

Research Brief

Dental Care Utilization Continues to Decline among Working-Age Adults, Increases among the Elderly, Stable among Children

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

The Health Policy Institute (HPI) is a thought leader and trusted source for policy knowledge on critical issues affecting the U.S. dental care system. HPI strives to generate, synthesize, and disseminate innovative research for policy makers, oral health advocates, and dental care providers.

Who We Are

HPI's interdisciplinary team of health economists, statisticians, and analysts has extensive expertise in health systems policy research. HPI staff routinely collaborates with researchers in academia and policy think tanks.

Contact Us

Contact the Health Policy Institute for more information on products and services at hpi@ada.org or call 312.440.2928.

Key Messages

- *From 2003 through 2011, dental care utilization declined steadily among working-age adults. The trend is occurring regardless of dental benefits status and income level.*
- *For children, dental care utilization increased considerably in the early 2000s but has held steady from 2003 through 2011. The increase in utilization was driven entirely by gains among lower income groups.*
- *Among the elderly, dental care utilization has steadily increased since 2000, driven primarily by gains among individuals with private dental benefits.*

Introduction

Dentistry is at a crossroads. In a recent environmental scan,¹ the American Dental Association documented that several structural changes have and will continue to impact the profession. From 2000 through 2010, dental care utilization steadily declined among working age adults,² the percentage of individuals with private dental benefits has declined,³ and adult dental benefits through state Medicaid programs have eroded.⁴ Furthermore, the implementation of the Affordable Care Act will expand dental benefits coverage for children, both public and private, but will not address access to care issues, particularly among adults.⁵ In addition, changes in dental practice organization⁶ and increased student debt⁷ will be major forces bringing significant change to the profession.

In this research brief, we use newly released data to update our findings on dental care utilization through 2011, built upon prior research.⁸ We explore trends in dental care

Research Brief

utilization from 2000 through 2011 among children, working-age adults and the elderly by benefits status and household income.

Data & Methods

We analyzed data from the Medical Expenditure Panel Survey (MEPS) that is managed by the Agency for Healthcare Research and Quality (AHRQ). We focused on the period 2000 to 2011, the most recent year for which data are available (data for 2011 were released in September 2013). The MEPS is recognized as the most reliable data source for dental care utilization at the national level.⁹

We measured dental care utilization as the proportion of the population who visited a general practice (GP) dentist in the year. This is the most basic indicator of dental care utilization. It does not capture any information on measures such as the type of care received, the total amount of care received, or whether a treatment plan was completed. Nevertheless, it is an informative measure of whether the population is seeing the dentist.

We examined trends in dental care utilization for children ages 2 through 18, working-age adults ages 19 through 64 and elderly adults ages 65 and over. For each age cohort, we analyzed trends in dental care utilization by household income and dental benefits status. We classified dental benefits into three categories: public, private and uninsured. Public dental benefits include those provided through Medicaid or State Children's Health Insurance Programs (SCHIP). Because pediatric dental services are a mandated benefit,¹⁰ children enrolled in these programs were defined as having comprehensive dental benefits. Medicaid coverage of dental benefits for adults is optional and varies considerably by state. MEPS does not allow us to identify the state of residence, however. Thus, we simply identify adults covered by Medicaid as publicly insured even though the majority will have

either no dental benefits at all or very limited benefits. Because Medicare does not provide dental benefits¹¹, persons who only had Medicare coverage were considered uninsured for dental care.

We tested for statistical significance across time using a chi-squared test. Our point estimates and statistical inferences take into account the complex survey design of the MEPS.

Results

Figure 1 shows the trends in dental care utilization for children, working-age adults and the elderly. Dental care utilization among children increased from 2000 through 2003 and remained steady through 2011. Among children, the overall increase in dental care utilization from 2000 through 2011 was statistically significant. Dental care utilization among working-age adults peaked at 41 percent in 2003, but declined to 36.1 percent in 2011, a statistically significant change. Among the elderly, dental care utilization increased from 38.3 percent in 2000 to 42.4 percent in 2011, a change which was also statistically significant.

Figure 2 shows dental care utilization rates for three years – 2000, 2003, 2011 – for select age groups. Of key interest among the adult age groups is the change from 2003 to 2011. It is clear from these data that the decline in utilization among adults is occurring among all adults under age 65. The largest decline in dental care utilization from 2003 through 2011 has occurred among the 35 through 49 age cohort and the 50 through 64 cohort. All changes among working-age adults from 2003 to 2011 were statistically significant.

