

An Ounce of Prevention

The link between preventive dental care, better oral health, and overall wellness



Introduction

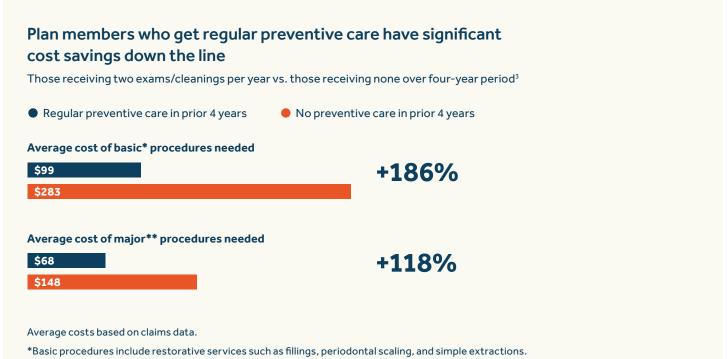
American founding father Benjamin Franklin famously advised fire-threatened Philadelphians in 1736, "An ounce of prevention is worth a pound of cure." For many years, his popular maxim has been used, appropriately enough, in the context of preventive health care, including oral health.

Regular dental visits — and maintaining healthy teeth and gums — are an important part of that preventive care. While conventional wisdom stipulates that most adults should visit the dentist twice a year, the American Dental Association (ADA) recognizes that there is no one-size-fits-all approach to dental care.^{1,2} People with certain health conditions that can negatively impact oral health — like diabetes, kidney disease, or even pregnancy, for example — may need to visit the dentist more frequently.

Frequency of dental visits notwithstanding, access to comprehensive dental benefits is positively correlated with regular preventive care and good oral health for workers and their dependents, which is why it's important for employers to offer family coverage, as well. Dental coverage that helps defray costs associated with going to the dentist tends to incentivize people to visit the dentist more regularly. Furthermore, organizations that provide workers with dental benefits and easier access to preventive care can have a more favorable dental claims experience.³ Greater use of in-network preventive care not only leads to lower out-of-pocket dental costs for workers and their families, but it can also lower employer costs.³

A healthier workforce means potentially lower medical costs and fewer medical leaves of absence, as well. And research shows that workers with better oral health tend to be happier with their appearance, which leads to greater self-confidence and a greater likelihood of being more engaged and productive at work.⁴

This report explores the importance of preventive dental care in improving workforce oral health, the connection between oral health and overall health, differences in preventive care utilization and costs by location and industry, and how better oral health has positive implications for physical, mental, and financial wellness.



**Major procedures include root canals, periodontal treatment such as gingivectomy, and restorative services such as crowns, oral surgery, bridges, and dentures.³



Most adults say good oral health is important to them, yet only 1 in 3 rate their oral health "excellent" or "very good."⁴

Adults who self-report "fair" or "poor" oral health believe it negatively impacts their overall well-being

Perhaps less obvious than the relationship between oral and physical health is the connection between oral health and mental wellness. Among working adults who rate their oral health "fair" or "poor," 78% report a negative impact on their emotional health and overall well-being. Almost half— 45% — indicate they don't smile often, and about 4 in 10 report a lack of confidence and low self-esteem.⁴ Consequently, oral health can influence a person's quality of life. It can even impact workers' job performance, colleague relationships, and career growth; 12% of this group say they avoid speaking up in meetings because they're self-conscious. Access to affordable dental insurance through the workplace can help improve not only physical health, self-image, and attitudes toward one's own oral health, but even those work-related activities that may be unexpectedly affected.⁴

Poor oral health correlates with low self-esteem, anxiety, and depression

Percentage of working adults who rate their oral health "fair" or "poor" who agree⁴

45%

do not smile often

32%

experience increased anxiety

41%

lack self-confidence

23%

avoid social situations

38%

have low self-esteem

21%

experience increased depression



Adults acknowledge the importance of good oral health, but few understand its critical connection to overall well-being

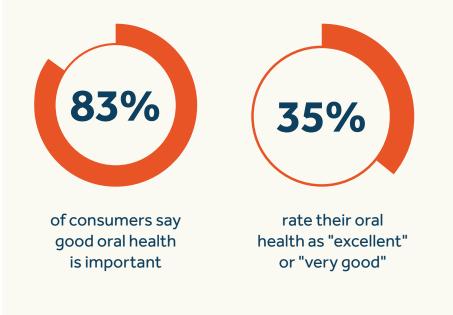
Consumers value their oral health; 83% of US adults say that oral health is important to them.⁵ At the same time, only 35% of workers rate their oral health as "excellent" or "very good," only slightly higher than the 29% who rate their oral health as "fair" or "poor."⁴ These findings reveal a disconnect between how people feel about the importance of oral health and how they feel about their own oral health. So, why the gap?

