


Washington State Apple Health Dental Program Facts and Figures FY 2008 – FY 2014

Washington Dental Service Foundation

Community Advocates for Oral Health

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Overview and Summary

Introduction

Oral Health is a critical component of overall health. Poor oral health can cause pain and impact many aspects of a person's life, including the ability to eat, sleep, learn, and work. Untreated oral disease can exacerbate chronic health conditions, like diabetes, negatively impacting overall health and raising medical costs.

When people seek and receive oral health care early, disease can be prevented and small problems can be treated so that they don't lead to serious and costly health issues.

Nearly one in four people in Washington receive their healthcare coverage from Apple Health (Washington State Medicaid), which is administered by the Washington State Health Care Authority (HCA) using a fee for service reimbursement model. This includes over one half of children and more than 800,000 adults. Therefore, the Apple Health dental program is a key factor in the oral health status of a large number of people.

Importance of Dental Care and Oral Health

Good oral health is a critical component of overall health.

Untreated dental disease can result in pain, poor nutrition, missed school, lack of employability, and social isolation, which can have a devastating impact on quality of life.

Oral health disparities exist for many racial and ethnic groups, by socioeconomic status, age and geographic location. In Washington State, disparities in dental care continued to be evidenced among low-income children, American Indian, Alaska Native children, and other racial and ethnic minority children. Based on 2010 Smile Survey, these groups had the highest rates of tooth decay-substantially higher than the WA statewide average of 48.6%.

In 2000, the U.S. Surgeon General classified dental disease as a silent epidemic given the lack of attention to this widespread disease.

Note: According to Health Care Authority Apple Health Program Enrollment Reports, the number of Washingtonians enrolled in Apple Health in June 2015 was 1,813,385 (25% of the state's population).

Citations are available in the Resources and Appendixes section of the report.

Oral Health is a Critical Component of Overall Health and Well-Being

- Untreated dental disease can cause intense pain, affecting a person's ability to eat, sleep, learn, and work.
- Tooth decay is the most common childhood disease. Children with severe dental problems are more likely to miss school and have difficulty learning.
- Pregnant women are more likely to develop oral health problems due to biological changes in their bodies and, if they have active oral disease, can pass cavity-causing bacteria to their babies after birth through saliva.
- Gum disease is linked to a number of serious health conditions, including diabetes, heart disease, and stroke. Older adults, in particular, are at risk for poor oral health because many medications cause dry mouth, which leads to tooth decay and gum disease.

Importance of Dental Care and Oral Health

Oral health affects overall health and well-being across the lifespan of both adults and children.

Periodontal disease and cavities are largely preventable and early intervention can reduce unnecessary, expensive future dental treatment and ensure that infection and inflammation do not increase the risk for complications of other chronic diseases.

Overview of WA Apple Health Dental Program: Children Coverage

- Apple Health for Kids is a comprehensive child health program. The program's focus is on prevention, early diagnosis, and treatment by both medical and dental providers.
- In 2007, with the adoption of the Cover All Kids law, Washington made a commitment to ensure that all children have access to health care coverage. Apple Health for Kids consolidates several programs, offering a single streamlined enrollment process and the same comprehensive benefits, including dental care, to all eligible children.
- In 2009, the state renewed its commitment to covering all kids in the face of an unprecedented economic crisis by maintaining investments in children's coverage and outreach to families.
- Children through age 20 are now eligible for a complete range of dental services, including preventive and restorative procedures.
- Dental coverage is free for all children in families below 200 percent of the Federal Poverty Level (in 2014, $39,580 for a family of three). Families between 200 and 300 percent of the Federal Poverty Level pay a small monthly premium. Families do not pay a copay or deductible and there is no "annual maximum" limit to the coverage.

National Picture

States are required by federal law to provide dental coverage to children in low-income families through Apple Health. However, adult dental coverage is an optional benefit.

Dental Programs & Services Available to WA Apple Health Children Enrollees

- **Access to Baby and Child Dentistry Program (ABCD):** connects Apple Health-insured children under age 6 to dentists trained to address oral health in young children. Initiated in 1995, the ABCD program has successfully worked to:
  - identify highest risk children and enroll them by age one;
  - educate families/caregivers on preventing cavities;
  - provide outreach and case management to connect families with dental offices; and
  - train dentists in the best practices for treating young children.
- **Oral health preventive services during well-child checks:** Given primary care medical providers on average see young children 8 or 9 times by the age of 3, well-child medical visits are an opportunity to reach children early, deliver preventive services, assess risk, and refer those in need of care to a dental provider. Primary care providers in WA who are trained and certified by WDS Foundation are reimbursed by Apple Health for delivering oral screenings, providing oral health education, and applying fluoride varnish.

Programs for Young Children Serve as Models

ABCD is nationally recognized for expanding access to care for Apple Health-insured young children. The Pew Charitable Trusts praised ABCD for achieving significant results while "delivering a strong return on taxpayers' investment."

Washington's Apple Health program was one of the first to reimburse primary care providers for applying fluoride varnish on children's teeth. The number of fluoride varnish applications delivered in medical settings to Apple Health-enrolled children under age six increased from 145 in 2000 to nearly 18,788 in 2014.

