The Effects of Untreated Dental Procedures and Insufficient Dental Care Access

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Palmero Healthcare President Karen Neiner sat down with Uma Kelekar, PhD, Associate Professor of Healthcare Management and Senior Research Fellow at the Marymount Center for Optimal Aging, to talk about how she came to work with the Dental Trade Alliance (DTA) to look at the effects of untreated dental procedures.

Q: Can you share a little about your background and your early research?

A: I have a background and training in Economics (BA and MA in Economics from India), with a PhD in Public Policy from George Mason University. I joined Marymount University as an assistant professor of health care management at the School of Business in 2011.

My early research pertained to the field of health economics and policy, specifically health services research. I used large data to investigate health care spending in decentralized health systems, as well as emerging trends and patterns in health care services' utilization across multiple vulnerable and underserved segments of the population.

Q: How did you transition into working with the DTA?

A: In 2015, the DTA reached out to me to submit a proposal to do a literature review of peer-reviewed articles to roughly estimate the business case or the return on investment of oral health care. I was very interested in this topic, given that I had a good understanding of the U.S. health care system's reimbursement policy, and I had previous research experience investigating health care disparities. Because a large proportion of Americans don't have dental coverage, I was thus, very motivated to research this topic. I submitted a proposal, and it was accepted. I wrote a report highlighting the benefits and costs associated with oral health that I presented to the board and several other venues, such as Oral Health America and Virginia Oral Health Summit.

Q: How has your work continued with the DTA?

A: Since then, I updated the literature in 2017 and was asked to refresh the findings in 2022. Our study relied heavily on peer-reviewed scholarly articles, so as time passes and policies (especially regarding dental care) change, it's important to look at new studies published in the field that have examined different segments of the population or updated previous findings.

For example, the last time we did this study, the study on work and school hours lost due to dental care was done in 2008 using 1987 data.[1] These findings were refreshed by a newer study published in 2018 using a 2008 National Health Interview Survey data.[2,3] So it provided us with more recent numbers to make a coherent argument. This time around, I focused on the specific policy recommendation of expanding dental coverage to the uninsured with chronic conditions on Medicare and Medicaid.

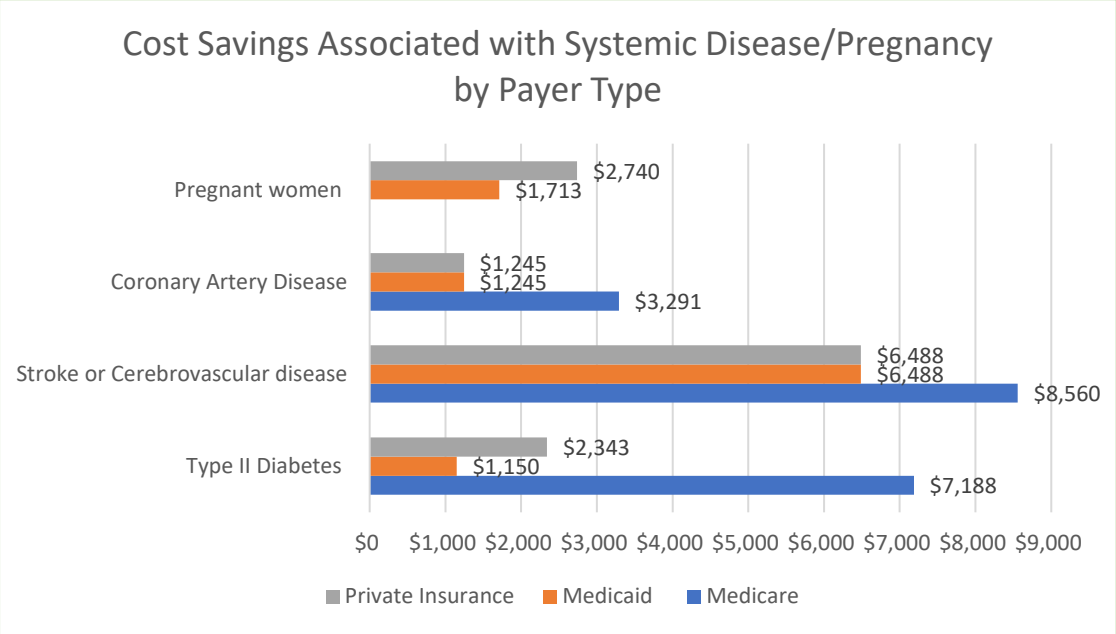
Q: How did you determine how to scope the research to get concise, relevant data?

