



## ORAL HEALTH DATA AND STATISTICS

### Children

- ❖ Dental disease is the most common childhood disease— five times more common than asthma.<sup>1</sup>
- ❖ Children under 6 years of age enrolled in Medicaid and treated for ECC in a hospital setting represent less than 5% of those receiving dental care, but consume up to 45% of the dental resources.<sup>2</sup>
- ❖ Among Virginia’s Medicaid-enrolled children, 54% of children 0-20 and 61% of children ages 3-20 utilized dental services in 2015.<sup>3,3</sup>
- ❖ 47.4% of 3rd graders in Virginia have or had a (untreated or treated) cavity experience.<sup>4</sup>
- ❖ Virginia Students miss as many as 1 million hours of school each year because of dental problems.<sup>5</sup>
- ❖ Children who have their first preventive dental visit prior to age one have average dental costs roughly 40% lower than those who have their first visit after age one.<sup>6</sup>

### Individuals with Diabetes

- ❖ Diabetics receiving periodontal treatment experienced a \$2,840 reduction in annual medical costs.<sup>7</sup>
- ❖ With dental treatment, diabetics had an average reduction of 39% in annual hospital admissions, and an annual average of 13% fewer physician visits.<sup>7,8</sup>
- ❖ As diabetes affects the peripheral vascular system, persons with diabetes are more susceptible to Periodontal (gum) disease and tooth decay.<sup>9</sup>
- ❖ Studies show that diabetics who receive adequate treatment for periodontal disease can better manage their blood sugar levels.<sup>10</sup>

### Economic Impact of Dental Issues

- ❖ Studies show that just one dental visit each year can reduce total per-person dental costs by nearly 30%.<sup>11</sup>
- ❖ In 2014, Virginia Medicaid spent \$8.2 million treating dental issues in the operating room.<sup>29</sup>
- ❖ Children who have their first preventive dental visit prior to age one have average dental costs roughly 40% lower than those who have their first visit after age one.<sup>12</sup>
- ❖ The average cost for a Medicaid recipient’s dental care in an emergency room is nearly ten times more expensive than preventive care from a dentist.<sup>13</sup>
- ❖ Diabetics receiving periodontal treatment experienced a \$2,840 reduction in annual medical costs.<sup>7</sup>

<sup>1</sup> “A United Voice for Oral Health: Final Report and Recommendations from the Michigan Access to Oral Health Care Work Group.” 2013 Update. Retrieved from [http://www.smilemichigan.com/Portals/pro/ProDocuments/DonatedCare/united\\_voice\\_for\\_oral\\_health.pdf](http://www.smilemichigan.com/Portals/pro/ProDocuments/DonatedCare/united_voice_for_oral_health.pdf).

<sup>2</sup> “The Effects of Early Preventive Visits on Use, Costs, and Oral Health Status.” October 27, 2011. J. Lee, DDS. Institute for Oral Health. <http://www.iohwa.org/2011-conference-oral-health/speakers/2011-IJHConf-DrLee.pdf>.

<sup>3</sup> Centers for Medicare and Medicaid Services EPSDT 416 Report for SFY 2015.

<sup>4</sup> “Caries Experience.” August 2010. Center for Disease Control National Oral Health Surveillance System. Retrieved from <http://apps.nccd.cdc.gov/nohss/IndicatorV.asp?Indicator=2>.

<sup>5</sup> “Oral Health in America: A Report of the Surgeon General.” 2000, 2. U.S. Department of Health and Human Services, National Institutes of Health. Retrieved from <https://www.nidcr.nih.gov/datastatistics/surgeongeneral/report/executivesummary.htm>.

<sup>6</sup> “Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs.” (2004): 114 418-423. *Pediatrics*. M. Sauvage, J. Lee, J. Kotch, W. Vann, Jr.

<sup>7</sup> Jeffcoat MK, Jeffcoat RL, Gladkowski PA, Bramson JB, Blum JJ. Impact of Periodontal Therapy on General Health: Evidence from Insurance Data for Five Systemic Conditions. *Am J Prev Med* 2014;47(2): 166-174.

