



Health Transformation and Older Adults: Opportunities for the Oral Health Industry

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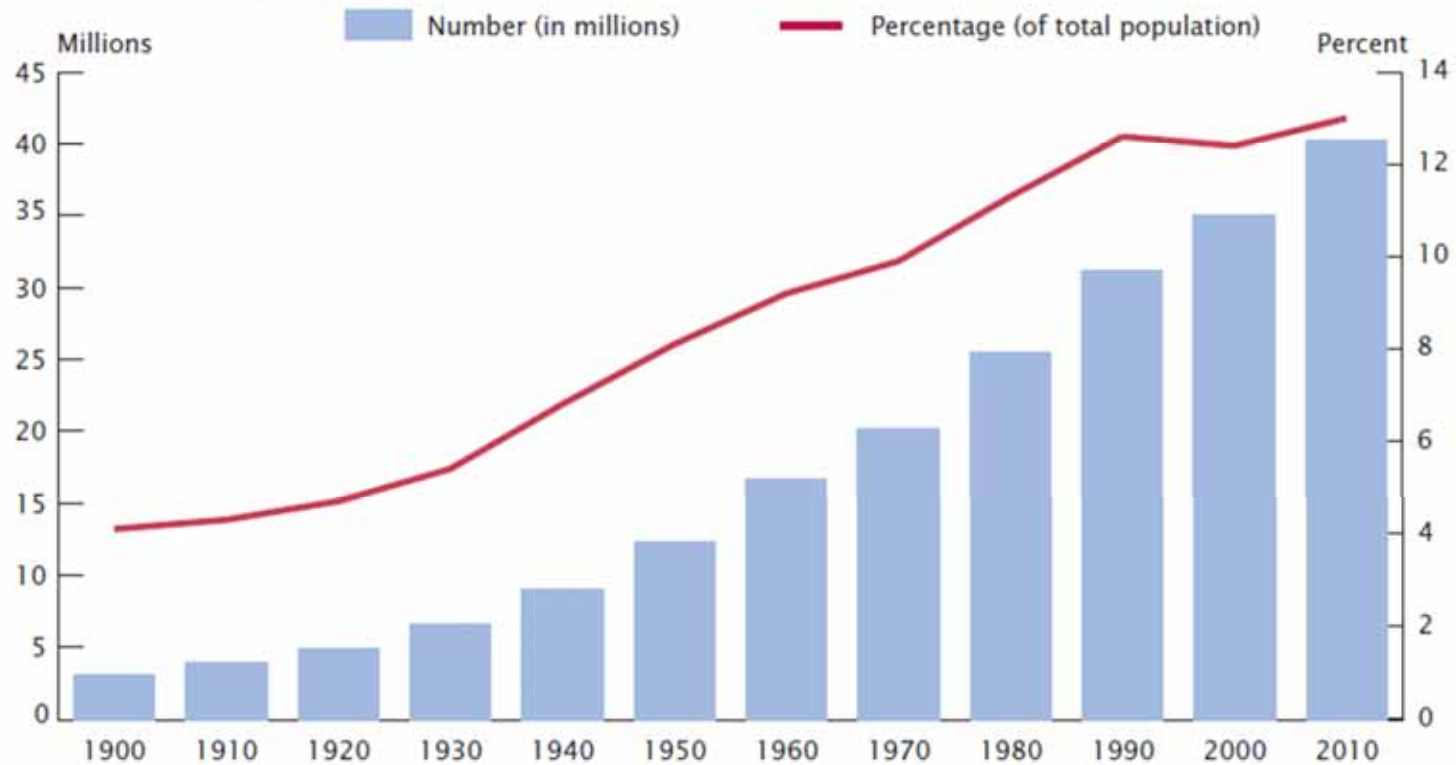


We're Getting Older!

Figure 2.

Population 65 Years and Older by Size and Percent of Total Population: 1900 to 2010

(For more information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)



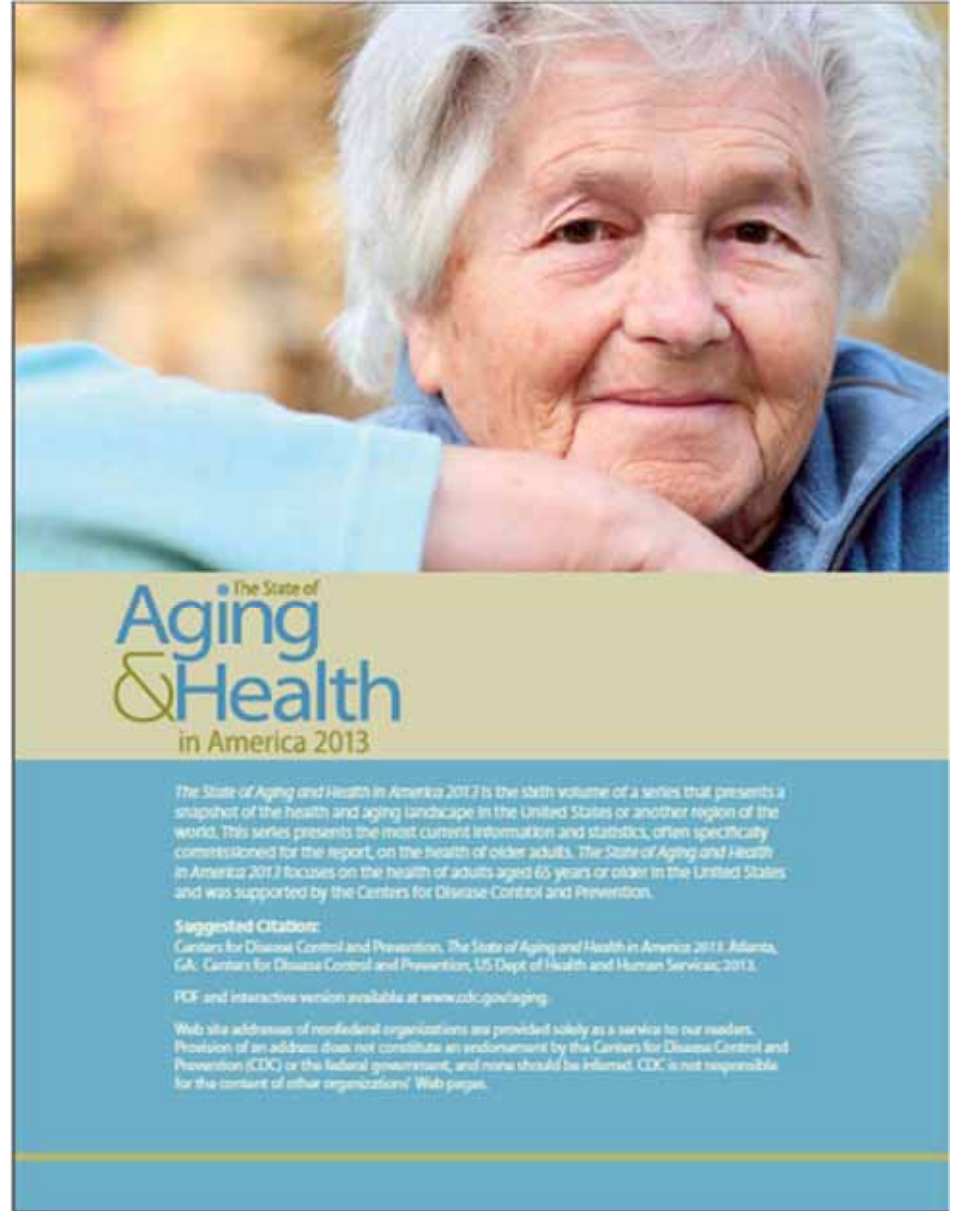
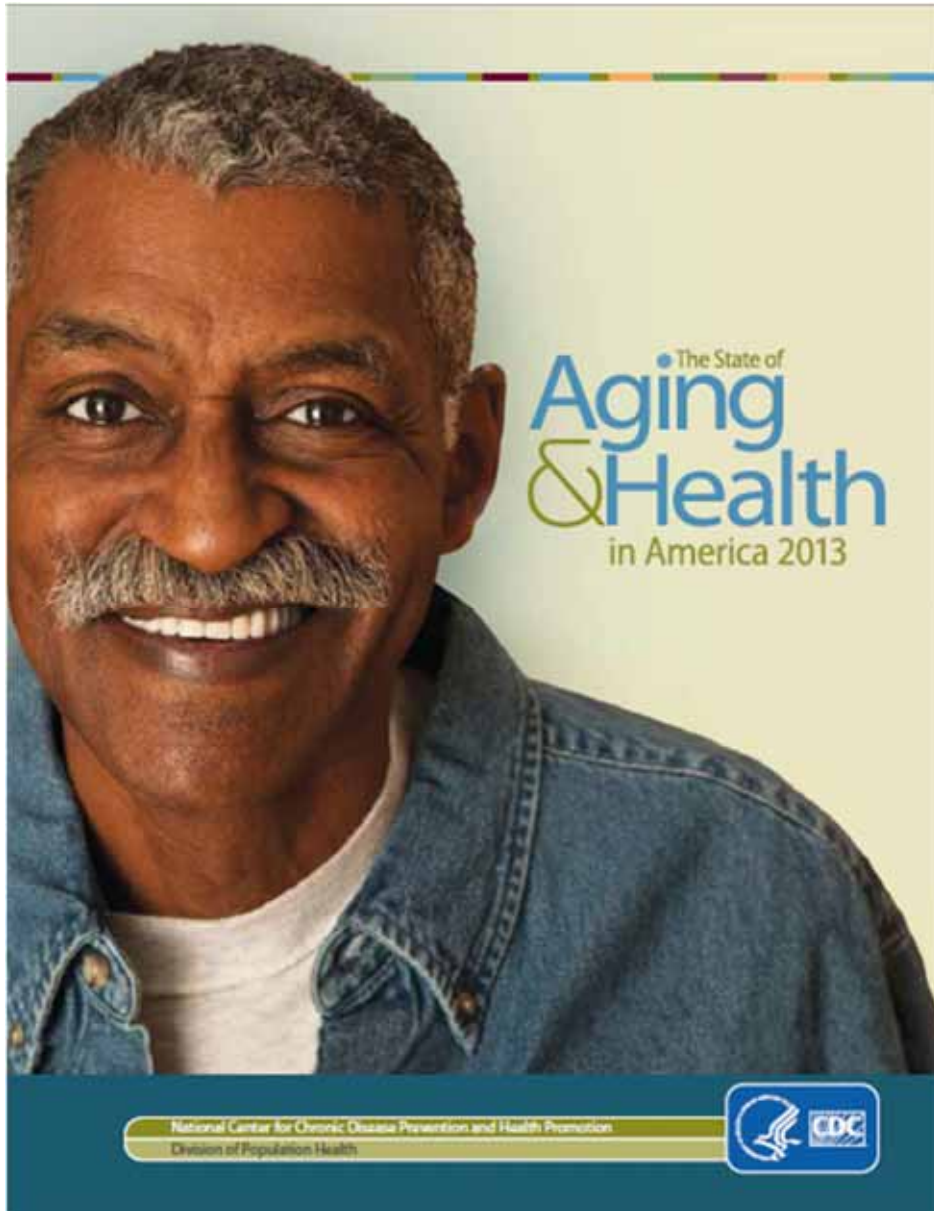
Sources: U.S. Census Bureau, decennial census of population, 1900 to 2000; 2010 Census Summary File 1.

U.S. Census. The Older Population: 2010. 2010 Census Briefs. Issued November 2012

Facts About an Aging America

- Life expectancy from birth¹
 - 1900 – 47.3 years (46.3 for males and 48.3 for females)
 - 2010 – 78.7 years (76.2 for Males and 81.0 for females)
- Life expectancy at age 65¹
 - 1950 – 13.9 years (12.8 for males and 15.0 for females)
 - 2010 – 19.1 years (17.7 for males and 20.3 for females)
- 42% of babies born in 1920 were expected to live past age 65. In 2000, that number was 83%.

1. CDC. Health United States, 2012
2. Facts and Figures About an Aging America. 2009, The MacArthur Foundation Research Network on an Aging Society.



The Baby Boomers: Born: 1946-1964

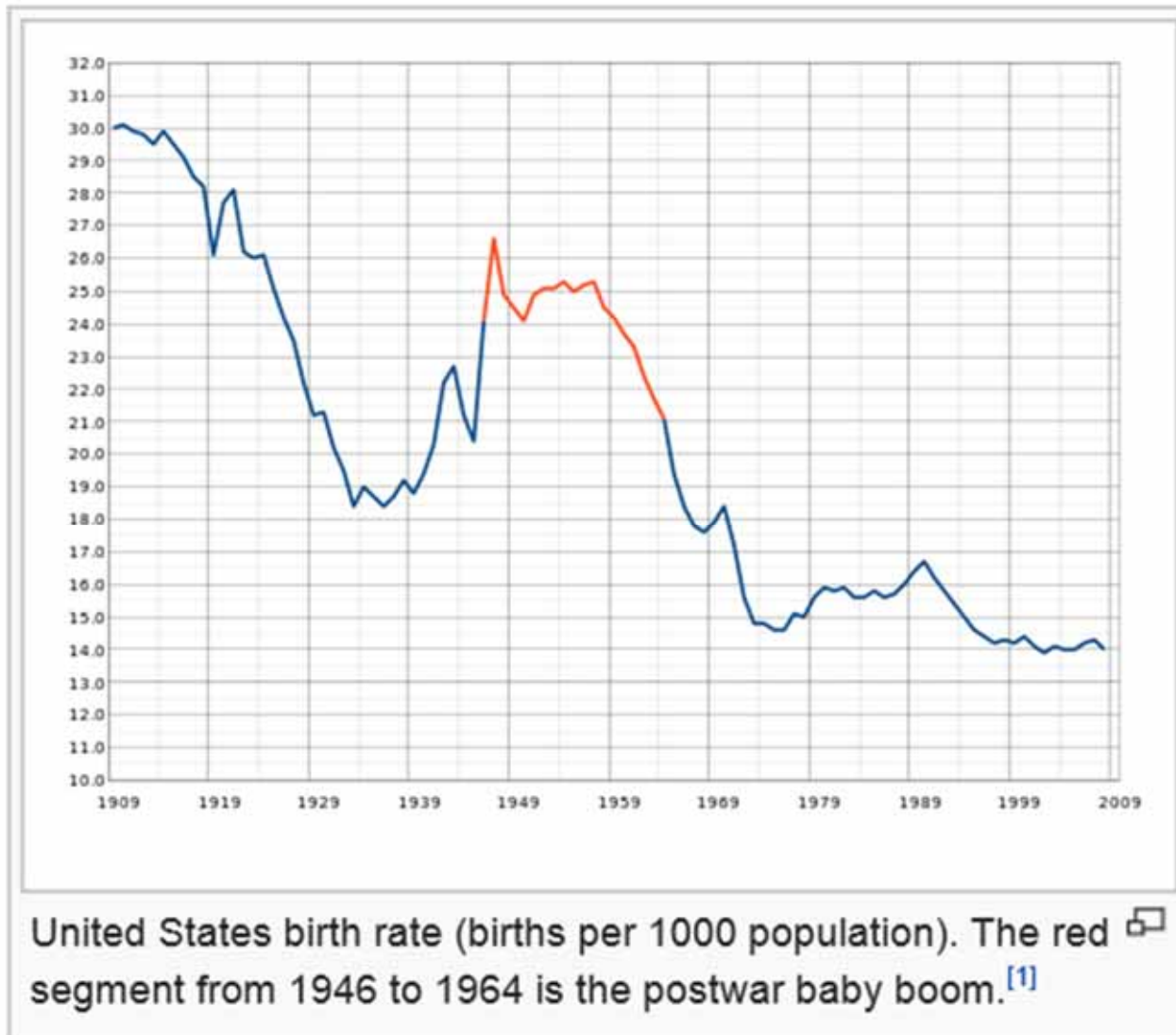


“Almost exactly nine months after World War II ended, “the cry of the baby was heard across the land,” as historian Landon Jones later described the trend. More babies were born in 1946 than ever before: 3.4 million, 20 percent more than in 1945.”

This was the beginning of the so-called “baby boom.”

