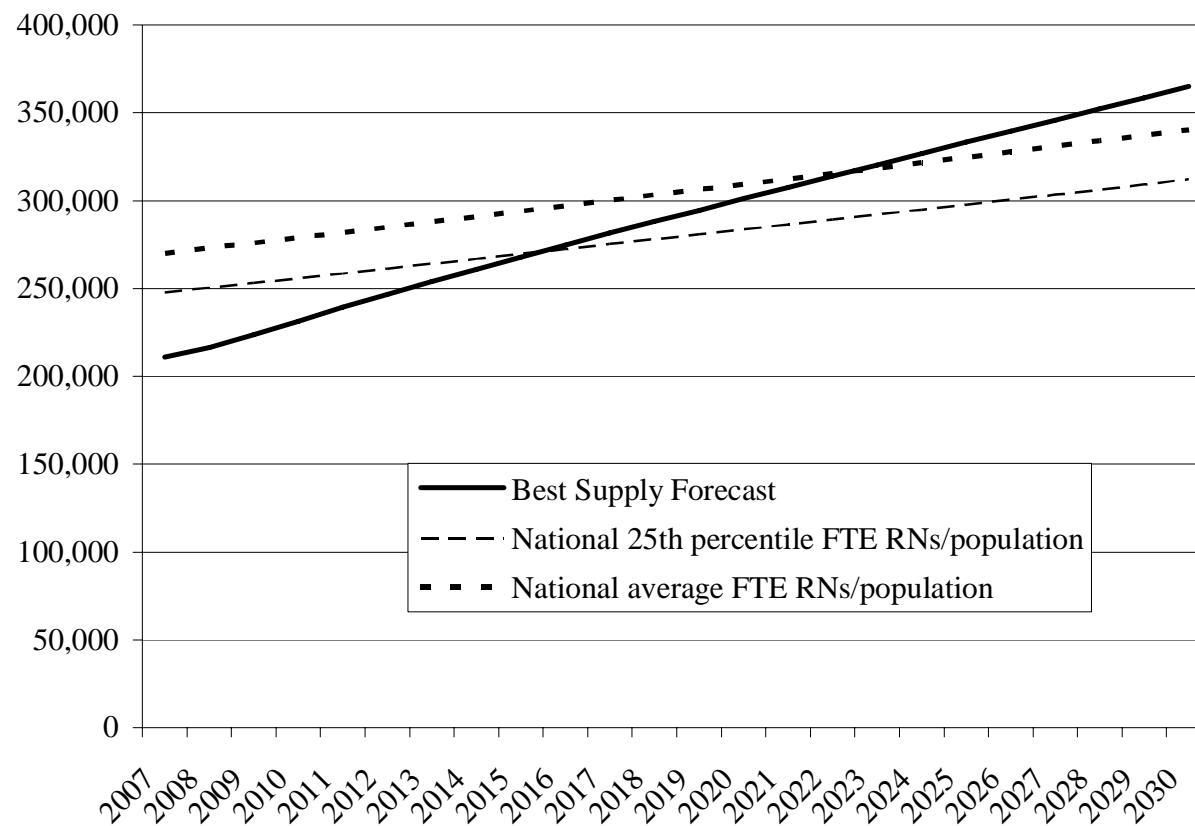
Example: Radiology

- Anecdotal evidence of shortage of radiologists
- Compare BLS/EDD employment projections with linear projection of supply of new graduates



Example: Registered Nursing

- Forecast of RN supply based on BRN Survey of RNs (2006)
- Forecast of demand based on RN-per-capita targets



The data can give us different conclusions

- **Respiratory therapy & radiology**

- The AMA data indicate that California needs to increase graduations of respiratory therapists and radiographers
- The IPEDS data indicate the projected supply is adequate
- For respiratory therapy, the recent requirement of an AD has changed supply and led to perception of shortage

- **Registered nursing**

- We are track to remedy the shortage in the next decade, if current enrollments and graduations are maintained

Another way to look at the demand data...