Figures 3 through 5 show dental care utilization rates for children, working-age adults and the elderly, respectively, according to household income level. Among the poor, defined as living below the federal poverty level (FPL<100%) and near poor (100-200% FPL), dental care utilization increased substantially

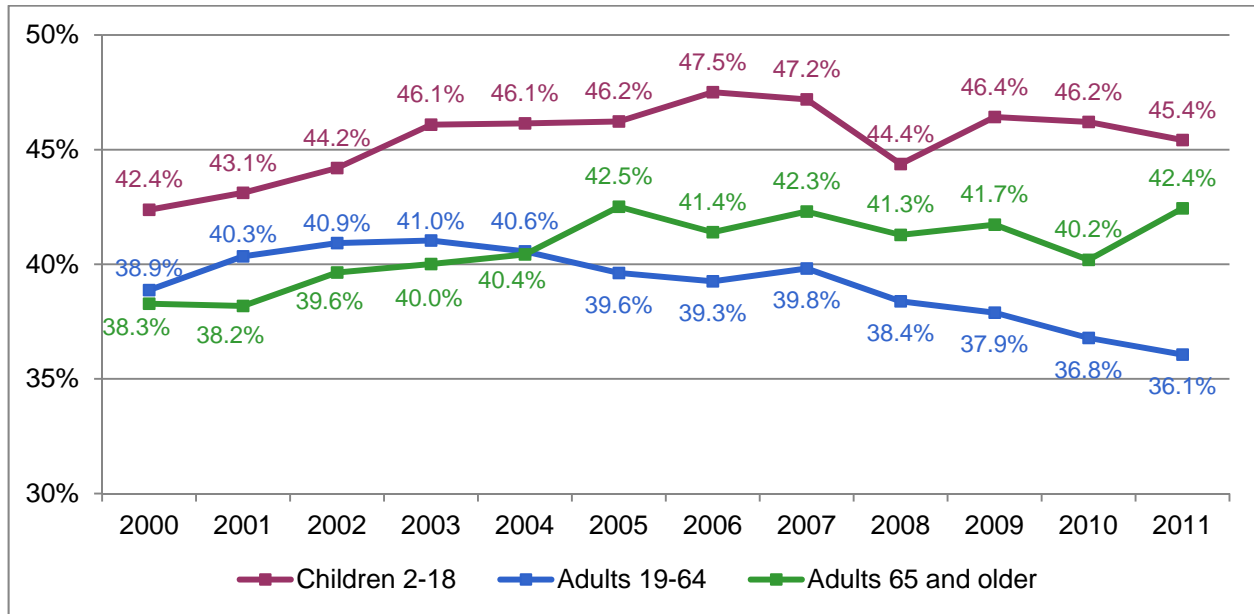
among children (Figure 3). In households with incomes below 100% FPL, dental care utilization among children increased from 26.5 percent in 2000 to 34.8 percent in 2011. In households with incomes between 100 to 200% FPL, dental care utilization among children increased from 31 percent in 2000 to 38 percent in 2011. The gap in dental care utilization between low-income children (FPL<100%) and high-income children (FPL 400%+) closed by 5 percentage points from 2000 through 2011. For working-age adults, dental care utilization declined among the poor (FPL<100%) from 2000 (22.8 percent) through 2011 (19.3 percent) and those with incomes between 200 to 400% FPL from 2003 (37.5 percent) through 2011 (33.9 percent) (Figure 4). All of these changes were statistically significant. Among the elderly, there were no statistically significant changes in dental care utilization by household income level from 2000 through 2011 (Figure 5).

Figures 6 through 8 show dental care utilization rates for children, working-age adults and the elderly,

respectively, according to dental benefits status.