In 1947, another 3.8 million babies were born; 3.9 million were born in 1952; and more than 4 million were born every year from 1954 until 1964, when the boom finally tapered off. By then, there were 76.4 million “baby boomers” in the United States. They made up almost 40 percent of the nation’s population.

The Baby Boomers, Born: 1946-1964



CDC. Vital Statistics of the United States, 2003, Volume I, Natality", Table 1-1 "Live births, birth rates, and fertility rates, by race: United States, 1909-2003. <http://www.cdc.gov/nchs/products/vsus.htm>

The Baby Boomers: Impact on Society

1940's 1950's



1950's 1960's



1970's 1980's



CDC. National Center for Chronic Disease Prevention and Health Promotion. The State of Aging & Health in America 2013

The Baby Boomers: Impact on Society

2011 +



2023-27 +

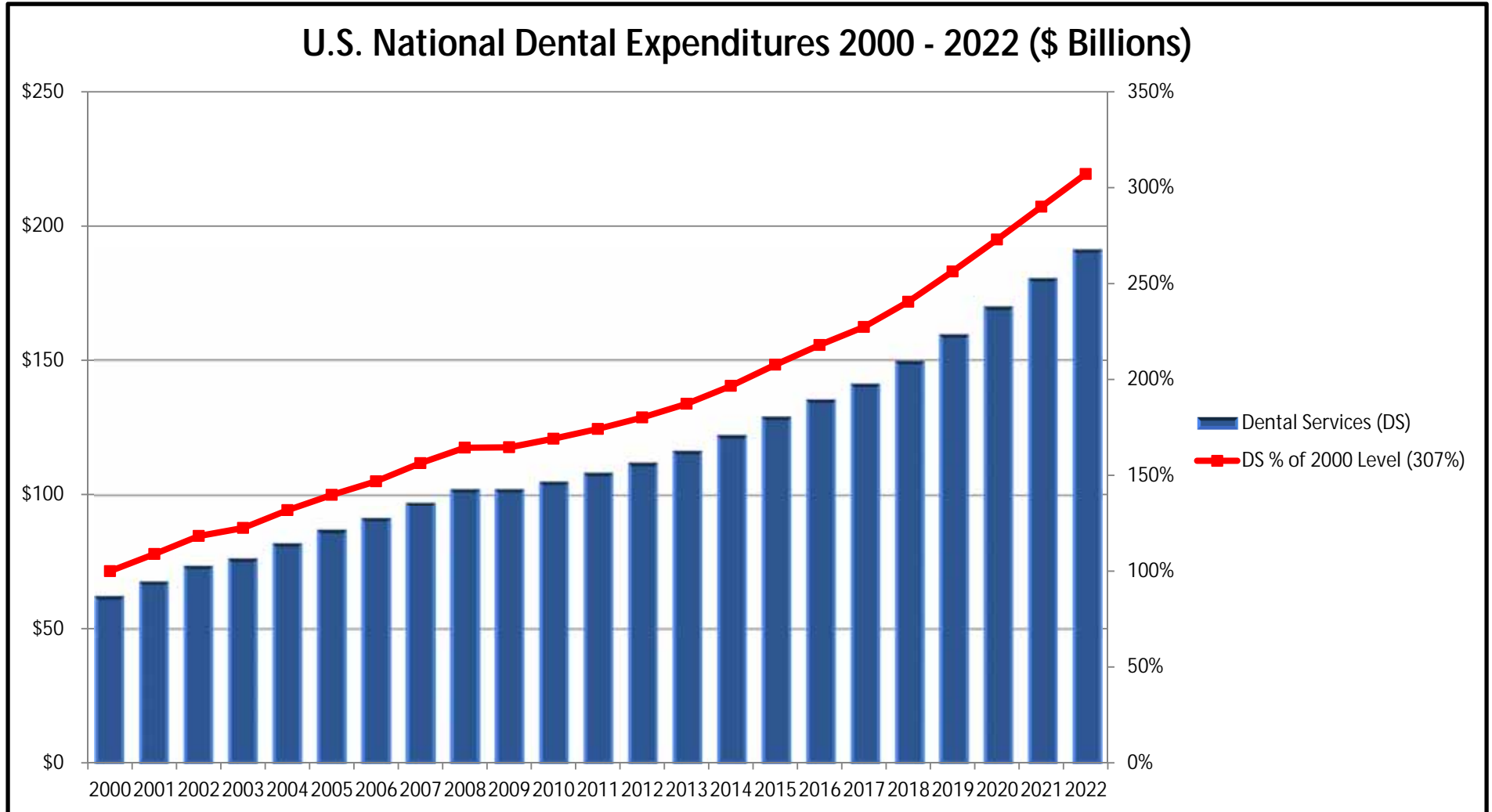


CDC. National Center for Chronic Disease Prevention and Health Promotion. The State of Aging & Health in America 2013

The Baby Boomers: Impact on the Dental Industry



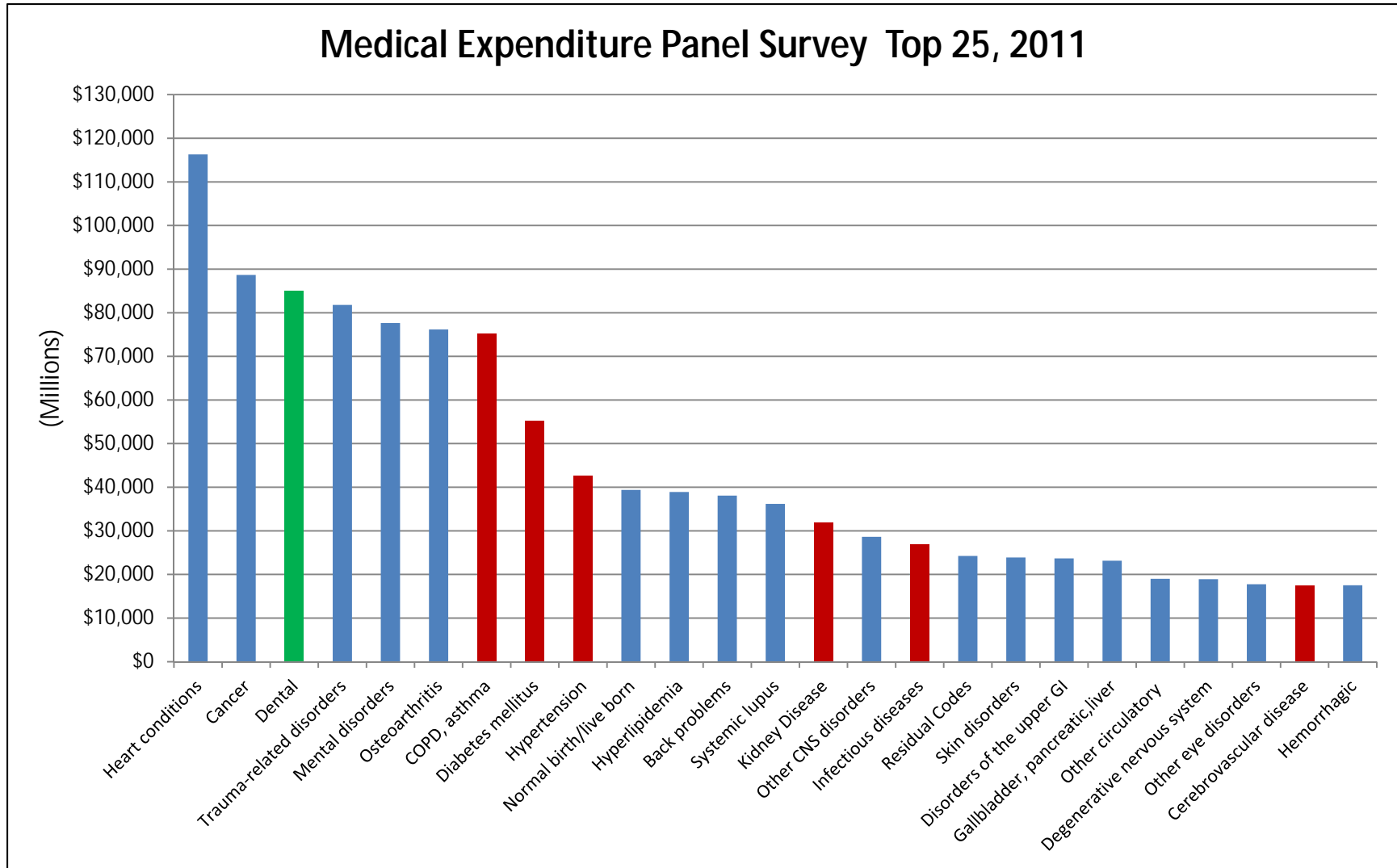
National Oral Health Expenses



Source: CMS National Health Expenditure NHE Historical and projections, 1965-2022

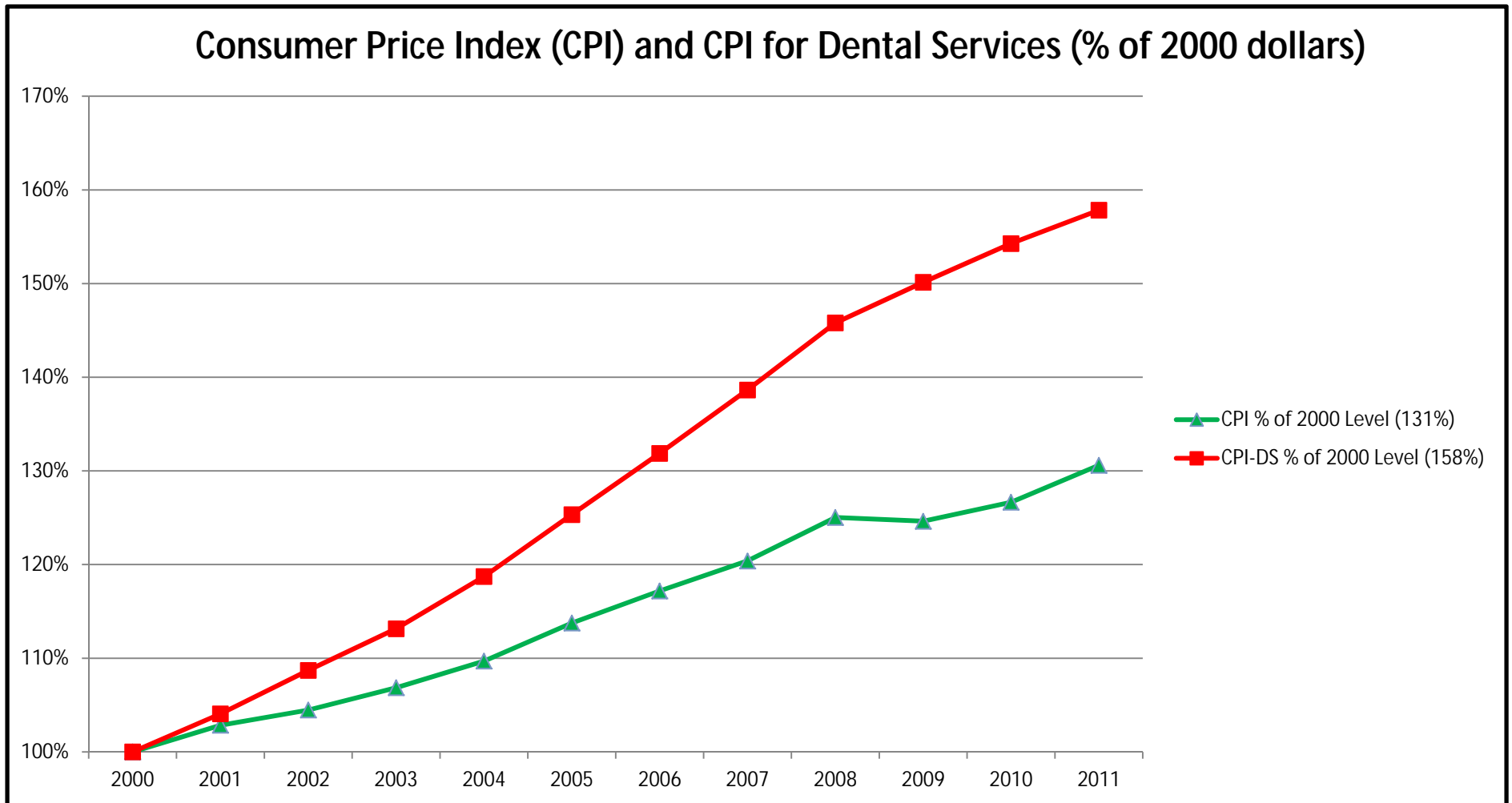
<http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/nhe65-22.zip>

Health Spending by Condition



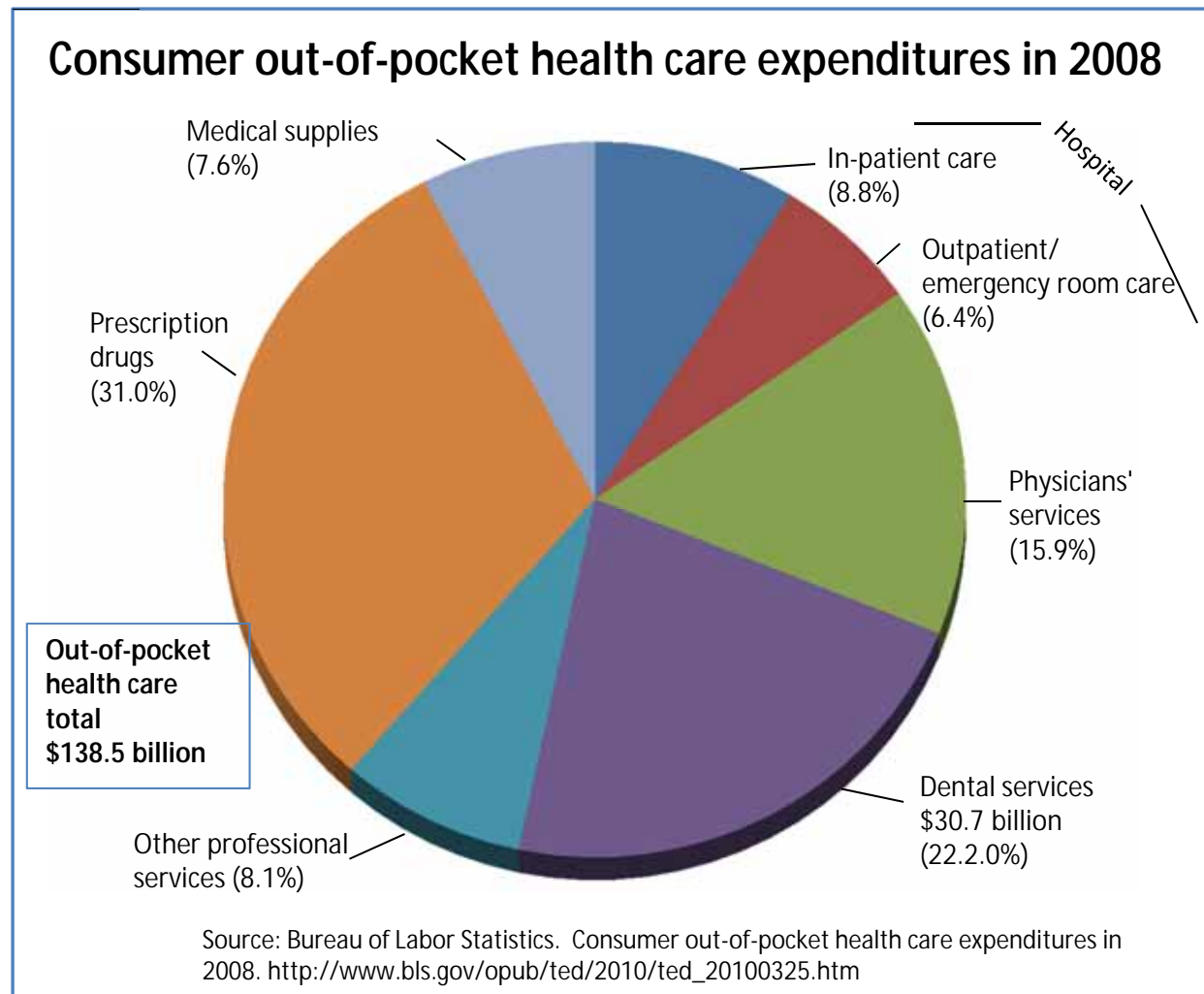
http://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2011&Table=HCFY2011%5FPLEXP%5FB&VAR1=AGE&VAR2=SEX&VAR3=RACETH5C&VAR4=INSURCOV&VAR5=POVCAT11&VAR6=MSA&VAR7=REGION&VAR8=HEALTH&VARO1=4+17+44+64&VARO2=1&VARO3=1&VARO4=1&VARO5=1&VARO6=1&VARO7=1&VARO8=1&_Debug=

Oral Health Expenses



Source: American Dental Association. Consumer Price Index for Dental Services, 1970-2011. March 2012.