Annual job openings (new jobs + replacements)

	Annual job openings, 2006-2016	Median hourly wage, 2006
Registered Nurses	9,900	\$37.71
Nursing aides / assistants	3,080	\$12.27
Licensed vocational nurses	2,580	\$22.59
Medical assistants	2,570	\$14.34
Home health aides	2,300	\$9.80
Dental assistants	2,170	\$15.90
Pharmacy technicians	1,550	\$17.29
Dental hygienists	1,230	\$41.71
Medical records & health info techs	630	\$15.98
Veterinary techs	580	\$15.80
Psychiatric technicians	480	\$20.60

Another way to look at the demand data...

	Annual job openings, 2006-2016	Median hourly wage, 2006
Surgical technologists	470	\$21.64
Radiologic techs	460	\$29.12
EMTs/ paramedics	410	\$13.13
Medical & clin lab technicians	340	\$17.81
Veterinary asst & lab animal care	300	\$11.29
Physical therapist assistants	180	\$27.10
Medical transcriptionists	170	\$19.44
Cardiovascular techs	110	\$26.78
Medical equipment preparers	110	\$13.83
Dietetic technicians	90	\$13.94
Pharmacy Aides	90	\$10.19

Example: Oral health

- **Registered dental hygienists**

- One of Fastest-Growing Health Care Occupations in California
- Evidence of Shortage in last 5 years
- Very high wages
- Roughly 450-500 new Dental Hygiene graduates each year
- In some years total # of African American & Native American grads < 5

- **Dental assistants**

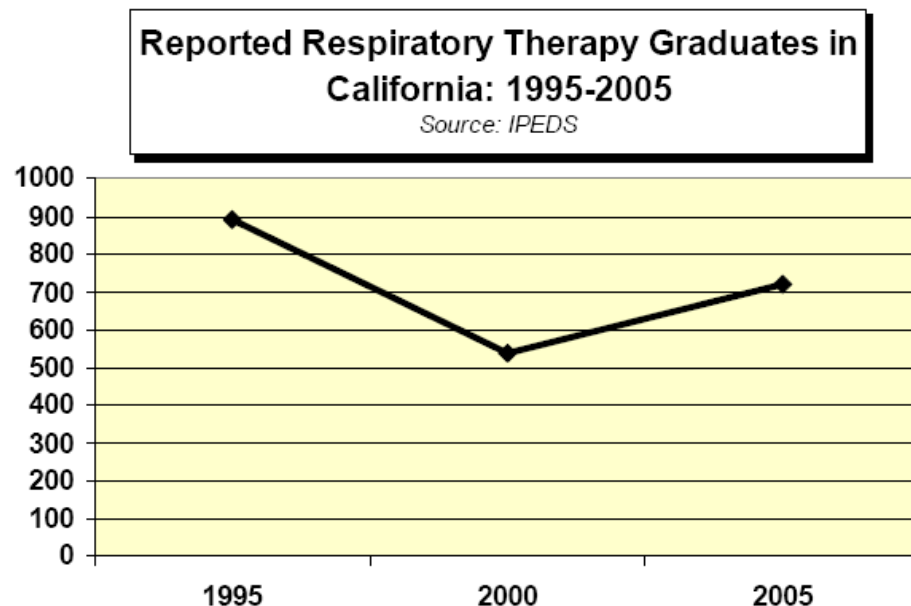
- One of Fastest-Growing Health Care Occupations in California
- High Turnover Rates
- Racial/Ethnic composition of workforce & education programs mirrors the CA general labor force

Example : Pharmacy Technicians

- One of Fastest-Growing Health Care Occupations in CA
- Few Barriers to Entry
- Racial/Ethnic composition of education programs becoming increasingly *diverse*

