Making the Case for Oral Health

What the #s say

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Chief Economist & Vice President
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The Impact of Medicaid Reform on Children's Dental Care Utilization in Connecticut, Maryland, and Texas

Kamary Naseeh and Marko Vujicic

Objectives. To examine the impact of Medicaid reforms, in particular the Medicaid dental carve-out, on the utilization of dental care among Medicaid-eligible children.


Healthy Services Research

The New England Journal of Medicine

The Effect of the Affordable Care Act's Expanded Coverage Policy on Access to Dental Care

Marko Vujicic, Ph.D., Carnegie Mellon University, PA, and Kamary Naseeh and Marko Vujicic

The Affordable Care Act (ACA) was enacted to increase access to and affordability of a wide range of health care services. While dental care for children is part of the ACA's essential health benefits, many states have chosen to separate dental care from this coverage, either by offering dental-only policies or by making dental care a benefit above and beyond the essential health benefits. The Affordable Care Act's (ACA's) impact on dental care access is not well documented.

The ACA mandated that all health insurance plans offered to individuals and small businesses, as well as those offered by large employers who choose to offer health care coverage, must cover preventive dental care services for children and adults. However, the law also allows states to opt out of covering preventive dental care services, and some states have chosen to do so. This study examines the impact of the ACA on dental care access and affordability in states that have and have not opted out of covering preventive dental care services.

Methods. This study used data from the 2011-2012 National Survey of Children's Health, a cross-sectional survey conducted to assess the health and health care usage of children in the United States. The survey collects data on a variety of topics, including dental care access and utilization.

Results. The study found that children in states that have opted out of covering preventive dental care services had lower rates of dental care access and utilization compared to children in states that have not opted out. This is likely due to the fact that states that have opted out of covering preventive dental care services have a higher percentage of children who are uninsured or have Medicaid coverage.

Conclusion. The ACA has had a significant impact on dental care access and affordability in the United States. While the law mandated that all health insurance plans must cover preventive dental care services for children and adults, some states have chosen to opt out of this coverage, leading to variations in dental care access and utilization. Further research is needed to better understand the impact of the ACA on dental care access and utilization, as well as the role of state policy in shaping these outcomes.
The ADA Health Policy Institute

stopped flossing? teeth still vital to overall health

By Susan Scotti and Carline Sterny, CNN

(CNN) — Your teeth are more than just something to chew and smile with. Research is increasingly showing that they can have an effect on your overall health.

Many Americans think their poor oral health is holding them back. In a 2015 survey by the American Dental Association, 20% of low-income adults said their mouths and teeth were in bad condition, and 20% of all adults said their unhealthy mouths caused them anxiety, according to Marko Vujicic, chief economist for the

The main reason people avoid the dentist isn't fear

The biggest reason people skip out on going to the dentist isn't fear or inconvenience, it's cost, KIDDY reports. A study published this month in Health Affairs found people are more likely to forego dental health because of cost than any other type of health care.

In fact, cost is the main reason for not seeing a dentist even among people who have private dental insurance. Study author Marko Vujicic points to maximum benefit limits and high co-pays in most dental coverage as the culprit.

"Anything beyond checkups, like getting a cavity filled or a root canal and a crown, you're looking right away at 20% to 50% coinsurance," he says.
ER Visits for Dental Conditions

27 seconds $1.6B
Oral Health and Health Care Costs

Impact of Periodontal Therapy on General Health Evidence from Insurance Data for Five Systemic Conditions

Marjorie K. Jeffcoat, DMD, Robert L. Jeffcoat, PhD, Patricia A. Gladowski, RN, MSN, James B. Bramson, DDS, Jerome J. Blum, DDS

Background: Treatment of periodontal (gum) disease may lessen the adverse consequences of some chronic systemic conditions.

Purpose: To estimate the effects of periodontal therapy on medical costs and hospitalizations among individuals with diagnosed type 2 diabetes (T2D); coronary artery disease (CAD); cerebral vascular disease (CVD); rheumatoid arthritis (RA); and pregnancy in a retrospective observational cohort study.