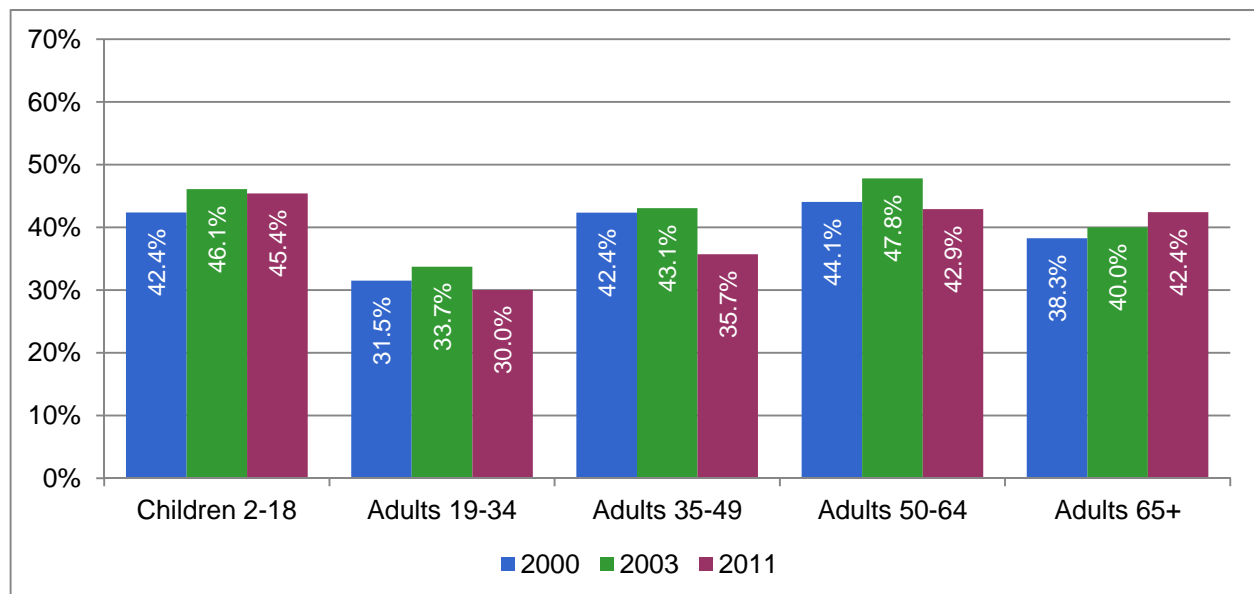
Among children with private dental benefits, the percent with a dental visit increased from 51.4 percent in 2000 to 56.8 percent in 2011, a statistically significant change. Likewise, the percent with a dental visit among publically insured children increased from 30.6 percent in 2000 to 38 percent in 2011. However, there was a statistically significant decline in dental care utilization among uninsured children from 2003 (31.5 percent) through 2011 (25.2 percent) (Figure 6). Among working-age adults with private dental benefits, there was a statistically significant decline in dental care utilization from 2003 (53.4 percent) through 2011 (49.8 percent). From 2000 through 2011, there were also statistically significant declines in working-age adult dental care utilization among the publically insured and the uninsured (Figure 7). Among the elderly, dental care utilization increased significantly among individuals with private dental benefits from 2000 (56.5 percent) through 2011 (69.1 percent) (Figure 8).

Figure 1: Percentage of the Population with a Dental Visit in the Year, 2000-2011



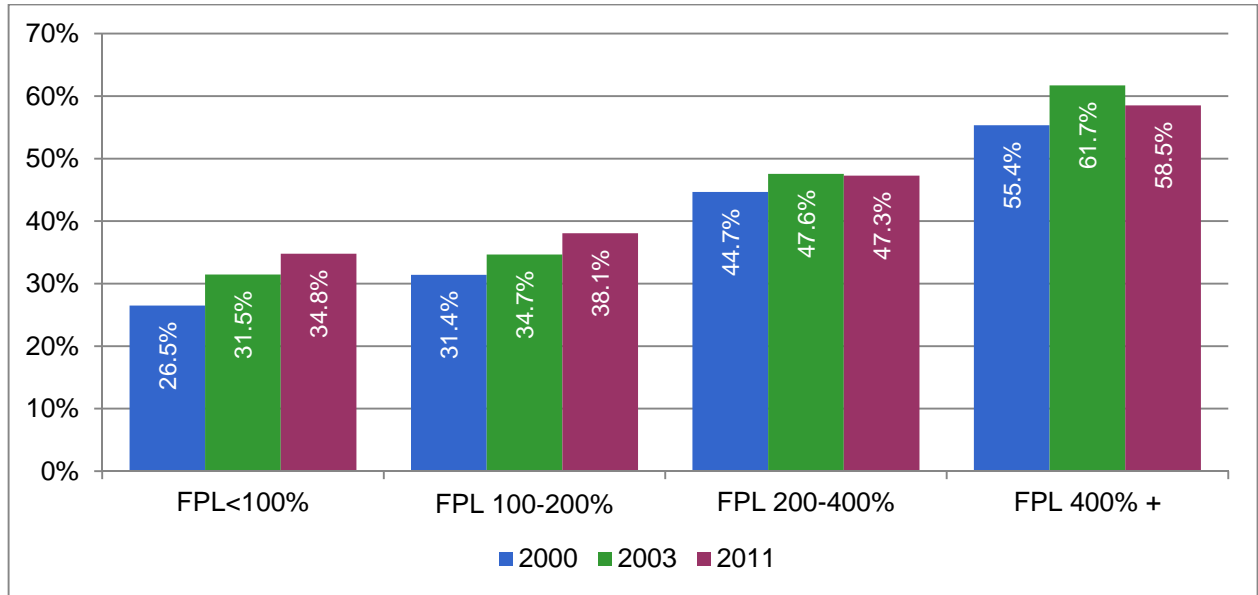
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are statistically significant at the 5% level for children ages 2-18 (2000-2011), at the 1% level for adults ages 19-64 (2003-2011), at the 1% level for adults ages 65 and over from 2000-2011, and at the 10% level for the same age group from 2010-2011.

