CareQuest Institute for Oral Health®

RESEARCH REPORT

Lifelong Oral Health

How Insurance Type Shapes Dental Care Spending

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Introduction

Approximately $176 billion is spent on oral health care in the United States (US) each year, with costs projected to increase steadily over the next decade to $295 billion being spent in 2033.

An estimated $46 billion in productivity is lost each year due to unmet dental needs. The cost of oral health care poses a substantial financial barrier for many, one shouldered disproportionately across individuals living in the US. Lower-income families pay over seven times more in out-of-pocket spending on oral health care as a proportion of their total income compared to wealthier families, a disparity that has only grown over the last several years. Meanwhile, individuals with lower incomes are more likely to have poor oral health than those with higher incomes. Oral health care costs are more likely to be paid out of pocket than other health care costs. Regardless of income level, insurance, and other socioeconomic factors, the cost of oral health care poses a greater financial barrier for individuals than any other type of health care.

Oral health is inextricably linked to overall health and well-being across an entire lifespan. In its most severe form, early childhood caries — the most common chronic disease of childhood — is linked to poor nutrition, chronic dental pain, and negative school performance for children suffering from this preventable dental disease. In adolescence and adulthood, the chronic use of tobacco products and alcohol increases the risk of oral cancer as well as pulmonary and cardiovascular disease. Later in adulthood, periodontal disease is linked with diabetes mellitus and cardiovascular disease. In older adults, the risk of being diagnosed with dementia increases in the presence of periodontitis.

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Given the consistent links between oral and overall health over the course of a lifespan, it is beneficial to understand how much is spent in the US on oral health care and oral health–related medical treatment across all age groups. Additionally, insurance coverage for oral health care changes across a lifespan. Medicaid and the Children's Health Insurance Program (CHIP) are mandated to cover dental care for children and adolescents from low-income families, but there is wide variation in Medicaid dental coverage for adults by state.

Many young adults lose access to their parents' commercial insurance plans once they reach the age of 26, and some dental insurance plans consider young adults ineligible for their parents' dental coverage before this age. The goal of this report was twofold: (1) examine spending on oral health care and oral health–related medical treatment for individuals aged 0 to 89, and (2) evaluate differences in oral health care spending between Medicaid and commercial insurance plans to highlight how the two types of coverage differ in spending across the lifespan.

Data for this analysis comes from the 2022 Merative MarketScan Research Database, which includes dental and medical claims data from both Medicaid and commercial insurance plans. The Medicaid database includes all dental and medical claims from 13 de-identified states, representing 3,235,187 individuals aged 0 through 89 years.

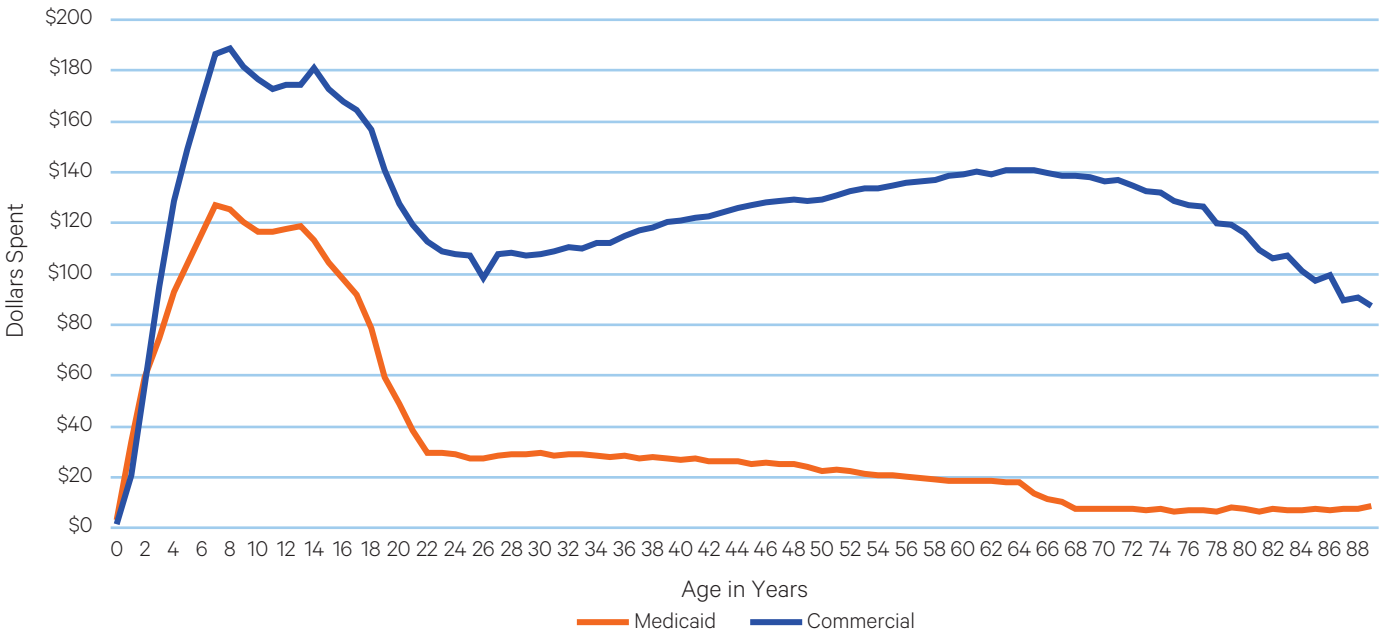
The commercial database includes all dental and medical claims from a convenience sample of Merative contributors, representing 4,990,166 individuals aged 0 through 89 years old. The commercial database includes only those covered by both medical and dental insurance and does not include Medicare claims. Claims data were used for a cross-sectional analysis of spending on preventive and basic dental care, major dental care, and medical spending on dental-related conditions by category across each year of life from 0–89 years old, calculated based on CDT codes for preventive/basic procedures, major procedures, and medical spending on oral health–related conditions (for example, visits to the emergency department for non-traumatic dental conditions or prescriptions related to oral health; please see Methodology section for details on each category of spending).

