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An Economic Analysis of the Labor Market for Dental Hygienists and Dental Assistants in California: 1997-2005

Timothy T. Brown, Ph.D.

Tracy L. Finlayson, Ph.D.

Richard M. Scheffler, Ph.D.



**University of
California,
Berkeley**

**The Nicholas C. Petris Center
on Health Care Markets & Consumer Welfare**



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The CDAF commissioned reports from the Petris Center and UCLA Center for Health Policy Research to answer the question: *Is there a shortage of dental hygienists and assistants in California?*

Executive Summary and final reports can be found online at: <http://cdafoundation.org/study/index.htm>

And on our webpage: www.petris.org



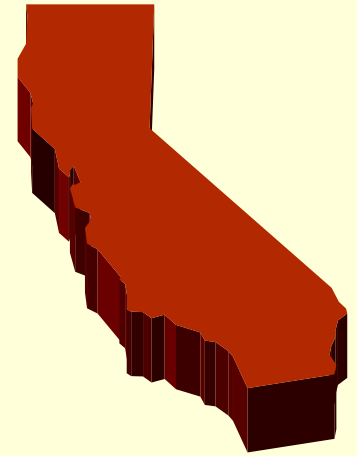
Perceived Shortages

1999 ADA Workforce Needs Assessment Survey

2/3 private dentists nationwide thought there were shortages of Registered Dental Hygienists (RDH) and Dental Assistants (DA) in their areas

Main Reason: Lack of training programs and grads





Evidence from California

Economic Labor Market Framework study to compare labor markets and outcomes for RDHs and DAs



Economic Framework

- *Economic demand* = refers to the amount of RDH/ DA services that dentists are able and willing to pay for at any given wage rate.
- *Economic supply* = refers to the amount of services that RDHs/DAs are willing to provide to dentists at any given wage rate.



What is a labor shortage?

- *Labor Shortage* = shortages occur in a market economy when the **demand** for workers for a particular occupation **is greater than the supply** of workers who are qualified, available, and willing to do that job *at a given market wage*

- *U.S. Department of Labor*

Bureau of Labor Statistics (BLS), 2005



How do we measure a labor shortage?

- Supply and demand for workers can change over time and affect whether or not there is a labor shortage
- Various market scenarios:
 - Shortage: $\text{Supply} < \text{Demand}$ (rising wages)
 - Equilibrium: $\text{Supply} = \text{Demand}$ (stable wages)
 - Surplus: $\text{Supply} > \text{Demand}$ (declining wages)

