



# Oral Health in America: Capacity of the Oral Health Workforce

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# The National Call to Action: Capacity

Ensure a sufficient workforce pool to meet health care needs

- Expand scholarships and loan repayment efforts
- Conduct outreach and recruitment.
- Develop mentoring and retention programs
- Facilitate collaborations
- Provide training in communication skills and cultural competence to health care providers and students.

# The National Call to Action: Capacity

Secure an adequate and flexible workforce

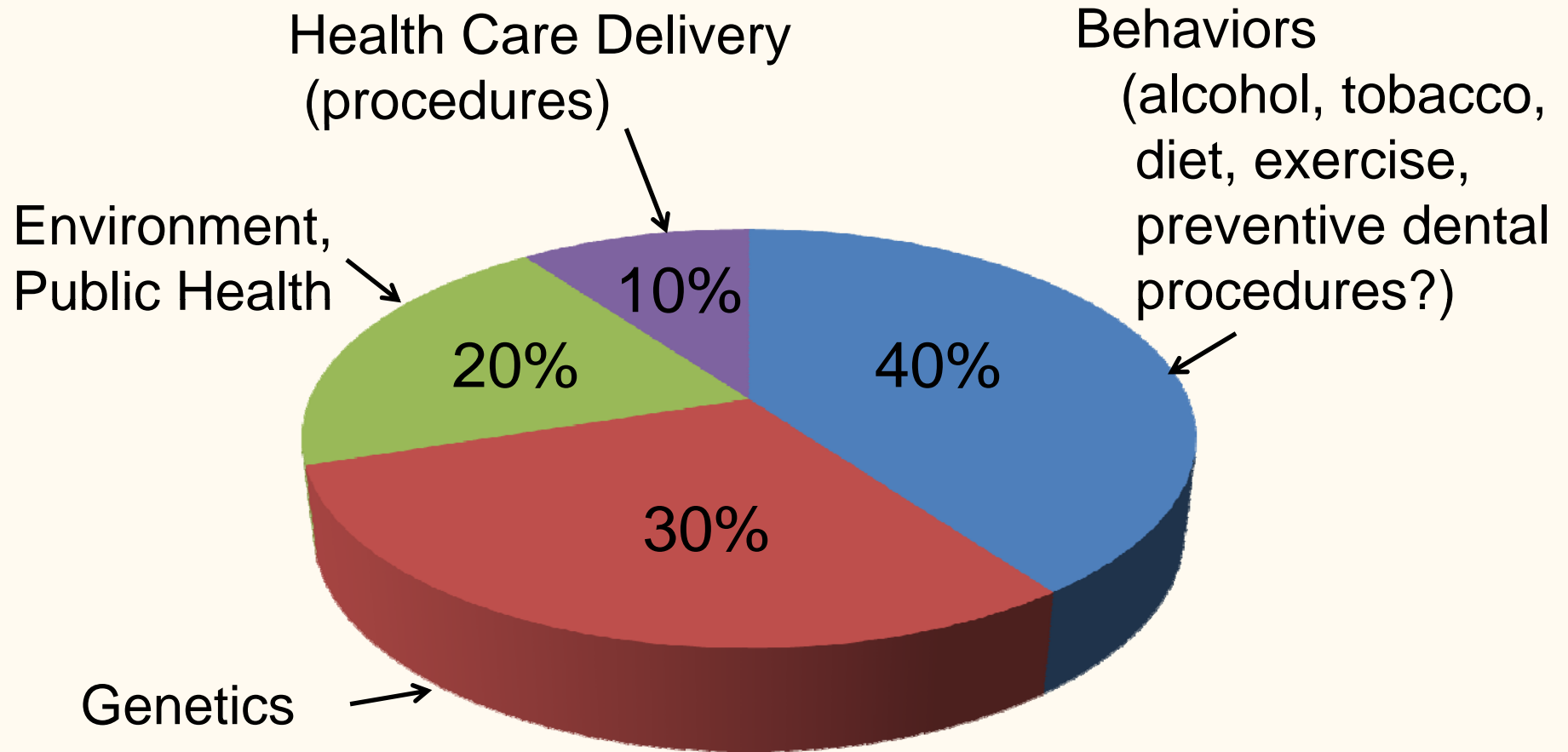
- Assess the existing capacity and distribution
- Study how to extend or expand capacity
- Work to ensure oral health expertise is available to health departments and to federal, state, and local government programs.
- Determine the effects of flexible licensure policies and state practice acts on health care access and oral health outcomes.

# Capacity of the Oral Health Workforce

Question: Capacity to do what?

- Serve underserved populations?
- Improve and maintain oral health of the entire population?