Figure 2: Percentage of the Population with a Dental Visit in the Year for Select Age Groups 2000-2011



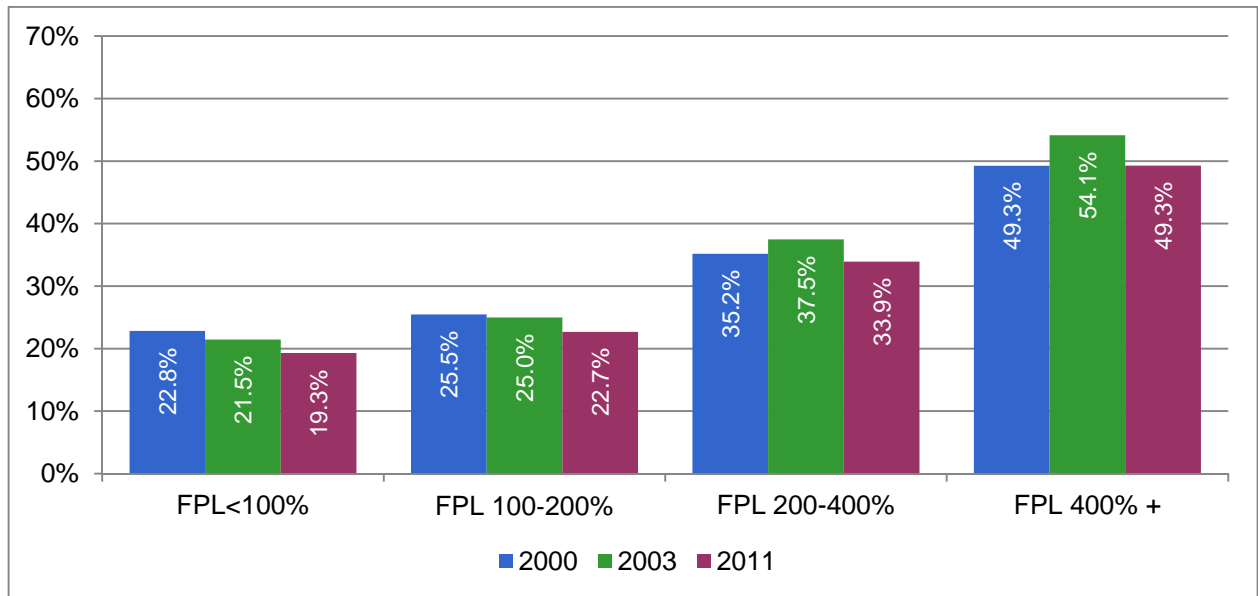
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes for children are significant at the 5% level (2000-2011) and for adults ages 65 and over at the 5% level (2000-2011). Changes for adults 19-34, 35-49 and 50-64 are significant at the 1% level (2003-2011).

Figure 3: Percentage of Children Ages 2-18 with a Dental Visit in the Year for Select Income Groups, 2000-2011



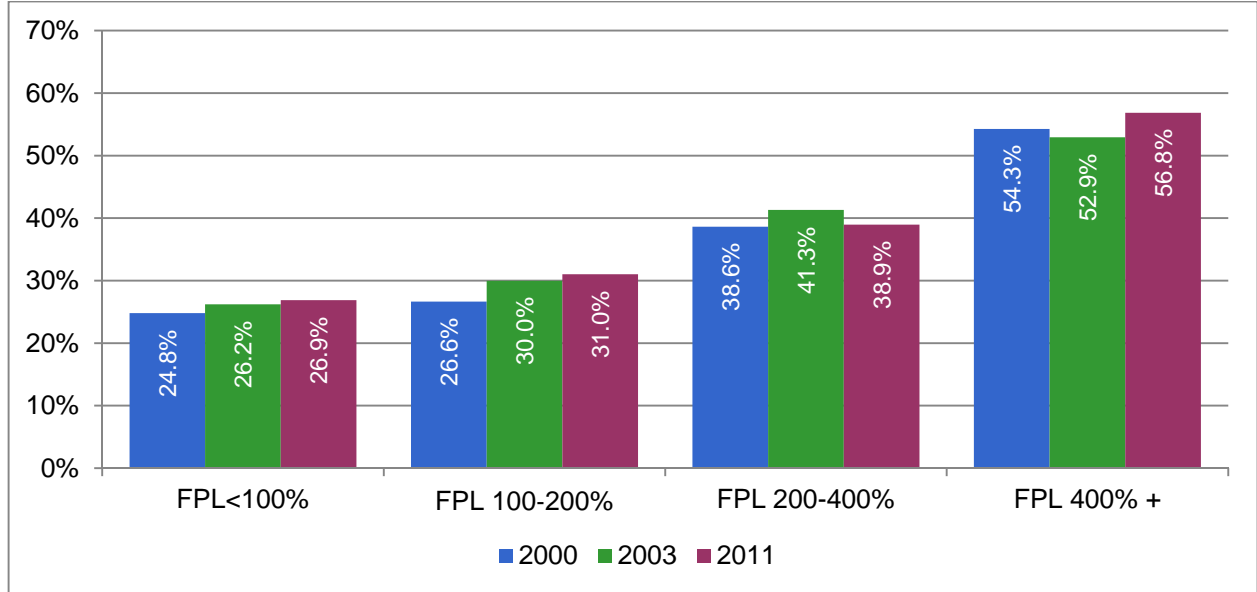
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are significant at the 1% level for FPL <100% and at the 5% level for FPL 100-200% (2000-2011).