Less than half of all adults recognize the linkage between oral health and overall well-being.⁵

In addition, the low average score on Guardian's oral health and dental benefits quiz — a 67%, or a grade of D+ — helps explain this disconnect and the lack of consumer understanding about the interconnectedness of the mouth and the rest of the body.⁶

The disconnect between perception and reality when it comes to the importance of good oral health

Percentage of working adults who agree



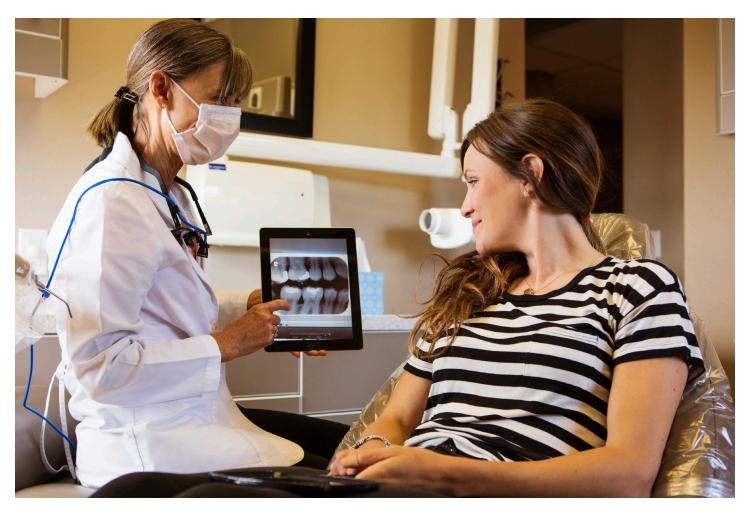
Yet, industry research increasingly confirms a correlation between oral health and overall health. Studies show the mouth is a primary pathway into the body and an ideal environment for bacteria to thrive. Harmful bacteria can build up around teeth and cause periodontal (gum) disease, or even spread to other parts of the body.⁷

Nearly half of US adults aged 30 or older have some form of periodontal disease, which has been linked to a higher risk for diabetes. The impact can go both ways: An April 2023 study shows that people with diabetes who were treated for periodontal disease experienced improved health and a 12% to 14% decrease in their out-of-pocket medical costs.⁷

Furthermore, a relationship has been established between oral health and conditions like pneumonia, cardiovascular disease, and pregnancy — and some studies suggest that treating the oral health issues related to these conditions may have a positive impact on the associated health condition.^{8,9}

Health conditions linked to poor oral health^{8,9}

- Diabetes
- Suppressed immune system
- Kidney disease
- Pregnancy complications
- Dementia
- Rheumatoid arthritis
- Cardiovascular disease
- Pneumonia
- Osteoporosis
- Stroke
- Liver disease
- Endocarditis

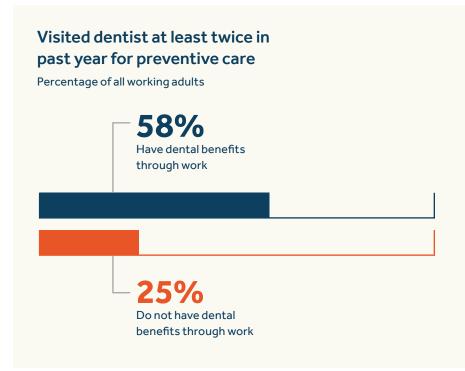




Workers who have employer-sponsored dental benefits are more than twice as likely to receive regular preventive care compared to those without coverage.¹⁰

Access to dental coverage through work significantly increases the use of preventive care and improves oral health

Regardless of age or income, adults with employer-sponsored dental coverage are much more likely to go the dentist and have healthier habits regarding regular preventive care compared to those with no dental insurance. Roughly three-fourths of workers with dental benefits visit the dentist for preventive care at least once a year compared to 37% of those with no coverage. And nearly 6 in 10 workers with dental benefits go for exams and cleanings at least twice a year compared to just 25% of those without dental insurance.⁵