Results

Average Spending on Prevention and Basic Dental Care

The overall pattern of spending on preventive and basic dental care was consistent between Medicaid and commercial coverage across the lifespan (Figure 1). However, starting at age 3, the amount spent per person at each age by commercial plans ($95.28) began to outpace that of Medicaid ($74.55) and remained higher throughout the entire lifespan. For both coverage types, spending peaked at the age of 8 ($125.64 Medicaid; $188.74 commercial), with a second, slightly lower peak at age 14 ($113.24 Medicaid; $180.82 commercial). Both trends then dropped off until around age 26 ($27.45 Medicaid; $98.49 commercial) before remaining relatively stable. Medicaid spending gradually decreased between the ages of 26 and 89, while commercial spending increased gradually until around age 63 ($141.02), after which it gradually decreased through the rest of the lifespan.

Figure 1. Average Dollars Spent on Prevention and Basic Dental Care per Person by Age



Average Spending on Major Dental Care

The pattern of spending on major dental care was relatively comparable for about the first 25 years of life between Medicaid and commercial coverage across the lifespan (Figure 2). From ages 2 to 7, Medicaid spending was higher on average than commercial spending. However, starting at age 8, the average amount spent per enrollee at each year by commercial plans ($142.48) began to outpace that for Medicaid ($117.75) and remained higher throughout the entire lifespan. For both coverage types, spending peaked at age 13 ($164.24 Medicaid; $393.36 commercial), with a second lower peak at age 17 ($138.08 Medicaid; $225.09 commercial). Both trends then dropped off until around age 22 ($46.79 Medicaid; $150.18 commercial). Average Medicaid spending gradually decreased between the ages of 22 and 89, while average commercial spending increased consistently until age 65 ($390.92), after which it gradually decreased through the remainder of the lifespan.

Average Spending on Dental-Related Medical Care

Spending on dental-related medical care (visits to the emergency department for non-traumatic dental conditions, for example, or oral health related prescriptions) was relatively low and comparable between Medicaid and commercial plans for approximately the first four decades of life (Figure 3). Medicaid spending peaked at ages 48 ($69.64) and 56 ($92.38) before decreasing overall, while commercial spending increased relatively consistently until age 76 ($98.61), after which it gradually decreased until the end of the lifespan while remaining consistently higher than Medicaid spending.