# Total Health: How Long and How Well We Live

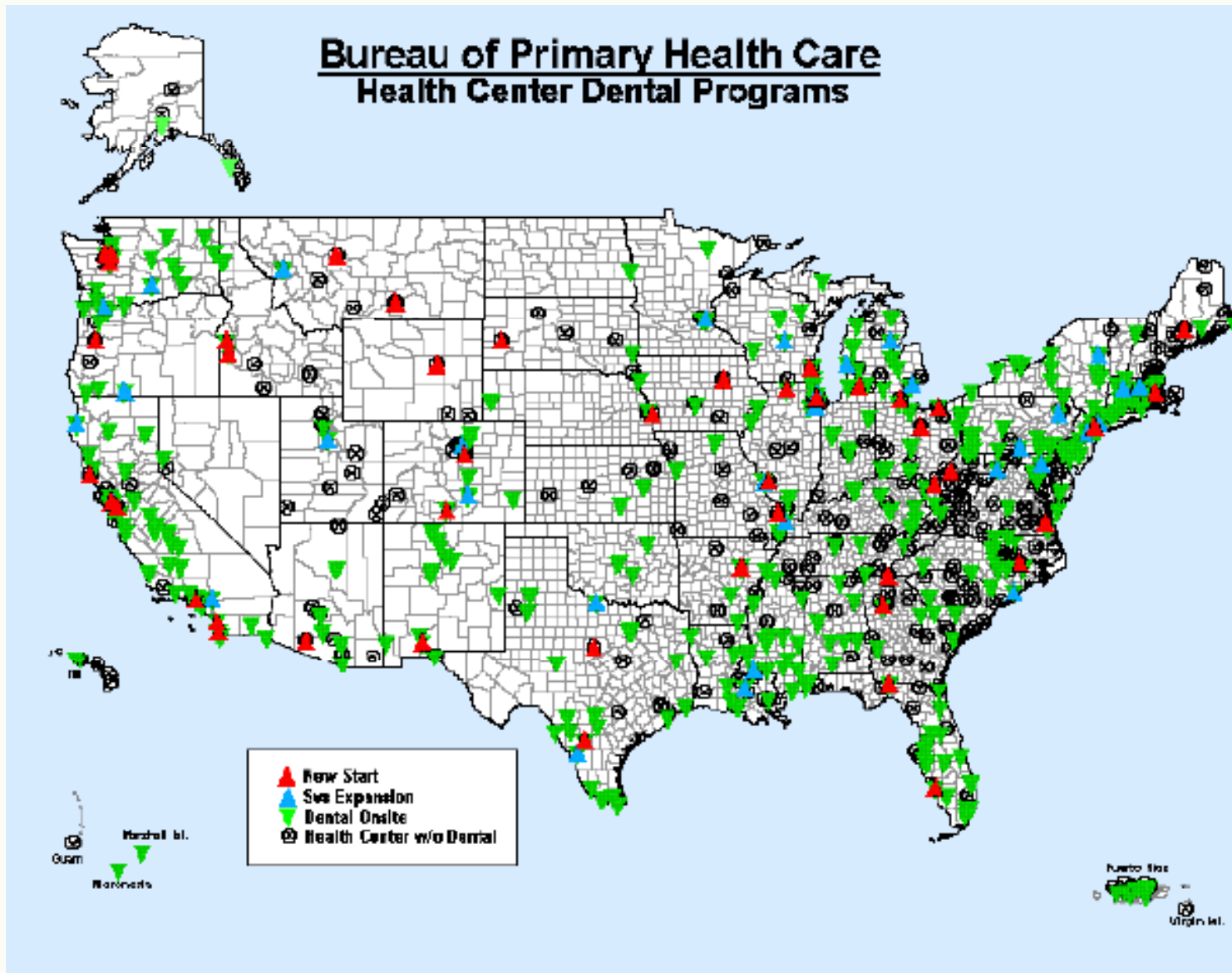


McGinnis JM & Foege WH. Actual Causes of Death in the United States. JAMA 1993; 270(18):2207-12 (Nov 10). McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. Health Affairs 2002; 21(2):78-93 (Mar).

# Capacity of the Oral Health Workforce

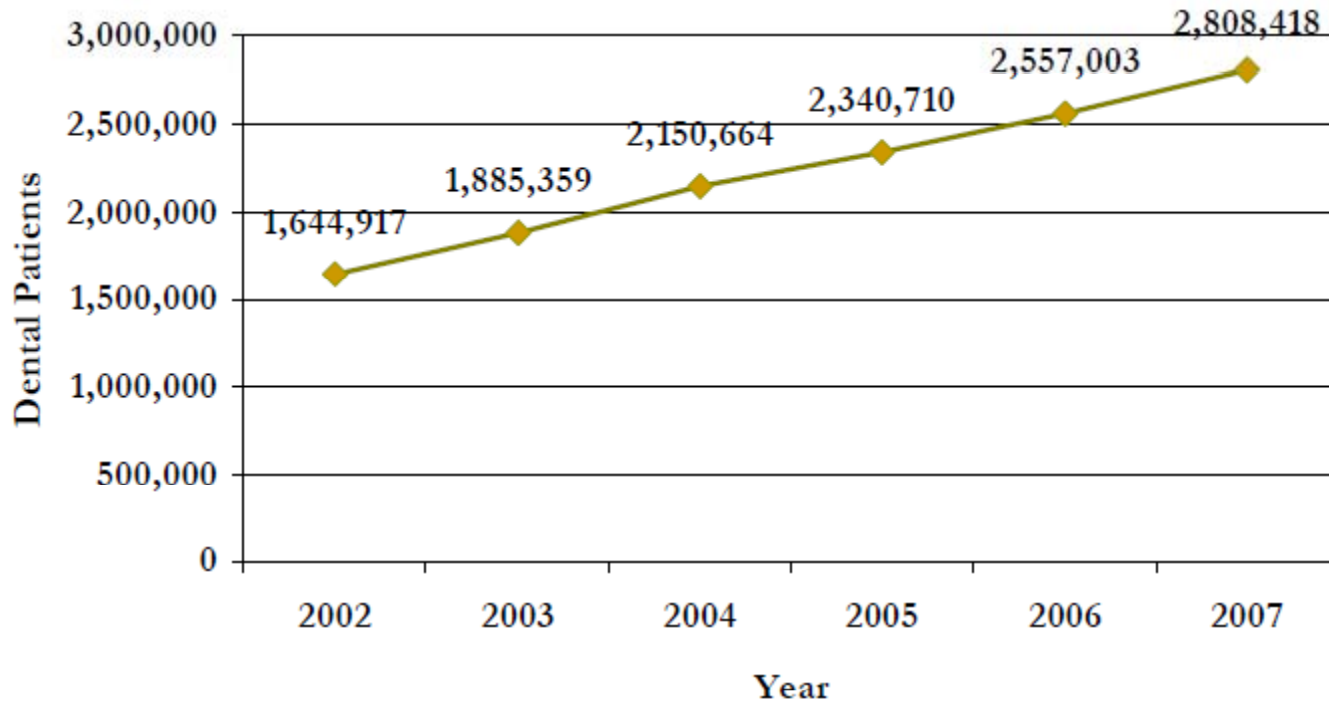
Community Health Centers

# Community Health Centers



# Community Health Centers

## Unduplicated Health Center Dental Patients, 2002 - 2007



Data Source: HRSA/BPHC Uniform Data System, 2002 - 2007



# Capacity of CHCs: California Data

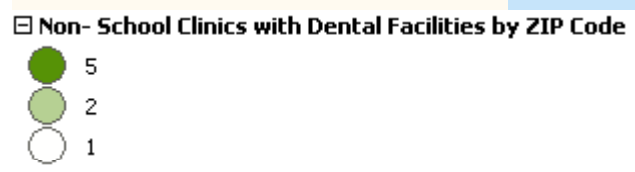
## The California Community Clinic Oral Health Capacity Study:

The Capacity of California's Community Clinics to Provide  
Oral Health Services and  
Host Dental Student and Dental Resident Rotations

Report to the California Endowment  
December 31, 2005

<http://dental.pacific.edu/CommunityServices/PacificPipeline.htm>

# Non-School Clinics with Dental Facilities By Zip Code



# Clinic/operator data

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	Average
Chairs or operatories	5.30 chairs
% time with no-shows/cancellations	19% of time
Patients treated/day	26 patients
Wait time for new patient exam	28 days
Wait time for emergency visit	1 days
Hours open per day (M-F)	8.6 hours
Hours open per day (Sat-Sun) (19% of clinics)	7.4 Hours (Sat)

## News Release

FOR IMMEDIATE RELEASE  
Friday, March 27, 2009

Contact: HHS Press Office  
(202) 690-6343

### **HHS Releases \$338 Million to Expand Community Health Centers, Serve More Patients**

#### ***Grants Will Support Centers That Care for the Uninsured, Support Up to 6,400 Jobs***

The U.S. Department of Health and Human Services (HHS) today announced the release of \$338 million to expand services offered at the nation's community health centers. The money was made available by the American Recovery and Reinvestment Act and comes as more Americans join the ranks of the uninsured.