Overview of WA Apple Health Dental Program: Adult Coverage

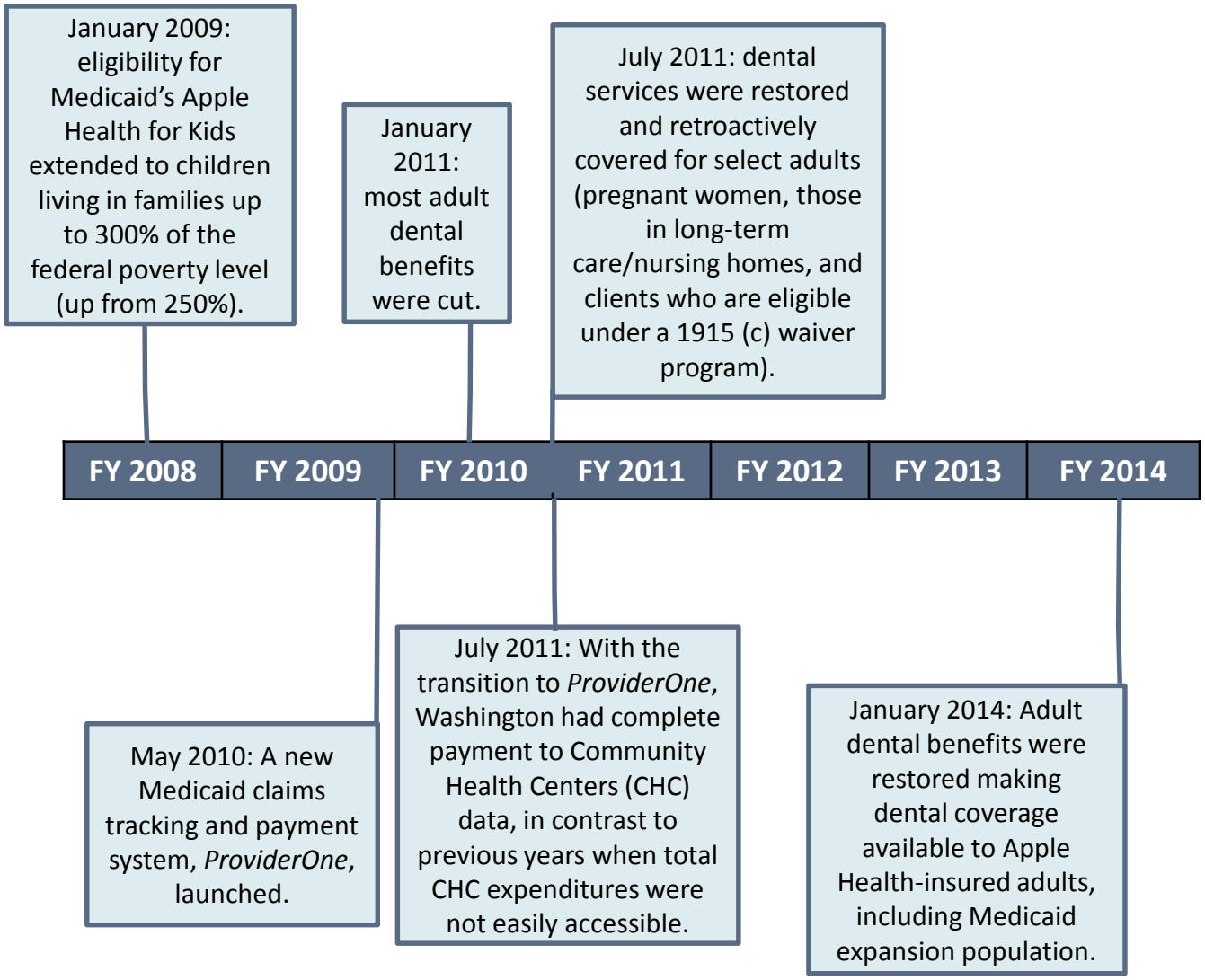
- WA State had adult dental coverage until 2011 when budget cuts went into effect, limiting most adults to emergency services, such as tooth extractions and antibiotics for pain.
- Between 2011 and 2014 comprehensive dental coverage was only available to pregnant women, those in long-term care/nursing homes, and clients who are eligible under a 1915 (c) waiver program (see footnote).
- In January 2014, comprehensive dental coverage was restored to all Apple Health-insured adults, including those covered by the Medicaid Expansion component of the Affordable Care Act.
- Dental coverage is free through Apple Health for adults under age 65 up to 138 % of the Federal Poverty Level (FPL). Older adults must have lower incomes to qualify for Apple Health.
- Given this report covers data through FY 2014 (July 1, 2013-June 30, 2014), the impact of restoration of adult coverage only includes six months data (January 1, 2014 – June 30, 2014).

National Picture

As of 2015, 15 states offered comprehensive benefits to adults, 16 states (and D.C.) provided limited benefits, 14 offered only emergency benefits, and 5 states did not provide any dental benefits to adults.

Note: The Centers for Medicare and Medicaid Services 1915 (c) waiver program covers certain medically needy and disabled clients.

Timeline for Changes Affecting WA Apple Health Dental Services and Claims



Notes: All years are fiscal years. They run from July 1 of the previous year to June 31 of the mentioned year. So, FY 2008 runs from July 1, 2007 through June 31, 2008.

Major Administrative and Legislative Changes

Eligibility for dental coverage has changed over the years. The elimination of most adult dental benefits in January 2011 was a particularly significant event. This benefit was restored in January 2014.

The launch of a new payment system called *ProviderOne* in 2010 allowed for more accurate tracking of the cost and utilization of services and allowed more efficient payment to providers.

Report Goals

The Washington Dental Service Foundation (WDS Foundation), a non-profit founded and funded by Delta Dental of Washington, is dedicated to preventing oral disease and improving overall health. The Foundation analyzes oral health data and trends to be a resource for policy makers and healthcare leaders and to advocate for the importance of oral health. It has a data sharing agreement with the Health Care Authority (HCA) and receives the Apple Health dental data annually. The Foundation has analyzed the Apple Health dental utilization and expenditures for the last seven years (2008-2014) to identify current status and trends in utilization, services received, and costs for children and adults in order to understand the impact of policy and program changes and plan for the future.

Note: The Washington Dental Service Foundation commissioned Health Management Associates (HMA) in 2013 to examine dental services' utilization and expenditures for Washington's Apple Health population. HMA completed a report in 2013 that identified oral health status and analyzed five year trends (2008-2012). Subsequent reports utilize a similar format and analysis methods.

Report Format

- The report is divided into three main areas: expenditures and services by age group (all ages, children and adults), oral health providers, and policy implications.
- Expenditure analyses exclude Federally Qualified Health Center (FQHC) from the majority of the report due to change in Washington State Department of Social and Health Services (DSHS) system payment processing. In 2010, DSHS replaced its Apple Health Management Information System with ProviderOne. Data on Medicaid dental claims for FQHCs prior to ProviderOne were not available. Consequently, total dental expenditures that include FQHC data for FY 2008 through FY 2010 are incomplete and therefore excluded from the data analysis.
- Specific dental procedures for all FQHC dental claims were not available. Therefore, all FQHC based dental care services were classified as “Other” and were not presented in the report.
- The following guide was applied in the analysis completed for this document:
  - Expenditure data for the period FY 2008 through FY 2010 excludes FQHC expenditures
  - Expenditure data that compares expenditures for any of the years prior to FY 2010 period with FY 2014 excludes FQHC expenditures
  - Total expenditure data for FY 2011 through FY 2014 includes FQHC expenditures
  - Dental utilization for FY 2008 through FY 2014 includes FQHC data
  - Analysis by procedure group excludes FQHC data

Note: For more details on data analysis procedures see methods section on p.76 of the report.