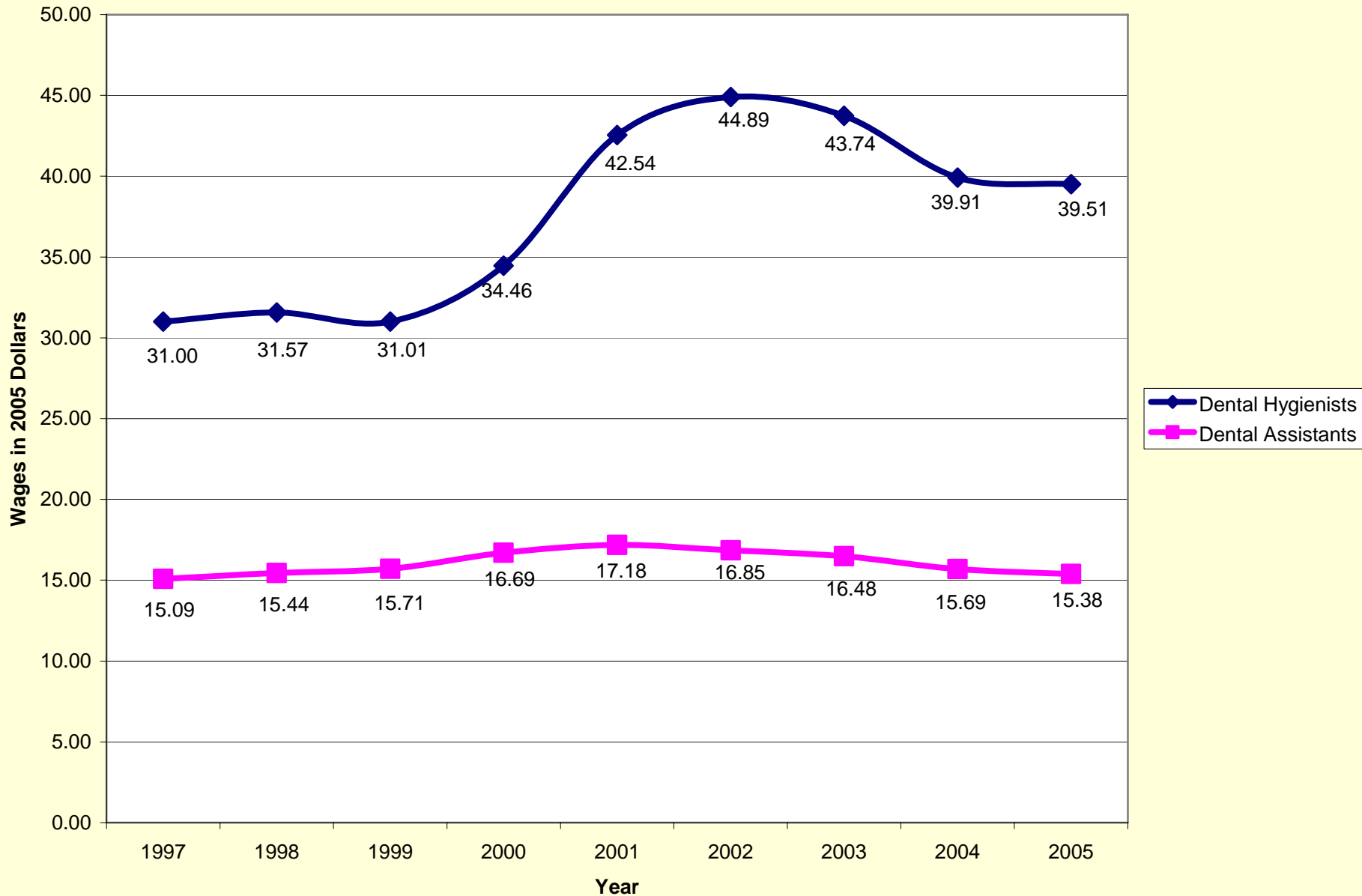


DATA SOURCES

- Occupational Employment Statistics (OES) Survey data number of workers, average wages from 1997 – 2005
- Committee on Dental Auxiliaries (COMDA) data on hygiene candidates passing licensing exam
- California Health Interview Survey (CHIS) and CA Behavioral Risk Factor Surveillance Survey (BRFSS) insurance and dental visit data
- State Health Expenditure Account data from CMS
- Census population data for California
- Wage data adjusted for inflation using the 2005 BLS Consumer Price Index (CPI; U.S. City Average, All Items)



Average Inflation-Adjusted Hourly Wages



Shortage?

RDHs:

1999 = clear rise in average inflation-adjusted wages, indicative of a labor shortage