Out-of-Pocket Health Expenses

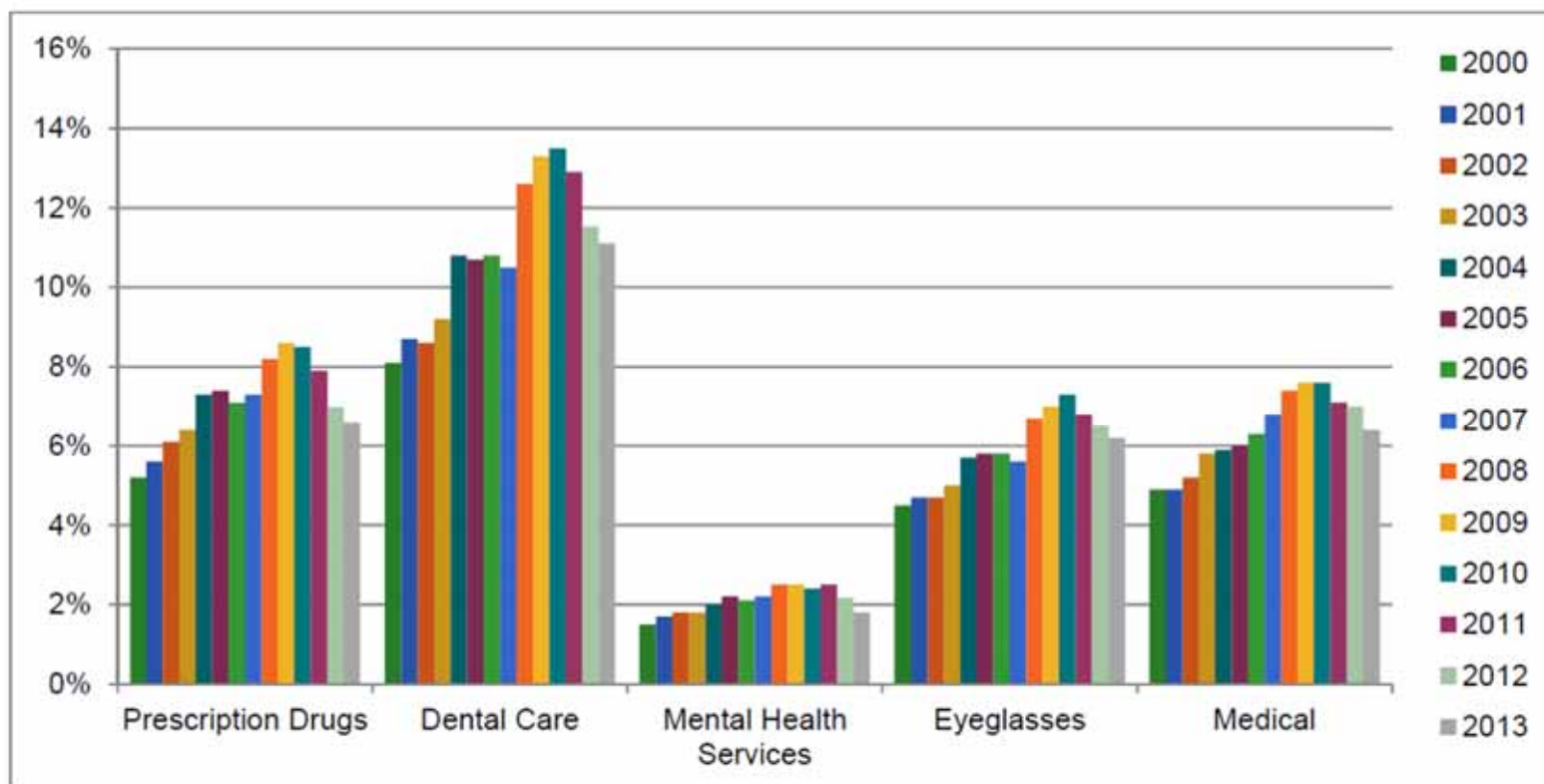


Fewer Americans Forgoing Dental Care Due to Cost

October 2014

Authors: Thomas Wall, M.A., M.B.A.; Kamyar Nasseh, Ph.D.; Marko Vujcic, Ph.D.

Figure 1: Percentage of the Population Who Needed But Did Not Obtain Select Health Care Services during the Previous 12 Months Due to Cost, 2000-2013



Source: National Health Interview Survey, National Center of Health Statistics. Notes: Changes from 2000 to 2010 for all services were statistically significant at the 1% level. Changes from 2010 to 2013 for all services were statistically significant at the 1% level. Changes from 2012 to 2013 were not statistically significant.

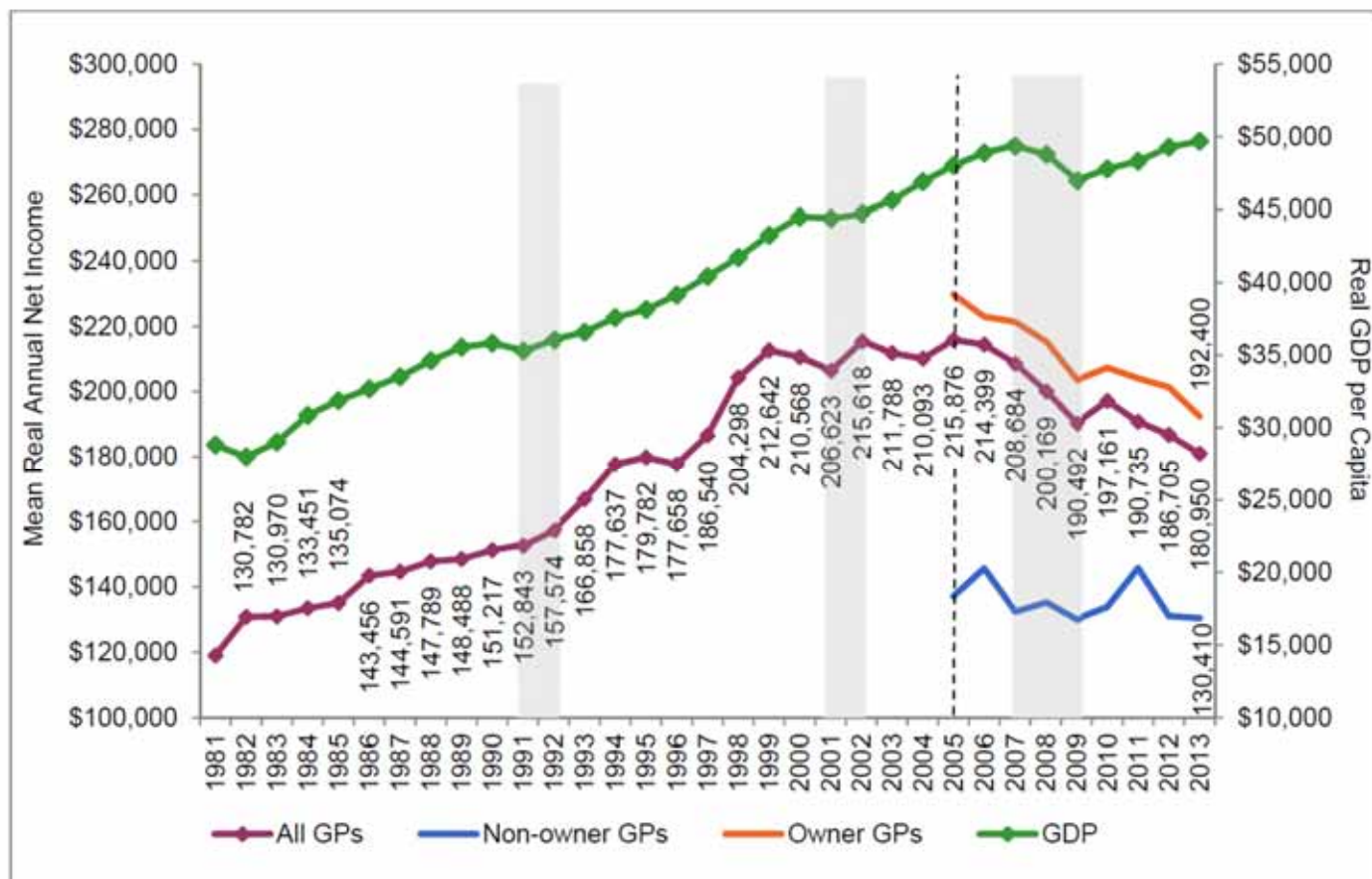
Dentist Earnings Not Recovering with Economic Growth

Authors: Bradley Munson, B.A.; Marko Vujicic, Ph.D.

December 2014

Research Brief

Figure 1: General Practitioner Dentist Earnings, 1981 to 2013



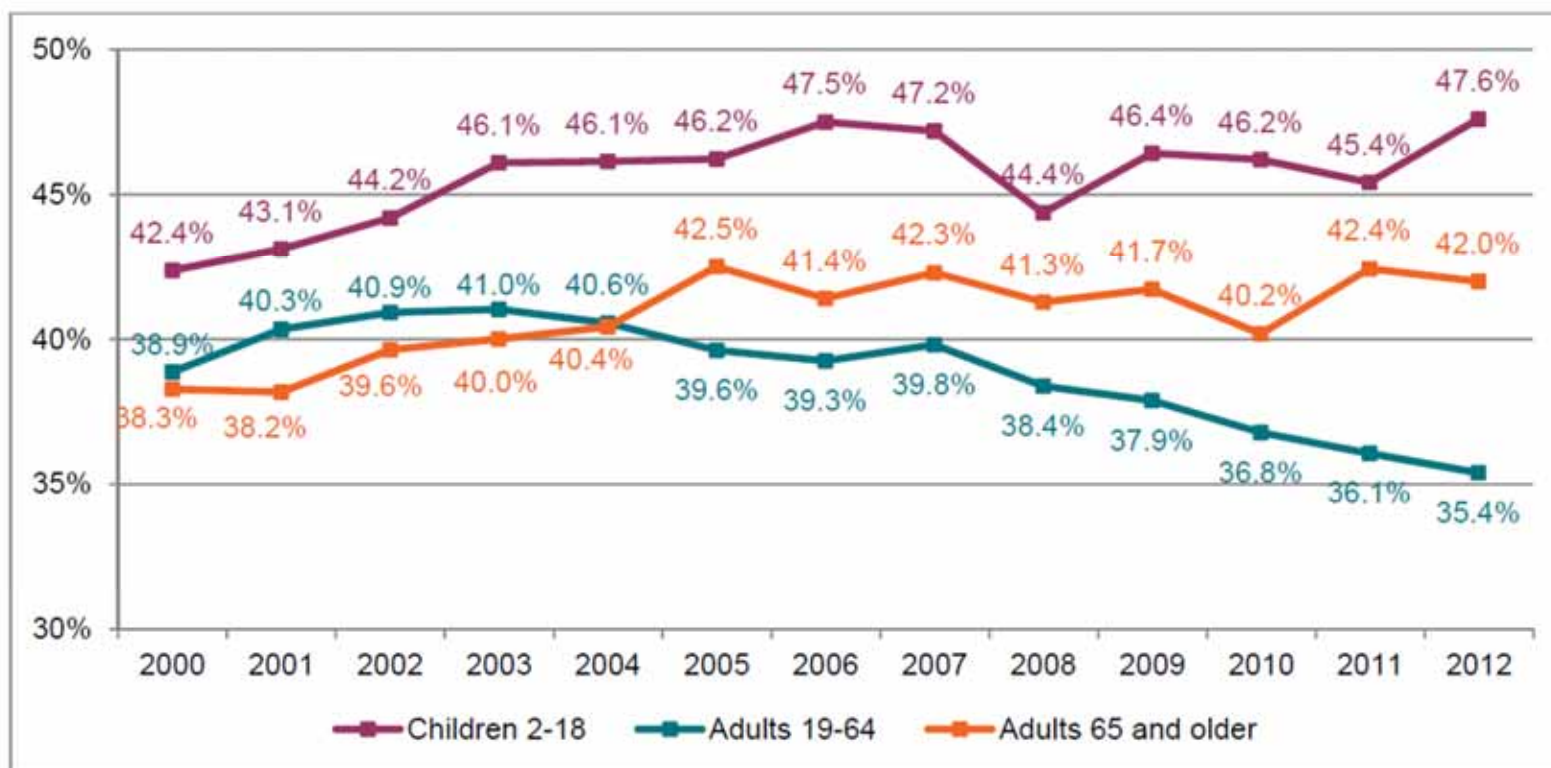
Source: ADA Health Policy Institute; Bureau of Economic Analysis; Bureau of Labor Statistics. Note: Net income data are based on the ADA Health Policy Institute annual *Survey of Dental Practice* with years 2000-2013 weighted to adjust for nonresponse bias. Shaded areas denote recession years according to NBER. GDP is deflated using the GDP deflator. Net income is deflated using the all-item CPI. All values are in constant 2013 dollars.

Dental Care Utilization Rate Highest Ever among Children, Continues to Decline among Working-Age Adults

October 2014

Authors: Kamyar Nasseh, Ph.D.; Marko Vujicic, Ph.D.

Figure 1: Percentage of the Population with a Dental Visit in the Year, 2000-2012



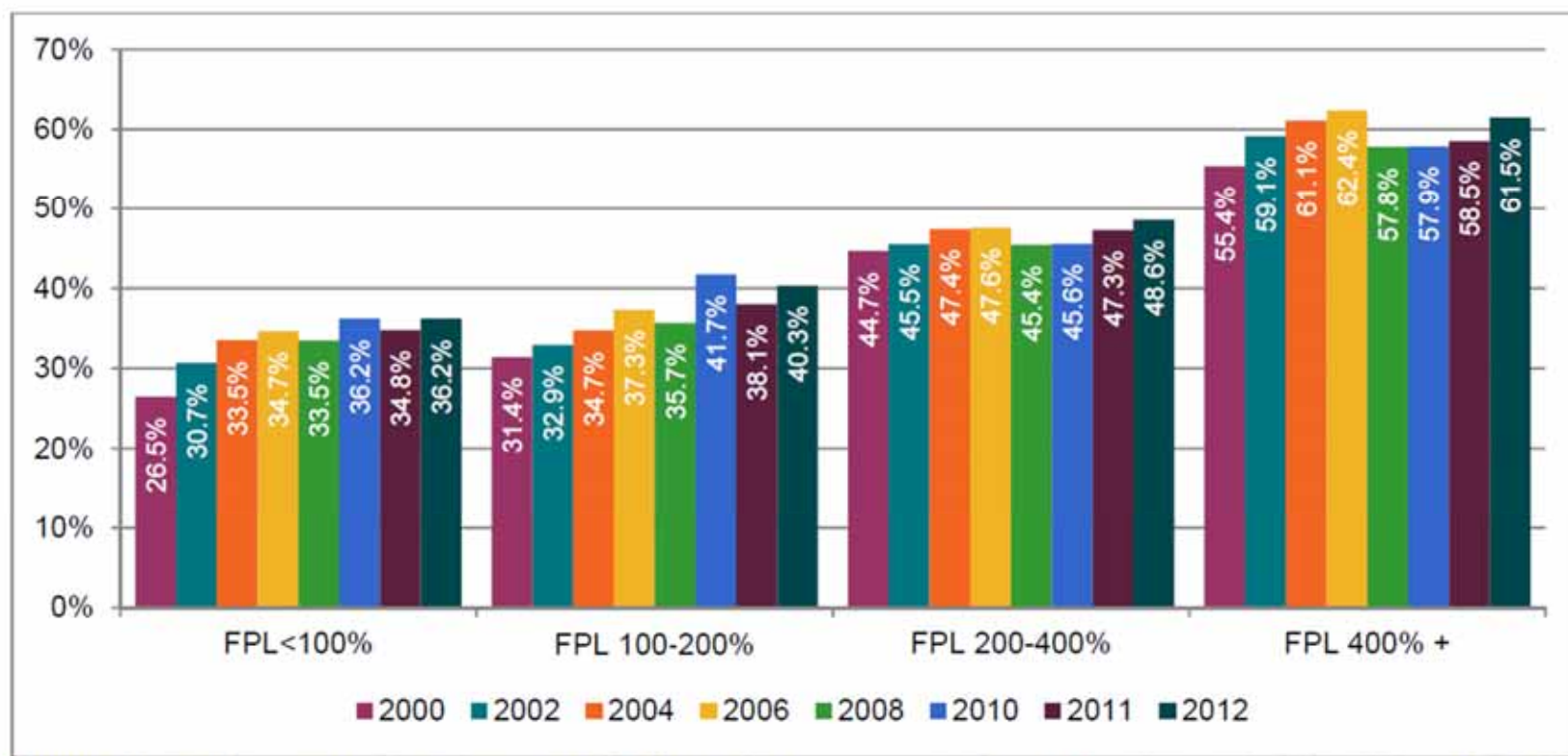
Source: Medical Expenditure Panel Survey, AHRQ. Notes: For children ages 2-18, changes were statistically significant at the 1% level (2000-2012) and at the 10% level (2011-2012). Among adults ages 19-64, changes were statistically significant at the 1% level (2003-2011). For adults 65 and older, changes were significant at the 5% level (2000-2012). Changes from 2011 to 2012 among adults 19-64 and the elderly 65 and above were not statistically significant.