Figure 2. Average Dollars Spent on Major Dental Care per Person by Age

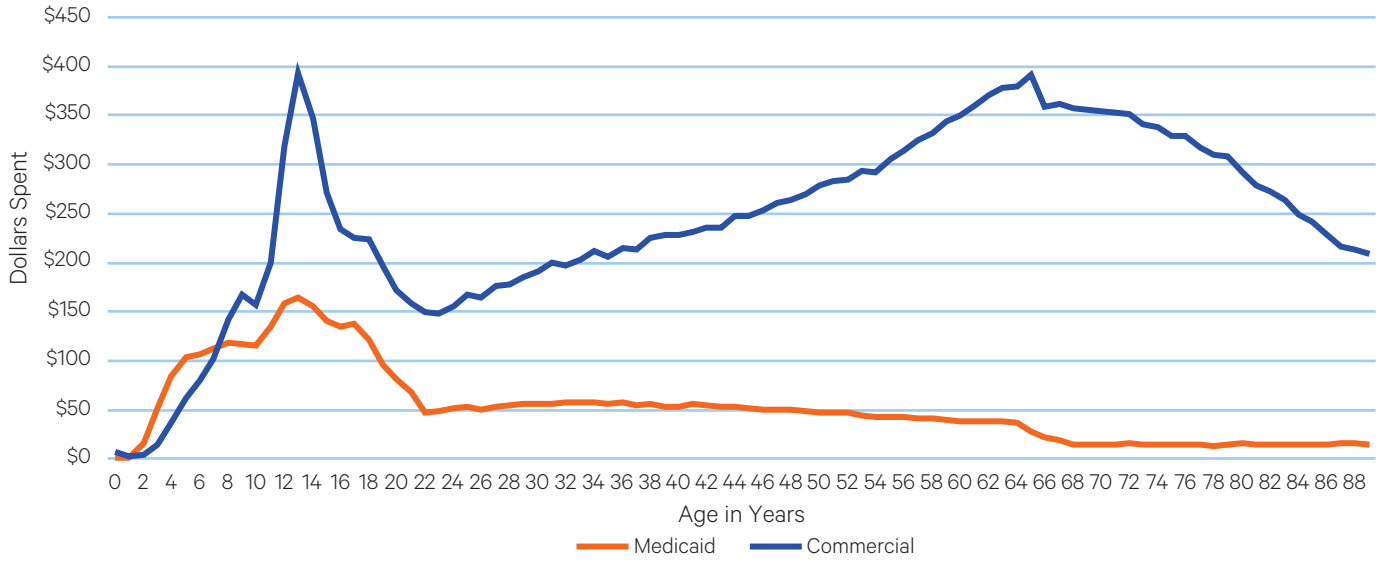
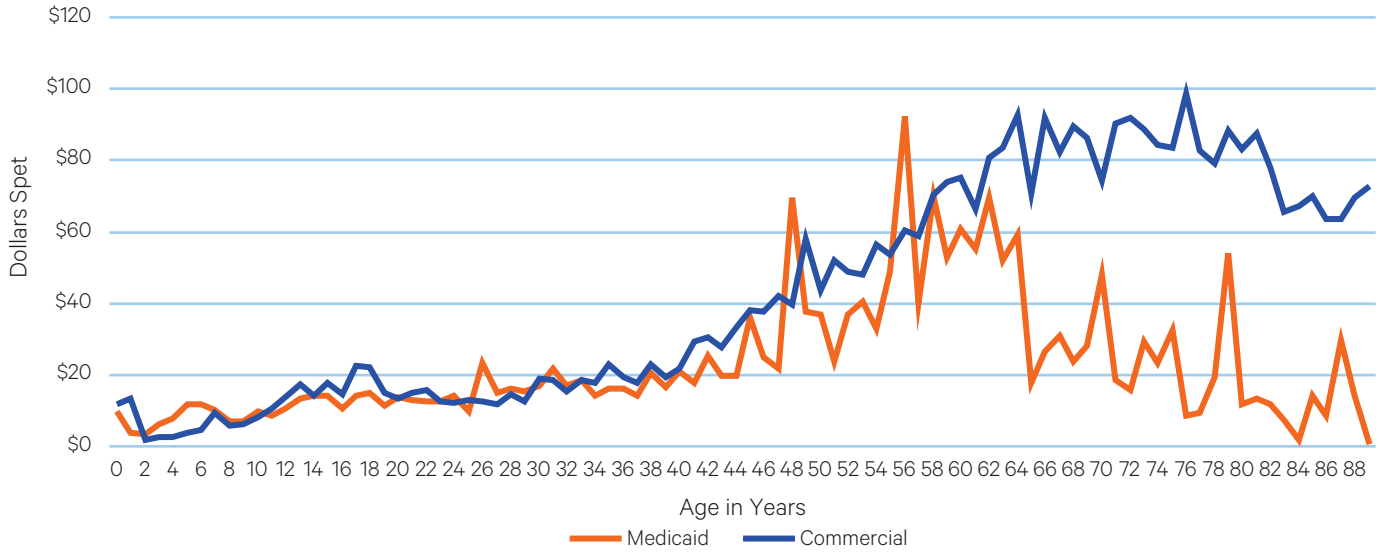