<sup>8</sup> Periodontal Therapy Reduces Hospitalizations and Medical Care Costs in Diabetics. March 2012. M. Jeffcoat, J. Blum, and F. Merkel, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, United Concordia Companies, Inc. (UCCI), Harrisburg, PA. Based on three years of data.

<sup>9</sup> “Diabetes in Virginia.” Virginia Department of Health, Office of Family Health Services, Diabetes Prevention and Control Project. (Updated 7/2011). Retrieved from <http://www.vdh.virginia.gov/ofhs/prevention/diabetes/documents/2012/pdf/Diabetes%20Burden%20Report1.pdf>.

<sup>10</sup> “Improved Health and Lower Medical Costs: Why good dental care is Important.” Cigna, 12/10. Retrieved from [http://www.cigna.com/assets/docs/life-wall-library/Whygooddentalcareisimportant\\_whitepaper.pdf](http://www.cigna.com/assets/docs/life-wall-library/Whygooddentalcareisimportant_whitepaper.pdf).

<sup>11</sup> “Oral Health: Impact on Costs.” Postlewait, Joyce. *Why Dental Benefits Improve Health and Save Money*, Virginia Oral Health Coalition. Richmond, Virginia. November 8, 2013.

<sup>12</sup> “Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs.” 2004: 114 418-423. M. Savage, J. Lee, J. Kotch, W. Vann, Jr. *Pediatrics*.

<sup>13</sup> “A comparison of Medicaid Reimbursement for non-definitive pediatric dental treatment in the emergency room versus periodic preventative care.” 2000. 463-468. E. Pettinado, M. Webb, S.N. Seale. *Pediatric Dentistry*.

## Individuals with Chronic Health Conditions

- ❖ Studies suggest that patients with periodontitis may have an increased risk of developing cardiovascular disease.<sup>14,15</sup>
- ❖ Several species of bacteria that cause periodontitis have been found in the atherosclerotic plaque in arteries in the heart and elsewhere, which can lead to a heart attack.<sup>16</sup>
- ❖ Studies have shown that periodontitis may enhance the risk of respiratory disease.<sup>17</sup>
- ❖ Researchers found that men with gum disease were 49% more likely to develop kidney cancer, 54% more likely to develop pancreatic cancer, and 30% more likely to develop blood cancers.<sup>18,19</sup>
- ❖ Between 9% and 27% of hospital patients who are mechanically ventilated will develop ventilator-associated pneumonia (VAP), and between 33-50% of those who develop VAP will die. Treatment with chlorhexidine mouth rinse decreased the risk of VAP by 36%. The cost of the mouth rinse is one-tenth the cost of VAP treatment.<sup>20,21,22</sup>

## Dental-Related Emergency Room Use

- ❖ In 2009, it was estimated that preventable dental conditions were responsible for 830,590 visits to the ER nationwide, which was nearly a 16% increase from 2006.<sup>23</sup>
- ❖ In 2011, Virginia Medicaid spent \$7 million treating dental disease in the operating room under general anesthesia. Most of the patients were children.<sup>24</sup>
- ❖ Studies have shown that uninsured individuals visit the emergency department for a dental issue more than any other diagnoses.<sup>25</sup>
- ❖ Research has found that, on discharge, 81% of patients who receive care in the emergency department for dental issues received opiates and 69% received antibiotics.<sup>26</sup>
- ❖ A study using 2008 Nationwide Emergency Department data concluded that the likelihood of hospital admission following an emergency department visit for pneumonia increased 19% for patients with dental infections and 29% for patients with dental caries.<sup>27</sup>
- ❖ Emergency room visits for dental problems doubled between 2000 and 2010, from a reported 1 million cases of mostly adults in 1999-2000, and 2.3 million cases in 2009-10.<sup>28</sup>
- ❖ The elimination of adult Medicaid dental coverage in California drove a 32.3% increase in dental-related emergency department (ED) visits and an annualized inflation-adjusted rise of 65% in the cost of ED oral care.<sup>29</sup>

<sup>14</sup> "Study Finds Direct Association Between Cardiovascular Disease and Periodontal Bacteria." (February 7, 2005) National Institute of Dental and Craniofacial Research. Retrieved from <http://www.nidcr.nih.gov/Research/ResearchResults/NewsReleases/ArchivedNewsReleases/NRY2005/PRO2072005.htm>.