We need to keep an eye on: Respiratory Therapists

- **Strong Growth Overall in the Next Decade**
- **Diversity of New Entrants to Workforce**
 - *Some evidence of increasing minority representation*
 - Non-White graduates represented 55% of total in 2000 but 65% of total in 2007
 - Education programs more racially/ethnically diverse by comparison with current workforce
- **Some risk of over-supply of entry-level therapists due to rapid growth of education programs**



Special concerns for some occupations

- **High turnover**

- Turnover increases demand for workers because of constant losses
- 71% each year in nursing homes
- EMTs have high rates of turnover: low pay, high stress level

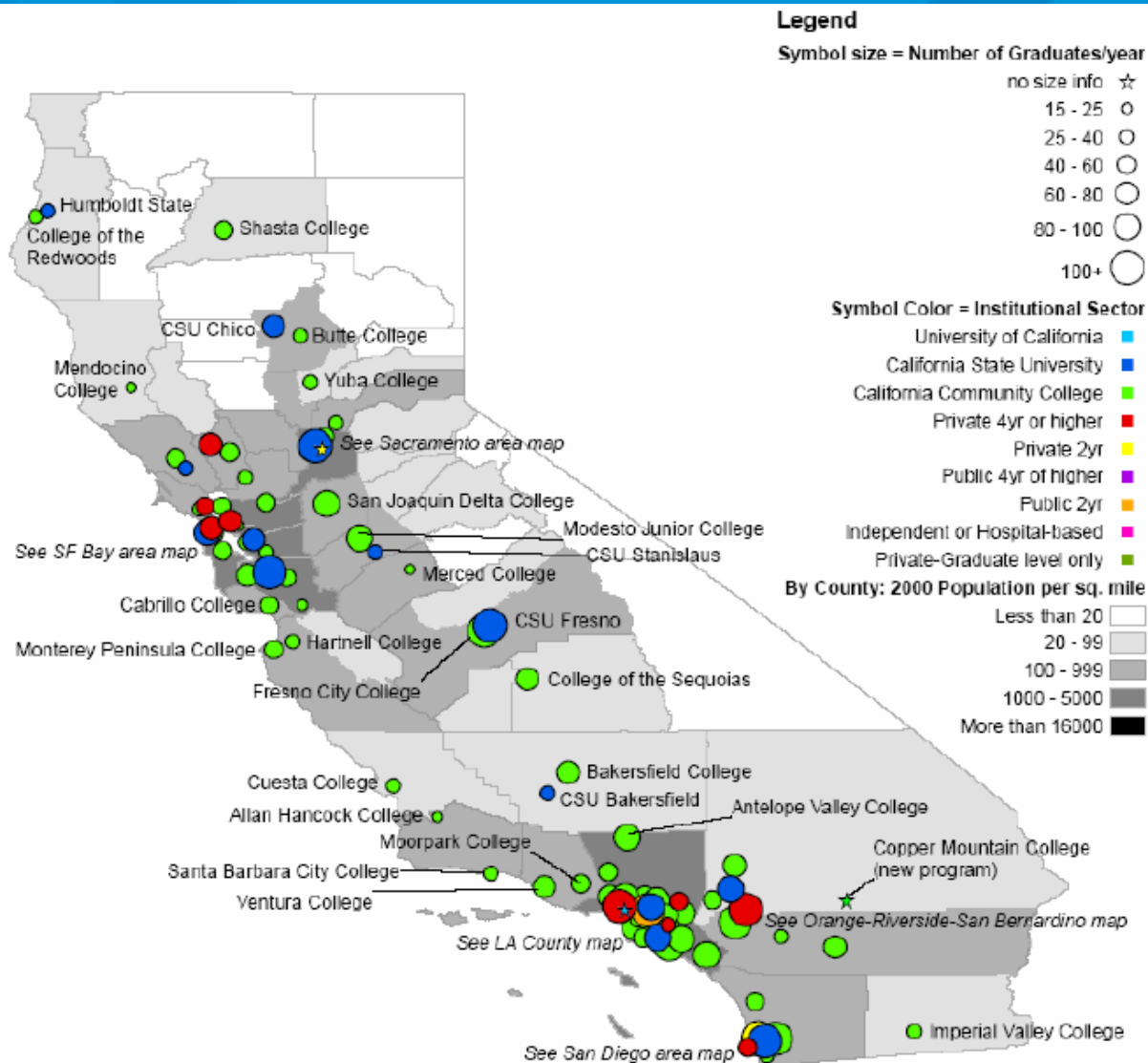
- **Upward mobility**

- Some occupations are comparatively low pay but can lead to new opportunities
- Community Colleges are particularly good at developing career ladders