Figure 3. Average Dollars Spent on Dental-Related Medical Care per Person by Age



Average Medicaid Spending by Treatment Categories

When examining Medicaid spending on all three treatment categories (preventive/basic, major dental, and dental-related medical) across the lifespan, spending on preventive/basic and major dental care were consistently higher before the age of 18 than later in life (Figure 4). This is likely due to consistent Medicaid coverage for dental care for all children from lower-income families but coverage for adults that varies by state. Spending for preventive/basic care peaked at age 7 ($127.05), and spending for major dental care peaked at age 13 ($164.24). Medicaid spending on dental-related medical care begins to increase in the early 40s, peaking at age 56 ($92.38) and gradually decreasing through the remainder of the lifespan.

Average Commercial Spending by Treatment Categories

Commercial insurance spending on preventive/basic dental was higher in the first two decades of life, peaking at age 8 ($188.74) and then decreasing until age 22 ($113.03) and remaining relatively stable until age 63 ($141.02), after which preventive/basic spending decreased gradually through the rest of the lifespan (Figure 5). Major dental care spending was also comparably high in early life, peaking at age 13 ($393.36) before decreasing at age 19 ($197.56), gradually beginning to increase again around the age of 40 ($228.77) through the age of 74 ($337.85), then decreasing through the rest of the lifespan. Dental-related medical care was consistently low through the first two decades of life, peaking at age 17 ($22.82), remaining relatively stable through the age of 40 ($21.74), then increasing to a peak of $98.61 at the age of 76 and gradually decreasing through the remainder of the lifespan.

Figure 4. Treatment Categories of Average Medicaid Spending on Care per Person by Age

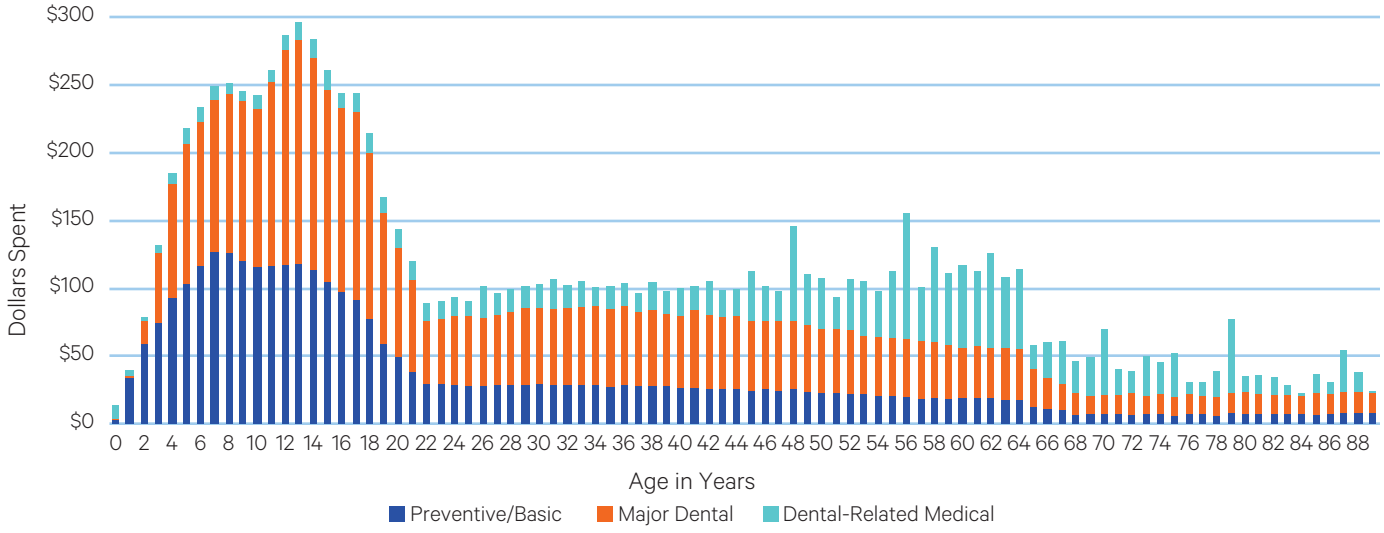
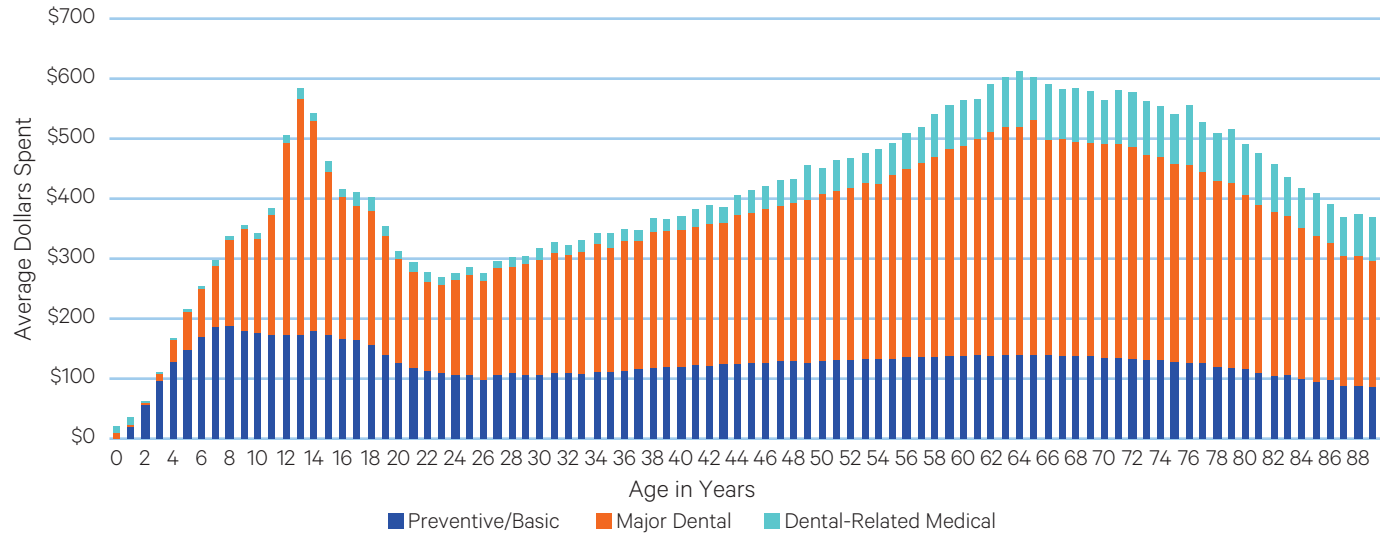