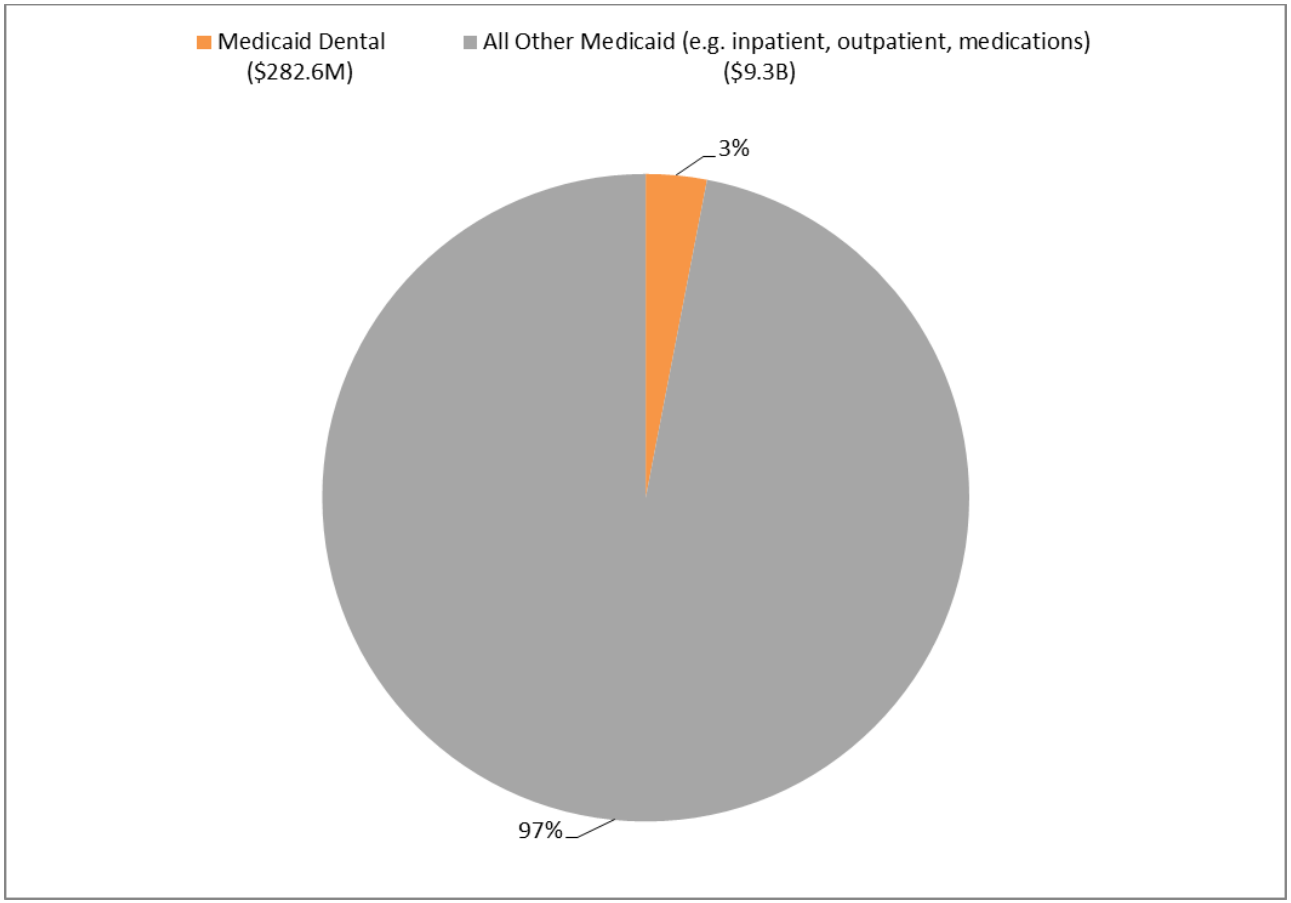
Summary of Key Findings

- Total dental expenditures were $139M in FY 2008, rose to $189M in FY 2010, decreased slightly to $185M in FY 2013, and peaked at $211M in FY 2014. After adjusting for inflation, this is a 26% increase over the 7-year period, which can be attributed to an increase in enrollees, an increase in children using services, and an increase in per-person expenditures.
- In FY 2014, the vast majority of spending (85%) was on services for children. This was down from 93% in 2013 as a result of an increase in spending on the adult program after it was restored in January 2014.
- In FY 2014, dental expenditures for most users were under $500. Fewer than 3% of users had expenditures of more than $2,000.
- The percentage of children accessing dental services as well as receiving preventive dental care increased across all age groups between FY 2008 and FY 2014.
- In FY 2014, 54% of child enrollees received dental services, compared to 17% of adult enrollees.
- Diagnostic and preventive services were the types of services most frequently used, but restorative services contributed to the largest proportion of total expenditures.

Note: Estimated 26% increase in dental expenditures excludes Federally Qualified Health Center (FQHC) services .

Expenditures and Services for All Ages

Washington State Apple Health
Dental Expenditures vs. Medical Expenditures FY 2014

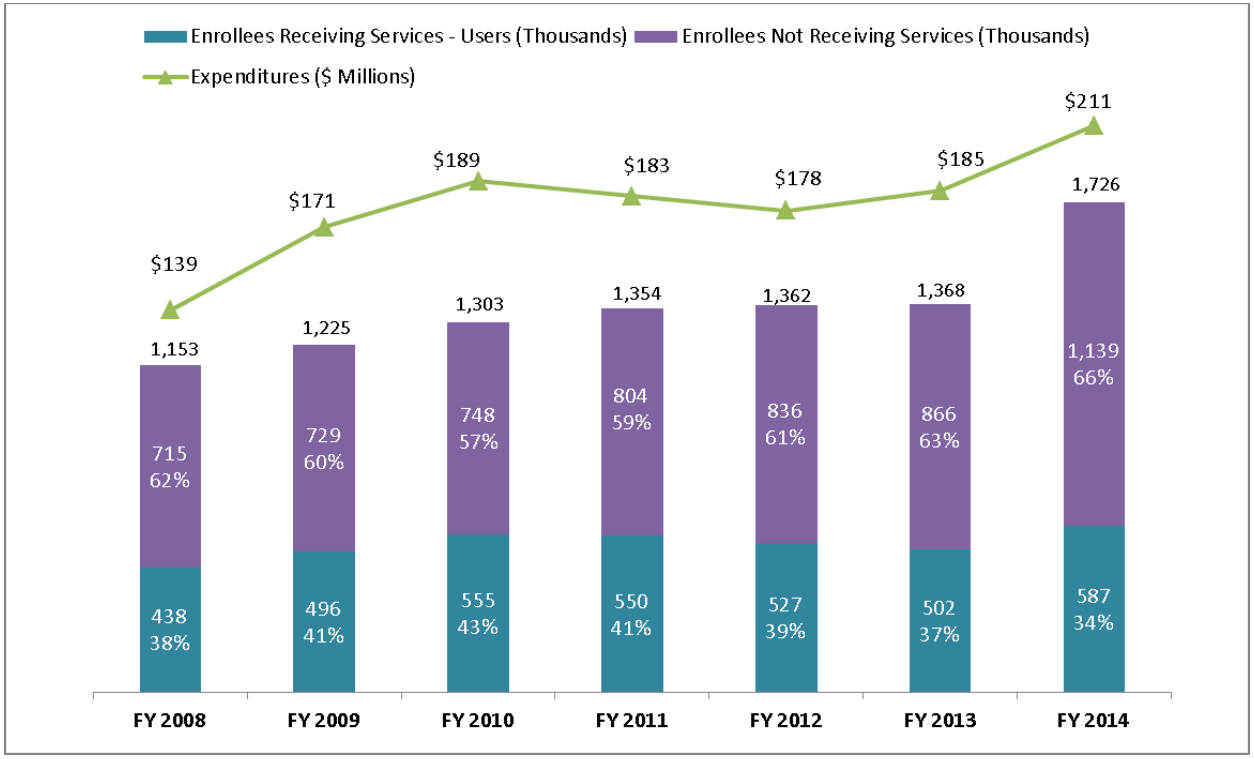


Source: Washington State Health Care Authority, Chief Financial Officer, Correspondence from 07/06/2015

Washington's FY 2014 total Apple Health expenditures was $9.3B, including both federal and state funding.