Methods: Insurance claims data from 108,981 individuals with both medical and dental insurance coverage were analyzed in 2011–2013. Inclusion criteria were (1) a diagnosis of at least one of the five specified systemic conditions and (2) evidence of periodontal disease. Subjects were categorized according to whether they had completed treatment for periodontal disease in the baseline year, 2005. Outcomes were (1) total annual medical costs and (2) number of hospitalizations, per subject per year, in 2009–2009. Except in the case of pregnancy, outcomes were aggregated without regard to reported cause. Individuals who were treated and untreated for periodontal disease were compared independently for the two outcomes and five systemic conditions using ANCOVA, age, gender, and T2D status were covariates.

Results: Statistically significant reductions in both outcomes (p < 0.05) were found for T2D, CVD, CAD, and pregnancy, for which costs were lower by 40.2%, 40.9%, 10.7%, and 73.7%, respectively; results for hospital admissions were comparable. Treatment effect was observed in the RA cohorts.

Conclusions: These cost-based results provide new, independent, and potentially valuable evidence that non-invasive periodontal therapy may improve health outcomes in pregnancy and other systemic conditions.

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Introduction

There is a growing body of evidence that periodontal (gum) disease is associated with negative systemic health consequences for individuals with certain diseases and conditions. To the extent that this is true, it is reasonable to expect that successful treatment of periodontal disease might prevent or mitigate at least some adverse effects associated with medical conditions such as type 2 diabetes (T2D), rheumatoid arthritis (RA), cerebral vascular disease (CVD), and adverse pregnancy outcomes.

Direct effect of such links generally poses formidable difficulties arising from the long time course of chronic disease, the complex multifactorial nature of the outcomes, and the ethical issues surrounding controlled clinical trials. Nevertheless, the potential preventive value of such a simple and low-risk intervention as dental hygiene in the management of patients with serious medical conditions justifies efforts to determine whether, and to what degree, a link exists.

Periodontal disease is a chronic inflammatory disease in which a pathogenic bacterial biofilm develops on the tooth surface and is susceptible to plaque formation. If untreated, it can lead to alveolar bone resorption, infection, and tooth loss. It has been suggested that periodontal disease may also have an impact on systemic health via dissemination of the microorganisms and their metabolites to other body sites.
### Oral Health and Health Care Costs

#### Table 3. Chronic medical conditions: comparison of costs and hospitalizations

<table>
<thead>
<tr>
<th>Chronic systemic disease</th>
<th>Type 2 diabetes</th>
<th>Cerebral vascular disease</th>
<th>Coronary artery disease</th>
<th>Rheumatoid arthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Periodontal treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of qualifying subjects in Year 0 (2005)</td>
<td>91,242</td>
<td>13,007</td>
<td>8,458</td>
<td>81,439</td>
</tr>
<tr>
<td>ICD-9 codes for inclusion in cohort</td>
<td>250-25099, 3572-35729, 3620-36209, 36641, 6480</td>
<td>433, 434</td>
<td>411, 413, 414, 4292</td>
<td>7140, 7141, 7142, 71481</td>
</tr>
<tr>
<td>Periodontal treatment received</td>
<td>Untreated</td>
<td>Treated</td>
<td>Untreated</td>
<td>Treated</td>
</tr>
<tr>
<td>Number in cohort</td>
<td>90,329</td>
<td>913</td>
<td>12,868</td>
<td>139</td>
</tr>
<tr>
<td>Percentage periodontally treated</td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

**OUTCOMES**

| **Total medical costs** |                 |                           |                         |                     |
|-------------------------|-----------------|---------------------------|-------------------------|                     |
| Total medical costs per subject per year (mean 2006–2009) | $7,056 | $4,216 | $13,895 | $8,214 |
| Annual reduction with treatment | $2,840 (40.2%) | $5,681 (40.9%) | $1,090 (10.7%) | $581 (6.3%) |
| Significance, Wilk's lambda | $<0.04 | $<0.04 | $<0.04 | NS |

**Hospital admission**

|                  |                 |                           |                         |                     |
|------------------|-----------------|---------------------------|-------------------------|                     |
| Inpatient admissions per 1,000 subjects per year (mean 2006–2009) | 66.6 | 40.4 | 444.4 | 350.0 |
| Annual reduction with treatment | 26.3 (39.4%) | 94.4 (21.2%) | 18.7 (28.6%) | 6.4 (4.5%) |
| Significance, Wilk's lambda | $<0.05 | $<0.002 | $<0.01 | NS |