2002 = wages peaked at 48% above 1999 levels

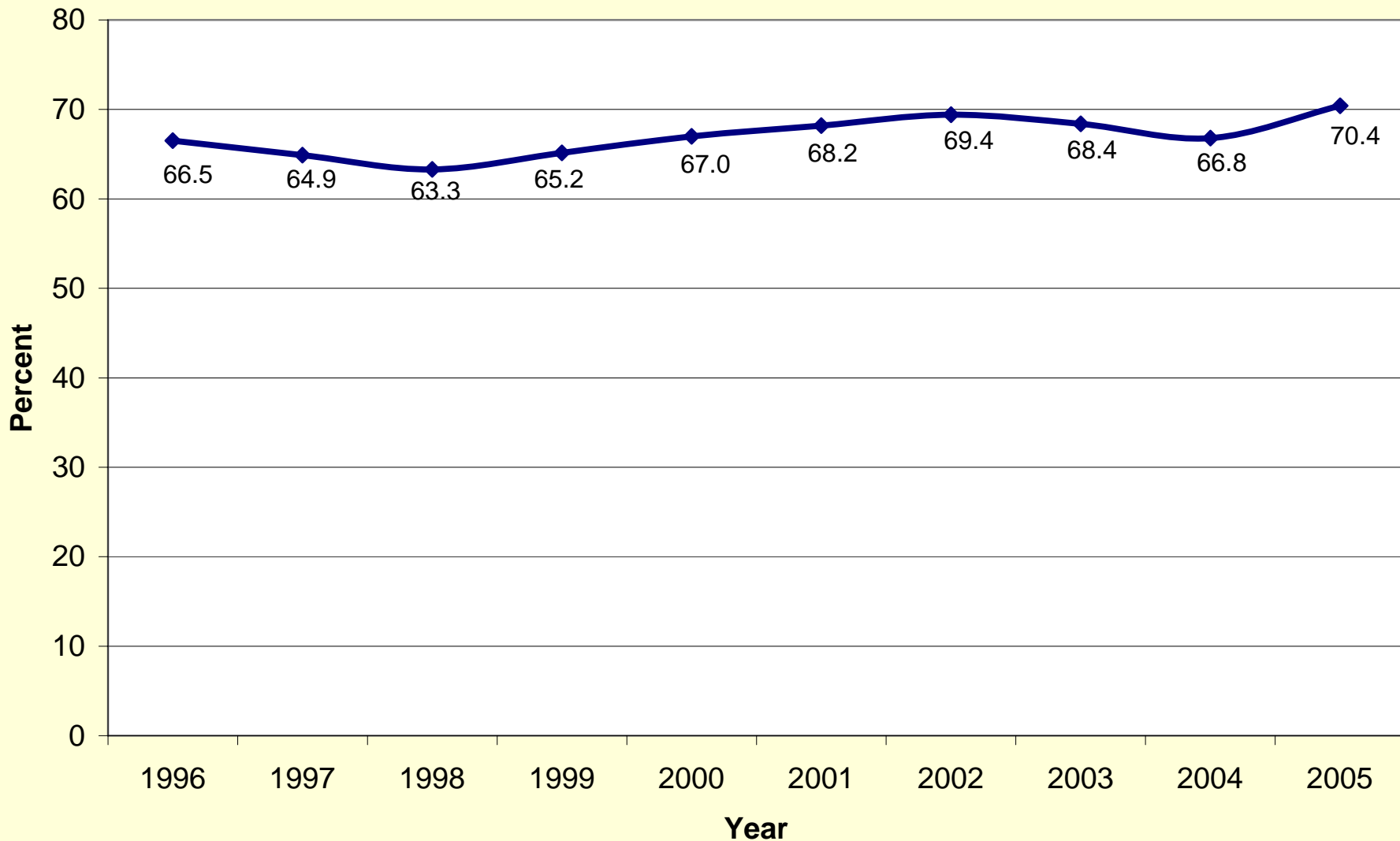
2003 - 2005 = leveled off, higher than in 1997

DAs:

Increase in wages by 13.9% between 1997 and peak in 2001, indicative of a labor shortage



Percent of Adults in California with a Dental Visit in the Last Year



Demand for Dental Care

- Increasing percent of adults (11%) with an annual dental visit from 1999 - 2004
 - About 4.6 million receiving dental care.
- Dental insurance coverage increased 21.7% among adults from 1995 – 2001.
- Dental expenditures increased 18.6% (inflation adjusted) between 1995 – 2000.