Dental expenditures were just a small portion, 3% of that total budget.

Apple Health Enrollees, Dental Utilization and Expenditures, FY 2008 – FY 2014



Note: Excludes Federally Qualified Health Center (FQHC) claims. Includes claims with unmatched eligibility data. Utilization rates will differ from graph on p.23, which includes dental visits received at FQHCs.

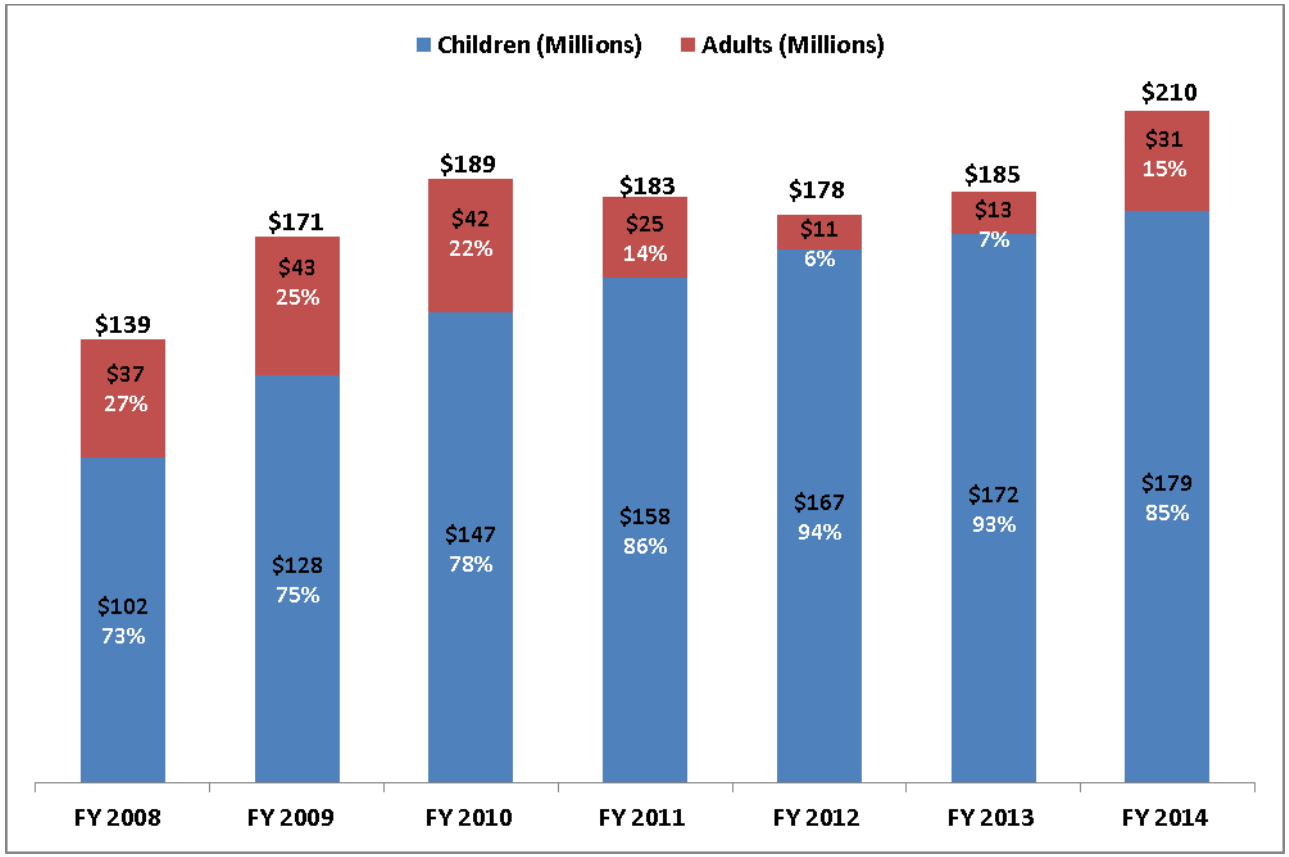
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

The number of Apple Health enrollees has increased by 50% from FY 2008 to FY 2014. The percent of enrollees using services, as well as total expenditures, have fluctuated during this period.

FY 2014 brought significant increase in number of Apple Health enrollees (50% increase from FY 2008 and 26% from FY 2013), increase in number of users (34% increase from FY 2008 and 17% from FY 2013), and increase in expenditures (52% from FY 2008 and 14% from FY 2014). However, utilization rates experienced a slight decrease in FY 2014 (an average of 6%) due to the significant increase in the number of enrollees not accessing care.

Apple Health Dental Expenditures: Adults and Children, FY 2008 – FY 2014



Note: Excludes claims with unmatched eligibility data and Federally Qualified Health Center (FQHC) claims. Children refers to the population from birth through age 20.

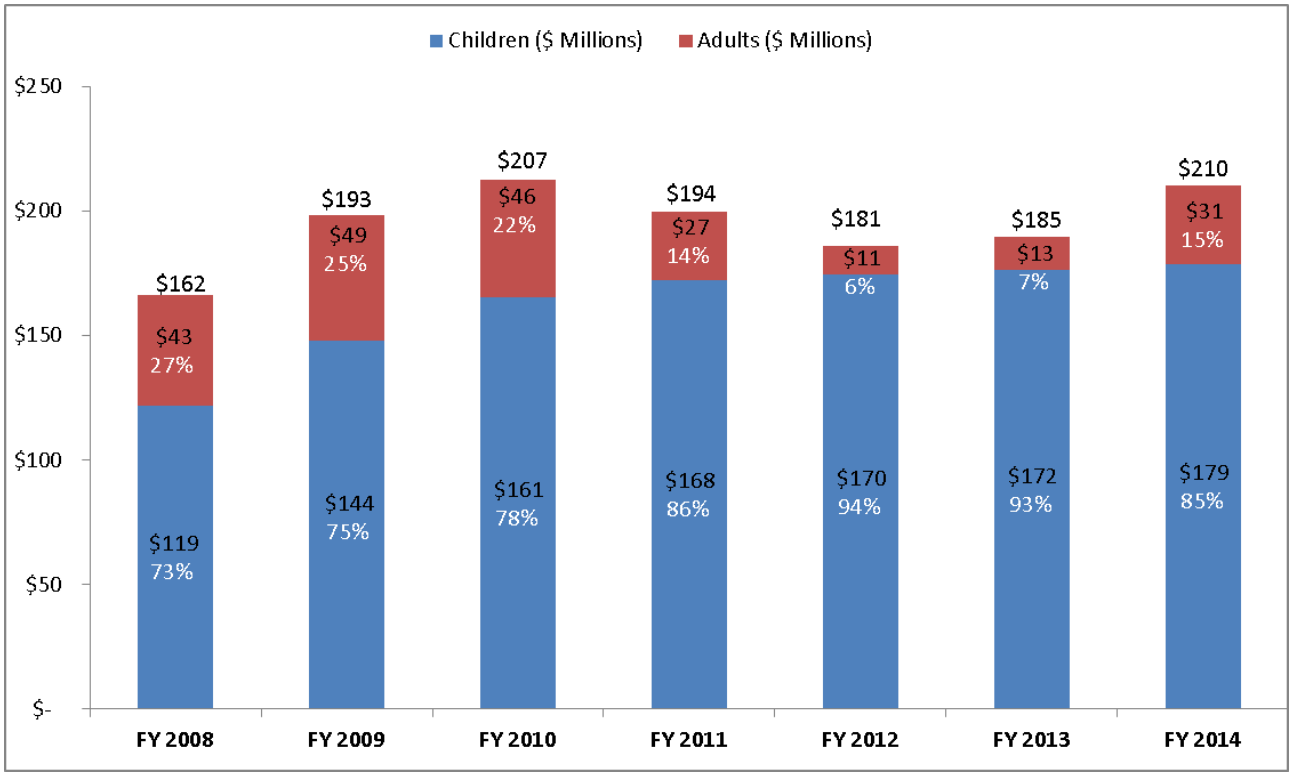
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