Dental Care Utilization Rate Highest Ever among Children, Continues to Decline among Working-Age Adults

October 2014

Authors: Kamyar Nasseh, Ph.D.; Marko Vujicic, Ph.D.

Figure 3: Percentage of Children Ages 2-18 with a Dental Visit in the Year for Select Income Groups, 2000-2012



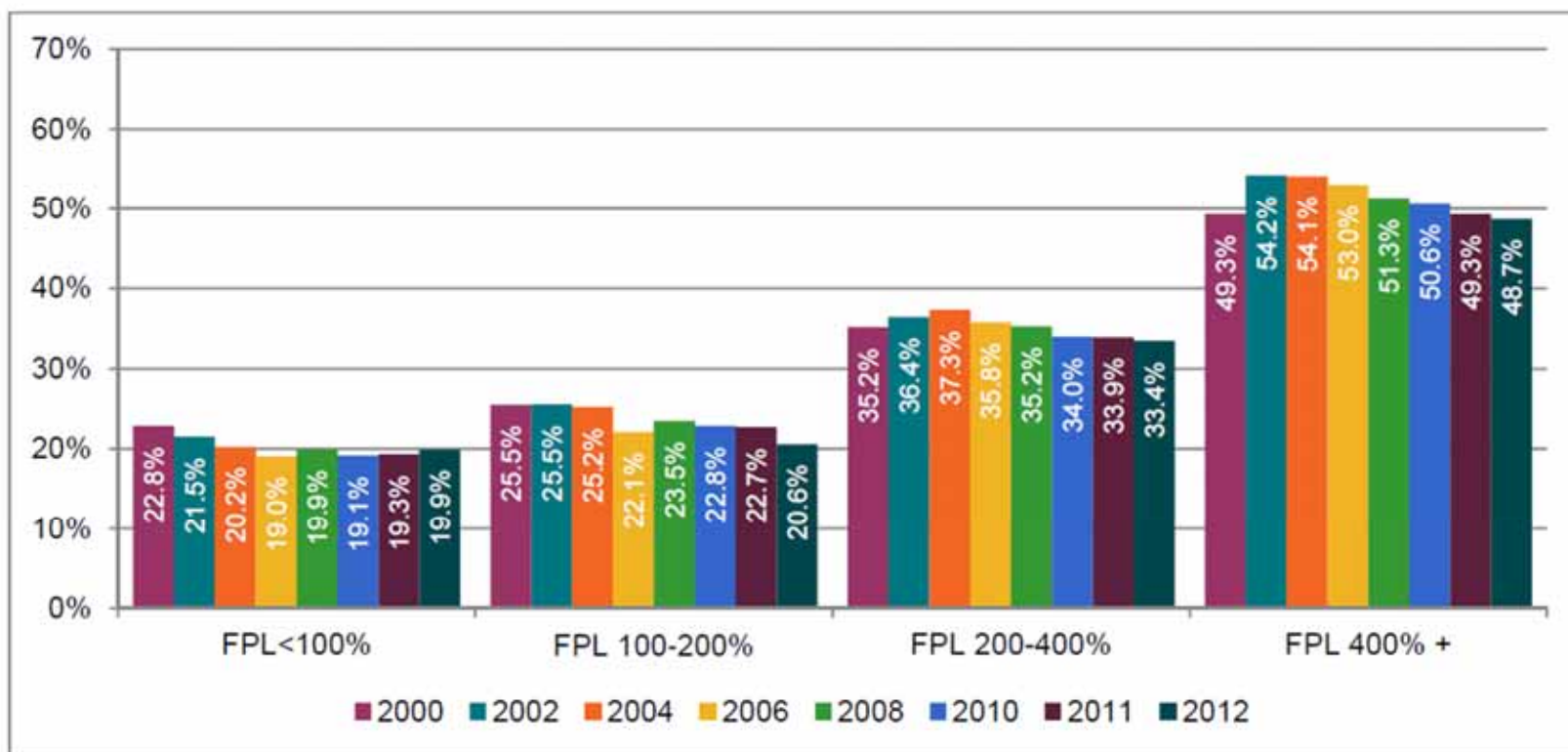
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes were significant at the 1% level for FPL <100% and FPL 100-200% (2000-2012) and at the 5% level for FPL 400+ (2000-2012). Changes from 2011 to 2012 were not statistically significant.

Dental Care Utilization Rate Highest Ever among Children, Continues to Decline among Working-Age Adults

October 2014

Authors: Kamyar Nasseh, Ph.D.; Marko Vujicic, Ph.D.

Figure 4: Percentage of Adults Ages 19-64 with a Dental Visit in the Year for Select Income Groups, 2000-2012



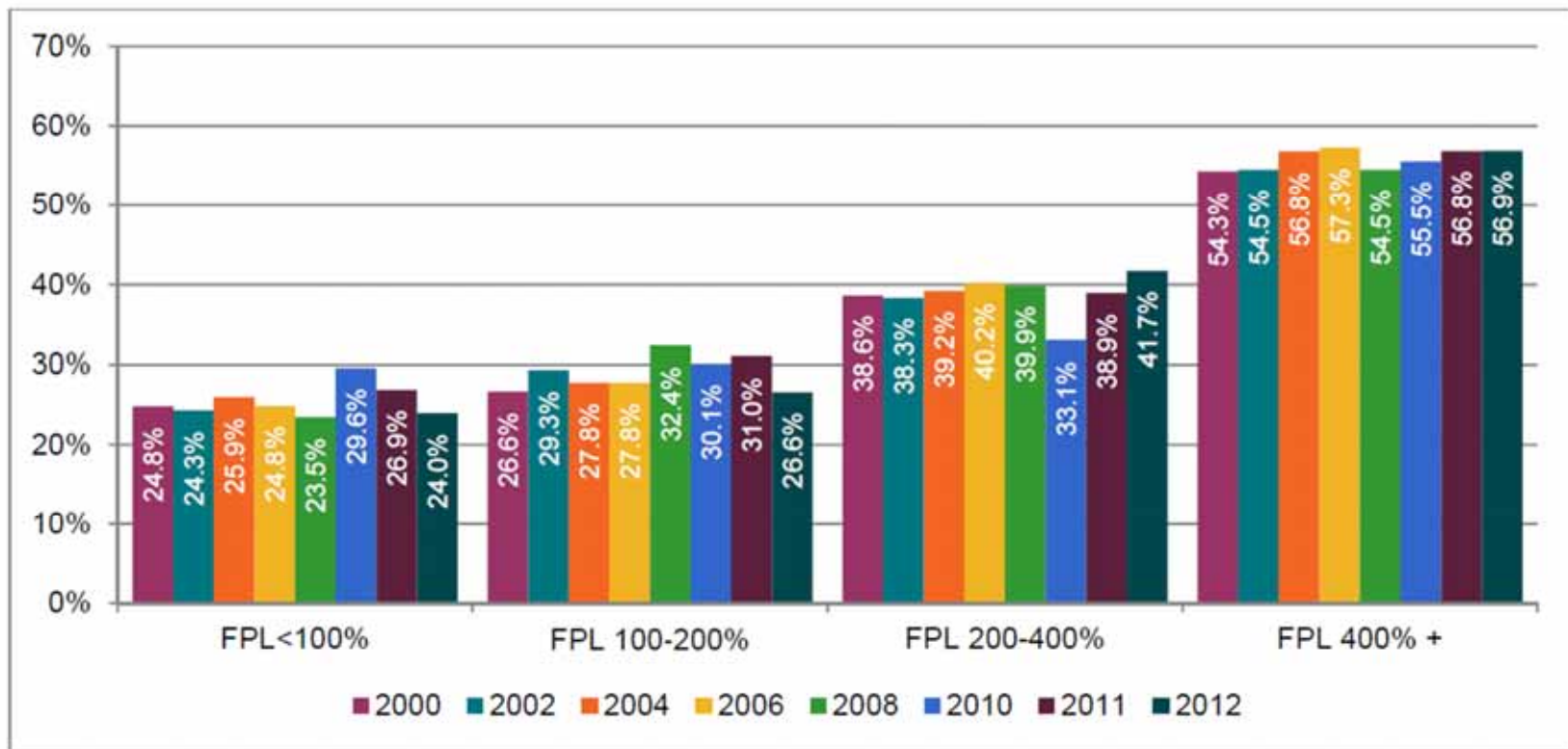
Source: Medical Expenditure Panel Survey, AHRQ. Notes: Changes were significant at the 5% level for FPL 200-400% and at the 1% level for FPL 100-200% and FPL 400%+ (2002-2012). Changes from 2011 to 2012 were not statistically significant.

Dental Care Utilization Rate Highest Ever among Children, Continues to Decline among Working-Age Adults

October 2014

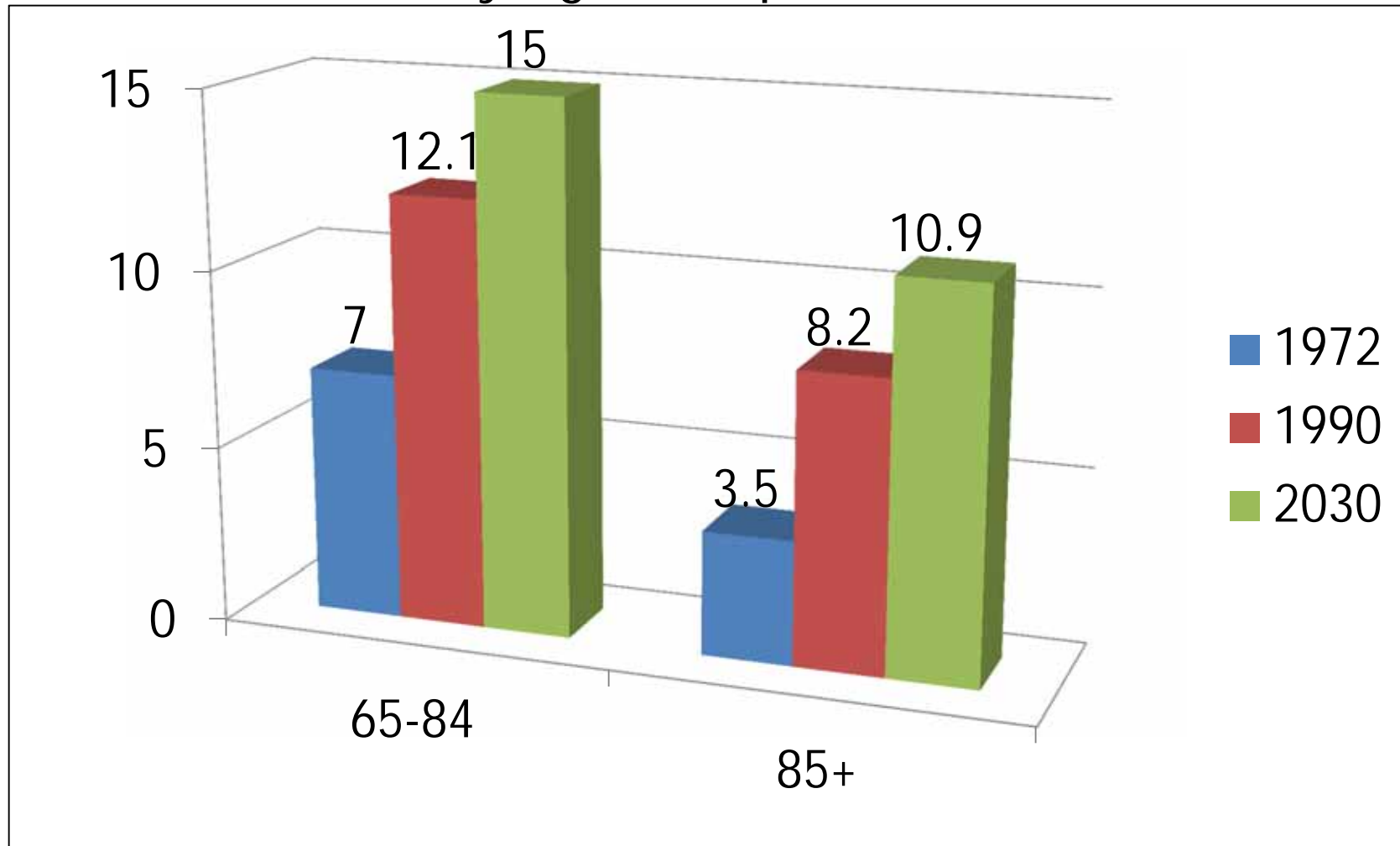
Authors: Kamyar Nasseh, Ph.D.; Marko Vujcic, Ph.D.

Figure 5: Percentage of Adults 65 and Older with a Dental Visit in the Year for Select Income Groups, 2000-2012



Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes were significant at the 5% level for FPL 100-200% (2011-2012). Changes for FPL <100%, FPL 200-400% and FPL 400%+ from 2011 to 2012 were not statistically significant.

Functional Teeth Per Individual by Age Group 65, 85+



Douglass CW, Glassman P. The oral health of vulnerable older adults and persons with disabilities. Spec Care Dentist 2013; 33(4):156-163.

There will be close to
1 Billion Teeth in 65+ year olds
in 2030!



Dental Expenditures by Income Strata - 2010

Family Income	Number (000,000)	% of Population	% with Visit	Expenditures (000,000)	% of Expenditures
Poor	46.8	15%	24%	\$4,232	7%
Near Poor	14.5	5%	27%	\$1,612	3%
Low	42.7	14%	28%	\$5,468	9%
Middle	93.0	30%	35%	\$17,302	29%
High	111.7	36%	51%	\$31,111	52%

Definitions: Poor = < FPL; Near poor = >FPL-125% FPL; Low = >125%-200% FPL; Middle = >over 200%-400%FPL; high = >400% FPL.