<sup>15</sup> "Periodontal Disease and Coronary Heart Disease Incidence: A Systematic Review and Meta-analysis." (2008 December). Humphrey, Linda, MD, MPH, Fu, Rongwei, PhD, Buckley, David I., MD, MPH, Freeman, Michele, MPH, Helfand, Mark, MD, MPH. *J Gen Intern Med.*; 23(12): 2079-2086. Published online 2008 September 20. doi: 10.1007/s11606-008-0787-6.

<sup>16</sup> "Heart disease and oral health: Role of Oral Bacteria in Heart Plaque." (February 2007) Harvard Health Publications, Harvard Medical School. Retrieved from [http://www.health.harvard.edu/press\\_releases/heart-disease-oral-health](http://www.health.harvard.edu/press_releases/heart-disease-oral-health)

<sup>17</sup> Sharma, Nikhil, and Shamsuddin, H. "Association Between Respiratory Disease in Hospitalized Patients and Periodontal Disease: A Cross-Sectional Study." (August 2011, Vol. 82, No. 8, Pages 1155-1160, DOI 10.1902/jop.2011.100582). *Journal of Periodontology*. Retrieved from <http://www.joponline.org/doi/abs/10.1902/jop.2011.100582>.

<sup>18</sup> "Gum Disease and Other Systemic Diseases." American Academy of Periodontology. Retrieved from <http://www.perio.org/consumer/other-systemic-diseases>.

<sup>19</sup> "Gum Disease Link to Cancer Risk." (26 May 2008) BBC News. Retrieved from <http://news.bbc.co.uk/2/hi/7416672.stm>.

<sup>20</sup> Snyders O, Khondowe O, and Bell J. (2011) Oral chlorhexidine in the prevention of ventilator-assisted pneumonia in critically ill adults in the ICU: A systematic review. *South African Journal of Critical Care*, Vol. 27, No. 2; 48-56.

<sup>21</sup> American Thoracic Society and Infectious Diseases Society of America. Guidelines for the management of adults with hospital-acquired, ventilator associated and healthcare associated pneumonia. *Am J Resp Crit Care Med* 2005;171:388-416.

<sup>22</sup> Rello J, Ollendorf DA, Oster G, et al. Epidemiology and outcomes of ventilator-associated pneumonia in a large US database. *Chest*. 2002; 122:2115-2121.

<sup>23</sup> "Healthcare Cost and Utilization Project (HCUP) – The Nationwide Emergency Department Sample for the year 2009 and 2006." Agency for Healthcare Research and Quality (AHRQ), Rockville, MD. Retrieved from <http://hcupnet.ahrq.gov>.

<sup>24</sup> Department of Medical Assistance Services

<sup>25</sup> "A Costly Dental Destination: Hospital Care Means States Pay Dearly." February 2012. The Pew Center on the States, Pew Children's Dental Care Campaign Issue Brief. Retrieved from [http://www.pewstates.org/uploadedFiles/PCS\\_Assets/2012/A%20Costly%20Dental%20Destination\(1\).pdf](http://www.pewstates.org/uploadedFiles/PCS_Assets/2012/A%20Costly%20Dental%20Destination(1).pdf).

<sup>26</sup> Benjaminc C. Sun et al. Emergency Department Visits for Non-traumatic Dental Problems: A Mixed-Method Study. *Am J. Public. Health*. May 2015.

<sup>27</sup> Laurence B, Mould-Millman NK, Scannapieco FA, Abron A. Hospital admissions for pneumonia more likely with concomitant dental infections. *Clin Oral Investig*. Jul 2015.