Children have historically comprised a much larger proportion of the total dental expenditures than adults – approximately three-quarters of expenditures from FY 2008 to FY 2010. By FY 2013, more than two years after the adult dental cuts, children accounted for 93% of all expenditures.

In FY 2014, while expenditures on the children program increased by 4% from FY 2013, it accounted for 85% of all Apple Health expenditures compared to 93% in FY 2013. Within the first six months of adult dental restoration, adult dental expenditures more than doubled, accounting for 15% of all expenditures compared to 7% in FY 2013.

Apple Health Expenditures Adjusted for Inflation: Adults and Children, FY 2008 – FY 2014



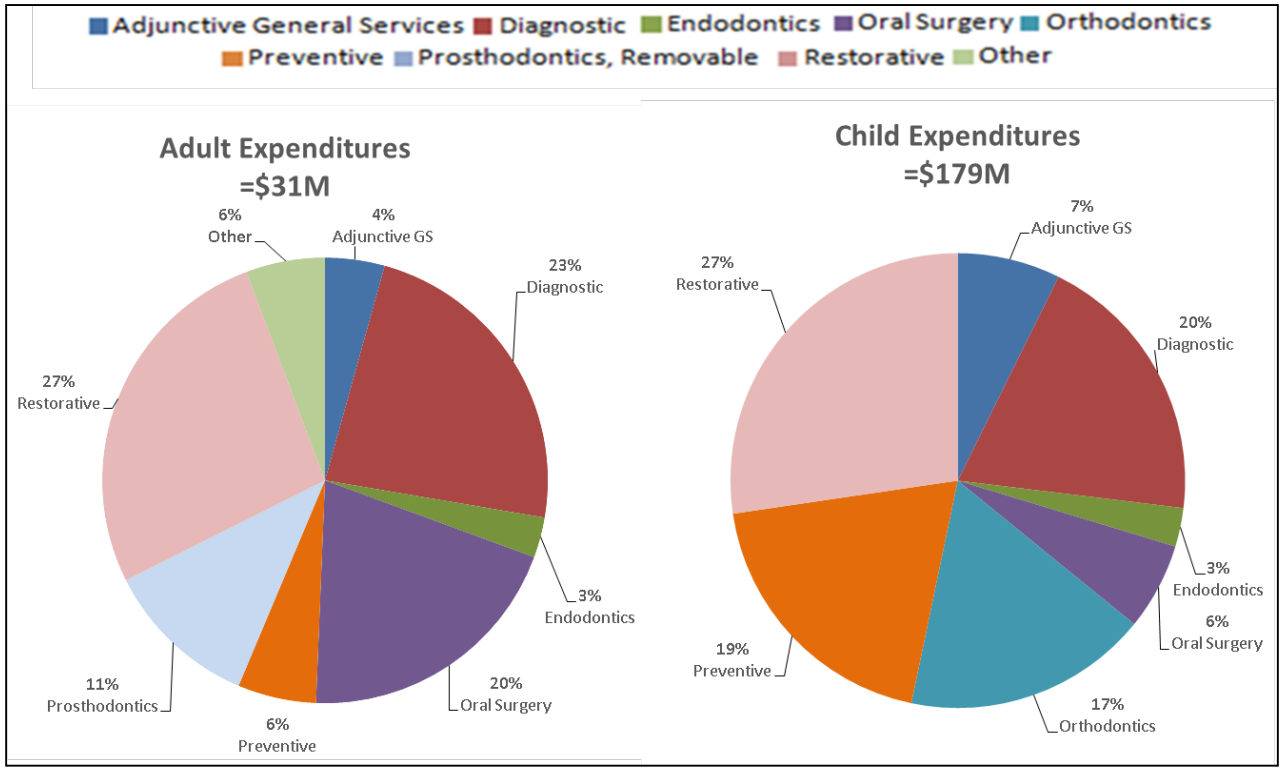
Note: Excludes claims with unmatched eligibility data and FQHC claims. Dollars adjusted using Urban Medical Consumer Price Index to 2014 dollars. CPI from July of each year (the beginning of the fiscal year) was used.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

While total expenditures have risen 51% between FY 2008 and FY 2014, part of the increase is attributable to inflation. After adjusting for inflation, the increase is 26%.

