Years Lived with Disability due to Edentulism, Periodontitis, and Symptomatic Dental Caries among Elderly Adults in the USA, 2016

BACKGROUND

- Lack of access to dental care aggravates serious health problems associated with aging and impacts the overall wellbeing of the elderly.
- Traditional Medicare does not cover dental services, leaving 75% of elderly adults in the United States without dental coverage and vulnerable for worsen health status.

STUDY OBJECTIVE

- Estimate the annual estimated cost of covering these conditions to states and the federal government.
- Estimate the expected cost of covering these conditions to states and the federal government.

METHODS

- Determined prevalence of periodontitis, symptomatic caries, and edentulism among individuals 65+ years of age using NHANES 2015/16 and literature review encompassing 2009-16.2,3
- Derived the YLD associated with these conditions based on reported disability weights using the following equation:4

\[ \text{Years Lived with Disability} = \text{Disability weight} \times \text{Prevalence per 100,000 population} \]

- Compared the estimated YLD lost due to these dental conditions to YLD lost due to depression and infectious diseases (i.e., flu, and moderate pneumonia).
- Estimated the annual cost of covering these services, after adjusting for utilization rate, based on IBM Watson MarketScan Commercial and Medicare Supplemental databases.

RESULTS

- In 2016, the annual prevalence of periodontitis, symptomatic dental caries, and edentulism were 50,762, 22,700, and 20,700 cases per 100,000 elderly, respectively. Figure 1
- The overall YLD associated with these conditions was 1,067,491 of which 69% was associated with periodontitis, 19% with edentulism, and 12% was associated with symptomatic dental caries. Figure 1
- Prevalence of edentulism was highest among Blacks with 28,200 cases per 100,000 elderly, followed by Hispanics (23,200 per 100,000 elderly), and lowest among Whites (19,600 per 100,000 elderly). Figure 2
- The majority of YLD lost to edentulism occurred among Whites (73%: 65,780 YLD) followed by Blacks (12%: 4,936 YLD) and Hispanics (9%: 6,580). Figure 2
- YLD due to these three oral diseases are 10 times the YLD due to flu and moderate pneumonia (104,340, and 22,700) and the YLD due to mild depression (7,067,364) conditions covered by Medicare. Figure 3
- The annual estimated cost of covering these oral conditions is $349,200,000,000, leaving 75% of elderly adults in the United States without dental coverage and vulnerable for worsen health status.

CONCLUSIONS

- Years Lived with Disability (YLD) due to periodontitis, caries, and edentulism are comparable to YLD due to other conditions already covered by Medicare and provide rationale for including an adult dental benefit in Medicare.
- 5% increase in government spending is sufficient to cover the three dental conditions.

IMPLICATIONS

- Evidence links oral health not only to general health but also premature mortality.
- Expanding Medicare to cover dental services would reduce the burden of oral disease for elderly Americans, address disparities in oral health, and improve the overall well-being of elderly adults.

For more information:
Yara A. Halasa-Rappel, DentaQuest.com

References

Figure 1. High prevalence of periodontitis and high YLD due to edentulism

Figure 2. High edentulism prevalence among minority and highest YLD among White

Figure 3. YLD due to periodontitis, symptomatic dental caries, and edentulism is 2/3rds that of depression and 10 times greater than minor infections.

Table 1. Five percent increase in government spending is sufficient to cover the three dental conditions

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