<sup>28</sup> National Hospital Ambulatory Medical Care Survey. Centers for Disease Control and Prevention. Retrieved from <http://www.cdc.gov/nchs/ahcd.htm>.

<sup>29</sup> A. Singhal et al. Eliminating Medicaid Adult Dental Coverage in California Led To Increased Dental Emergency Visits And Associated Costs. *Health Affairs*. May 2015. Available from: <http://content.healthaffairs.org/content/34/5/749.full.html>.

### Pregnant Women

- ❖ Pregnant women with periodontal disease may be up to eight times more likely to deliver prematurely, and over 18% of preterm low birth weight babies may be attributable to periodontal disease. More than 25% of all pregnant women have periodontal disease.<sup>30,31</sup>
- ❖ In a study of 3000 women, preterm birth was 3-8x more likely among pregnant women with periodontal disease.<sup>1</sup>
- ❖ Almost 10% of the babies born to a mother receiving Medicaid or FAMIS MOMS in Virginia were of low birth weight.<sup>32</sup>
- ❖ The average costs during the first year of life for a preterm baby were more than ten times that of a baby born at full term; the cost of an average NICU stay is \$100,000.<sup>33</sup>
- ❖ A child is four times more likely to visit a dentist if a parent visits a dentist. If that child begins preventive dental care by age one, dental care costs during preschool years will be 40% lower.<sup>34</sup>
- ❖ Reducing bacteria in a mother's mouth can significantly reduce a child's risk of tooth decay, as bacteria is spread from mother to baby. Reducing tooth decay in early childhood can also reduce the need for children to receive costly dental treatment in the operating room under general anesthesia.
- ❖ In 2011, Virginia Medicaid spent \$7 million treating dental issues in the operating room.<sup>35,36,37</sup>
- ❖ Less than 20% of children enrolled in Virginia Medicaid have a dental visit by age one.<sup>38</sup>
- ❖ Providing dental benefits for the 15,000 pregnant women enrolled in Medicaid and FAMIS Moms is a low-cost investment (\$544,170 million in general funds) and can save future health costs related to prematurity and childhood dental disease.<sup>8</sup>

<sup>30</sup> "Periodontal Therapy Reduces Hospitalizations and Medical Care Costs in Diabetics." March 2012. M. Jeffcoat, J. Blum, and F. Merkel, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, United Concordia Companies, Inc. (UCCI), Harrisburg, PA. Based on three years of data.

<sup>31</sup> "Periodontal disease as a risk factor in pre-term low birth weight - An assessment of gynecologists' knowledge: A pilot study." Shenoy RP, Nayak DG, Sequeira PS. *Indian J Dent Res* 2009;20:13-6.

<sup>32</sup> "Improving Access to Perinatal Oral Health Care: Strategies & Considerations for Health Plans," 2010. CDHP.

<sup>33</sup> Retrieved from [http://www.marchofdimes.com/peristats/pdfdocs/cts/ThomsonAnalysis2008\\_SummaryDocument\\_final121208.pdf](http://www.marchofdimes.com/peristats/pdfdocs/cts/ThomsonAnalysis2008_SummaryDocument_final121208.pdf).

<sup>34</sup> "Get It Done In Year One" (July 28, 2010). American Academy of Pediatric Dentistry. Retrieved from <http://www.aapd.org/assets/2/7/GetItDoneInYearOne.pdf>.

<sup>35</sup> "Caries prevention during pregnancy: results of a 30-month study," 1998; 129:871-877. Brambilla E, Felloni A, Gagliani M, Malerba A, Garcia-Goday F, Strohmenger L. *J Am Dent Assoc*.

<sup>36</sup> "Beyond the dmft: The human and economic cost of early childhood caries." Casamassimo PS, Thikkurissy S, Edelstein BL, Maiorini E. 2009; 140(6):650-7. *JADA*.

<sup>37</sup> Department of Medical Assistance Services

<sup>38</sup> 2013 Smiles For Children Annual Report.