A: In academic research, our first step is generally to use search engines (such as PubMed or Google Scholar) to identify peer-reviewed articles published in top journals that have undergone a double-blind review process. So, we were searching for articles from well-known journals in the field of public health, such as the *American Journal of Public Health*, the *American Journal of Preventive Medicine*, and the *Journal of the American Dental Association*. In policy discussions and research articles, it's not uncommon to review policy reports that examine similar topics. So, in this study, I relied on academic journals and policy reports from organizations such as Avalere Health and the American Dental Association (ADA).[4,5]

We estimated cost savings for the three categories below by combining cost-savings' estimates from empirical research studies and prevalence data obtained from the CDC and provided estimates by the type of payer (specifically private insurance, Medicaid, and Medicare).

- Those with chronic conditions (e.g., diabetes, coronary artery disease, stroke) or pregnancy and receiving treatment for periodontitis versus those with chronic disease and not receiving treatment for periodontitis.
- Cost savings generated from improving efficiencies, such as reducing ventilator-associated pneumonia and diverting emergency department (ED) non-traumatic dental condition (NTDCs) visits in community settings.
- The work and school hours lost from unplanned dental care based on the most recent data available.

There are studies published that have estimated the cost savings attributable to the aforementioned categories.[1-2, 6-13] So we relied on them to produce overall cost-savings' estimates. We found the cost savings to outweigh the costs of adding dental coverage or covering periodontal treatment for those with chronic conditions under Medicare or Medicaid at a utilization rate of 30% or higher (i.e., if 30% of the beneficiaries visit the dentist in a year).

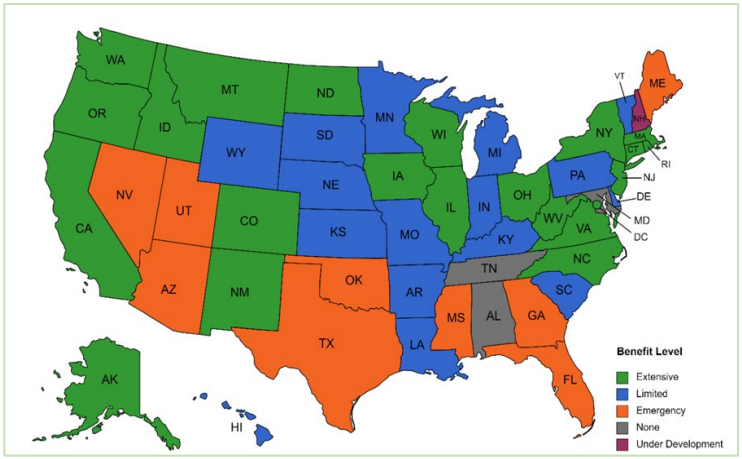


Source: Compiled from different sources[4,6] and adjusted for 2021 U.S. dollars.

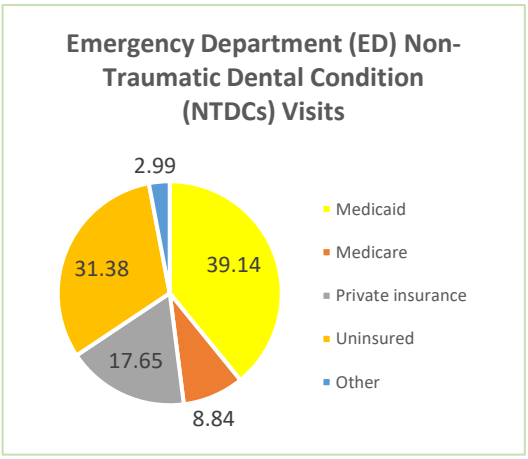
Q: What were the most impactful data points you uncovered?