Figure 4: Percentage of Adults Ages 19-64 with a Dental Visit in the Year for Select Income Groups, 2000-2011



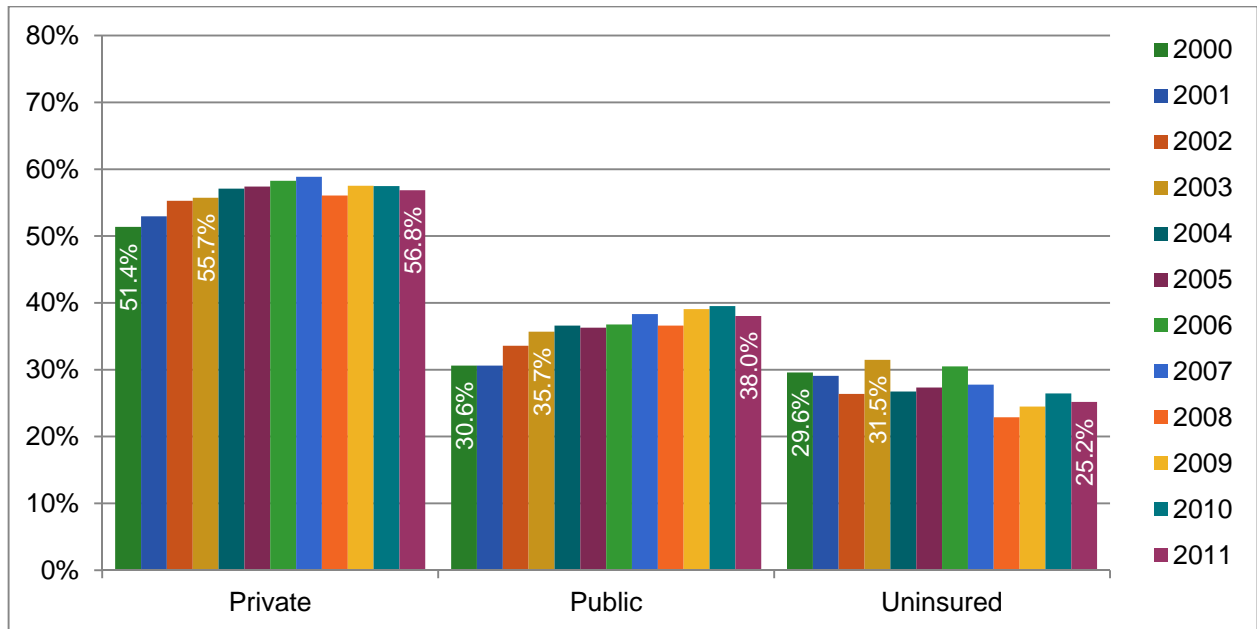
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are significant at the 10% level for FPL <100% (2000-2011), at the 5% level for FPL 200-400% (2003-2011), and at the 1% level for FPL 400%+ (2003-2011).