2010 FPL for family of 1 = \$10,830, 4 = \$22,050 (HHS Poverty Guidelines 2010, <http://aspe.hhs.gov/poverty/10poverty.shtml>)

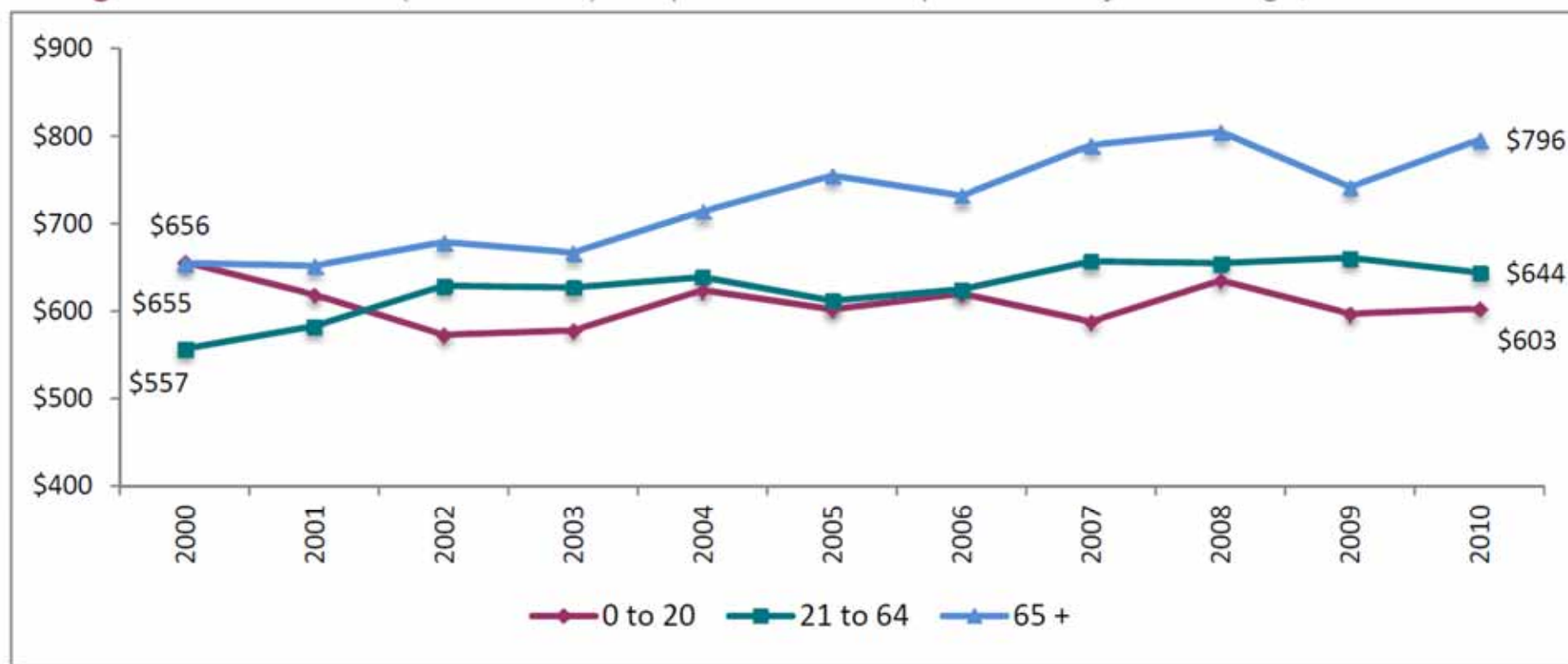
Source = AHRQ MEPS Dental Services Expenses General Dentist Visits 2010

http://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2010&Table=HCFY2010%5FPLEXP%5FB&VAR1=AGE&VAR2=SEX&VAR3=RACETH5C&VAR4=INSURCOV&VAR5=POVCAT10&VAR6=MSA&VAR7=REGION&VAR8=HEALTH&VAR01=4+17+44+64&VAR02=1&VAR03=1&VAR04=1&VAR05=1&VAR06=1&VAR07=1&VAR08=1&TCOPT1=GEN&_Debug=

Per-patient Dental Expenditure Rising, Driven by Baby Boomers

March 2013

Figure 2: Annual Real (2010 dollars) Per-patient Dental Expenditures by Patient Age, 2000 to 2010

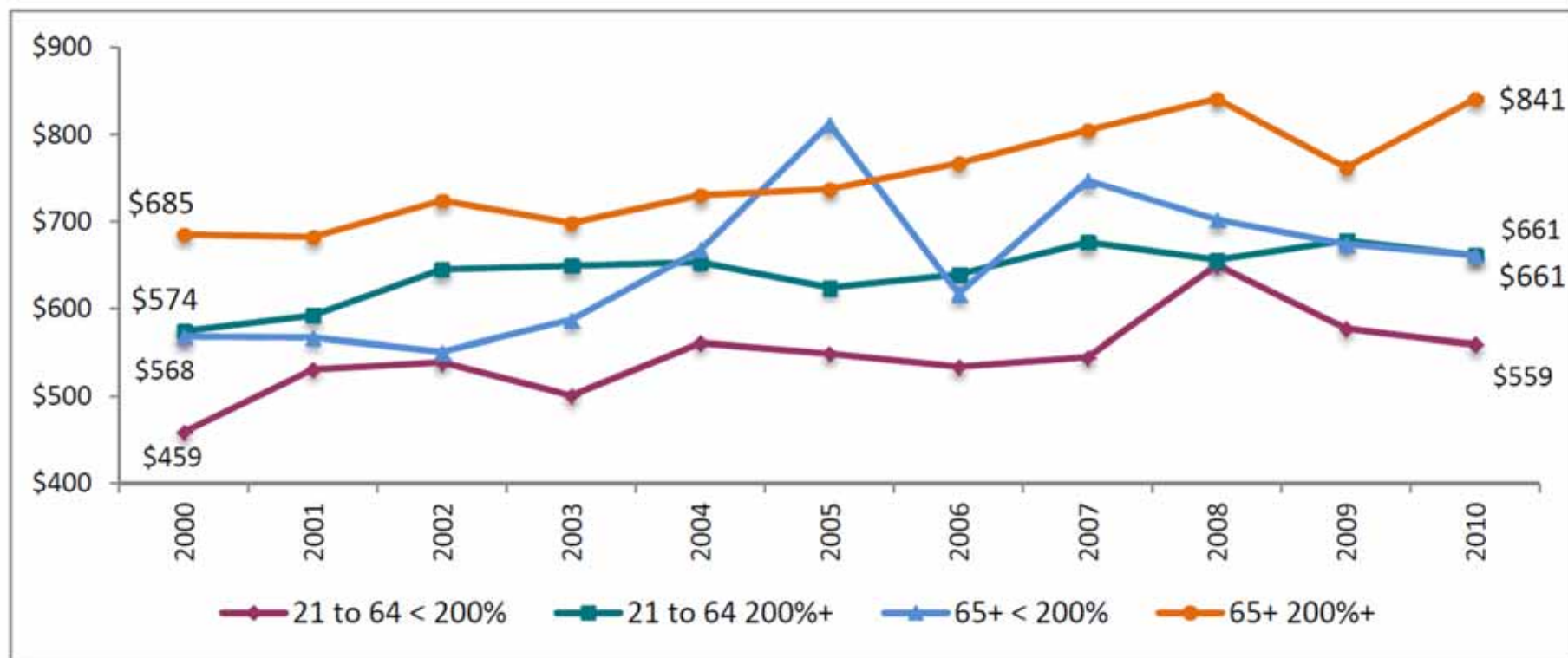


Source: Medical Expenditure Panel Survey, AHRQ. **Note:** Increases from 2000 to 2010 are statistically significant at the 1% level for age group 21 to 64 and at the 5% level for age group 65+.

Per-patient Dental Expenditure Rising, Driven by Baby Boomers

March 2013

Figure 3: Annual Real (2010 dollars) Per-patient Dental Expenditures by Patient Income Level, 2000 to 2010



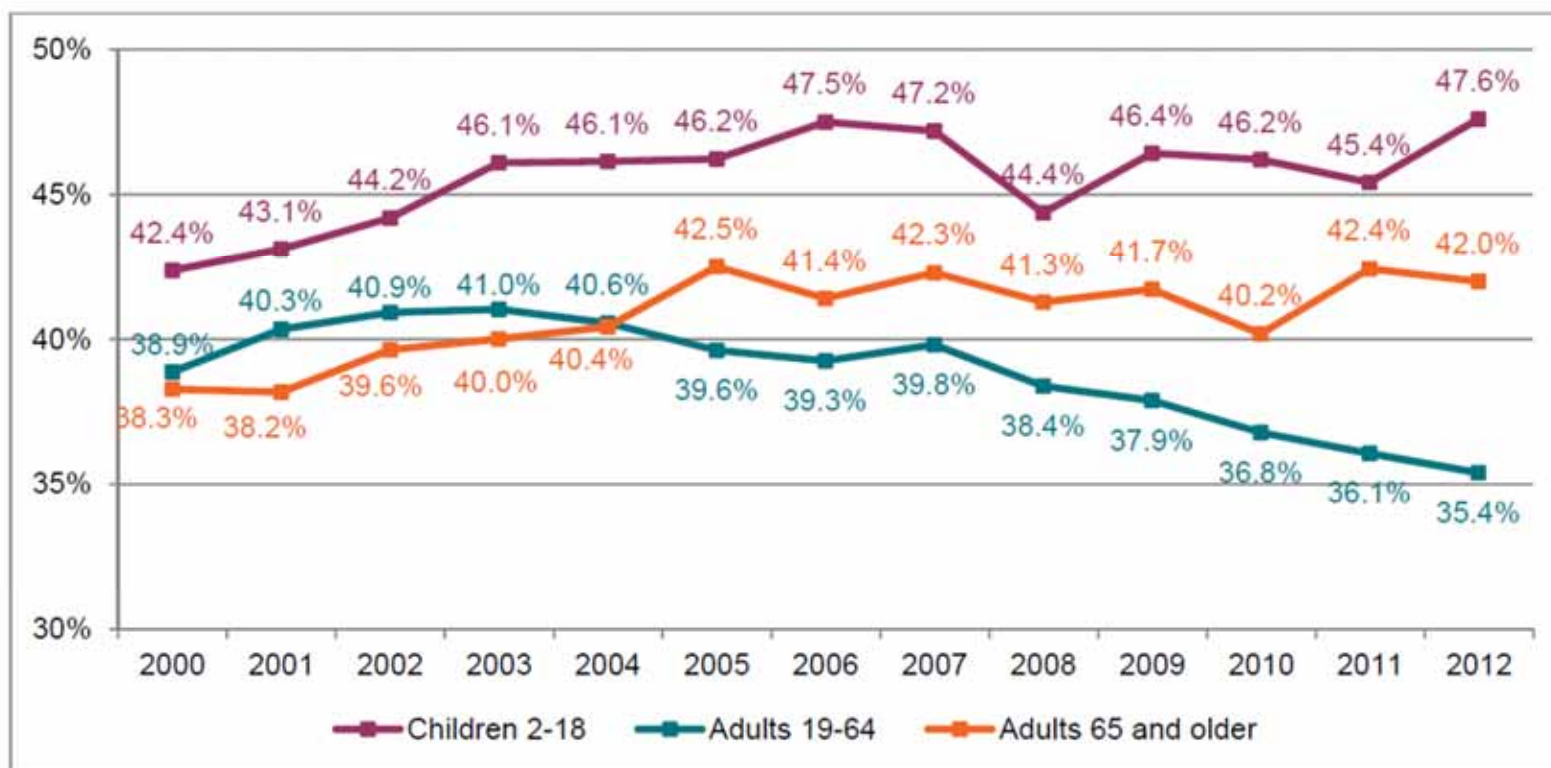
Source: Medical Expenditure Panel Survey, AHRQ. **Note:** Increases from 2000 to 2010 are statistically significant at the 1% level for adults 21 to 64 above 200% FPL and significant at the 1% level for adults 65+ above 200% of the FPL.

Dental Care Utilization Rate Highest Ever among Children, Continues to Decline among Working-Age Adults

October 2014

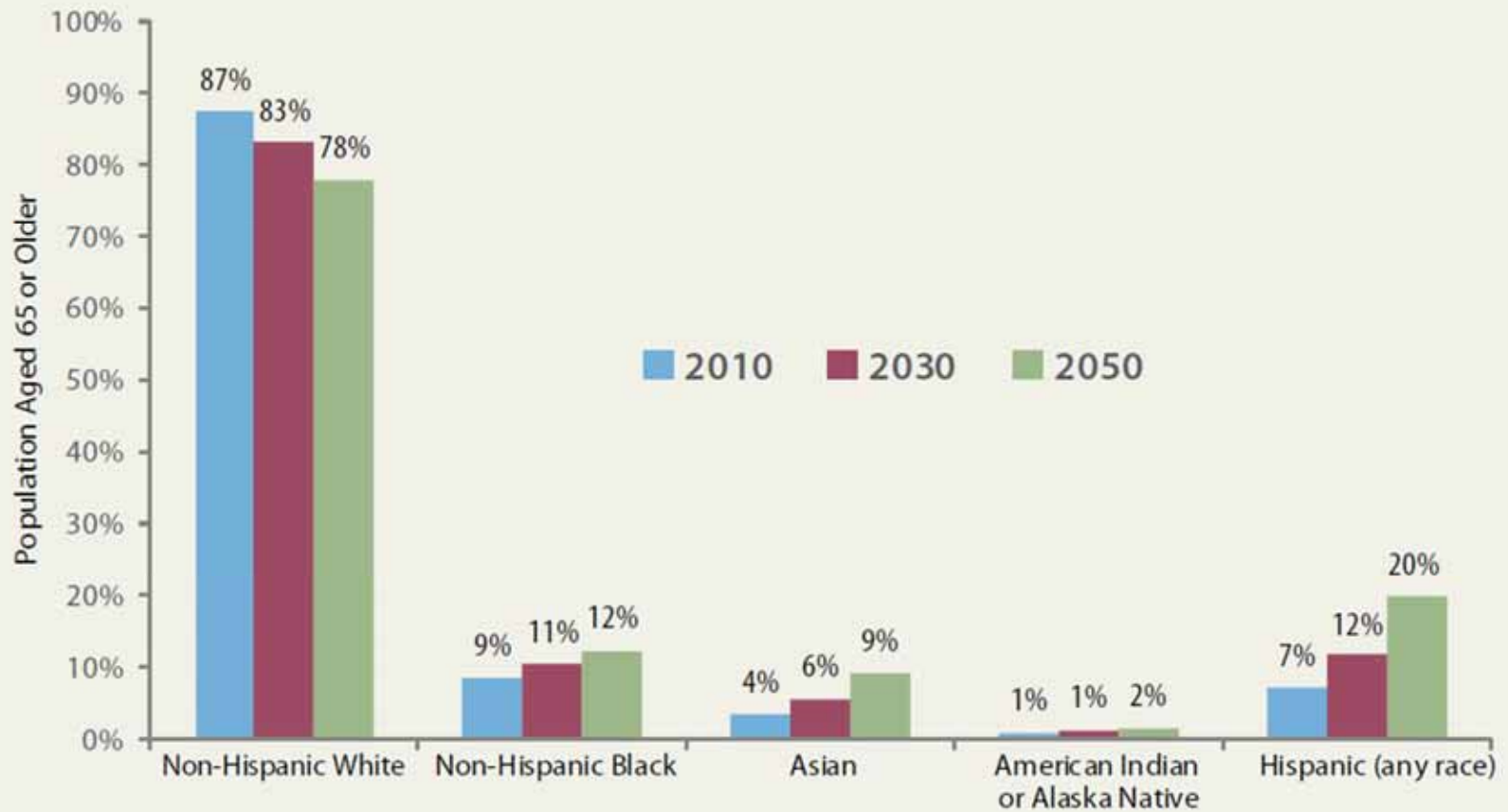
Authors: Kamyar Nasseh, Ph.D.; Marko Vujicic, Ph.D.

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Figure 1. U.S. population aged 65 years or older and diversity, 2010–2050



Source: U.S. Census Bureau, 2008.

CDC. National Center for Chronic Disease Prevention and Health Promotion. The State of Aging & Health in America 2013

Aging America and Oral Health



Common in Total Population

- Oral Health Conditions
 - Chronic oral diseases
 - Caries
 - Periodontal disease
- Income/oral health benefit coverage



The Oral Health of Older Americans

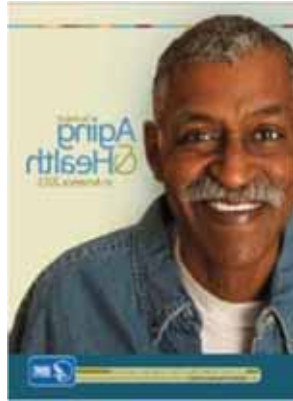
By Clemencia M. Vargas, D.D.S., Ph.D.
Ellen A. Kramarow, Ph.D.
Janet A. Yellowitz, D.M.D., M.P.H.



- Nearly one-third of persons 65 years of age and older have untreated dental caries.