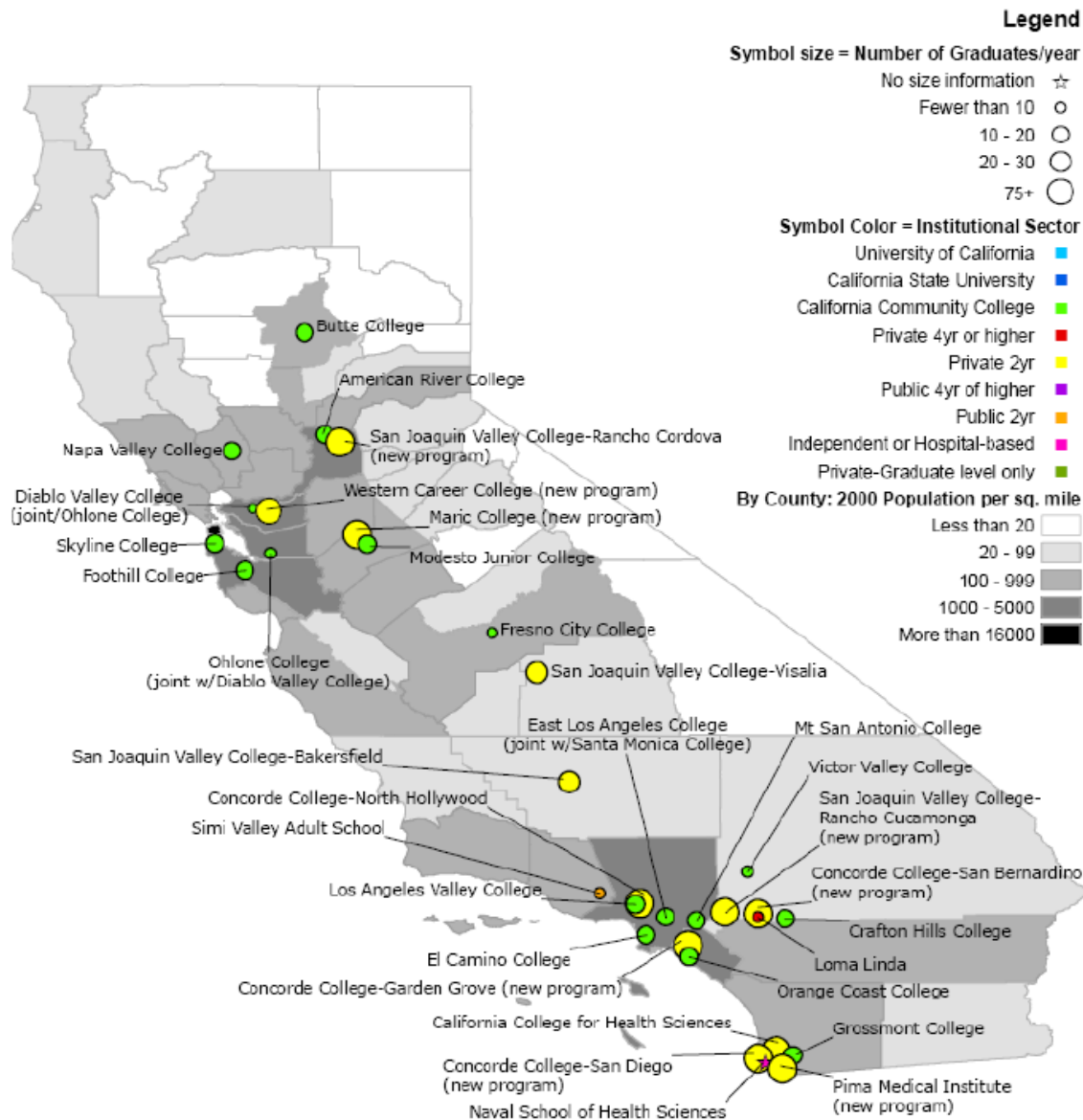
- **Geography**

- Are the education programs where they need to be?
- The Central Valley & Inland