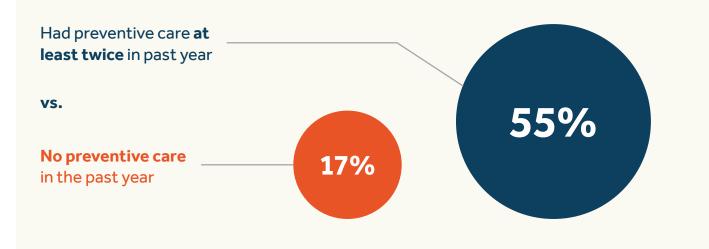
Naturally, adults who have dental benefits and receive at least two exams/cleanings per year are much more likely than others to self-report "excellent" or "very good" oral health.¹¹



55% of adults who haven't been to the dentist in the past year say they can't afford it. Others feel they don't need to go (27%) or that they don't have time (20%).¹¹

Rate oral health "excellent" or "very good"

Percentage of all adults



Nearly half of all small business workers don't have dental benefits.

Those least likely to have dental benefits and receive at least two exams/cleanings in the past year tend to be in their twenties (Generation Z/millennials), are unemployed or retired, earn less than \$25,000 annually, live in rural areas with less access to care, and work for smaller businesses where dental benefits are less prevalent.¹¹

US adults who are least likely to visit a dentist for preventive care in the past year

Unemployed/retired	33%
Lower household income (less than \$50,000)	36%
Live in a rural area	39%
Gen Z/young millennials	40%
Work for small business (fewer than 25 employees)	45%

Most parents are unaware that the American Dental Association (ADA) recommends children receive a dental exam by their first tooth or first birthday.⁶

Parents often prioritize their children's oral health above their own, so coverage for children's dental care is key

While less than half of all adults (or 77% of those with dental coverage) visit the dentist annually for preventive care, 8 in 10 parents say their children have been to the dentist in the past year. The Centers for Disease Control and Prevention (CDC) reports that dental visits for children have increased steadily over the past two decades. One reason is that improved coverage for dependents has helped expand access to care for children whose parents have employer-sponsored dental benefits. Dependent coverage is especially important given that dental costs account for about 20% of a child's total health care expenses.¹²

Of course, household income is a major factor in whether children receive regular dental care. Parents with annual income under \$50,000 visit the dentist less often for their own care compared to those in higher-income households. They are also less likely to bring their children to the dentist for preventive care.¹⁰

Children in lower-income households are twice as likely to receive no preventive dental care.

In addition to cost, oral health literacy may be a contributing factor: Lower-income parents receive below-average scores on Guardian's oral health and dental benefits quiz; 58% failed the quiz.⁶



76% of parents with dental benefits report that their children visit the dentist at least twice a year.⁵

Percentage of US individuals who had one or more exams/cleanings in the past year. As reported by parents

Child preventive care visits in prior year

By annual household income, as reported by parents¹⁰

- Annual income <\$50k
- Annual income \$50k+

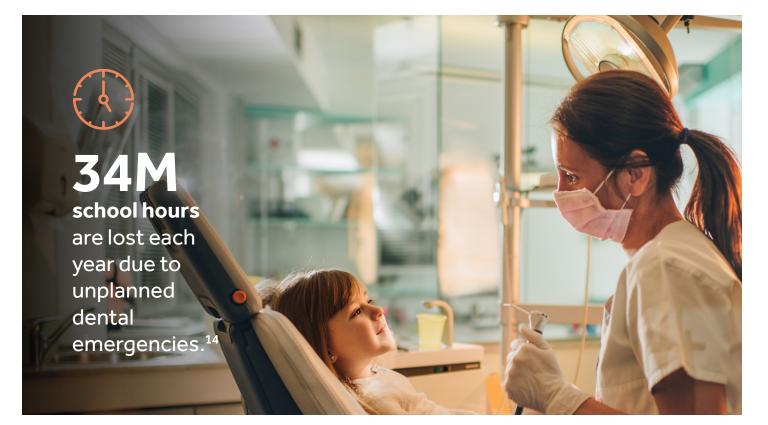
2 or more visits per year

63%	
78%	
1 visit per year	
24%	
15%	
0 visits per year	
13%	
7%	

Poor oral health not only impacts children's physical and mental health, but also school attendance and learning