Figure 5: Percentage of Adults 65 and Over with a Dental Visit in the Year for Select Income Groups, 2000-2011



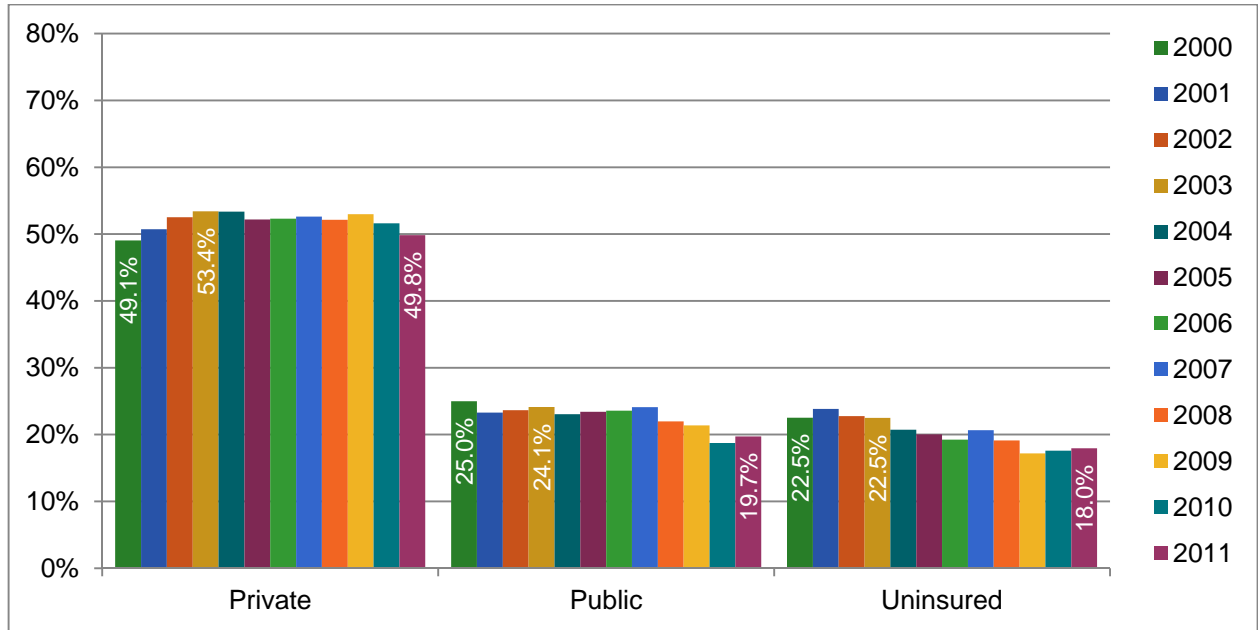
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** No changes are statistically significant.

Figure 6: Percentage of Children Ages 2-18 with a Dental Visit in the Year by Dental Benefits Status, 2000-2011



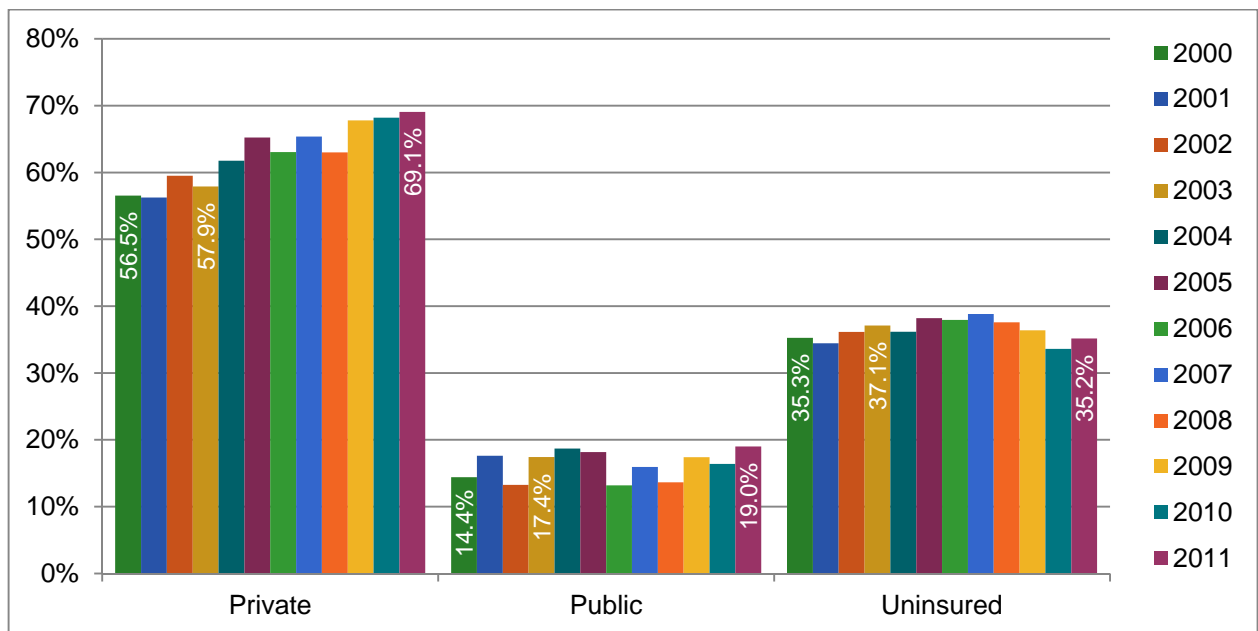
Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are significant at the 5% level for private (2000-2011), at the 1% level for public (2000-2011). Changes are significant at the 5% level for uninsured (2003-2011).