Empire are high-population-growth regions

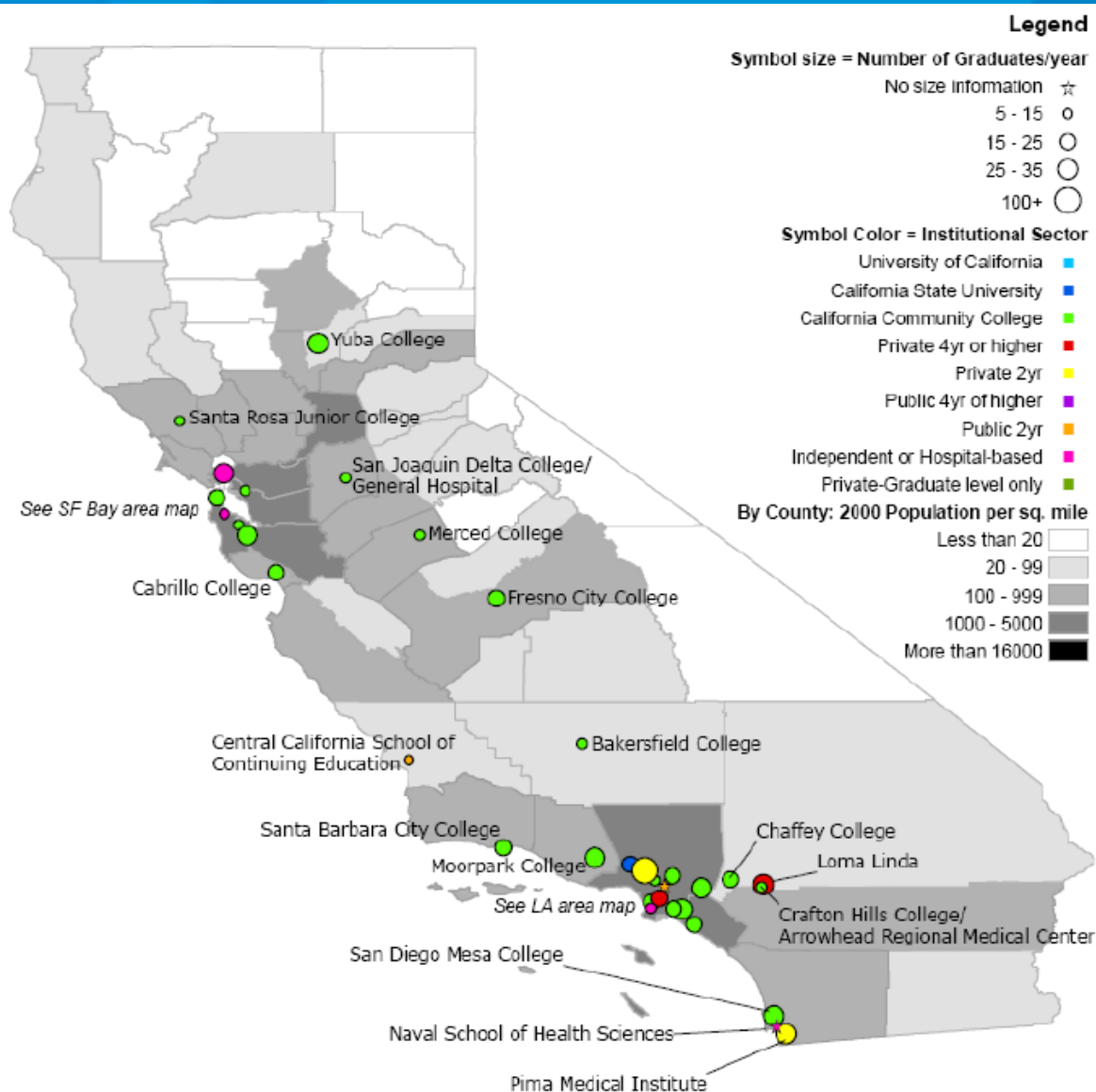
Geography matters: RN programs in California