Tooth decay is the number one chronic childhood disease in the US — even more common than childhood obesity, asthma, and diabetes. Untreated cavities can cause pain and infections that may lead to problems with eating, speaking, playing, and learning.¹³

As with adults, poor oral health can negatively affect children's overall well-being. Those who are unhappy with their smile, have chronic bad breath, or experience discomfort due to cavities or gum disease are more likely to experience anxiety and lower self-confidence. Research shows that children who have poor oral health often miss more school and receive lower grades than those with good oral health.¹³





care spend three times less on other costlier procedures compared to those who don't regularly visit the dentist.3

Regular preventive care contributes to better oral health, fewer dental procedures, and lower claim costs³

In 2023, Guardian conducted an analysis of nearly 200,000 dental claims, on which the rest of the data in this report is based. $^{\rm 3}$

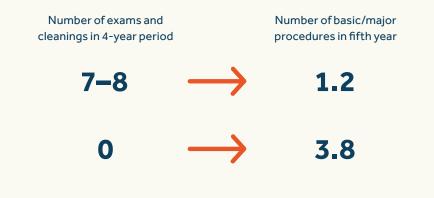
A distribution of plan members by preventive care utilization finds 30% of plan members in the "high utilization" category, having had 7–8 exams/cleanings in total during the four-year period. More than half received preventive care at least once a year, while roughly 1 in 4 plan members received no preventive care during the four years studied.

Number of exams/cleanings over 4 years ³	Percentage of plan members studied
High utilization (7–8)	30%
Medium utilization (4–6)	25%
Low utilization (1–3)	21%
No utilization (0)	24%

Further analysis reveals that plan members who had the highest utilization of preventive care (i.e., 7–8 exams and cleanings over the four-year period), required fewer basic and major dental procedures in the fifth year. The most frequent users of preventive care services had an average of 1.2 basic/major procedures in the fifth year versus 3.8 procedures among those who received no preventive care.

Receiving no preventive dental care increases the need for basic/major procedures by **3X**.

Regular preventive care reduces the need for dental procedures³



Plan members with high preventive care utilization also experienced lower average claim costs of \$84 (ranging from \$68 to \$99) for major/basic procedures. During that same period, members with no preventive care had average claim costs of \$216 (ranging from \$148 to \$283).

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\$158 less

in average claim costs

Frequent users of preventive dental care spend \$158 less on basic/major procedures compared to those who receive no preventive care.



Preventive care utilization varies by plan member age, and so do average claim costs for basic and major procedures³

Seniors and baby boomers are more likely than younger generations, particularly Gen Z, to have high utilization of preventive dental care or to receive two exams/cleanings per year.

For all age groups, the average claim costs in year five for most basic and major procedure types decrease with more exams/cleanings in the four preceding years.

Average claim costs are generally higher for older plan members, particularly for major procedures such as crowns, extractions, and root canals.

Regular preventive dental care also has a positive impact on individuals with higher risk factors. For example, those over age 55 who received at least annual dental exams/ cleanings during the study period decreased their use of major dental services and had 3% lower claim costs. In contrast, those age 55 and older who did not receive at least annual preventive care had a 15% increase in their claim costs.

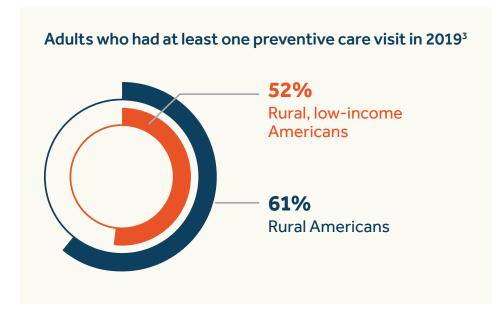




Access to and utilization of preventive care varies by geographical region and lags in rural areas of the South and Central US³

People in rural communities — especially those with lower incomes — struggle with access to dental care. While nearly 75% of Americans in urban and suburban areas have access to dental benefits, only 60% of people living in rural areas do. Access drops to 52% among lower-income, rural households.

Consequently, people living in rural areas are also less likely to visit the dentist annually and to self-assess their oral health as "excellent" or "very good."