Figure 7: Percentage of Adults Ages 19-64 with a Dental Visit in the Year by Dental Benefits Status, 2000-2011



Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are significant at the 1% level for public (2000-2011) and uninsured (2000-2011). Changes are significant at the 1% level for private (2003-2011).

Figure 8: Percentage of Adults Ages 65 and Over with a Dental Visit in the Year by Dental Benefits Status, 2000-2011



Source: Medical Expenditure Panel Survey, AHRQ. **Notes:** Changes are significant at the 1% level for private (2000-2011).

Discussion

In this brief, we updated findings from prior analysis on dental care utilization in the United States¹² using newly released data through 2011. We found that dental care utilization has continued to decline among working-adults, a worrying trend that has been driven by declines in utilization among those with both private and public dental benefits. Uninsured working-age adults are also less likely to visit a dentist compared to previous years. We know that public dental benefits have slowly eroded in state Medicaid programs¹³ and that fewer adults hold private dental benefits.¹⁴ These are likely to be among the major factors dampening dental care utilization in this cohort.

After significant increases in dental care utilization among children from 2000 through 2003, dental care utilization among this cohort has held steady through 2011. The gains have been driven primarily by increases in dental care utilization among poor and near-poor children. But unlike adults, dental care use among children with private dental benefits is increasing. Combined with the increase in utilization among the publicly insured, this suggests that the private dental insurance sector and the public safety net, through state Medicaid and CHIP programs, have been effective in making dental care accessible to all children, regardless of income level.

Dental care utilization among the elderly increased significantly from 2000 through 2011, driven primarily by increases in utilization among those with private dental benefits. In addition, from 2010 through 2011, there was a notable uptick in dental care utilization among the elderly. Future analyses will have to monitor whether this trend continues in this age cohort. However, a downward trend in edentulism in recent years¹⁵ among the elderly suggests that this group will demand more dental care in the future. Prior research also shows that per-patient dental expenditure increased significantly among the elderly from 2000 through 2010.^{16 17}

Despite the gains made by children and the elderly over the last decade, more needs to be done to provide access to dental care among working-age adults, particularly the poor. Looking forward, the ACA is likely to have a limited impact on adult dental benefits, although the law does expand benefits for children.¹⁸ Fortunately, states still have the opportunity to expand dental benefits for adults either through Medicaid or their health insurance exchanges policies.¹⁹ Policy initiatives led by the states, such as increases in dental reimbursement,²⁰ streamlined administrative processes,²¹ patient outreach, oral health literacy campaigns, or expansion of Medicaid dental benefits^{22 23 24} could increase dental care utilization among working-age adults.

This Research Brief was published by the American Dental Association's Health Policy Institute.

211 E. Chicago Avenue
Chicago, Illinois 60611
312.440.2928
hpi@ada.org

For more information on products and services, please visit our website, www.ada.org/hpi.