Geography matters: Respiratory therapy programs



Geography matters: Medical radiography programs



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Challenge: Building & sustaining programs

- **Many programs have grown with grant money and short-term commitments**
 - About 1/3 of nursing education enrollments are on “soft money”
- **Constant need to apply for grants taps valuable resources**
 - Program Deans/Directors are at risk of burnout
- **How can we grow programs where needed?**
 - Can we prune in fields where there is too much capacity?
 - How do we respond to competition from vocational schools?
 - Where does the funding come from?

Challenge: Articulation of programs and career ladders

- **Many professions lend themselves to career ladders**
 - Aide → LVN → RN
 - Pharmacy aide → Pharmacy tech
- **Vocational school graduates often do not have requirements to carry units to the next level of education**
 - Community college units are more transferable, but this is not perfect
- **Can community college graduates take their units to CSU or UC easily in health professions?**

Challenge: Faculty shortages

- **Faculty shortages have been a great concern**
 - Nursing in particular
- **Health specialties teachers have over 31% growth projected in 10 years**
- **Faculty salaries in community colleges do not keep pace with clinical jobs**
- **How can we recruit faculty more effectively?**
 - How do we retain them?
- **Can we leverage private partnerships to improve faculty recruitment?**

Challenge: Student success

- **High attrition from some education programs has drawn attention**
 - Reports of 50% attrition from some RN programs
- **The Nurse Workforce Initiative demonstrated that flexible financial support and case management improved graduation rates by a large amount**
- **Many students have to work to support their education**
 - Employment can compete with education demands
- **Attrition can undermine efforts to expand programs**
 - Focus on student success first

Challenge: Prerequisite courses

- **Prerequisite courses in basic sciences are often oversubscribed**
- **Content of prerequisites is not always the best match**
 - Negotiation with key departments is needed
- **Prerequisites can help students move to baccalaureate-level health professions**
 - Some students launch their graduate studies from a community college prerequisite program

Challenge: Distance learning

- **Rural regions of California do not have programs**
 - Lack of infrastructure
 - Comparatively low demand for health programs
 - Fewer jobs, but still a shortage
- **Distance education can be effective**
 - Bakersfield Community College live video courses with Porterville College & BC Delano campus
 - Community colleges bring courses to hospitals in some counties

Challenge: Relying on ourselves, not the Federal government

- **Federal funding has been driven by crises rather than long-term commitment to invest (Association of Academic Health Centers, 2008)**
 - These crises are often subordinate to other national priorities
 - Solutions require long-term view
- **U.S. Bureau of the Health Professions has lost funding over past 4 years**
 - These funds supported grants to schools and scholarships & loans for students
- **Focus of Federal agencies is the primary health professions, not allied health**
 - Bureau of Health Professions has programs for medicine, nursing, dentistry, pharmacy – not Allied

Summary

- **Strong Growth over the Next Decade for Most Health Care Occupations**
 - Need for replacement workers
 - Population growth & aging
 - Under-supply in some geographic regions
- **Wages vary, but are generally good**
 - Significant opportunities for career ladders to develop workers
- **There are opportunities for training and upward mobility**
 - Incumbent health care workers
 - Re-entry and second-career workers
 - Need to recruit high school students
- **Need to watch annual projected job openings and graduations to determine if supply is adequate**