In general, plan members who receive more regular preventive care have lower claim costs when a procedure is needed. Moreover, the procedures are likely to be tooth-saving procedures (e.g., fillings, crowns, root canals) rather than simple or surgical tooth extractions.

In rural states such as Mississippi, plan members receiving **no preventive care** not only require more costly procedures in the future, but also the procedures are more likely to be non-saving tooth extractions.

Of the states in which Guardian collected sufficient data, Connecticut and Delaware lead the nation with the highest preventive care utilization. About one-third of plan members in those states have a high frequency of exams and cleanings.

States where preventive utilization is well above the national average³

State	Percentage with 7-8 exams/cleanings over 4 years		
Connecticut	36%		
Delaware	35%		
Colorado, Washington	33%		
California, DC, Illinois	32%		
Maryland	31%		

States where preventive utilization is well below the national average³

State	Percentage with 7–8 exams/cleanings over 4 years
Kentucky	22%
Louisiana, West Virginia, Montana	24%
Mississippi	25%
Arizona, Oklahoma, Tennessee	26%

Workers in traditionally "blue-collar" occupations are up to 52% less likely to receive regular preventive dental care.³

Preventive care utilization tends to be lower in "blue-collar" sectors like construction and agriculture³

Jobs that are typically categorized as "white-collar" show a higher rate of preventive care utilization, such as the 37% rate among employees in legal services. They averaged 7–8 exams/cleanings in the first four years of the study period; just 15% had no preventive care at all.

The engineering, architecture, and accounting sectors show similar levels of preventive care utilization, while transportation, communication, and utilities are among the lowest for preventive care.

Given the positive relationship between higher rates of preventive care and lower costs of procedures down the line, this gap between "blue-collar" and "white-collar" workers indicates a greater financial burden on those in "blue-collar" sectors.

Industries where regular preventive care utilization is highest³

Industry	Percentage with 7–8 exams/cleanings over 4 years
Engineering, Architecture, Accounting	38%
Legal services	37%
Arts, Membership organizations	36%
• Finance, Insurance, Real estate	33%
 Education, Social services 	

Industries where regular preventive care utilization is lowest³

Industry	Percentage with 7–8 exams/cleanings over 4 years	
Wholesale trade	28%	
ManufacturingRetail tradeHealth services	27%	
 Construction Transportation, Communication, Utilities Agriculture, Forestry, Mining 	25%	

People tend to be consistent in their preventive care habits³

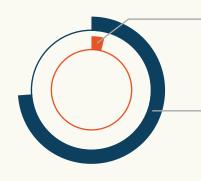
Guardian research finds that most plan members are generally consistent in their behavior with respect to going to the dentist for routine exams and cleanings. For example, a large majority of those who visited the dentist twice a year did so consistently over the five-year study period; similarly, most of those who received no preventive care did not change their behavior either.

Individuals with no exams/cleanings over four years who then went for two preventive care visits in year five have significantly higher average claim costs in year five compared to those with consistently higher preventive care utilization.³ They are more likely to have had untreated dental conditions for several years prior to visiting a dentist.

Even members who received at least two exams/cleanings annually for several years and then stopped going for exams/cleanings have higher-than-average claim costs in year five for basic and major procedures compared to those who consistently received preventive care twice a year.³

These findings underscore the need to help workers understand the importance of consistent, preventive dental care.

Percentage of plan members who had at least two exams/cleanings in year five³



4%

Had **no** exams/cleanings in years 1–4

74% Had **2+** exams/cleanings annually in years 1–4

Increasing the use of preventive dental care can help improve workforce physical, mental, and financial wellness

Following the recommendations of a dental professional regarding the frequency of exams and cleanings not only improves oral health but also can facilitate early detection of other potentially serious physical and mental health conditions. What's more, healthy teeth and gums are less likely to require more expensive dental procedures such as crowns, implants, and root canals, which can lower out-of-pocket costs for workers and their families. Lastly, dental benefits plans that encourage use of preventive care can help employers better control claim costs associated with dental and medical conditions. An ounce of oral care prevention creates a valuable win-win for employers and their workforce.



A gap exists between worker perceptions and reality about oral health

- The importance of oral care has wide-ranging implications for overall health, but many workers lack a clear understanding of the connection between oral health and chronic health conditions like diabetes, cardiovascular disease, dementia, and mental health.
- **Takeaway:** Increase workforce education about the relationship between the teeth and gums and the rest of the body — and that the mouth can be a window into potentially serious mental and physical health issues. Throughout the year, communicate the importance of using dental benefits for regular exams and cleanings, especially for younger workers (Gen Z and late millennials) who tend to have lower preventive care utilization.