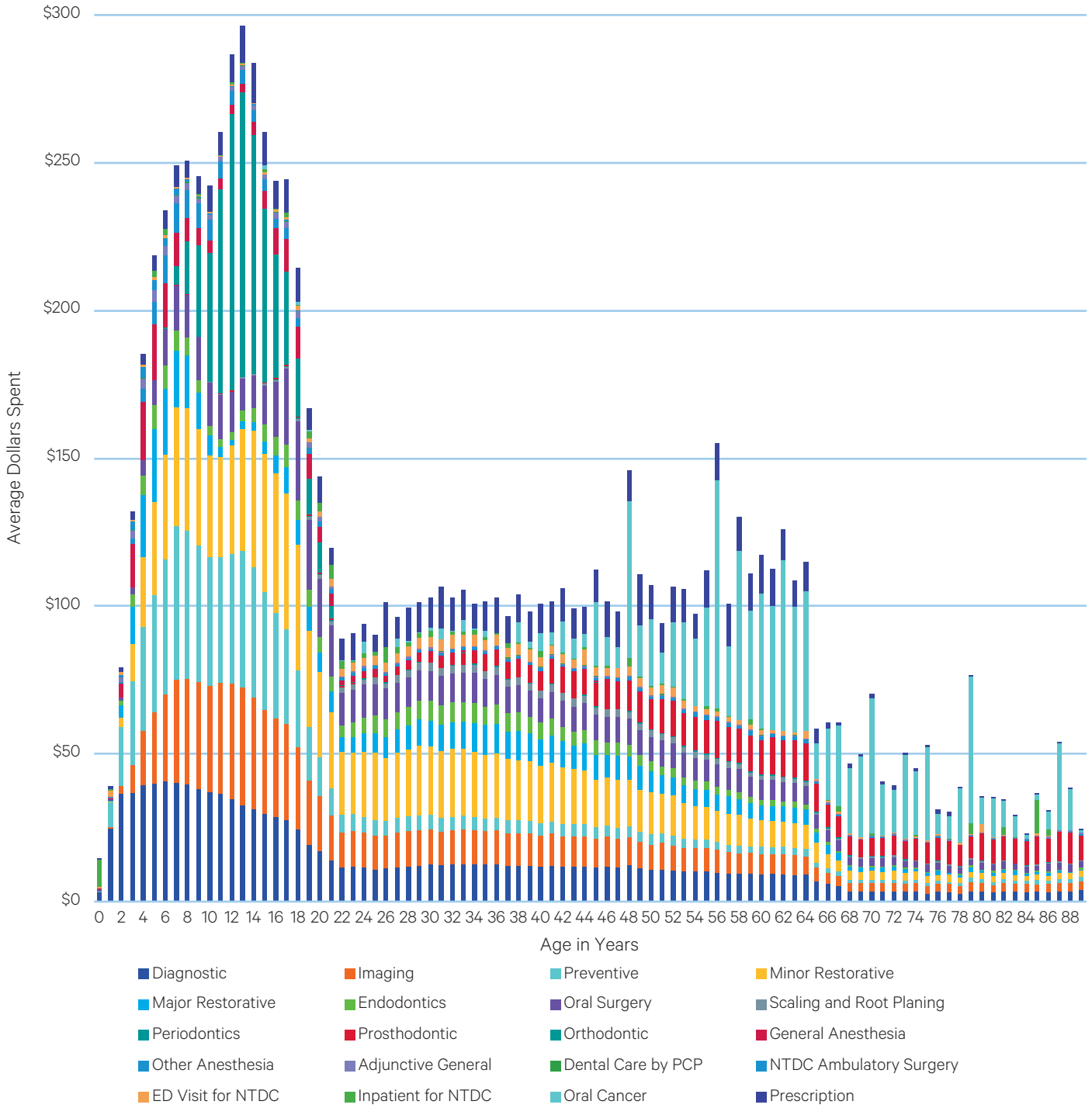
Figure 5. Treatment Categories of Average Commercial Spending on Care per Person by Age



