Economic Costs of Oral Care in the United States in 2014

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Discussant:

OBJECTIVE: This study estimates the economic burden of oral diseases and quantifies the health resource use and productivity losses in 2014.

RESEARCH DESIGN AND METHODS: This study estimates direct and indirect costs associated with oral care. Further, it compares the total costs with the estimated potential savings generated from the treatment of oral diseases among those with systemic diseases such as diabetes, pneumonia, and stroke. In addition, it calculates the savings resulting from efficiency-enhancing reforms such as reducing Emergency Room (ER) or Operating Room visits. Savings associated with preventive care, specifically dental sealants are also reported. While most of the cost data is obtained from peer-reviewed published articles for the most recent years available, the main sources analyzed for the prevalence data include the National Health and Nutrition Examination Survey (NHANES), US Census Bureau, Surveillance, Epidemiology and End Results (SEER), Center for Disease Control and Prevention (CDC), National Center for Health Statistics and the Nationwide Emergency Department Sample (NEDS). All the direct and indirect costs are reported in 2014 US dollars, using the Implicit Price Deflators for Gross Domestic Product (GDP), extrapolated to US population in 2014.

RESULTS: The total estimated cost of oral care in the United States in 2014 is approximately 132 billion, including $119 billion in direct medical costs and $13 billion in reduced productivity. Direct costs include the cost of a variety of oral care service and indirect costs include the lost productivity of working adults and the hours lost by parents from taking their children to the dentist. Furthermore, it was estimated to cost the society an additional $99 billion dollars to achieve 100% utilization of dental services.

The total potential annual savings ranged between $86 billion and $124 billion. The largest component of the savings came from the diabetic population - ranged between $39 billion and $53 billion. This was followed by the group of stroke patients, where savings ranged between $23 billion and $32 billion. Finally, the group of coronary artery disease accounted for a total savings of approximately $10 to $15 billion. Approximately $6-$10 billion of the savings were on account of treatment of periodontal disease among pregnant women. The early detection of oral cancer and oral treatment among pneumonia patients together accounted for a potential savings that ranged between $1 and $6 billion. Savings from reducing emergency room and operating room visits together ranged between $700 million to $2 billion. Savings in the range of $100 and $200 million were estimated to be associated with the use of dental sealants. Finally, a reduction of lost school hours and work hours were estimated to lower costs by approximately $3 to $6.5 billion.

CONCLUSIONS: On comparing the total estimated additional costs with the potential savings, the gains of investment were estimated to be positive and lie between $2 and $25 billion. Components omitted from this study include the compromised quality in life associated with missing teeth, social stigma of dental caries, productivity losses associated with early death due to oral cancer.

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