Workers with dental benefits are twice as likely to receive preventive care

- Among workers with dental coverage, nearly 3 in 4 typically visit the dentist at least once a year. But many workers in small businesses don't have dental benefits, and less than half received any preventive dental care in the past year.
- **Takeaway:** Work with a dental carrier that has the flexibility to create affordable dental plans that meet the needs of your company and budget. One example is to offer a preventive care only option that also includes an annual allowance to help cover basic and major services.



Regular preventive care improves oral health and reduces out-of-pocket costs

- Workers who have had at least two exams and cleanings per year self-report better oral health and have claim costs that are 158% lower compared to those who received no preventive care. Workers in "blue-collar" industries often have difficulty scheduling appointments at convenient times, and those in rural areas struggle to access care.
- **Takeaway:** Dental plans that prioritize preventive care typically cover exams/cleanings at no cost to workers and their dependents. And plans that offer easy access to care (e.g., sizable network of dentists, teledentistry, and at-home options) can help improve workers' oral health and financial wellness. Such plan features are particularly helpful for workers in rural areas and occupations like construction and agriculture.



Good oral health habits start at a young age

- The ADA recommends that parents begin taking their children to the dentist by their first birthday or first tooth. Regular exams and cleanings for young children can help in identifying other potential health conditions. This also helps them overcome the fear of the dentist at an early age, which will serve them well as they mature.
- **Takeaway:** Offering affordable dependent benefits that cover 100% of children's dental care is important to the oral health and financial wellness of workers and their families. Help workers understand the importance of having dental coverage for their entire family, and communicate dependent coverage options available.



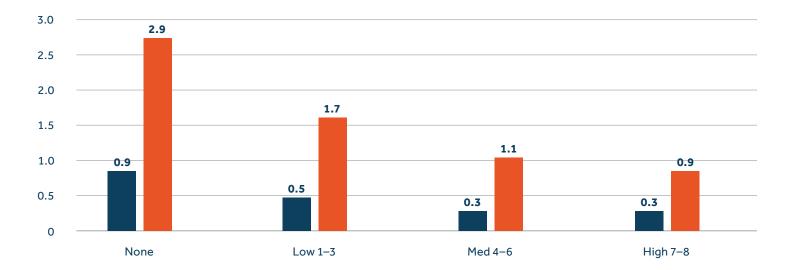
Data on pages 25–28 are from Guardian internal claims data analysis, September 2023, based on nearly 200,000 dental claims gathered between the years of 2015 and 2022 from approximately 16 million individuals who are Guardian Group dental plan members.

Regular preventive care correlates with fewer future basic and major dental procedures³

The first table below shows the incidence of basic and major procedures by the level of preventive dental care utilization among Guardian Group plan members.

The second table shows the average claim amounts for basic and major procedures by the level of preventive dental care utilization among Guardian Group plan members.

Average procedure counts in the fifth year



By preventive care utilization in the prior 4 years³

Average patient claim amounts by procedure category

Based on number of cleanings/exams in the prior 4 years³



Major Basic

Major Basic

Preventive care utilization and claim costs for major procedures vary by age³

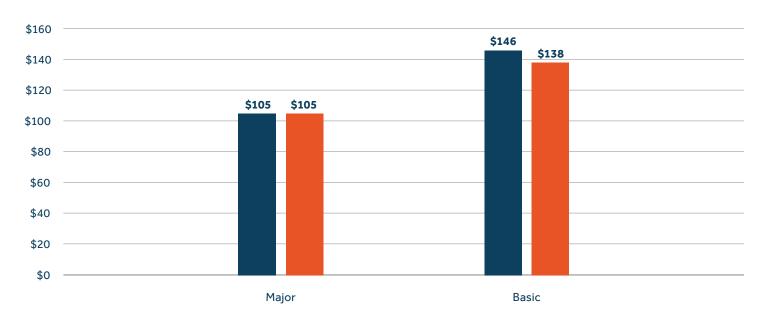
The first table below shows the incidence of basic and major procedures by the level of preventive dental care utilization among Guardian Group plan members.