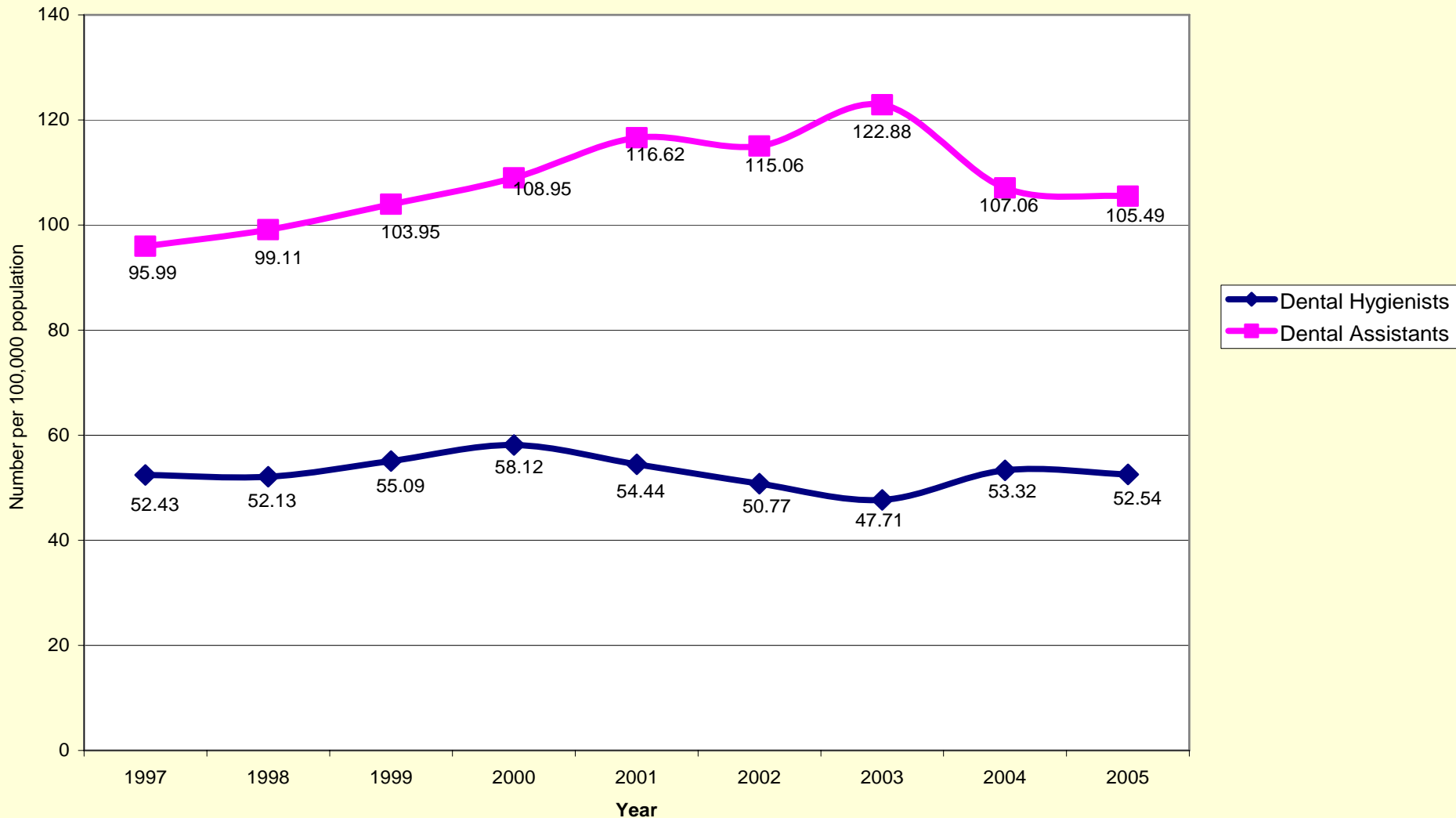


Demand-side factors

- Increase in demand for dental services appeared to be driving the labor shortages
- Increased service demand would be expected to increase demand of dentists for RDHs and DAs



Number of Dental Hygienists and Assistants in CA per 100,000 Population.