Average Medicaid Spending by Specific Treatment Types

Medicaid spending across all treatment types peaked for 13-year-olds ($296.30; Figure 6). Much of this spending was for orthodontic treatment ($95.91), followed by preventive care ($46.26) and minor restorative care ($41.38). Medicaid spending across all treatment types was highest for individuals aged 7–16 years, with orthodontic treatment representing the most spending, followed by preventive and minor restorative care. Those less than one year old had the lowest Medicaid spending ($14.46); the highest spending for this age group was for inpatient care for non-traumatic dental conditions ($9.29), followed by diagnostic care ($3.27). Except for this very youngest age group, individuals with the least Medicaid spending ranged from 76–89 years old; most of the spending in this group was for prosthodontic care (range = $6.94–$10.69).

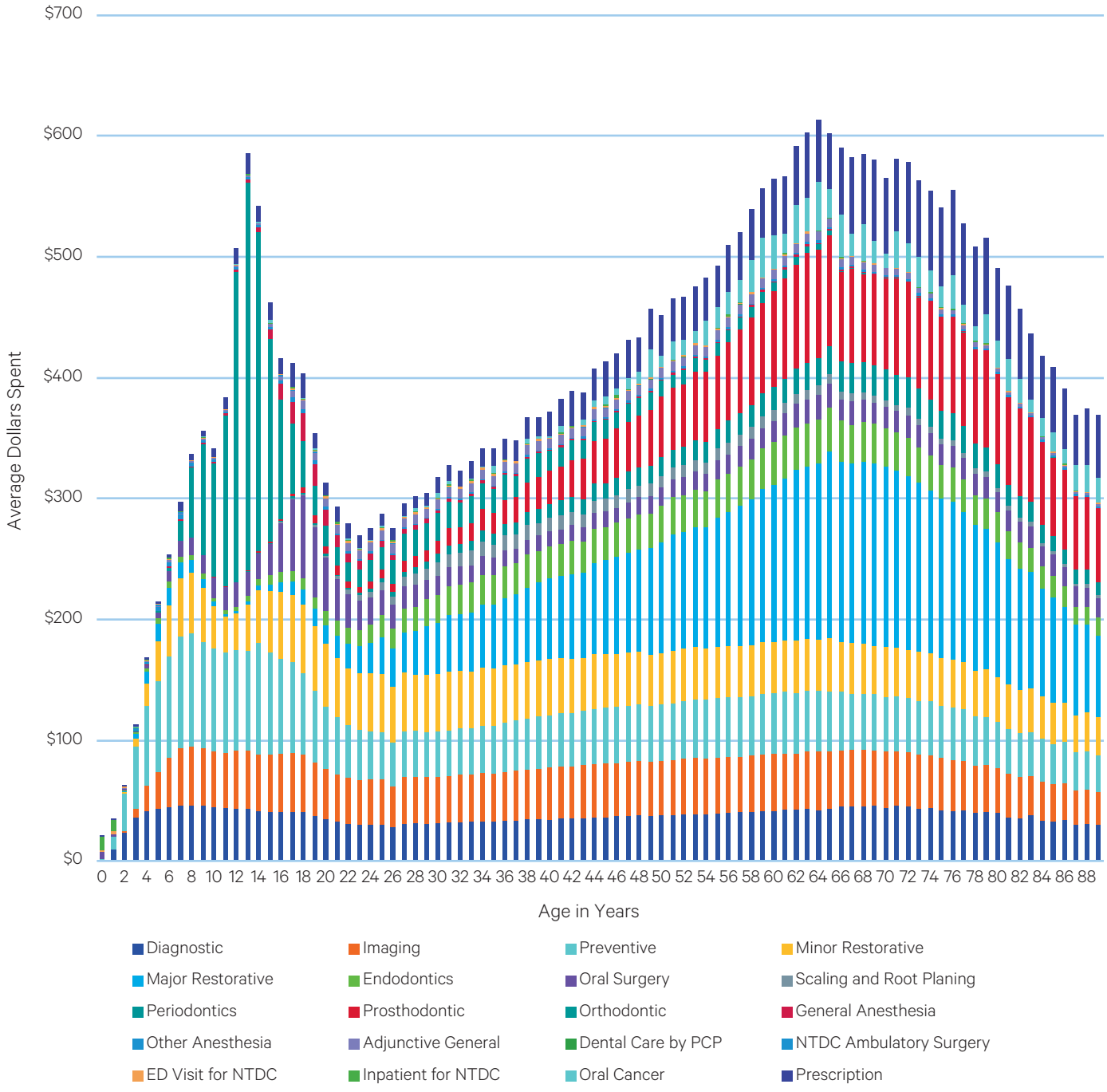
Figure 6. Treatment Categories of Average Medicaid Spending per Person on Care by Age



Average Commercial Spending by Specific Treatment Types

Commercial spending across all treatment types peaked for individuals at the age of 64 ($613.57; Figure 7). Most of this spending was for major restorative treatment ($146.08), followed by prosthodontic care ($89.91) and prescription costs ($50.83). Commercial spending across all treatment types was highest primarily for individuals aged 62–68 years, with major restorative treatment representing the most spending, followed by prosthodontic care and prescriptions. Commercial spending for those at age 13 was also high ($585.33), primarily due to orthodontic care ($320.87), preventive care ($82.83), and imaging ($48.34). Those less than one year old had the lowest commercial spending ($20.72); the highest spending for this age group was for inpatient care for non-traumatic dental conditions ($11.24) followed by oral surgery ($6.48). In addition to this very youngest age group, individuals with the least commercial spending ranged from 1–6 years old; most of the spending in this group was for preventive care (range = $10.62–$83.44).