Dental Procedures by Procedure Group, Adults and Children, FY 2014



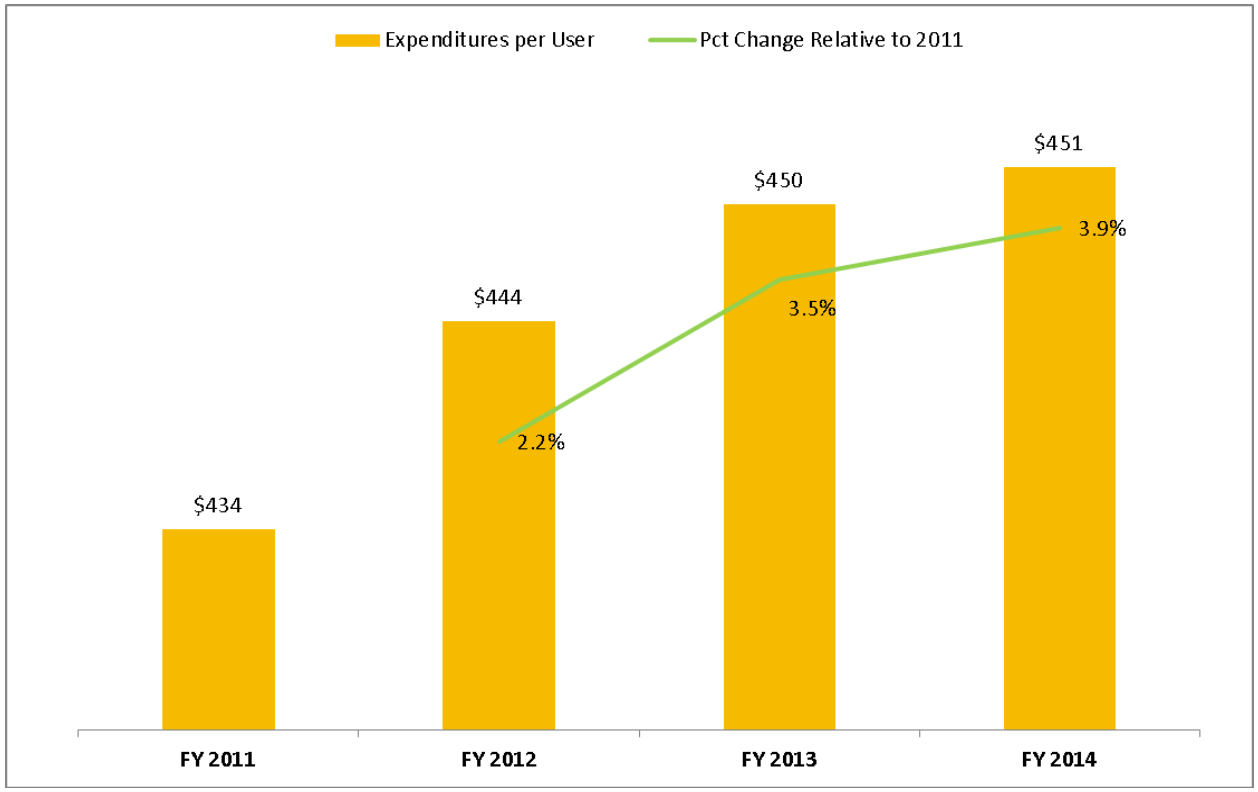
Note: Excludes FQHC claims and claims with missing values for procedure categories. "Other" includes Maxillofacial Prosthetics and Periodontics. Combined, these categories had less than 6% of total adult expenditures and less than 1% of total child expenditures in FY 2014. The following are not depicted in the pie charts: For adult expenditures, Orthodontics and Implant Services, which represented only 0.03% and 0.01% of total expenditures and for children, "Other," which represented only 0.04% of expenditures and Prosthodontics, Removable with 0.01% of expenditures. Pie charts do not add up to 100% due to the noted removed procedure groups.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

In FY 2014, restorative services accounted for the greatest portion of total expenditures (27%) for children and adults.

Extractions, which fall within the oral surgery group (20%), were one of the few procedures covered for all adults in the first half of FY 2014, prior to the adult dental restoration.

Average Expenditures per Dental User FY 2011 – FY 2014



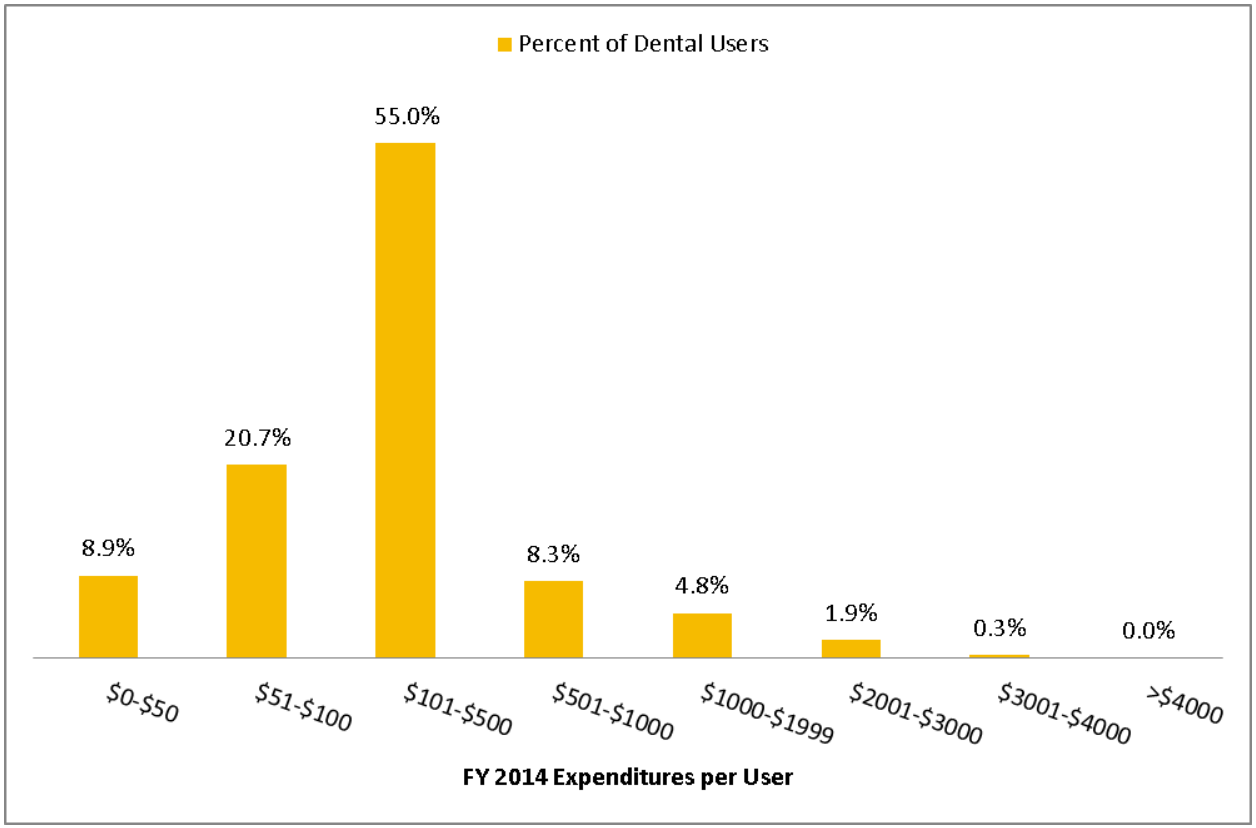
Note: Includes Federally Qualified Health Center expenditures.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

Dental expenditures per user rose from $434 in FY 2011 to $451 in FY 2014, a 4% increase.

