Predicting periodontitis at state and local levels in the United States

4 February 2016

The International and American Associations for Dental Research (IADR/AADR) have published an article titled "Predicting Periodontitis at State and Local Levels in the United States" in the OnlineFirst portion of the *Journal of Dental Research*. In it, authors P.I. Eke, X. Zhang, H. Lu, L. Wei, G. Thornton-Evans, K.J. Greenlund, J.B. Holt and J.B. Croft estimate the prevalence of periodontitis at state and local levels across the United States by using a novel, small area estimation (SAE) method.

In 2003, in response to the need for state and local assessments of periodontitis, the Centers for Disease Control and Prevention (CDC) began a Periodontal Disease Surveillance Initiative with the American Academy of Periodontology (AAP) to seek alternative, valid, reliable and less resource-demanding approaches for estimating the prevalence of periodontitis at subnational levels. The initiative explored the use of self-report measures that can be integrated into existing state and local surveys. In the JDR study titled "Predicting Periodontitis at State and Local Levels in the United States," used measures to estimate the prevalence of periodontitis among adults at state, county, congressional district and census tract levels by using periodontal data from the National Health and Nutrition Examination Survey (NHANES), population counts from the 2010 US census, and smoking status estimates from the Behavioral Risk Factor Surveillance System in 2012. The method used age, race, gender, smoking and poverty variables to estimate the prevalence of periodontitis as defined by the CDC and AAP case definitions and aggregated to larger administrative and geographic areas of interest.

Overall, the highest estimated prevalence of periodontitis was observed among southeastern and southwestern states, concentrated in pockets stretching along the Southeast, in the Mississippi Delta, along the US-Mexican border, and among Native American reservations. Other areas with an estimated high prevalence of periodontitis were southern Florida, Hawaii and remote areas of western Alaska. Overall, similar geographic distribution patterns were determined for severe periodontitis.

This study is the first-ever estimation of periodontitis prevalence at state and local levels in the United States, and this modeling approach complements public health surveillance efforts to identify areas with a high burden of periodontitis.

"The authors of the JDR article entitled 'Predicting Periodontitis at State and Local Levels in the United States' suggest that information from their study can be used to inform oral health policy decisions and to develop intervention strategies at the state and local levels. We believe the ramifications of this study could increase access to oral health care for populations at higher risk for developing periodontitis," said JDR Editor-in-Chief William Giannobile.

 Provided by American Associations for Dental Research