- 7 percent of adults 65 years and older reported having tooth pain at least twice during the past 6 months

Aging America and Oral Health



Common in Total Population

- Oral Health Conditions
 - Chronic oral diseases
 - Caries
 - Periodontal disease
- Income/oral health benefit coverage

Common in Older Adults

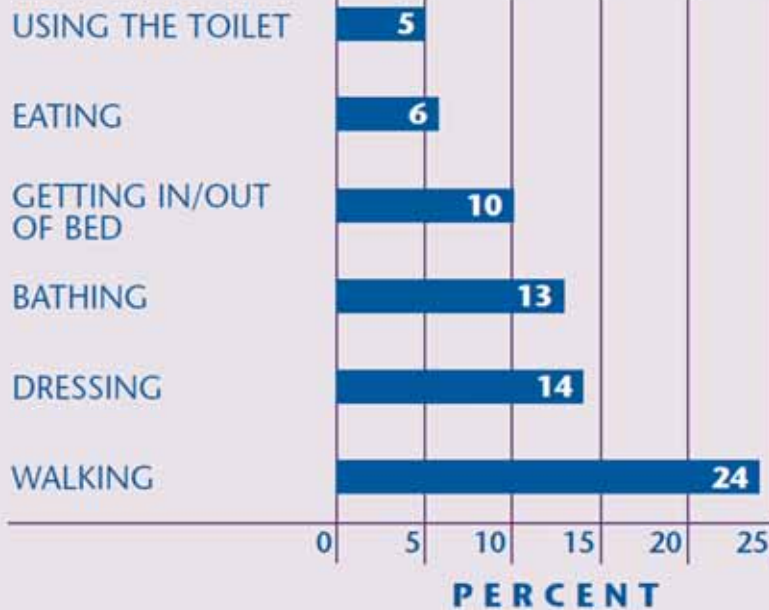
- General Health Conditions
 - Physical health
 - Mental health
 - Mobility
- Dependency
 - Range from partial to deficits in ADLs

Aging and Disability

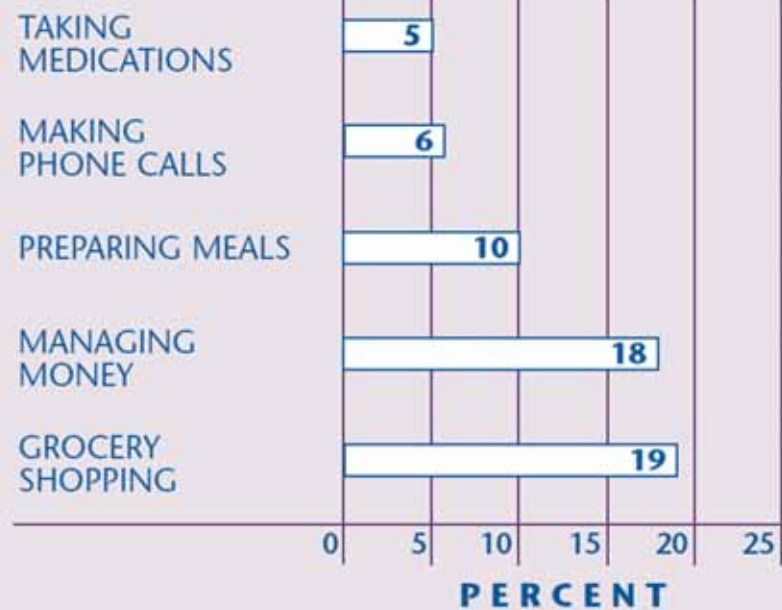
FIGURE 1

Proportion of People Age 70+ with Activity Limitations

ADLs



IADLs



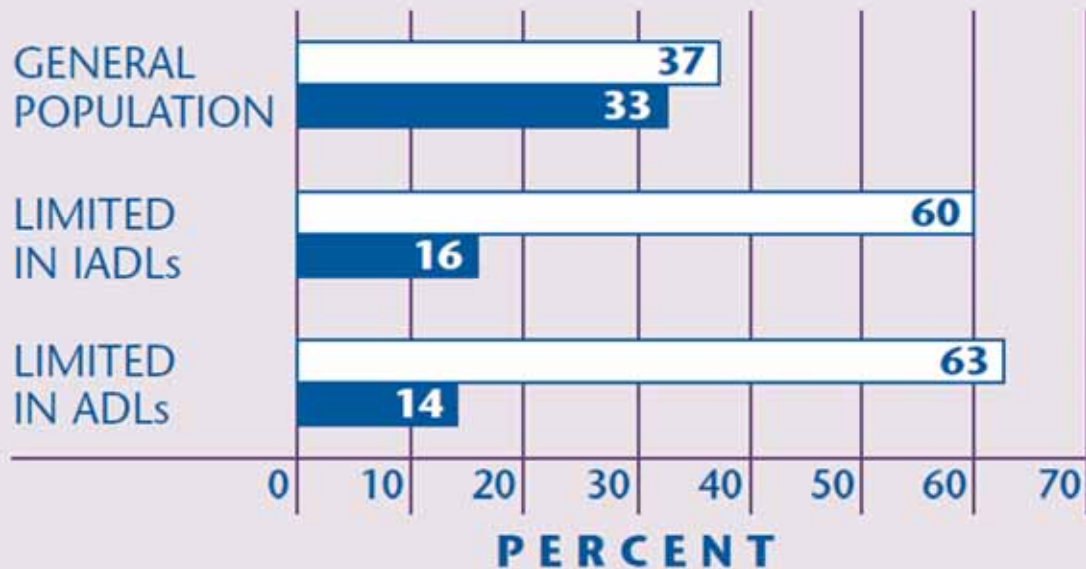
SOURCE: National Academy on an Aging Society analysis of data from the 1993 study of Assets and Health Dynamics Among the Oldest Old.

Aging and Disability

FIGURE 2

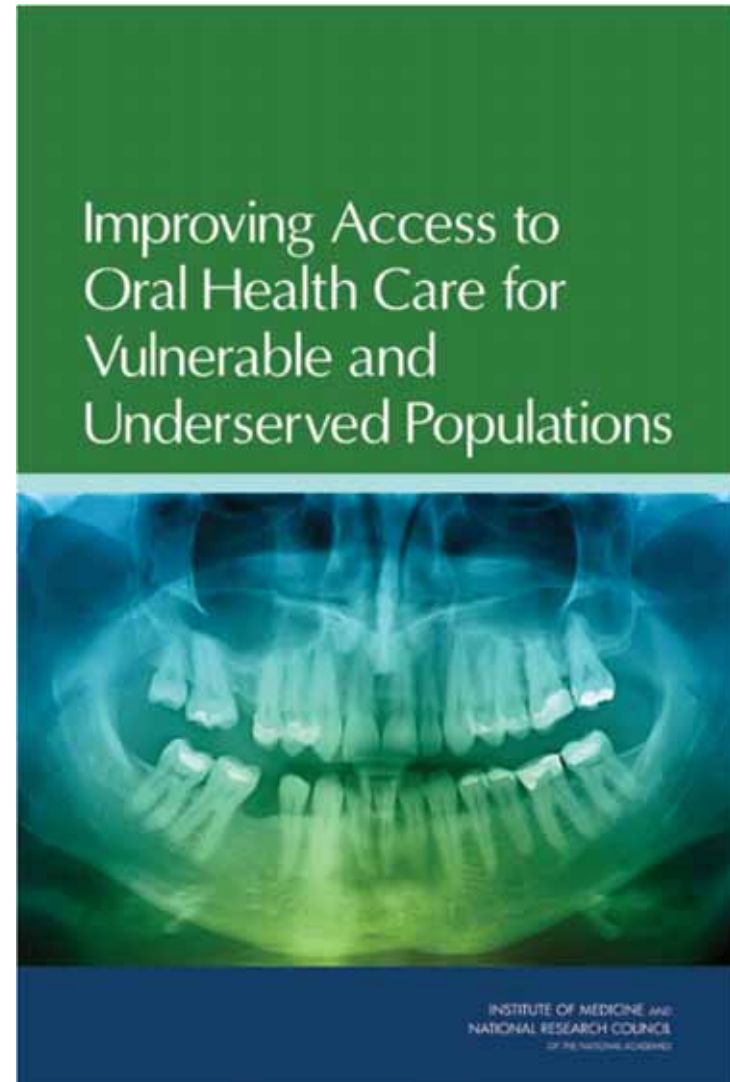
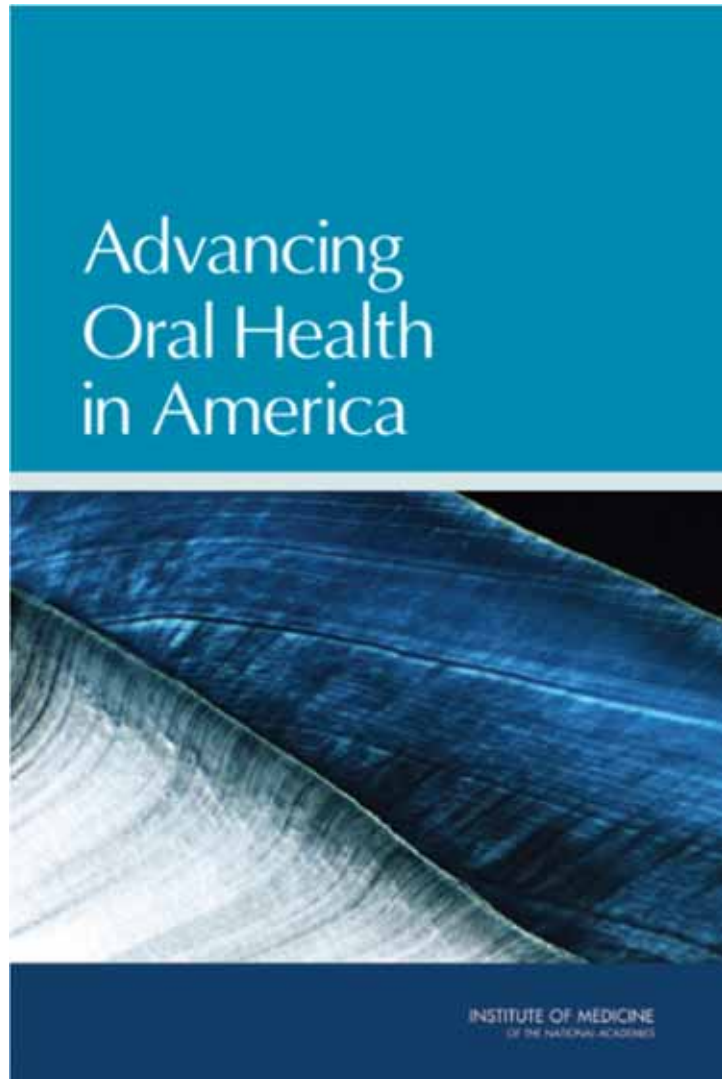
*Self-Reported Physical Health Status,
People Age 70+*

FAIR TO POOR
VERY GOOD TO EXCELLENT

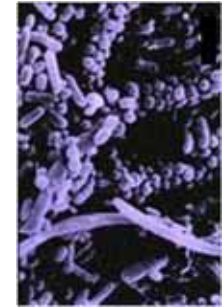


SOURCE: National Academy on an Aging Society analysis of data from the 1993 *study of Assets and Health Dynamics Among the Oldest Old*.

The 2011 IOM Reports on Oral Health

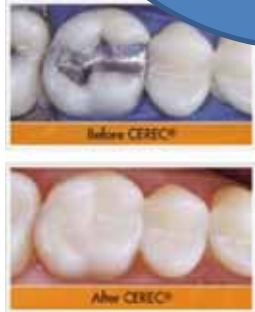


Care for Chronic Oral Diseases

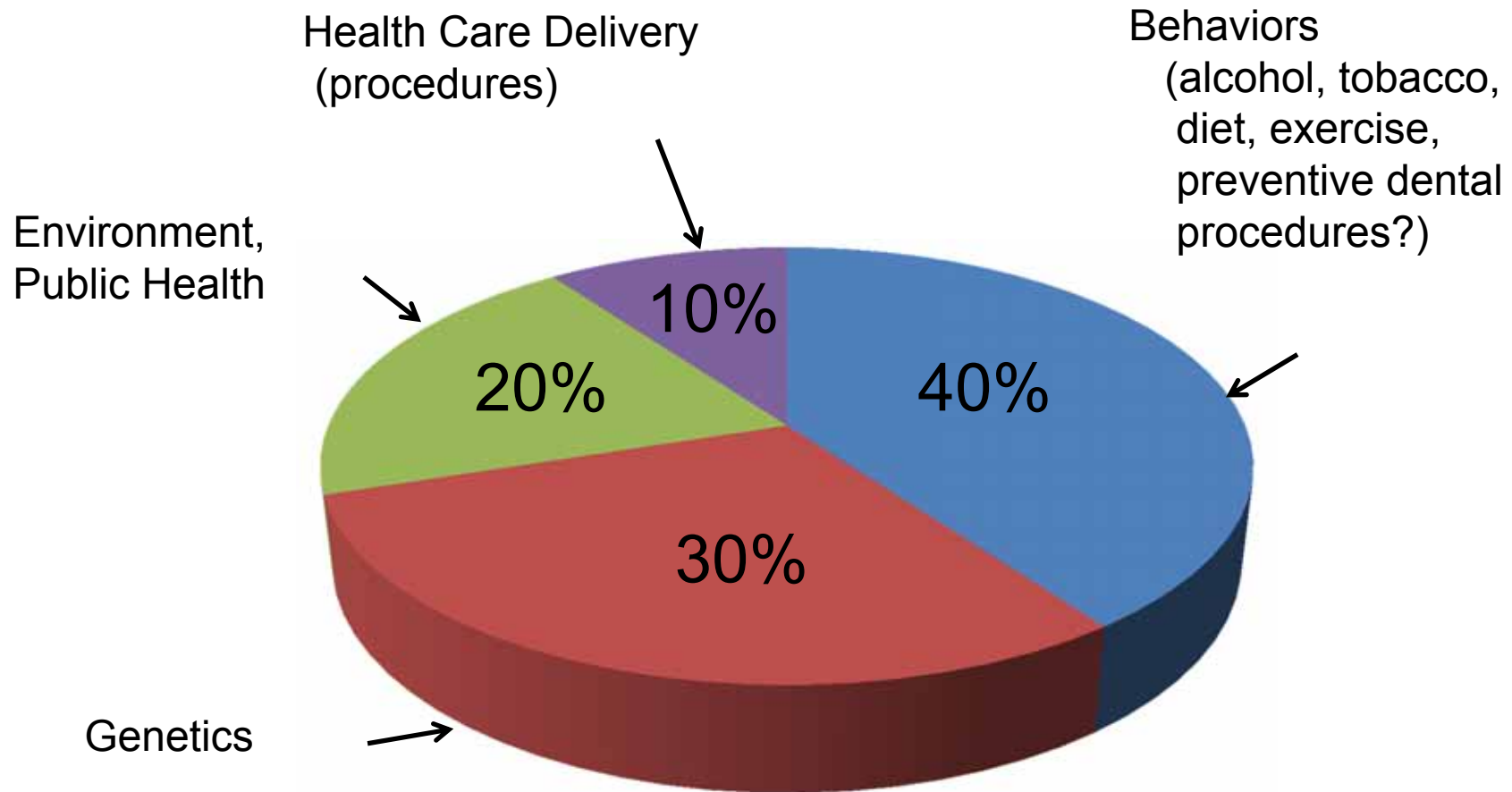


Acute Care/
Surgical
Intervention

Chronic
Disease
Management



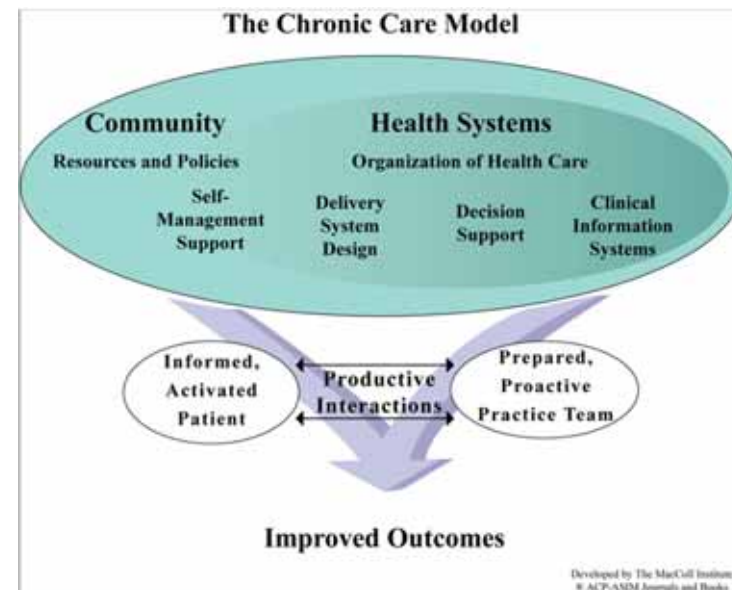
Total Health: How Long and How Well We Live



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).