"More Americans are losing their health insurance and turning to health centers for care," said Health Resources and Services Administrator (HRSA) *Mary Wakefield*, Ph.D., R.N. "These grants will aid centers in their efforts to provide care to an increasing number of patients during the economic downturn."

The grants -- titled Increased Demand for Services (IDS) grants -- will be distributed to 1,128 federally qualified health center grantees. Health centers will use the funds over the next two years to create or retain approximately 6,400 health center jobs.

# Capacity of the Oral Health Workforce

The National Dental  
Pipeline Program

# The National Dental Pipeline Program

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**PIPELINE  
PROFESSION  
& PRACTICE**

**Community-Based  
Dental Education**

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# The National Pipeline Program

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## **Pipeline, Profession & Practice: Community-Based Dental Education**

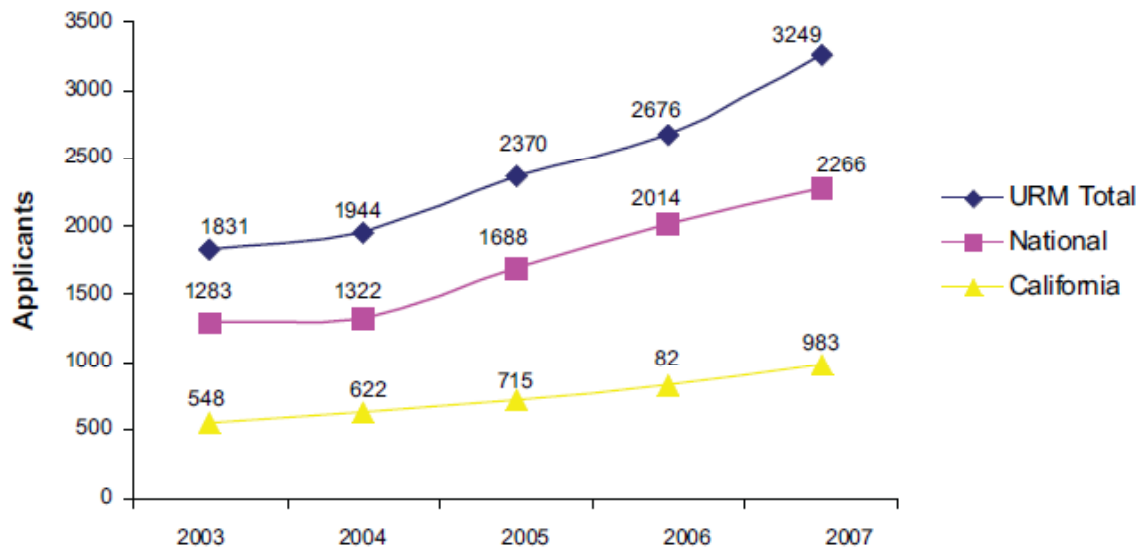
Launched in 2003, the Pipeline, Profession & Practice: Community-Based Dental Education (Dental Pipeline) program is a five-year program designed to help increase access to dental care for [underserved populations](#). Grant funds from The Robert Wood Johnson Foundation and The California Endowment were made available to 15 U.S. dental schools to develop community-based clinical education programs that provide care to the most vulnerable populations and to increase recruitment and retention of low-income and underrepresented minority students.

With funding from the Dental Pipeline program, dental schools are required to:

- Establish community-based clinical education programs;
- Revise didactic and clinical curricula to integrate community-based practice experiences into their educational programs; and
- Implement programs to increase recruitment and retention of underrepresented minority and low-income students.

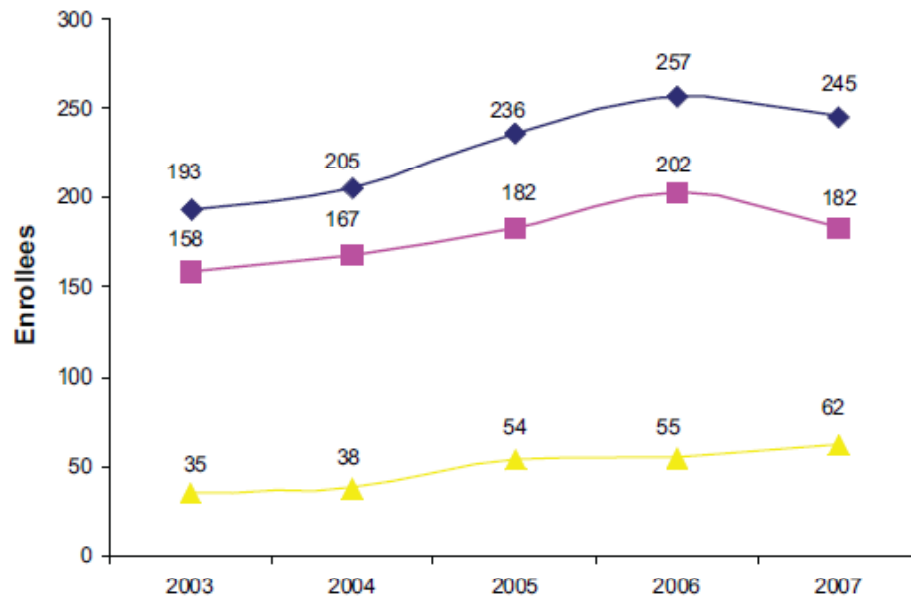






77% increase in URM Applicants nationally

79% increase in URM Applicants - California



27% increase in URM Enrollees nationally

80% increase in URM Enrollees - California

Figure 6.1.2. Change in number of URM applicants and enrollees at Pipeline schools, 2003–07  
Anderson et. al. J. Dent Ed. 2009: 73(2):Supplement: S238-58