A: There were several:

- Up to 70% of our seniors are uninsured or don't have any dental insurance, and in the presence of a chronic condition, treating periodontal conditions can lead to large medical cost savings.
- The majority of emergency department (ED) non-traumatic dental condition (NTDCs) visits are made up of Medicaid beneficiaries. Surprising? Not really, because 29 states don't offer comprehensive dental coverage to its residents (about 15 million people). If states would expand dental coverage to those with chronic conditions, states would likely realize savings of up to $2 billion, based on our findings.



Source: American Dental Association Report[5]



Source: Kelekar and Naavaal, 2018.[7]

- We can save billions by treating periodontal disease among those with such chronic conditions as diabetes, strokes, or coronary artery disease. However, to accrue these savings, we **must not only expand dental coverage, but also educate our population to visit a dentist.** As utilization rates go up, we're more likely to see higher cost savings.
- An average of 320.8 million work or school hours are lost annually to dental care in the United States, of which 92.4 million hours were for emergency (unplanned) care (0.99 h/adult). Among children, 34 million school hours were lost due to unplanned dental care.[1,2] Time is money. Time taken away from work and school could be used productively at work and earning wages.

Q: Do you have any examples of where this information has been shared with decision makers who can influence policy?

A: DTA has used this information to advocate for the expansion of dental care. I was funded by the Dentaquest Foundation to examine work and school hours lost on account of dental care. Perhaps they used it for advocacy, too.

I've presented previous work at events hosted by Oral Health America and the Virginia Oral Health Summit and at many academic conferences (such as the National Oral Health Conference and the International Association for Dental Research). We must make a more conscious effort to reach out to policy makers at federal and state levels and to insurance companies about how treating dental conditions can help us improve overall health and reduce medical expenses.

The hope is for all Americans to have access to dental care. Currently, up to 70% of seniors don't have any dental insurance, 15 million of the U.S. population on Medicaid don't receive comprehensive dental coverage, and 26% of those adults on private insurance don't receive dental care.

Through our research, we want to make policy makers aware of these oral health disparities and address them through expanding dental coverage and investing in oral health education programs.

Q: What, if anything, would you recommend for future research?

A: On the topic of older adults and dental care, I think we need more awareness among patients and caregivers about the connection between oral health and chronic diseases like diabetes and strokes. Awareness of the links will improve the use of dental services and increase regular visits to the dentist. As a result, we'll be able to realize savings on the medical side: More regular and preventive oral care can reduce ED visits and the costs associated with it.

My current research examines issues related to access to dental care in Maryland. Specifically, I'm interested in studying the distances people travel to the ED and if some travel longer distances than others. I'm also researching if proximity to dentists influences peoples' decisions to use the ED. I think in addition to expanding coverage, we also want to make sure that any access gaps are bridged, so people don't have to rely on EDs for their dental care and instead have regular access to a dentist in the community.

We want to thank Uma Kelekar, PhD, for answering our questions, and we invite you to evaluate our safety and protection solutions. For more information, visit palmerohealth.com, call 800-344-6424 or email customerservice@palmerohealth.com.