Chronic Disease Management in Oral Health

- Emphasis on risk assessment, prevention, and early intervention
- Use of biological, medical, behavioral, and social tools
- Payment based on Oral health outcomes



American Dental Association Action for Dental Health

Goal: Through ADA continuing education, train at least 1,000 dentists to provide care in nursing homes by 2020, and increase the number of dentists serving on advisory boards or as dental directors of long-term care facilities.

Goal: At least ten state dental associations committed to implementing a long-term care program to improve the oral health of nursing home residents by 2015.



Dentistry in Long-term Care: Creating Pathways to Success

<http://success.ada.org/en/dentistry-in-long-term-care-course>



Topics:

- Organizations of long-term care facilities, who works there?
- Getting involved: choosing a delivery model that works for you
- Regulatory and legal compliance
- Creating and organizing an oral health program
- Working with complex patients
- Financial considerations in LTC
- Establishing an environment for effective daily mouth care
- Staying current: accessing the scientific literature

Dentistry in Long Term Care: Creating Pathways To Success

OBSTACLES



OVERCOMING OBSTACLES TO ORAL HEALTH

A training program for caregivers
of people with disabilities and frail elders



5th edition

OVERCOMING OBSTACLES TO ORAL HEALTH

A Training Program for Caregivers of People with Disabilities and Frail Elders

The DVD contains:

- The Direct Caregiver Video with three choices:
 - 1) Part I—Direct Caregiver Workbook, Chapters 1-6
 - 2) Part II—Direct Caregiver Workbook, Chapters 7-13
 - 3) The entire video
- MDS Oral Health Compliance Video for nursing staff working in health licensed long-term care facilities.

Insert DVD into a DVD player and click on the menu item for the video option of your choice.

DVD

OVERCOMING OBSTACLES TO ORAL HEALTH

A Training Program for Caregivers of People with Disabilities and Frail Elders

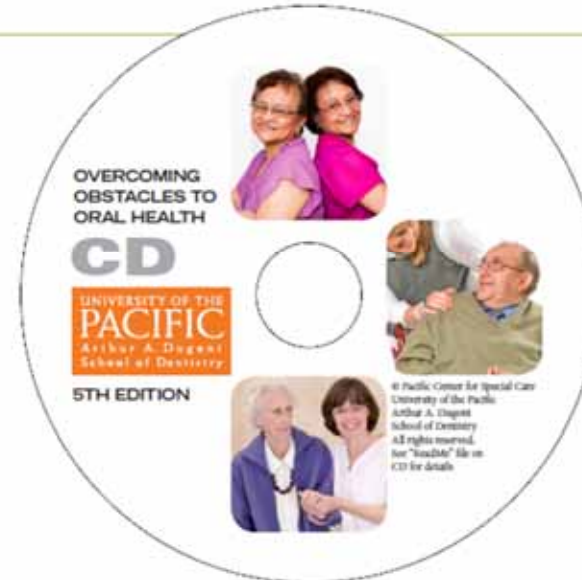
The CD contains:

- The Direct Caregiver Workbook (PDF)
- The Daily Mouth Care Plan (PDF)
- The Administrators and Trainers Manual (PDF)
- The Pre-and Post Tests (PDF)
- PowerPoint presentation (overview of Direct Caregiver workbook)
- Direct Caregiver Video (for playback on computer)
- MDS Oral Health Compliance Video (for playback on computer)

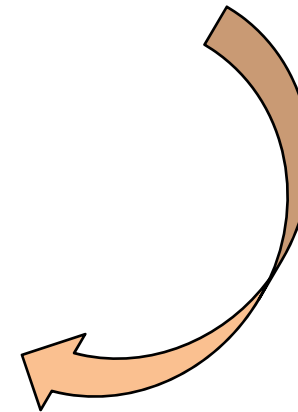
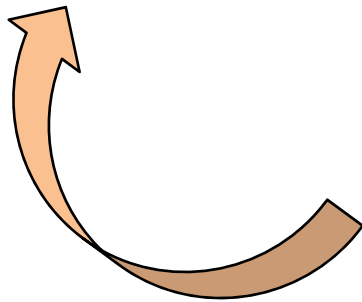
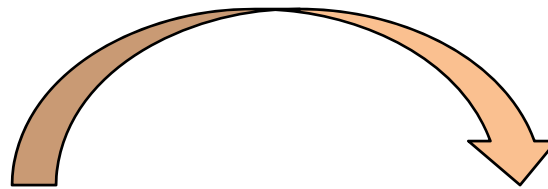
Insert CD in a computer and open "ReadMe" file for contents and instructions.

CD

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University of the Pacific
Arthur A. Dugoni School of Dentistry
All rights reserved.
See "ReadMe" file on CD for details



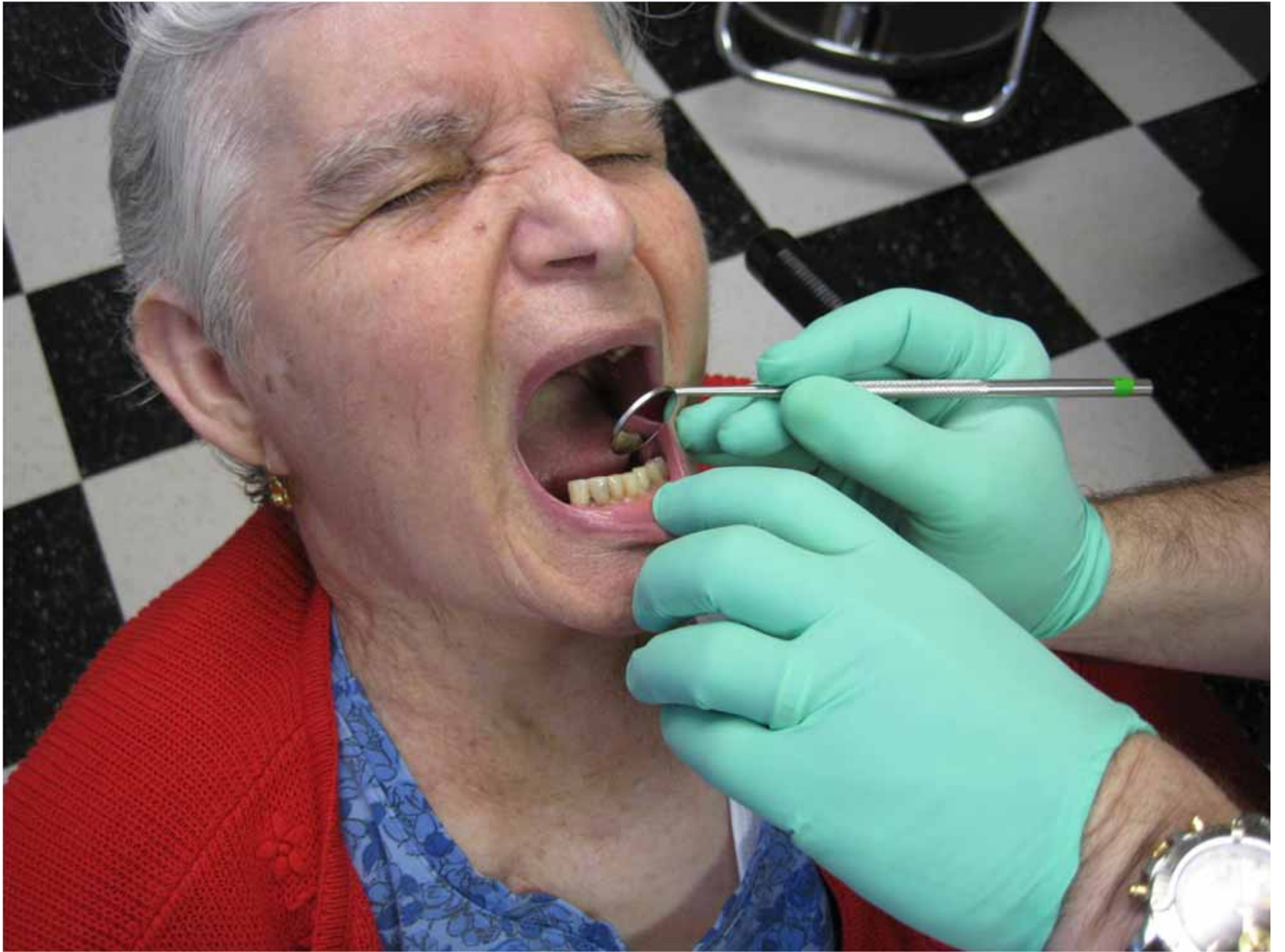
The Virtual Dental Home



<http://www.virtualdentalhome.org>

EHR: Radiographs





EHR: Photographs



Denticon!! :- Patient Window :- Welcome, CHAEKIM@MSN.COM :- Internet Explorer provided by Dell

https://www.denticon.com/ASPX/Charting/PatChartNew.aspx

Scheduler Patient Transactions Charting Reports Utilities Setup **Office** Los Angeles Help Logout

Members Print Patient

Patient Chart

Patient: Mouse, Mickey M Type: Patient ID 100 Responsible: Mouse, Mickey M Prim. Ins: Delta Dental of Cali
 (H) : 714-555-1212 CA Age/Sex: 59 / M Balance: 5839.40 949-555-1212
 (C) : 714-555-1213 MD First Visit: 11/29/2004 Est Ins: 2838.10 Ben Rem: 0.00
 (W) : 800-555-1212 RT Last Visit: 01/12/2009 Est Pat: 3001.30 Ded Rem: 0.00

Change Dentition View Chart as on 1/12/2009 Clear Selection ADA Code Progress Notes Perio

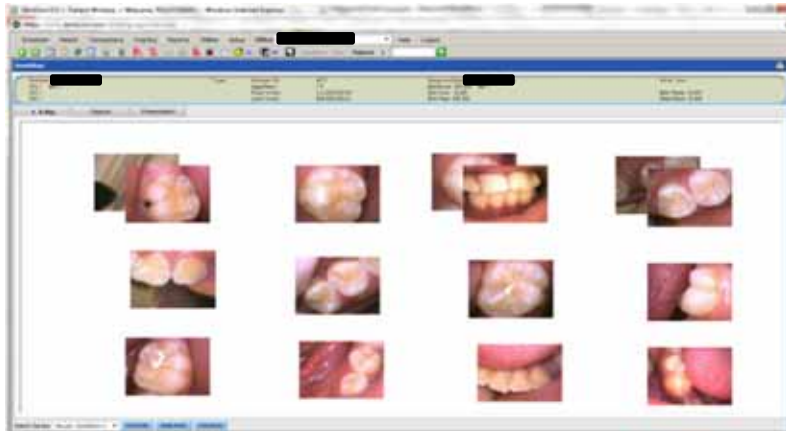
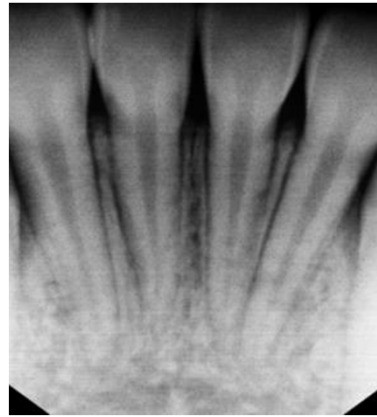
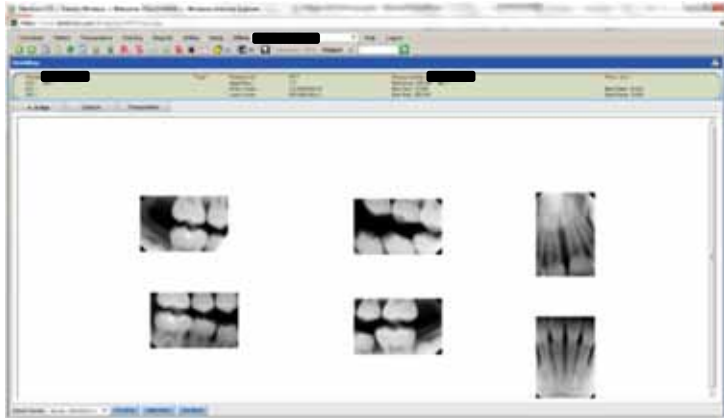
Pre-existing Compl. Proc. Treat Plans
 Decay Defective
 Crown Bridge
 Implant Denture
 Missing Impacted
 Erupted Watch

Pre-existing Conditions

Type	Date	St	Code	Description	Th	Surf	Est. Ins.	Fee	Office
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	3	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	4	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	5	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	6	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	7	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	8	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	9	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	10	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	11	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	12	M	\$0.00	\$84.00	LA
LEDGER	10/27/2008		D2140	Amalgam One Surface Perm/Prim	13	M	\$0.00	\$84.00	LA
LEDGER	1/12/2009		D2140	Amalgam One Surface Perm/Prim	2	M	\$0.00	\$84.00	LA

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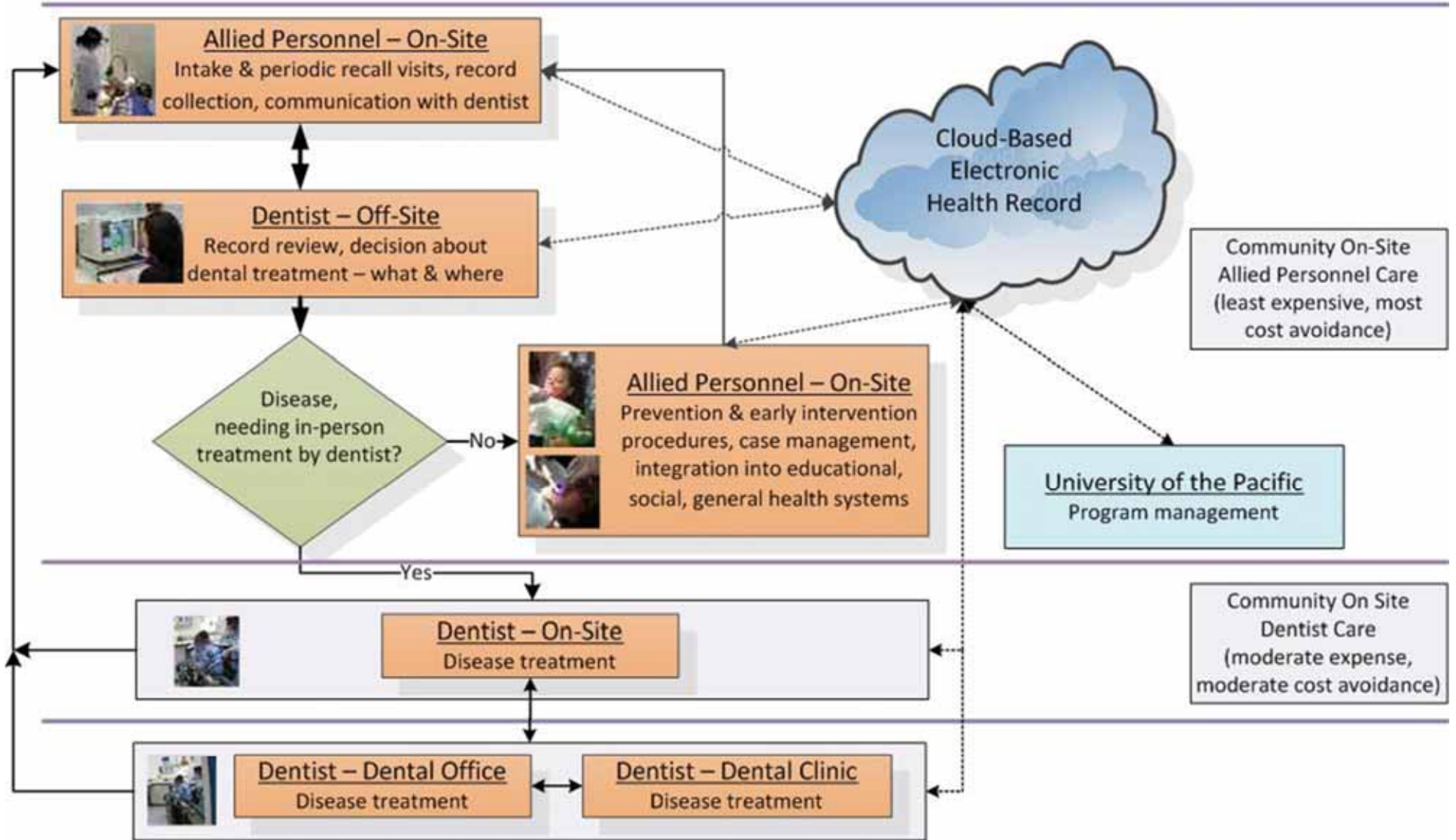
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Community-based Prevention and Early Intervention Procedures