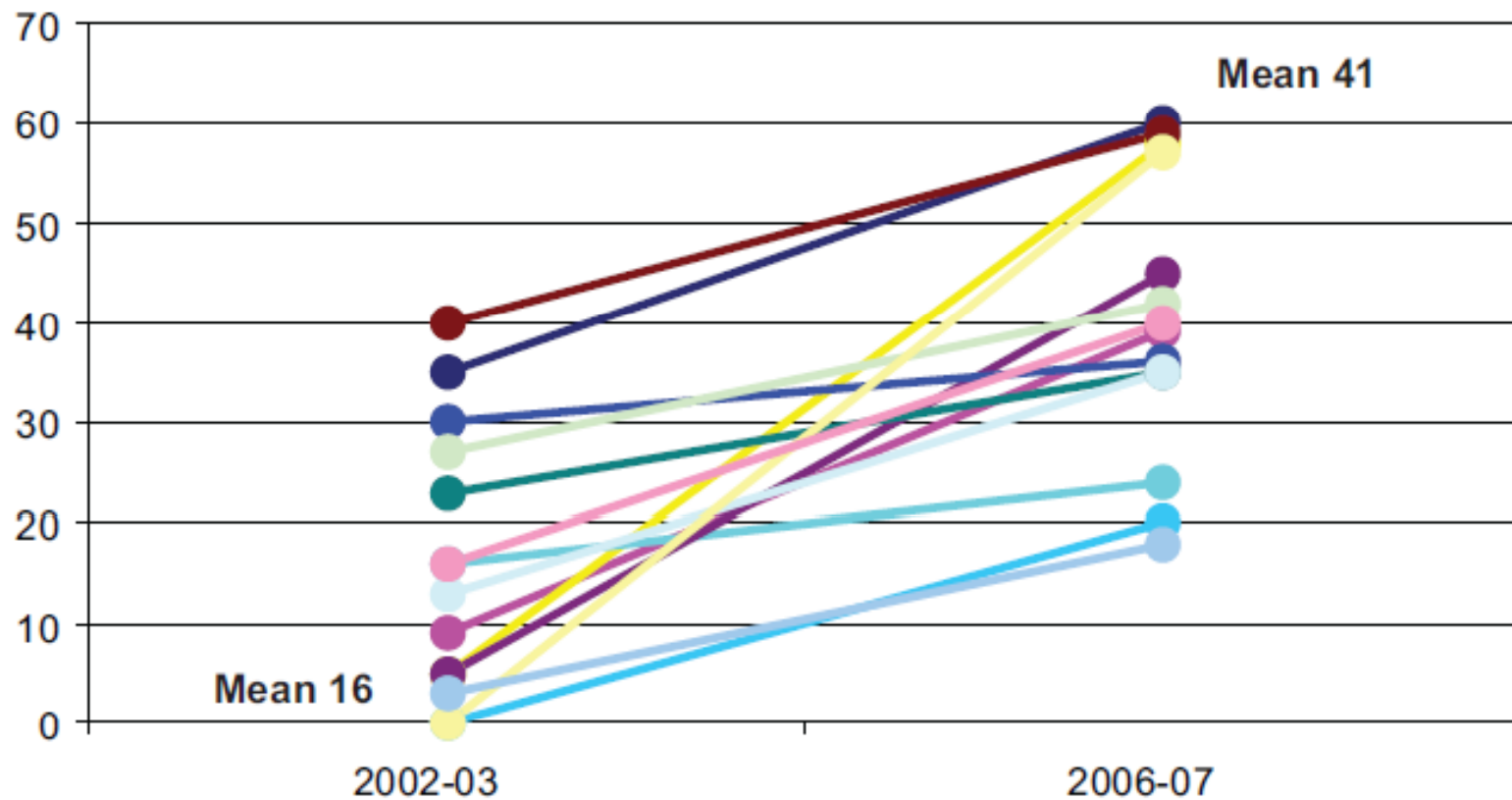


Figure 6.3.1. Number of senior student extramural rotation days at baseline and completion of the Pipeline program

Atchison et. al. J. Dent Ed. 2009; 73(2):Supplement: S269-82

# Impact of CBDE on Dental Graduates

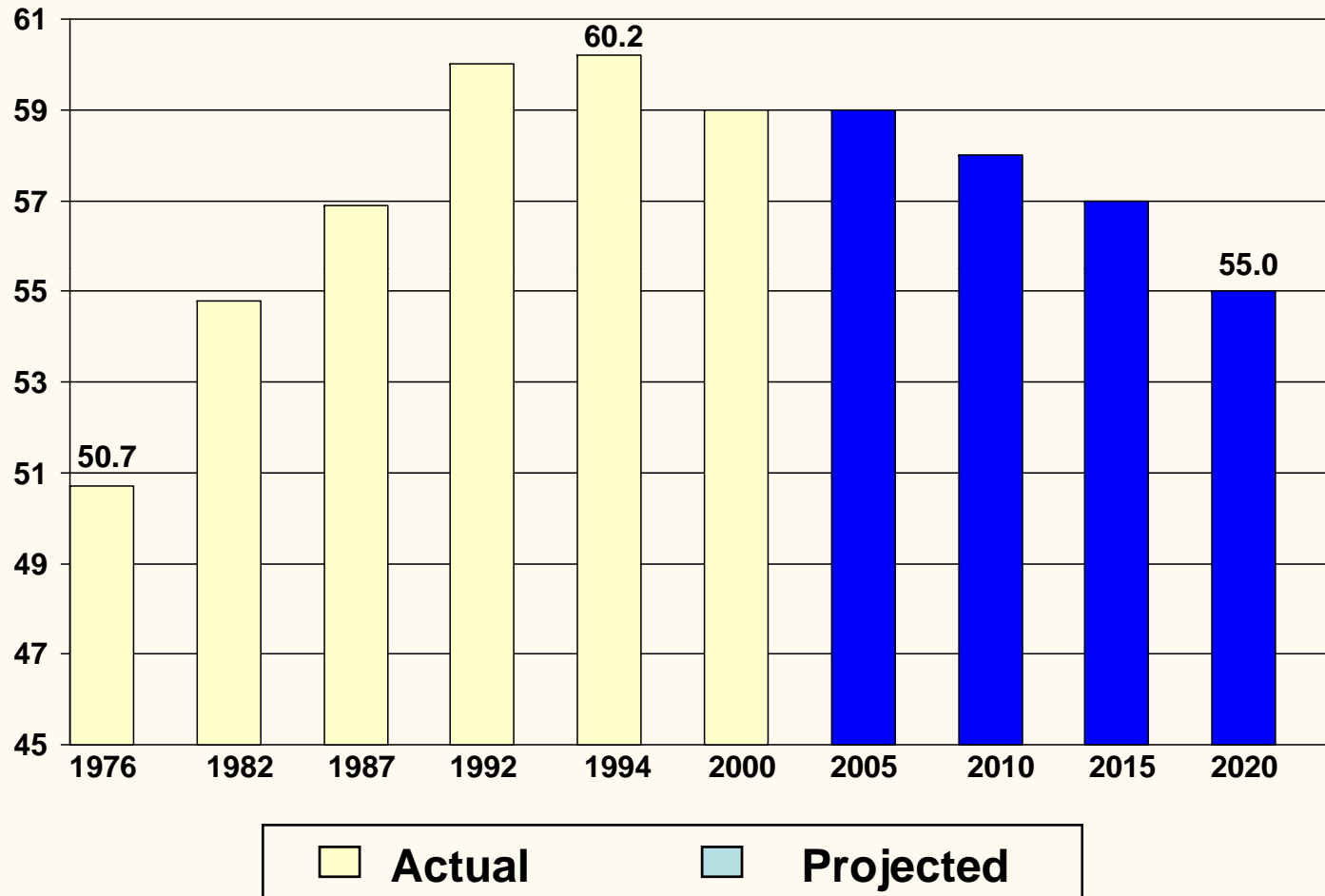


- Senior Survey Question  
“When you enter practice, about what percent of your underserved patients do you expect will be from underserved racial/ethnic minority populations?”
- Senior Survey Results  
No change
- Reflective Seminars:

# Capacity of the Oral Health Workforce

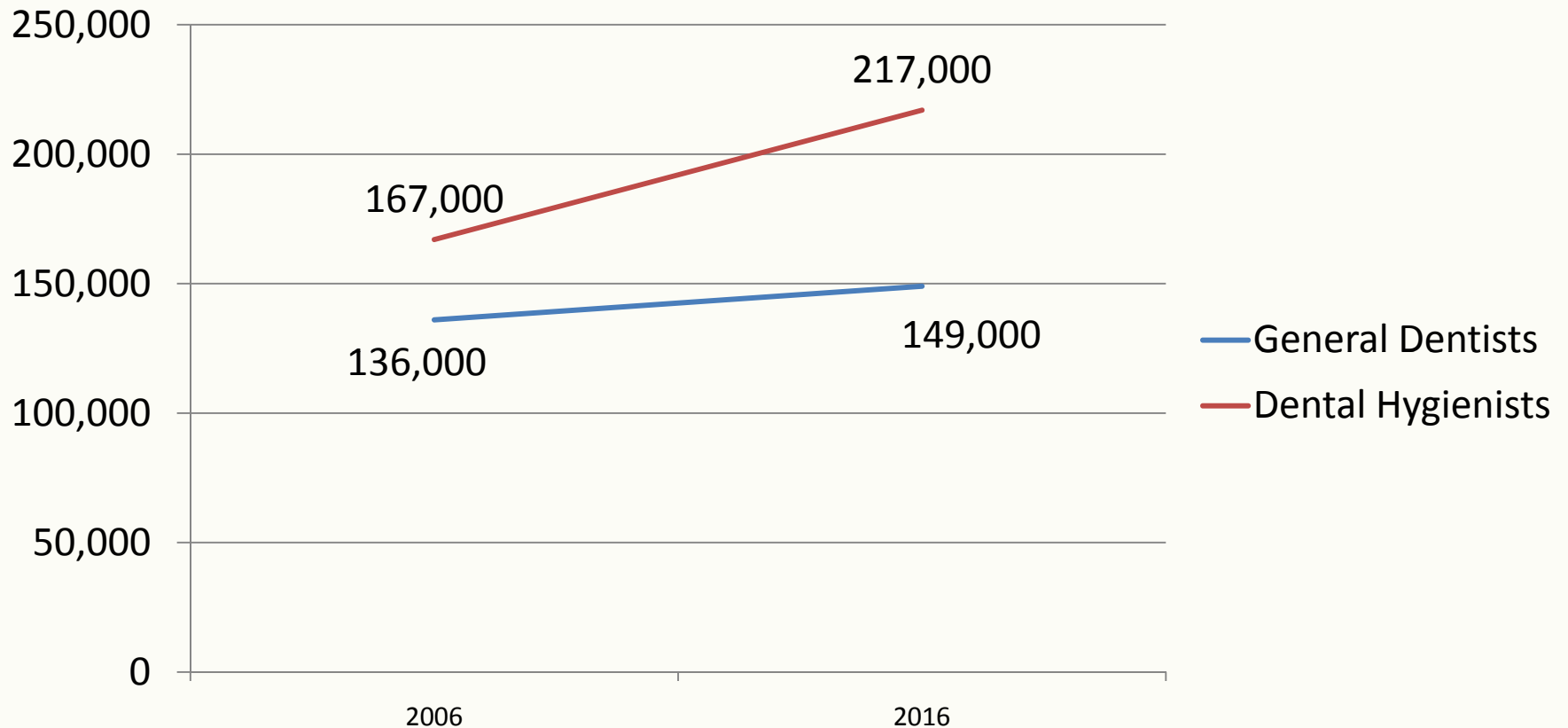
Private Dental Practice

# *Professionally Active Dentists per 100,000 U.S. Population: 1976 - 2020*



Source: American Dental Association, Survey Center, Dental Workforce Model 2001-2025

## Number and Projections of General Dentists and Dental Hygienists



**General Dentists = 9% increase, Dental Hygienists = 30% increase**

U.S. Dept. of Labor, Bureau of Labor Statistics: Occupational Outlook Handbook 2008-09  
Projections data from the National Employment Matrix

General Dentists: [http://www.bls.gov/oco/ocos072.htm#oes\\_links](http://www.bls.gov/oco/ocos072.htm#oes_links)

Dental Hygienists: [http://www.bls.gov/oco/ocos097.htm#projections\\_data](http://www.bls.gov/oco/ocos097.htm#projections_data)



# Dental Work Force Strategies During a Period of Change and Uncertainty

J Dent Ed:  
2001:65(12)  
:1404-1416

L. Jackson Brown, D.D.S., Ph.D.

*Abstract:* Both supply and demand influence the ability of the dental work force to adequately and efficiently provide dental care to a U.S. population growing in size and diversity. Major changes are occurring on both sides of the dental care market. Among factors shaping the demand for dental care are changing disease patterns, shifting population demographics, the extent and features of third-party payment, and growth of the economy and the population. The capacity of the dental work force to provide care is influenced by enhancements of productivity and numbers of dental health personnel, as well as their demographic and practice characteristics. The full impact of these changes is difficult to predict. The dentist-to-population ratio does not reflect all the factors that must be considered to develop an effective dental work force policy. Nationally, the dental work force is likely to be adequate for the next several years, but regional work force imbalances appear to exist and may get worse. Against this backdrop of change and uncertainty, future dental work force strategies should strive for short-term responsiveness while avoiding long-term inflexibility. Trends in the work force must be continually monitored. Thorough analysis is required, and action should be taken when necessary.

## The importance of productivity in estimating need for dentists

JADA  
2002:133:  
1399-1404

TRYFON BEAZOGLU, Ph.D.; DENNIS HEFFLEY, Ph.D.; L. JACKSON BROWN, D.D.S., Ph.D.; HOWARD BAILIT, D.M.D., Ph.D.

**Background.** Although the number of dentists is an important determinant of supply, other factors also contribute. Technological advancements and well-trained and managed auxiliary personnel affect supply by allowing dentists to produce more dental services per unit of time.

**Methods.** This article examines trends in dental output, productivity, number of dentists and dental care utilization from 1960 through 1998. The authors estimated growth rates for the entire period and selected subperiods using regression analysis. Growth rates for dentist productivity and per capita utilization are important to estimate the number of active dentists needed in the year 2020.