References

1. Gift, H. C., Reisine, S. T., & Larach, D. C. (1992). The social impact of dental problems and visits. American Journal of Public Health, 82(12), 1663-1668.
2. Kelekar, U., & Naavaal, S. (2018). Hours Lost to Planned and Unplanned Dental Visits Among US Adults. Preventing chronic disease, 15, E04. https://doi.org/10.5888/pcd15.170225
3. Naavaal, S., & Kelekar, U. (2018). School hours lost due to acute/unplanned dental care. Health Behavior and Policy Review, 5(2), 66-73.
4. Avalere Report (2016). "Evaluation of Cost Savings Associated with Periodontal Treatment Benefit."
5. Making the Case for Dental Coverage for Adults in All State Medicaid Programs, whitepaper_0721.pdf (ada.org), American Dental Association (ADA), 2021 Report.
6. Jeffcoat, M. K., Jeffcoat, R. L., Gladowski, P. A., Bramson, J. B., & Blum, J. J. (2014). Impact of periodontal therapy on general health: Evidence from insurance data for five systemic conditions. American Journal of Preventive Medicine, 47(2), 166-174.
7. Kelekar, U., & Naavaal, S. (2019). Dental visits and associated emergency department charges in the United States: Nationwide Emergency Department Sample, 2014. The Journal of the American Dental Association, 150(4), 305-312.
8. Wall T, Nasseh K, Vujicic M. Majority of dental-related emergency department visits lack urgency and can be diverted to dental offices. American Dental Association. Health Policy Institute Research Brief. August 2014. Available from: https://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0814_1.pdf. Accessed June 7, 2021.
9. Hayes, C., Sparrow, D., Cohen, M., Vokonas, P. S., & Garcia, R. I. (1998). The association between alveolar bone loss and pulmonary function: the VA Dental Longitudinal Study. Annals of Periodontology, 3(1), 257-261.
10. Bonten, M. J., Bergmans, D. C., Ambergen, A. W., De Leeuw, P. W., van der Geest, S., Stobberingh, E. E., & Gaillard, C. A. (1996). Risk factors for pneumonia, and colonization of respiratory tract and stomach in mechanically ventilated ICU patients. American Journal of Respiratory and Critical Care Medicine, 154(5), 1339-1346.
11. Winters, BD, Berenholtz, SM. Ventilator-Associated Pneumonia: Brief Update Review. In: Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices. Rockville (MD): Agency for Healthcare Research and Quality (US); 2013 Mar. (Evidence Reports/Technology Assessments, No. 211.) Chapter 11.
12. Sona, C. S., Zack, J. E., Schallom, M. E., McSweeney, M., McMullen, K., Thomas, J., & Schuerer, D. J. (2009). The impact of a simple, low-cost oral care protocol on ventilator-associated pneumonia rates in a surgical intensive care unit. Journal of Intensive Care Medicine, 24(1), 54-62.
13. Mori, H., Hirasawa, H., Oda, S. et al. Oral Care Reduces Incidence of Ventilator-Associated Pneumonia in ICU Populations. Intensive Care Med 32, 230–236 (2006). https://doi.org/10.1007/s00134-005-0014-4

Meet the Authors

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Uma Kelekar, PhD, is an Associate Professor of Healthcare Management at the School of Business of Marymount University. Uma has extensive experience conducting healthcare research in the fields of public health dentistry, health economics and policy. In this research, she uses large survey data and employs innovative empirical methodologies to investigate emerging trends and patterns in healthcare services utilization across multiple vulnerable and underserved segments of the population, and the subsequent use of the EDs for preventive care across the United States. Over the years, her publications have shed light on oral health disparities evident in how people use dental services and its associated burden of care. Additionally, she has examined if dental services provided in the EDs are contributing to the ongoing opioid epidemic. Uma has presented her work at various academic and practitioners' conferences including meetings of the American Public Health Association, American Society of Health Economists, National Oral Health Conference, and Society for Benefit-Cost Analysis. She has published book chapters and articles in journals such as Health Policy and Planning, Preventive Medicine, Preventing Chronic Disease, Health Behavior and Policy Review, The Western Journal of Emergency Medicine, and Journal of American Dental Association (JADA). She has a PhD in Public Policy from George Mason University. Her undergraduate and masters are in economics from India.

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Karen Leigh Neiner, RDH BSDH MBA, has been with Hu-Friedy Manufacturing Co. LLC for over 30 years. She is currently serving as Vice President of Corporate Development and Professional Relations, where she has increased sales through acquisition and new category introductions. In addition, she is currently President of Palmero Healthcare, Hu-Friedy's most recent acquisition. Karen was elected to the DTA Board in 2017 and currently serves as DTA Board Chair. She works with the DTA to utilize learnings, business intelligence tools, and services to navigate the changing needs of customers and employees and face emerging global challenges in the oral healthcare industry.