*Note: Differences significant at the *p* < 0.05 level are shown in boldface. NS, not significant.*
# Oral Health and Health Care Costs

## Table 1. Cost and utilization outcomes

| Outcome                                | Simple difference | Un-weighted regression adjustment (Poisson) | Un-weighted regression adjustment (Gamma) | Un-weighted regression adjustment (Logit) | IPW estimate    | Doubly robust  
---|---------------------------------------|-------------------|---------------------------------------------|------------------------------------------|----------------|----------------|
| Total healthcare cost                  | -1485.55*** (677.60) | -1744.27*** (665.08) | -1477.59* (785.86) | NA        | -1726.01** (702.16) | -1798.71*** (674.38) |
| Total medical cost                     | -1422.99** (624.67)  | -1541.36** (632.05) | -1229.39 (752.85)  | NA        | -1525.29** (648.54) | -1576.71** (634.57)  |
| Total type 2 diabetes                  | -449.31 (183.44)     | -411.85** (188.46)   | -335.76* (192.52)   | NA        | -401.66** (188.49)   | -407.87** (199.65)   |
| healthcare cost                        |                    |                  |                             |          |                   |                  |
| Any hospitalization                    | -0.017** (0.008)     | NA               | NA                          |          | -0.013* (0.008)    | -0.012 (0.009)       |
| Any emergency room visit               | -0.026*** (0.010)    | NA               | NA                          |          | -0.012 (0.010)     | -0.011 (0.011)       |
| Total outpatient physician visits      | 0.023 (0.227)        | -0.179 (0.209)    | NA                          |          | -0.111 (0.232)     | -0.142 (0.205)       |

ATE estimates. All type 2 diabetes individuals.

Standard errors are in parentheses. Cost and utilization outcomes measured in years 3 and 4 after initial diabetes diagnosis. Ordinary least squares used to estimate simple differences. Robust standard errors used in simple difference, pooled Poisson, pooled Gamma, and inverse-probability weighting (IPW) estimation. Truven MarketScan® Research Databases.

*Bootstrapped standard errors using 400 replications.

*Significant at 10% level, **Significant at 5% level, ***Significant at 1% level.
Oral Health and Well-being

How do adults in New Hampshire view their oral health? This fact sheet summarizes select data on self-reported oral health status, attitudes, and dental care utilization among New Hampshire adults as of 2015, by income level, based on an innovative household survey.

For methods and sources, visit ADA.org/research. For more information on the ADA Health Policy Institute, visit ADA.org/HPI.

Appearance of Mouth and Teeth Affects Ability to Interview for a Job

17% of low income adults say their mouth and teeth are in poor condition.

Health Policy Institute
ADA American Dental Association

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Oral Health and Well-being

Low income adults are most likely to report having problems due to the condition of their mouth and teeth.

The top oral health problem for low income adults is difficulty biting and chewing.

31% of low income adults avoid smiling due to the condition of their mouth and teeth.
Accessing Dental Care

Reasons for Not Visiting the Dentist More Frequently, Among Those Without a Visit in the Last 12 Months

- **Cost**: 51%
- **Afraid of Dentist**: 31%
- **Inconvenient Location or Time**: 19%
- **Trouble Finding a Dentist**: 15%
- **No Original Teeth**: 12%
- **No Perceived Need**: 11%
- **No Reason**: 6%
- **Other**: 6%
Accessing Dental Care

Household Income

- Low: 20% access, 13% insurance
- Middle: 52% access, 43% insurance
- High: 22% access, 18% insurance

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Access

Figure. Percentage of general and specialist dentists who report they are not busy enough and could see more patients, 2013. Source: American Dental Association Health Policy Institute Survey of Dental Practice.
Access

<table>
<thead>
<tr>
<th>Dental Offices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Medicaid Office</td>
</tr>
<tr>
<td>Medicaid Office</td>
</tr>
</tbody>
</table>

Percent of Children Under 18 with Public Insurance

- 0-10.0%
- 10.01-20.0%
- 20.01-30.0%
- 30.01-40.0%
- 40.01-50.0%
- 50.01-60.0%
- >60.0%

76% of Medicaid children are within a 15 minute travel time of a Medicaid dental care provider.
Access