# Access to dental care

## Solving the problem for underserved populations

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**ALBERT H. GUAY, D.M.D.**

## ABSTRACT

**Background.** Americans are enjoying an increasing level of oral health. However, oral health improvements are not being experienced evenly across the population. The poor, some minorities, institutionalized elderly people and other groups do not have adequate access to dental care.

**Overview.** The author discusses the need to understand clearly the barriers to care affecting underserved populations and presents a framework for designing access-to-care programs.



Guay AH. JADA 2004;135:1599-1605

- Access issues are complex and multifaceted
- Dentists go where they can make a living and do what they are paid to do

# Capacity of the Oral Health Workforce: Actions

Changing Population

# *The Surgeon General's Report*

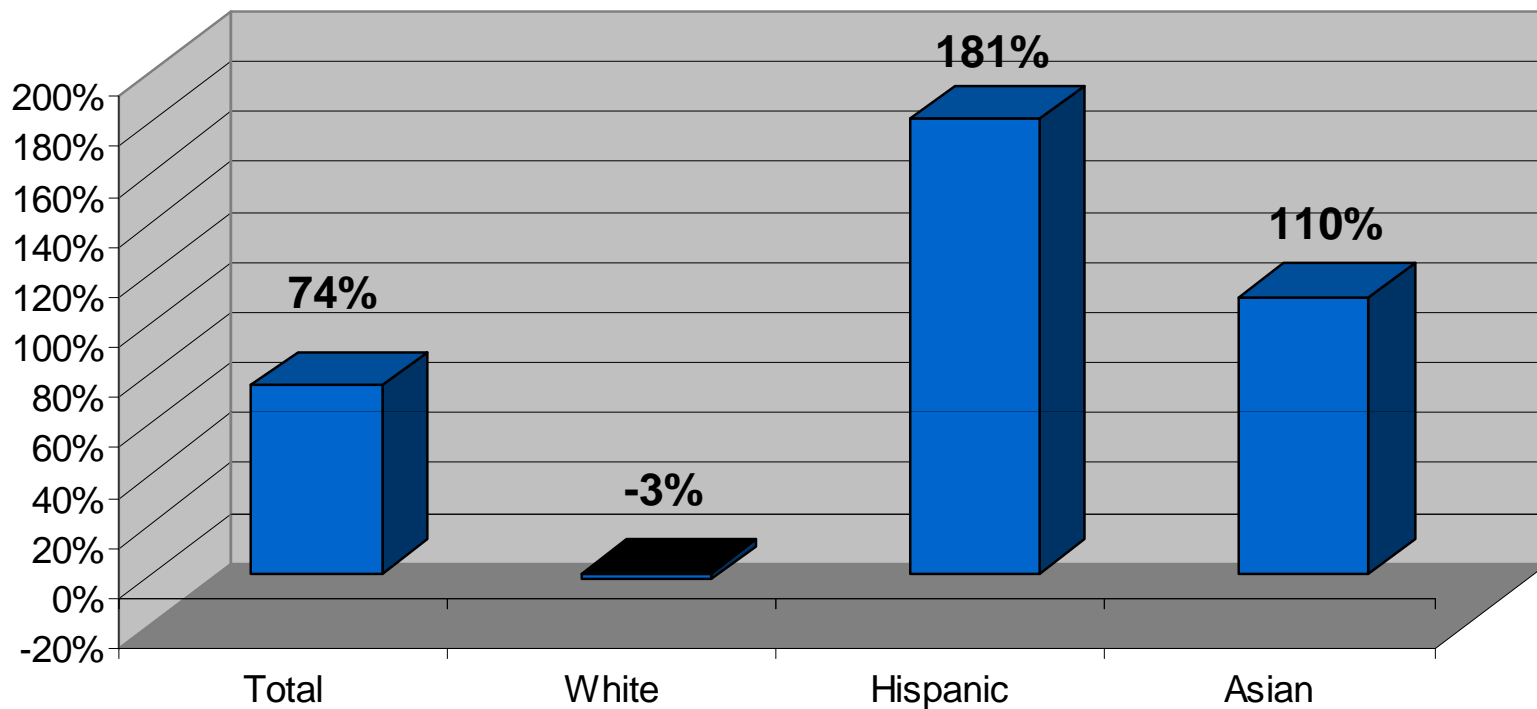
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- “Although there have been gains in oral health status for the population as a whole, they have not been evenly distributed across subpopulations.”
- Profound health disparities exist among populations including:
  - Racial and ethnic minorities
  - Individuals with disabilities
  - Elderly individuals
  - Individuals with complicated medical and social conditions and situations

*State of California, Department of Finance, California  
Current Population Survey Report:  
March 2006. Sacramento, California. September 2007.*

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**California Population Change 2000-2050  
(in %)**



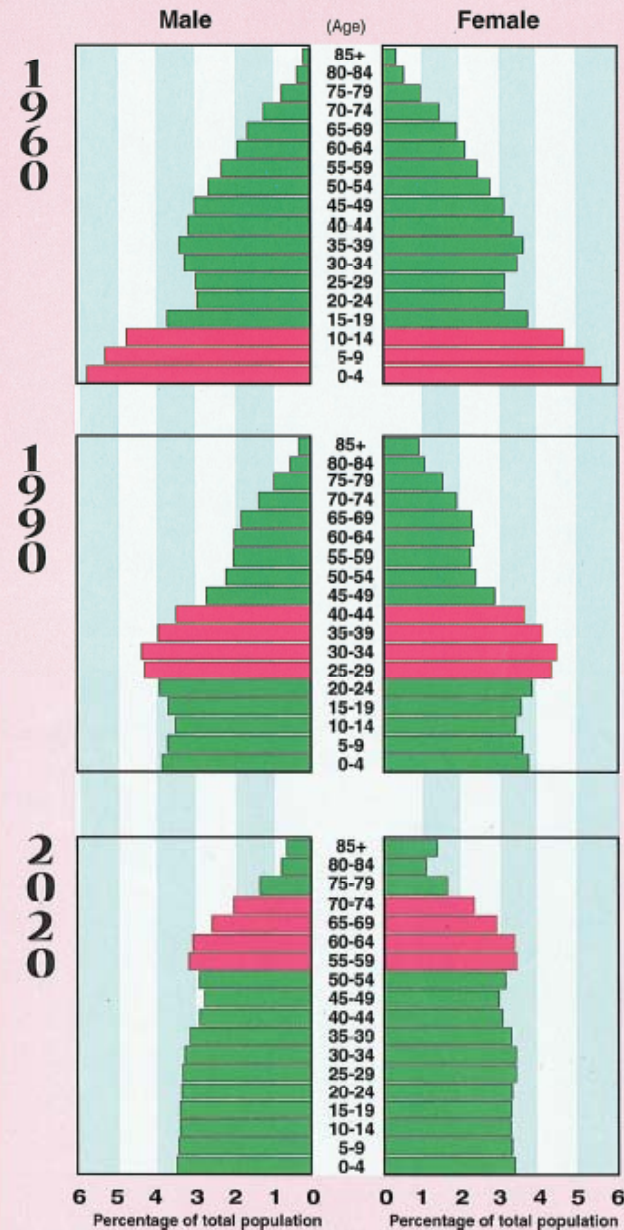
# From Pyramid to Rectangle: The Progression of Aging