Supply-side factors

RDHs

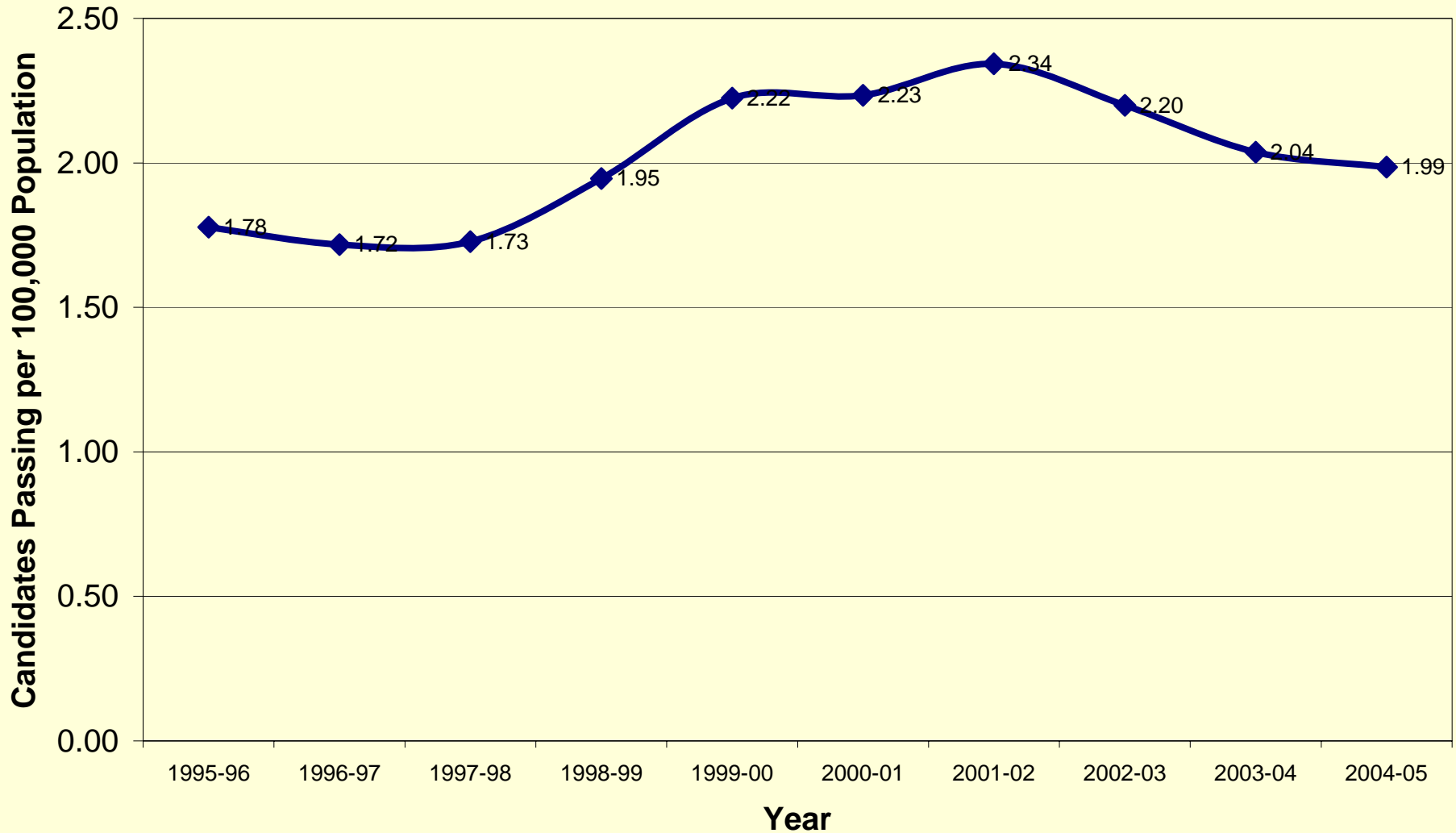
- Number per population is fairly constant throughout this time period