Total Expenditures per User, FY 2014

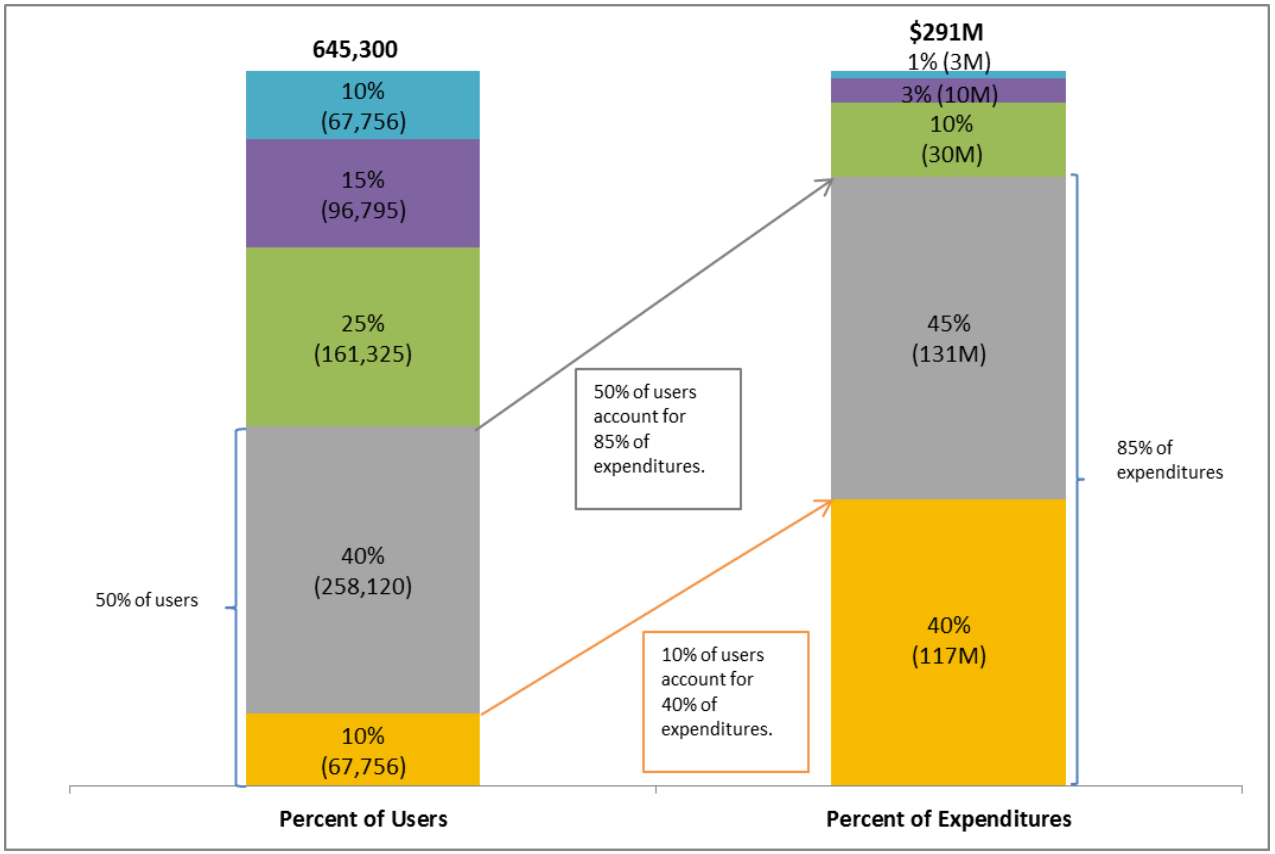


Note: Includes Federally Qualified Health Center expenditures.

Expenditures for most users (55%) were between $101 and $500 in FY 2014. Fewer than 2.3% of users had dental expenditures of more than $2,000.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

High Cost Dental Users, FY 2014



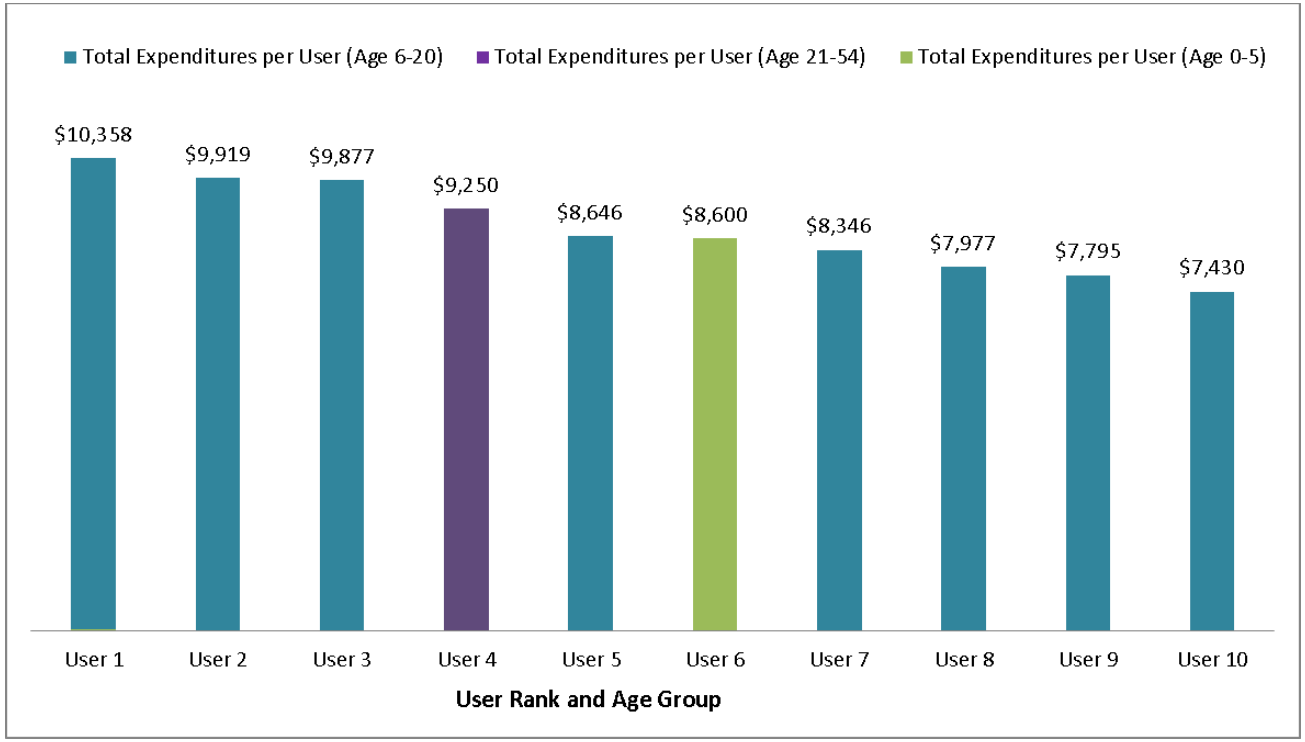
Note: Excludes claims with unmatched eligibility data. Includes FQHC expenditures. Total/percent of expenditures may not add up due to rounding.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

About 10% of enrollees account for 40% of the expenditures and 50% of enrollees account for 85% of expenditures.

While dental expenditures are concentrated in a disproportionate share of the population, they are not as concentrated as medical expenditures where just 10% of enrollees account for 50% of expenditures.