The progressive growth of the elderly (age 65 and over) population and the future influence of the Baby-Boom generation (persons born between 1946 and 1964) can be seen by examining age-sex population pyramids for 1960 to 2020. The 1960 pyramid shows a marked "pinch" for ages 20-29 years, a result of exceptionally low birth rates during the Depression years. The Baby-Boom bulge appears in the 1960 pyramid in the ages 0 to 14. During periods of fluctuating births and improving survivorship, the elderly grew from 5 percent of the U.S. population in 1930 to nearly 13 percent by 1990.

In the 1990s, Baby Boomers are in their economically productive years and represent nearly one-third of the U.S. population. When the Baby-Boom generation begins turning age 65 in 2011, there will be a rapid growth in the number of persons 65 and over. Just as this generation had an impact on the educational system and the labor market, this large cohort will strain services and programs required by an elderly population. By 2020, the Baby Boomers will be pre- and early-retirement ages (55 to 64 years) and the young old ages (65 to 74 years). Between 1990 and 2020, the population age 65 to 74 would grow 74 percent under middle series projections, while the population under age 65 would increase only 24 percent.

## Population Age Structure: 1960 to 2020

■ Baby Boom



# Disability Status: 2000

Census 2000 Brief

Census 2000 counted 49.7 million people with some type of long lasting condition or disability.<sup>1</sup> They represented 19.3 percent of the 257.2 million people who were aged 5 and older in the civilian non-institutionalized population — or nearly one person in five (see Table 1).<sup>2</sup> Within this

Figure 1.

## Reproduction of the Questions on Disability From Census 2000

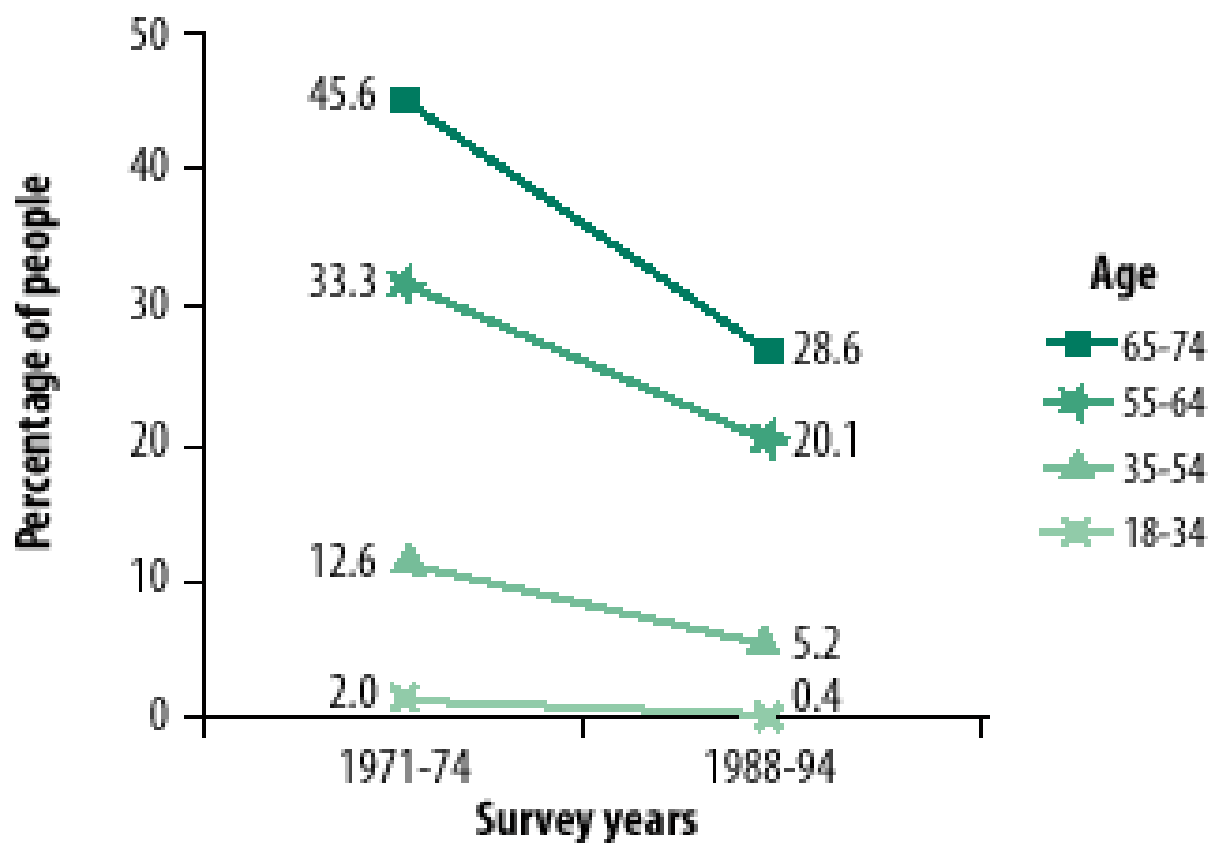
**16** Does this person have any of the following long-lasting conditions:

- |  | Yes                      | No                       |
|--|--------------------------|--------------------------|
| a. Blindness, deafness, or a severe vision or hearing impairment?  | <input type="checkbox"/> | <input type="checkbox"/> |
| b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying? | <input type="checkbox"/> | <input type="checkbox"/> |

- Over 20% of the population had a functional limitation in 2000
- People with disabilities are among the fastest growing segment of the population. This includes people with physical, medical, and mental conditions that produce functional limitations

**FIGURE 4.13**

**The percentage of people without any teeth has declined among adults over the past 20 years**



Sources: NCHS 1975, 1996.