Figure 7. Treatment Types of Average Commercial Spending on Care per Person by Age



Discussion

Results from this analysis show clear changes in dental spending both across the lifespan and between Medicaid and commercial insurance coverage. While both Medicaid and commercial spending on preventive and basic dental care were highest for children in the first decade of life (including for preventive and orthodontic care), commercial spending in this category was consistently higher for individuals of all ages. Commercial spending was also consistently higher than Medicaid spending on major dental care, peaking in the first decade of life and then again around the age of 65, when many adults retire from working and lose their employer-sponsored private dental insurance.

Lower average spending amounts by Medicaid do not necessarily reflect fewer oral health services provided compared to commercial spending. The ADA's Health Policy Institute found that in 2016, Medicaid's average fee-for-service reimbursement was 61.8% of commercial insurance reimbursement for children and 46.1% of commercial reimbursement for adults. This analysis evaluated the average amount spent by Medicaid and commercial plans, not the average number of procedures paid for by each type of coverage. The larger amount spent by commercial plans may reflect a higher level of reimbursement compared to Medicaid.

This analysis does not include claims for adults receiving Medicare. Traditional Medicare does not cover most dental care, although individuals are able to purchase separate Medicare Advantage plans that may include dental coverage. Spending on dental-related medical care remained low for both Medicaid and commercial insurance enrollees until around the age of 65, at which time commercial spending outpaces Medicaid spending. This increase in spending after 65 may reflect an increased need for more oral-health-related medical care (e.g., diagnosis of and treatment for oral cancer) in the later part of life and show an increased likelihood of commercial plans covering such care compared to Medicaid.