For all genders, the **average payment amounts during the After period for all procedure types decrease** with more cleanings during the Before period. On average, the male members pay more or equal to the female members for all procedure types.

Average claim payment amounts by procedure type in year five by age groups



Average payment amounts for each procedure type in the after period by gender



Male

Female

Geography is a key factor in preventive care access and utilization³

The table below shows the frequency of preventive dental care utilization by US state, limited to the states where Guardian collected sufficient data to achieve statistical significance. The columns indicate the percentage of Guardian-covered plan members by state who received 7–8 (high), 4–6 (medium), or 1–3 (low) exams/cleanings — or no exams/cleanings at all over a four-year period.

Preventive care utilization by state³

Preventive care utilization is higher in "white-collar" industries³

The table below shows the frequency of preventive dental care utilization by job sector, limited to the sectors where Guardian collected sufficient data to achieve statistical significance. The columns indicate the percentage of Guardian-covered plan members by state who received 7–8 (high), 4–6 (medium), or 1–3 (low) exams/cleanings — or no exams/cleanings at all over a four-year period.

Preventive care utilization by state³

Industry	None	Low	Medium	High
Transportation, Communication, Utilities	31%	22%	22%	25%
Construction	30%	22%	23%	25%
Manufacturing	30%	21%	22%	27%
Retail trade	30%	22%	22%	27%
Agriculture, Forestry, Mining	29%	22%	23%	25%
Wholesale trade	28%	21%	23%	28%
Business, Personal services	24%	21%	25%	31%
Health services	24%	23%	26%	27%
Government, Public administration	23%	21%	25%	31%
Education, Social services	19%	21%	27%	33%
Arts, Membership organizations	19%	19%	26%	36%
Finance, Insurance, Real estate	19%	21%	27%	33%
Engineering, Architecture, Accounting	17%	18%	27%	38%
Legal services	15%	19%	29%	37%

Methodology

Guardian 12th Annual Workplace Benefits Study sample characteristics

The Guardian 12th Annual Workplace Benefits Study was fielded in January and February of 2023 and consisted of two online surveys: one among benefits decision-makers (employers) and another among working Americans (employees), allowing us to explore benefits issues from both perspectives. Survey data collection and tabulation were managed for Guardian by Zeldis Research, an independent market research firm located in Ewing, New Jersey.

Employer survey

Employer results are based on a national online survey of 2,000 employee benefits decision-makers. Respondents include business executives, business owners, human resources professionals, and financial management professionals. The survey covers all industries and is nationally representative of US businesses with at least five full-time employees. For the purposes of this report, small businesses were defined as having fewer than 100 employees.

Data shown in this report have been weighted to reflect the actual proportion of US businesses by company size, based on data from the US Census Bureau. The margin of error at the 95% confidence level is +/- 2.2%.

Employee survey

Employee results are based on a survey conducted among 2,000 employees age 22 or older who work full time or part time for a company with at least five employees. The survey sample is nationally representative of US workers at companies of at least five employees.

Data shown in this report have been collected in a way to reflect the actual proportion of US workers by gender, region, race, ethnicity, education level, household income, age, and employer size, based on data from the Bureau of Labor Statistics and the Census Bureau. The margin of error is +/- 2.1% at the 95% confidence level.

Guardian internal claims data analysis conducted September 2023

Utilization analysis in this report is based on nearly 200,000 dental claims gathered between the years of 2015 and 2022 from approximately 16 million individuals who are Guardian group dental plan members. Pertinent definitions for charts, graphs, tables, and data visualizations herein include: Basic procedures — restorative services such as fillings, periodontal scaling, and simple extractions. Major procedures — root canals, periodontal treatment such as gingivectomy, and restorative services such as crowns, oral surgery, bridges, and dentures. High utilization — individuals who had 7–8 exams/ cleanings in total during a consecutive four-year period, with an annual value capped at two. Medium utilization — individuals who had 4–6 exams/cleanings in total during a consecutive four-year period, with an annual value capped at two. Low utilization — individuals who had 1–3 exams/cleanings in total during a consecutive four-year period, with an annual value capped at two. No utilization (or "none") — individuals who had 0 exams/cleanings in total during a consecutive four-year period, with an annual value capped at two.

Unless otherwise noted, all information contained in this report comes from the Guardian internal claims data analysis conducted in 2023 and the Guardian 12th Annual Workplace Benefits Study, 2024.

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