DAs

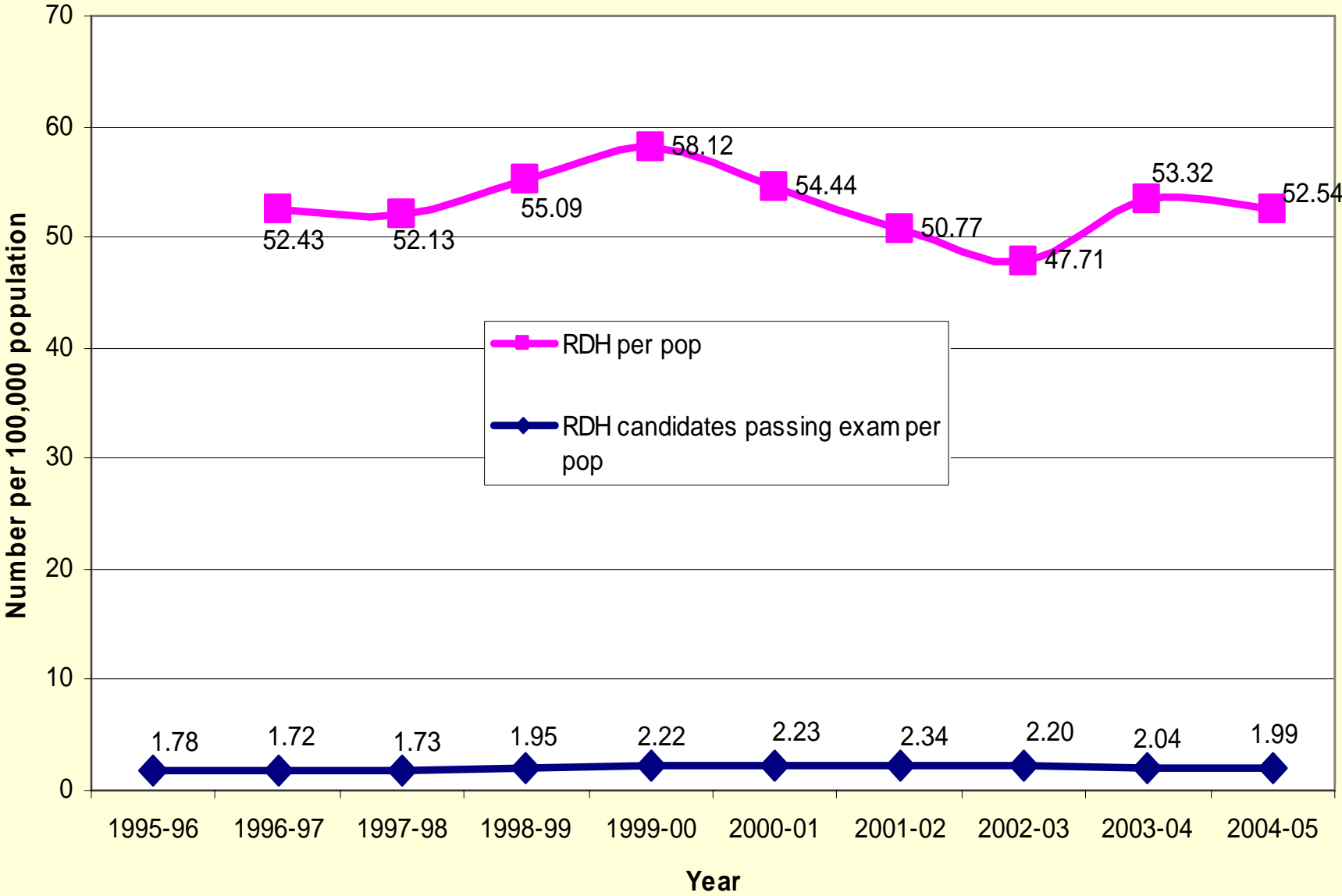
- Number per population increased, by 28% from 1997 until the peak in 2003
- Strong supply response



Candidates Passing the CA Hygienist Licensing Exam per 100,000 population.



Hygienists in CA per 100,000 population



New RDH Supply

- A clear increase in the number of RDH candidates per population passing the licensing examination in California
- However, growth in the number of new RDHs was not enough to keep up with the faster growth in demand for services. New RDHs added to the labor force too small to make much of a difference in the wages.



Differences in supply responses

- Different training requirements for RDHs and DAs:
 - time requirement
 - intensity of program
 - number of training slots
- RDH supply is more constrained than for DAs



RESULTS – Shortage?

- From 1999-2002, RDH's wages increased 48% then stabilized, indicating a fairly severe shortage had occurred, which the market resolved through higher wages.
- Wages for DAs increased 13.9% between 1997-2001, but then declined from 2001 to 2005 indicating a shortage, which then became a surplus. This market may not have stabilized yet.



CONCLUSIONS

- Economic framework is useful for monitoring trends in the supply and demand in the dental workforce
- Labor market responses to the shortages of RDHs and DAs were different – wage increases for both, but large supply response in the market for DAs brought wages back down



IMPLICATIONS

- Regular economic analysis could be helpful in determining and responding to labor market shortages or surpluses at local, state, and national levels
- Relevant for policy planning, making training capacity decisions, and assessing workforce needs



THANK YOU



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