The Virtual Dental Home Concept Model





Oral Health Systems for Underserved Populations

Telehealth-Connected Teams

The Washington Post

By Daniela Hernandez | Kaiser Health News

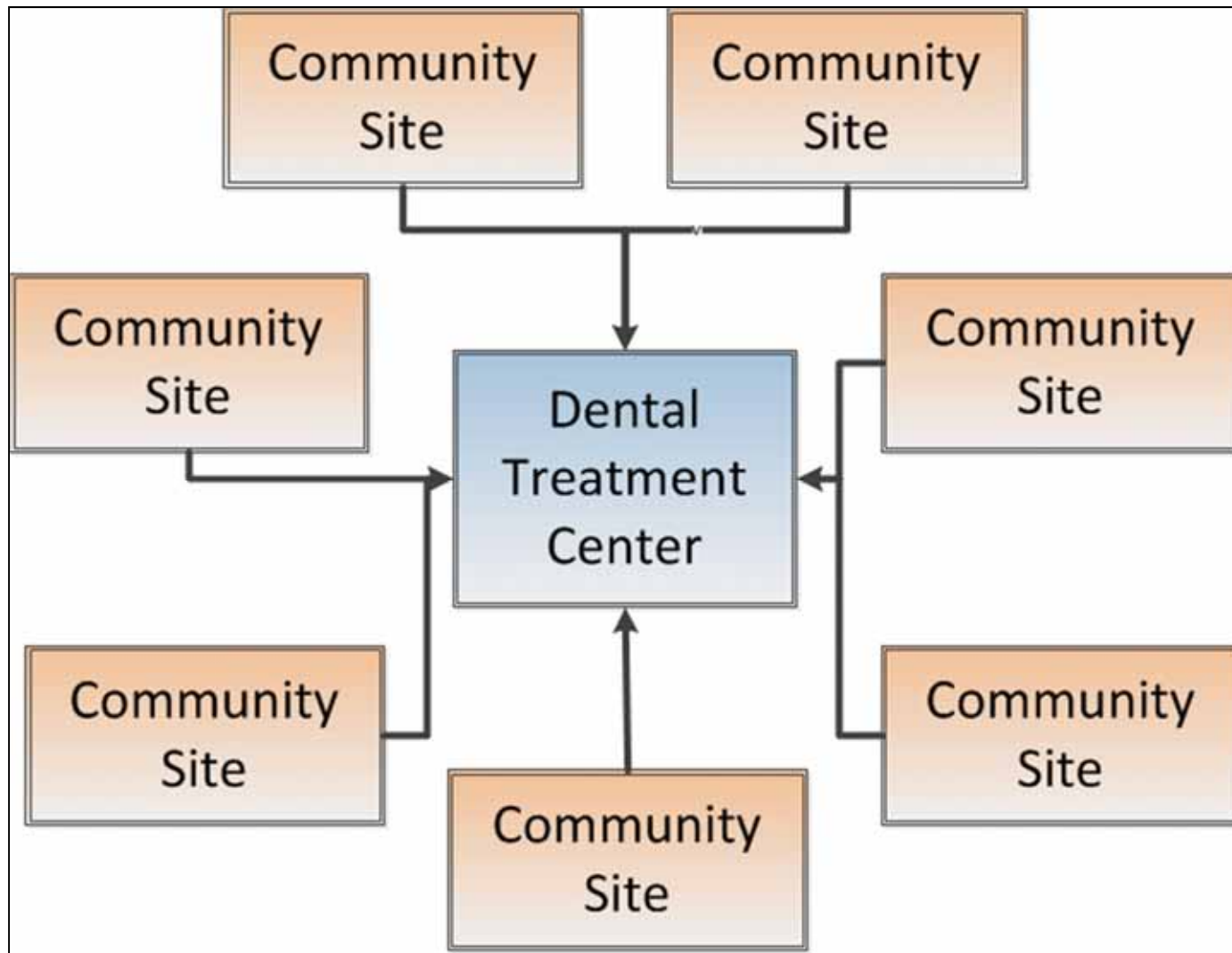
October 8 at 8:30 AM



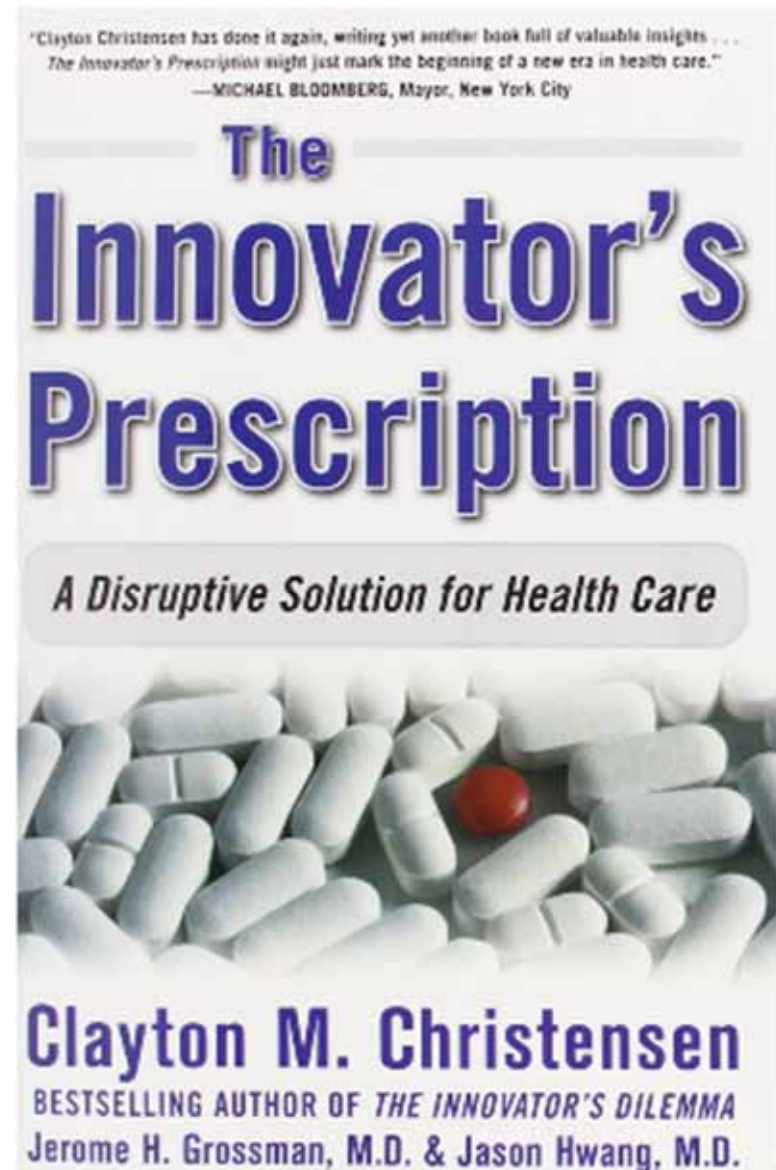
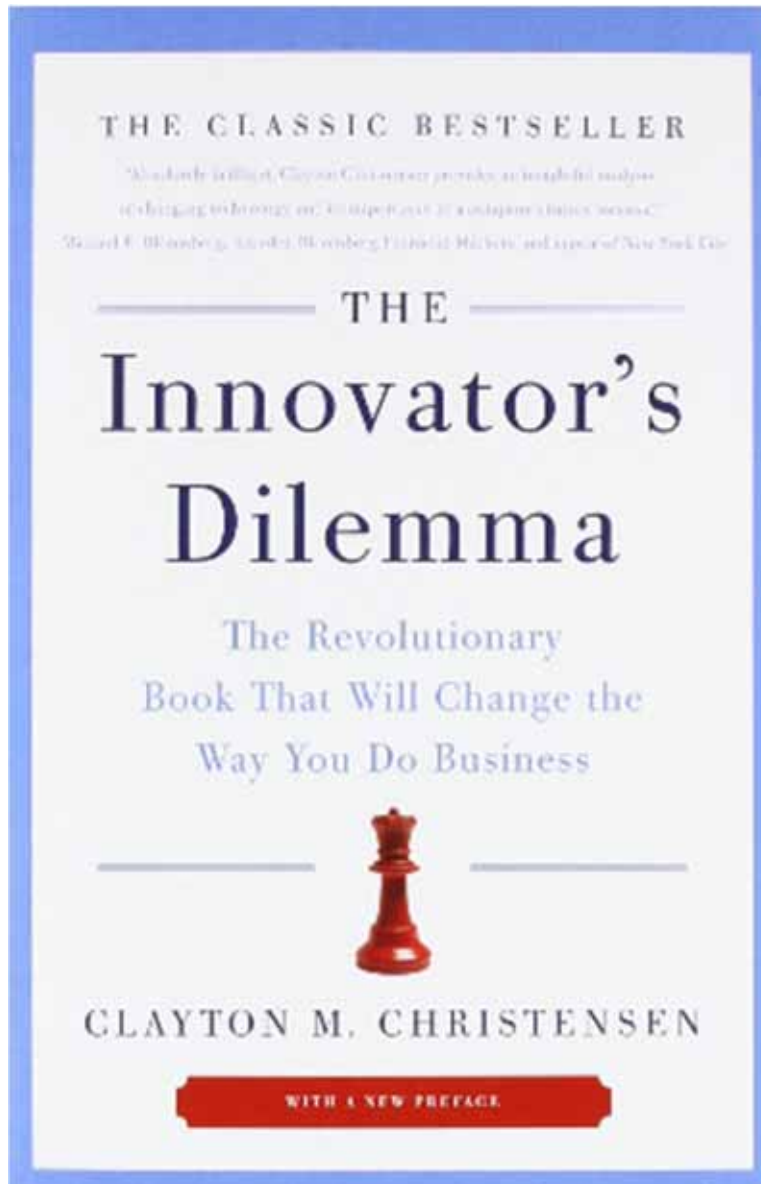
Health & Science

California To Launch Medicaid-Funded Teledentistry

Hub and Spoke System



Disruptive Innovation



Disruptive Innovation

- Disruptive innovation, describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors.

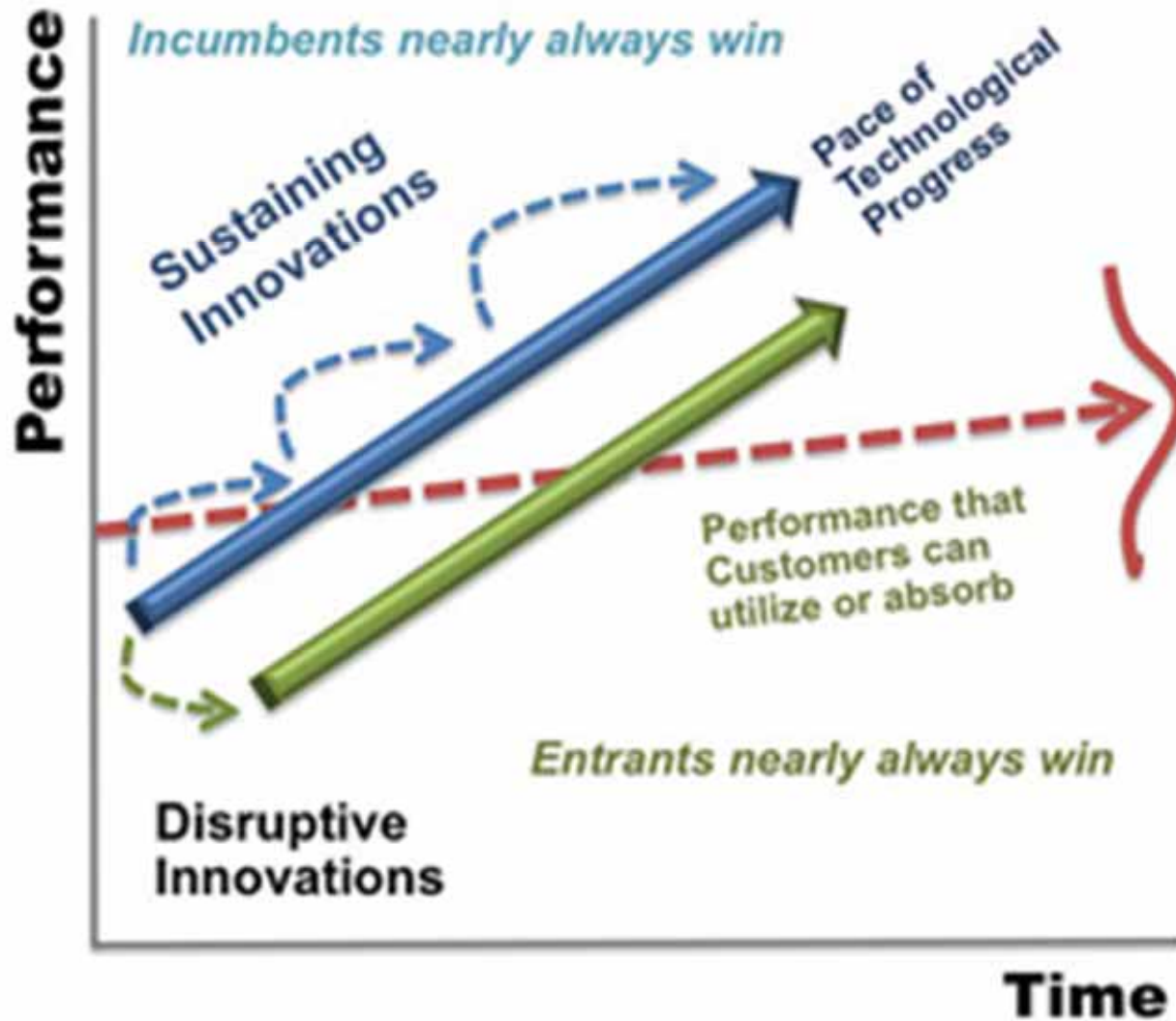
Disruptive Innovation

- As companies tend to innovate faster than their customers' needs evolve, most organizations eventually end up producing products or services that are actually too sophisticated, too expensive, and too complicated for many customers in their market. Companies pursue these "sustaining innovations" at the higher tiers of their markets because this is what has historically helped them succeed: by charging the highest prices to their most demanding and sophisticated customers at the top of the market, companies will achieve the greatest profitability.

Disruptive Innovation

- However, by doing so, companies unwittingly open the door to “disruptive innovations” at the bottom of the market. An innovation that is disruptive allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill.

The Disruptive Innovation Model



The Triple Aim



- improving the experience of care
- improving the health of populations
- reducing per capita costs of health care

The Era of Accountability

The Urban Institute

Moving Payment from Volume to Value: What Role for Performance Measurement?

Timely Analysis of Immediate Health Policy Issues

December 2010

Robert A. Berenson

Health Care Transformation and Older Adults

- Dental Practice =
 - Geographically distributed
 - Telehealth enabled
 - Oral health teams
- Chronic disease management
 - using biological, medical, behavioral, and social tools
- Integrated with general health, educational, and social service systems
- Interacting with the majority of the population
- Focused on oral health outcomes in the *Era of Accountability*





Health Transformation and Older Adults: Opportunities for the Oral Health Industry

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