References

- ¹ A Profession in Transition: Key Forces Reshaping the Dental Landscape. American Dental Association Health Policy Institute. Available from: http://www.ada.org/sections/professionalResources/pdfs/Esca2013_ADA_Full.pdf. Accessed September 27, 2013.
- ² Vujcic M, Nasseh K, Wall T. Dental care utilization declined for adults, increased for children during the past decade in the United States. Health Policy Institute Research Brief. American Dental Association. February 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0213_2.pdf. Accessed September 27, 2013.
- ³ Vujcic M, Goodell S, Nasseh K. Dental benefits to expand for children, likely decrease for adults in coming years. Health Policy Institute Research Brief. American Dental Association. April 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0413_1.pdf. Accessed September 27, 2013.
- ⁴ Wall T, Nasseh K, Vujcic M. Financial Barriers to Dental Care Declining after a Decade of Steady Increases. Health Policy Institute Research Brief. American Dental Association. September 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0913_1.pdf. Accessed September 27, 2013.
- ⁵ Nasseh K, Vujcic M, O'Dell A. Affordable Care Act expands dental benefits for children but does not address critical access to dental care issues. Health Policy Institute Research Brief. American Dental Association. April 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0413_3.pdf. Accessed September 27, 2013.
- ⁶ Guay AH, Wall TP, Petersen BC, Lazar VF. Evolving trends in size and structure of group dental practices in the United States. *J Dent Educ.* 2012 Aug; 76(8):1036-44
- ⁷ Walker MP, Duley SI, Beach MM, et. al. Dental education economics: challenges and innovative strategies. *J Dent Educ.* 2008; 72(12):1440-1449.
- ⁸ Vujcic M, Nasseh K, Wall T. Dental care utilization declined for adults, increased for children during the past decade in the United States. Health Policy Institute Research Brief. American Dental Association. February 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0213_2.pdf. Accessed September 27, 2013.
- ⁹ Macek MD, Manski RJ, Vargas CM, Moeller JF. Comparing oral health care utilization estimates in the United States across three nationally representative surveys. *Health Serv Res.* 2002; 37(2):499-522.
- ¹⁰ Medicaid.gov. Early and Periodic Screening, Diagnostic, and Treatment. Centers for Medicaid and Medicare Services (CMS). Baltimore, MD. Available at: <http://www.medicare.gov/Medicare-CHIP-Program-Information/By-Topics/Benefits/Early-Periodic-Screening-Diagnosis-and-Treatment.html>. Accessed September 27, 2013.
- ¹¹ CMS.gov. Medicare dental coverage. Centers for Medicare and Medicaid Services; March 12, 2013. Available from: <http://www.cms.gov/Medicare/Coverage/MedicareDentalCoverage/index.html?redirect=/MedicareDentalCoverage/>. Accessed October 1, 2013.
- ¹² Vujcic M, Nasseh K, Wall T. Dental care utilization declined for adults, increased for children during the past decade in the United States. Health Policy Institute Research Brief. American Dental Association. February 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0213_2.pdf. Accessed September 27, 2013.
- ¹³ Wall T, Nasseh K, Vujcic M. Financial Barriers to Dental Care Declining after a Decade of Steady Increases. Health Policy Institute Research Brief. American Dental Association. September 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0913_1.pdf. Accessed September 27, 2013.
- ¹⁴ Vujcic M, Goodell S, Nasseh K. Dental benefits to expand for children, likely decrease for adults in coming years. Health Policy Institute Research Brief. American Dental Association. April 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0413_1.pdf. Accessed September 27, 2013.
- ¹⁵ Douglas CW, Ostry L, Shih A. Denture usage in the United States: a 25 year prediction. *J Dent Res* 1998;77(SI A):209. Abstract no. 829.
- ¹⁶ Wall T, Nasseh K, Vujcic M. Per-patient Dental Expenditures Rising, Driven by Baby Boomers. Health Policy Institute Research Brief. American Dental Association. March 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0313_2.pdf. Accessed September 30, 2013

- ¹⁷ Ettinger R. Oral health and the aging population. *J Amer Dent Assoc* 2007; 138(9):5S-6S.
- ¹⁸ Vujicic M, Goodell S, Nasseh K. Dental benefits to expand for children, likely decrease for adults in coming years. Health Policy Institute Research Brief. American Dental Association. April 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_0413_1.pdf. Accessed September 30, 2013.
- ¹⁹ Vujicic M, Nasseh K. Reconnecting Mouth And Body: ACA Fails To Meet Dental Care Needs But States Can Pick Up Slack. Health Affairs Blog. August 26, 2013. Available from: <http://healthaffairs.org/blog/2013/08/26/reconnecting-mouth-and-body-aca-fails-to-meet-dental-care-needs-but-states-can-pick-up-slack/>. Accessed September 30, 2013.
- ²⁰ Decker SL. Medicaid payment levels to dentists and access to dental care among children and adolescents. *JAMA*. 2011;306(2):187-93.
- ²¹ Health Issues. Impact of increased dental reimbursement rates on husky a-insured children: 2006 – 2011. Connecticut Health Foundation. February 2013. Available from: <http://www.cthealth.org/wp-content/uploads/2013/02/impact-of-increased-dental-reimbursement-rates.pdf>. Accessed September 30, 2013.
- ²² Choi MK. The impact of Medicaid insurance on dental service use. *J Health Econ*. 2011; 30(5):1020-31.
- ²³ Nasseh K, Vujicic M. Health reform in Massachusetts increased adult dental care use, particularly among the poor. *Health Aff (Millwood)*. 2013;32(9):1639-1645.
- ²⁴ Long SK, Stockley K. The impacts of state health reform initiatives on adults in New York and Massachusetts. *Health Serv Res*. 2011;46(1 Pt 2):365-87.

Suggested Citation

Nasseh K, Vujicic M. Dental care utilization continues to decline among working-age adults, increases among the elderly, stable among children. Health Policy Institute Research Brief. American Dental Association. October 2013. Available from: http://www.ada.org/sections/professionalResources/pdfs/HPRCBrief_1013_2.pdf