Lower average spending amounts by Medicaid do not necessarily reflect fewer oral health services provided compared to commercial spending.

This analysis demonstrates that Medicaid spends more on oral health care earlier for younger enrollees, when Medicaid dental coverage is required. However, over the past several years, more states have been enhancing their Medicaid dental coverage for adults, particularly for adults in special beneficiary groups, such as adults who are pregnant or have recently given birth, those with developmental and/or intellectual disabilities, and adults receiving long-term care benefits. Medicaid enrollees who receive consistent preventive dental care experience lower subsequent overall oral health care costs. However, Medicaid adult dental benefits are often one of the first line items cut from states' budgets, particularly when Medicaid benefits themselves are at stake. Cuts to Medicaid adult dental benefits are linked to increases in emergency room visits for non-traumatic dental care, which could cost the US health care system over $3 billion. It is estimated that reductions of federal aid to states' Medicaid programs, resulting in a loss of adult dental benefits, could lead to an increase of $1.9 billion in US health care costs in a single year.

As stated by the US Surgeon General more than a quarter century ago, "You're not healthy without good oral health," highlighting the link between overall and systemic health as well as the importance of optimal oral health care throughout the lifespan. It is notable that this analysis shows spending on preventive dental care peaked in childhood and decreased throughout the rest of the lifespan for both Medicaid and commercial plans, although more was spent on prevention from adolescence and beyond by commercial plans than Medicaid. Receiving consistent preventive dental care is associated with lower total medical costs. As this analysis is cross-sectional, it is not possible to assess the impact of consistent preventive dental care beyond childhood on dental-related medical care or overall medical care later in life. Given the links between poor oral health and conditions like cardiovascular disease and dementia, it would be valuable to follow individuals over time to determine whether consistent preventive care in the first half of life results in better overall health in the latter half of life.

Oral health care spending across the lifespan is a critical piece of overall health care spending, which is higher in the US than in other countries of similar size and wealth. Given the links between oral health and overall health, determining when and how the US spends its oral health care dollars — both through Medicaid and commercial plans — is key to understanding the overall health of the nation.

Methodology

This study is a cross-sectional analysis of spending on oral health care and medical spending on oral health by category across each year of life (ages 0–89 years). The data sources for this analysis are from the 2022 Merative MarketScan Research Database, which represents all Medicaid claims in 13 states during that year, and the 2022 IBM Watson Dental Commercial claims database, including all dental claims and medical claims from a convenience sample of IBM Watson data contributors. The Medicaid database includes all dental and medical claims from 13 de-identified states, representing 3,235,187 individuals ages 0 through 89. The commercial database includes all dental and medical claims from a convenience sample of Merative contributors, representing 4,990,166 individuals aged 0 through 89 years old. These data also include information on use of medical services for dental conditions. This analysis was restricted to enrollees in fee-for-service reimbursement systems, as indicated by their last period of enrollment during the year. The commercial database was restricted to those covered by both dental and medical insurance.

We assessed spending using a variable that reflects the amount paid to the provider for the service. This variable reflects both payments to the provider from a third-party insurer and direct payments to the provider from the patient in co-pays or coinsurance amounts. We split dental spending into categories to understand better how spending changes over the lifetime. We selected categories that use the 2022 American Dental Association's Code on Dental Procedures and Nomenclature (CDT) and compared charges across the large data sets. **Preventive care and basic procedures** include diagnostic, imaging, preventive, and minor restoration. **Major dental procedures** include major restoration, endodontics, oral surgery, scaling and root planing, other periodontal treatment, prosthodontics, orthodontics, general anesthesia, other anesthesia, and adjunctive general.

Medical spending on oral health care includes dental services by a primary care provider (PCP), ambulatory surgeries for non-traumatic dental conditions (NTDCs), emergency department (ED) visits for NTDCs, and inpatient visits with NTDCs. Dental conditions in the medical setting are defined as the range of International Classification of Diseases, Tenth Revision diagnostic codes used in the Association of State and Territorial Dental Directors' definition of NTDCs. Spending on oral cancer was also included in this analysis and was defined as International Classification of Diseases, Tenth Revision codes C00.0 through C14.8 in either the inpatient or outpatient record. Finally, we included prescription drug costs for oral health care or for medical spending on NTDCs, designating prescription drugs as those being prescribed for a dental condition if claims for these prescriptions were paid for within one day of an encounter with a dental procedure or an NTDC.

CareQuest Institute for Oral Health

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