# 93 year old female health history

- Past Illnesses

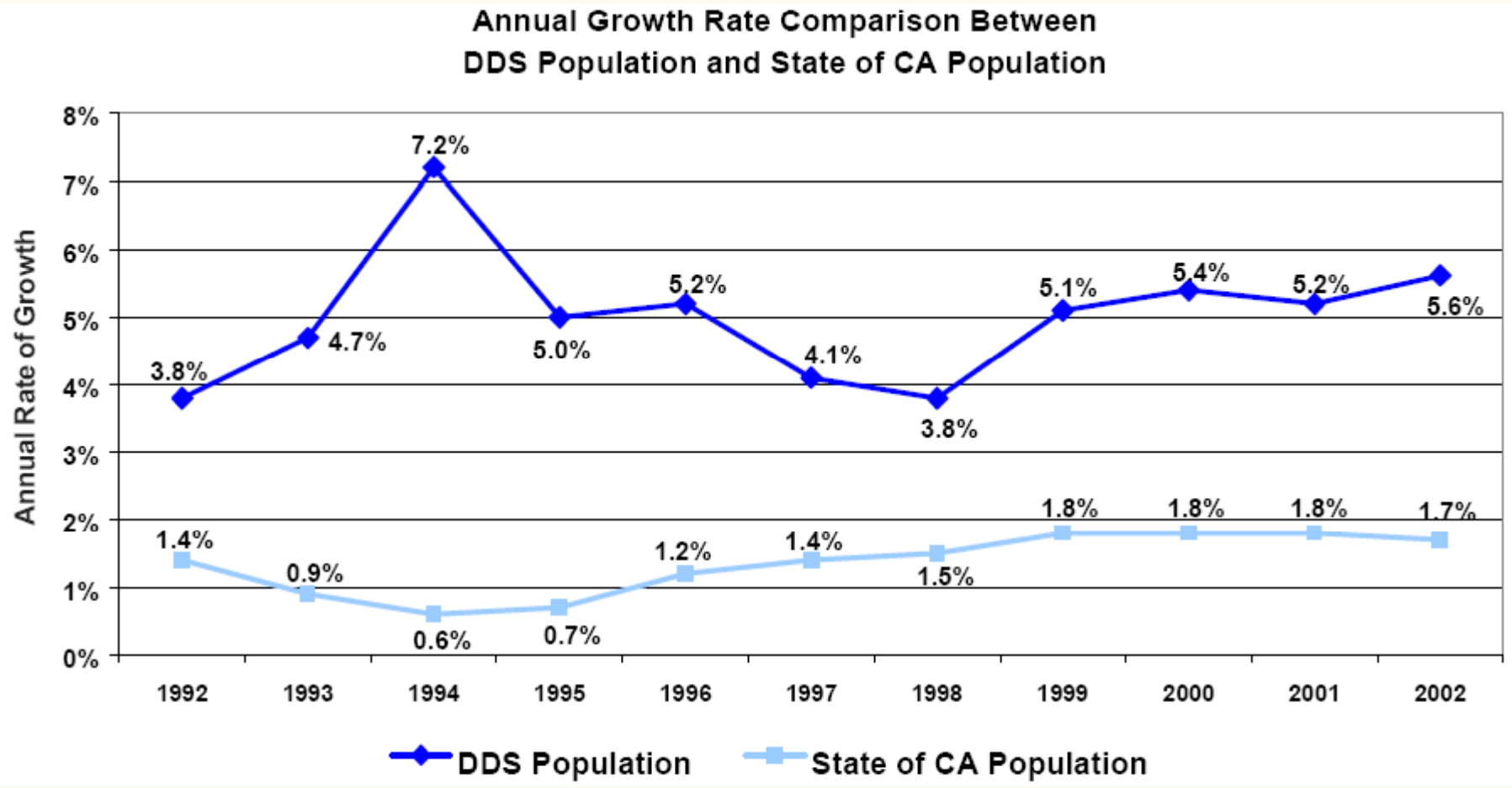
- 14 years old - appendectomy
- 35 years old - fracture femur
- 58 years old - AODM
- 61 years old - hysterectomy
- 63 years old - hepatitis in hospital for 4 months
- 73 years old - Pneumonia
- 75 years old - Myocardial Infarction
- 76 years old - placement of pacemaker

- Medications

- digoxin - .2mg tid
- haldol - 200mg HS
- Insulin - NPH (intermediate acting), before breakfast and dinner
- Lasix - 30mg bid



- Population growth 1992-2002
  - California general – 15.8%
  - Department of Developmental Services – 70.6%



Increase in Autism - > 300%/year



Time Magazine, May 6, 2002

# Capacity of the Oral Health Workforce: Actions

Dental Education

**Commission on Dental Accreditation**

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**Accreditation Standards  
for Dental Education  
Programs**

2-17 Graduates **must** be competent in managing a diverse patient population and have the interpersonal and communications skills to function successfully in a multicultural work environment.

This standard has never been cited as deficient in an accreditation review

2-26 Graduates must be competent in assessing the treatment needs of patients with special needs.

Intent:

... Clinical instruction and experience ... should include instruction in proper communication techniques and assessing the treatment needs compatible with the special need.

2004 - Proposal for a required year of service and learning - DEFEATED

2005 - Proposal for competency in treating people with special needs – DEFEATED

2006 – Proposal for clinical experience - treating people with special needs – PASSED

2007 – ADEA letter to CODA urging clinical experience – no change

# Capacity of the Oral Health Workforce: Actions

New Workforce Models



Promotoras



RDHAP



ADHP



CDHC



DHAT



Virtual Dental Home

Community Oral Health Providers



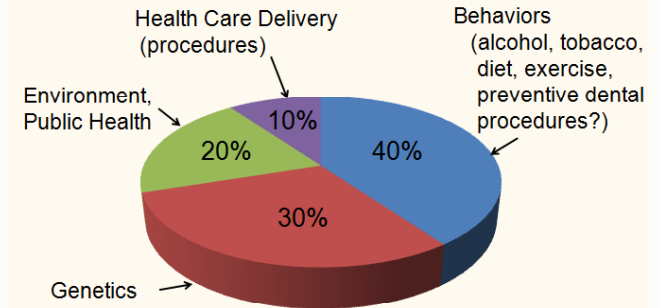
# Capacity of the Oral Health Workforce: Actions

New Delivery Systems

# New Oral Health Systems

- Current systems
  - Pay-for-procedures
  - Relation between dental procedures and oral health?
- Future oral health systems:
  - Use measures of health
  - Pay-for-performance (health maintenance and improvement)
  - Incentives to emphasize health promotion and prevention in integrated community settings
  - Minimize surgical interventions

Total Health: How Long and How Well We Live



McGinnis JM & Foege WH. Actual Causes of Death in the United States. JAMA 1993; 270(18):2207-12 (Nov 10). McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. Health Affairs 2002; 21(2):78-93 (Mar).

# Capacity of the Oral Health Workforce: Conclusions

- There have been advances in multiple areas
- The advances are not enough to keep up with the changing needs of the population
- We will not be able to solve oral health problems of underserved populations with old methods and systems
- Capacity must be in the context of new systems, based on health promotion and prevention with incentives to produce health, not dental procedures.