Top Ten Most Expensive Users, FY 2014



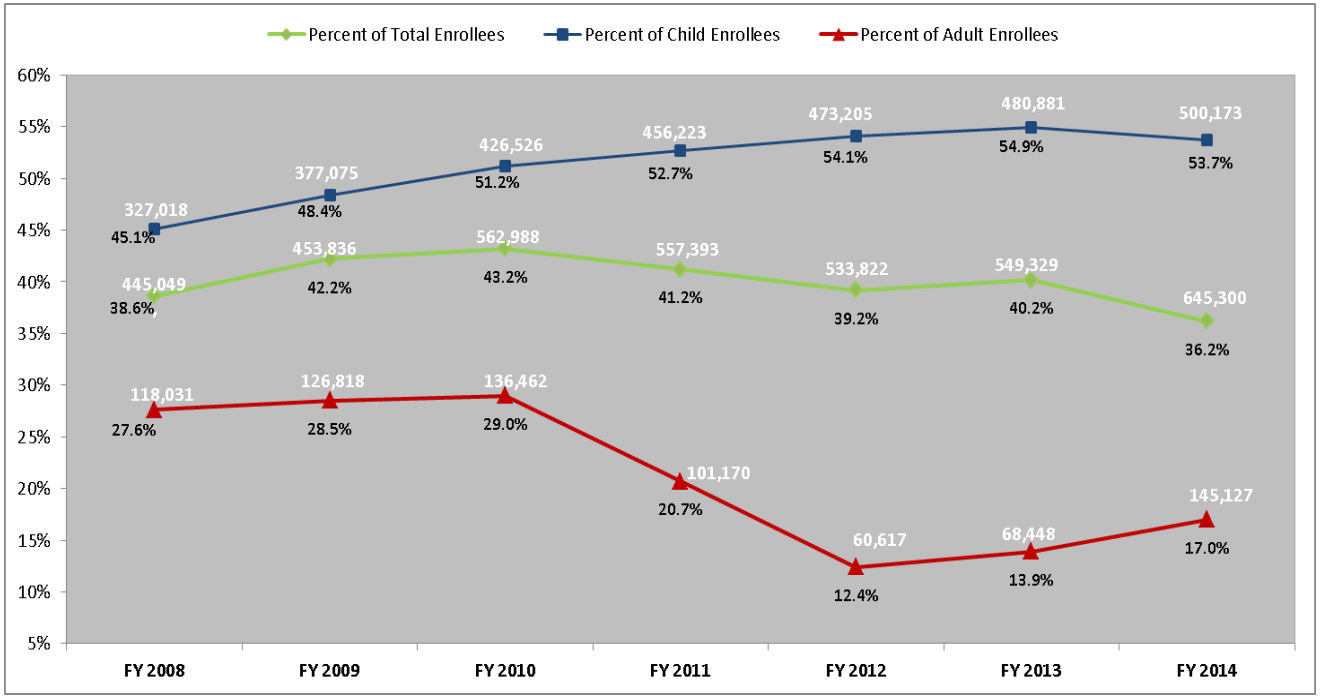
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Unlike medical expenditures, which can run into hundreds of thousands for high cost beneficiaries, the users with the 10 highest dental costs in FY 2014 each had less than $10,358 in dental expenditures.

Nine of the top ten were children who had endodontic services (e.g., root canals) and restorative services (e.g., crowns).

Note: users with high dental expenditures may have additional medical costs not captured here that are connected to treatment of a dental problem (e.g., operating room, anesthesia, ER costs).

Enrollees with at Least One Dental Service FY 2008 – FY 2014



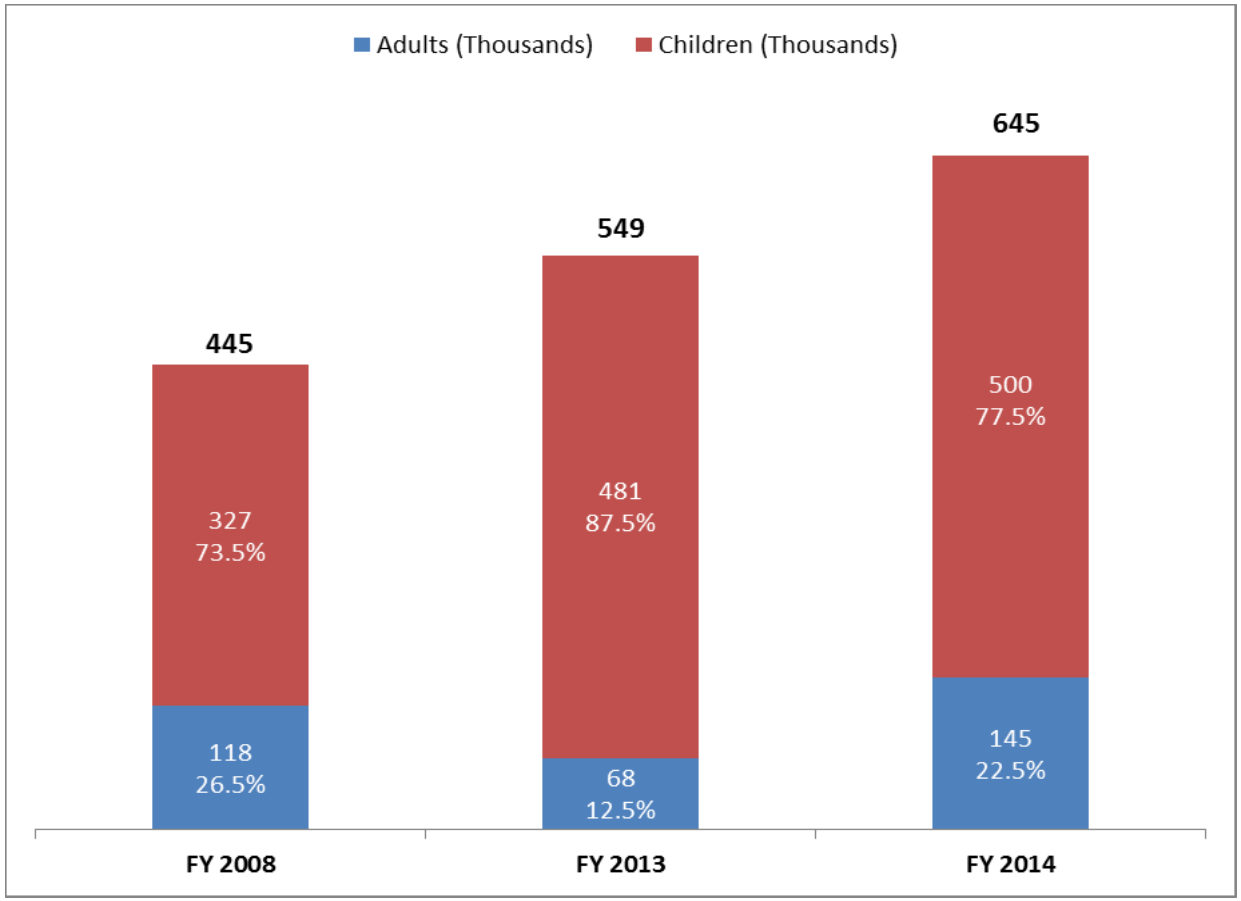
Note: Includes Federally Qualified Health Center expenditures. Excludes claims with unmatched eligibility data.

Section: All Ages

The percentage of children using dental services has risen steadily from FY 2008 to FY 2013. In FY 2014, the percent of children enrolled using dental services decreased slightly by 1.2%. With the restoration of adult dental program, the percent of adult enrolled using dental services increased by 5.4%.

Note: Includes all services including FQHC services. Excludes claims with unmatched eligibility data.
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Enrollees with at Least One Dental Service, Adults and Children, FY 2008 vs. FY 2013/2014



Note: Excludes claims with unmatched eligibility data. Includes FQHC claims.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

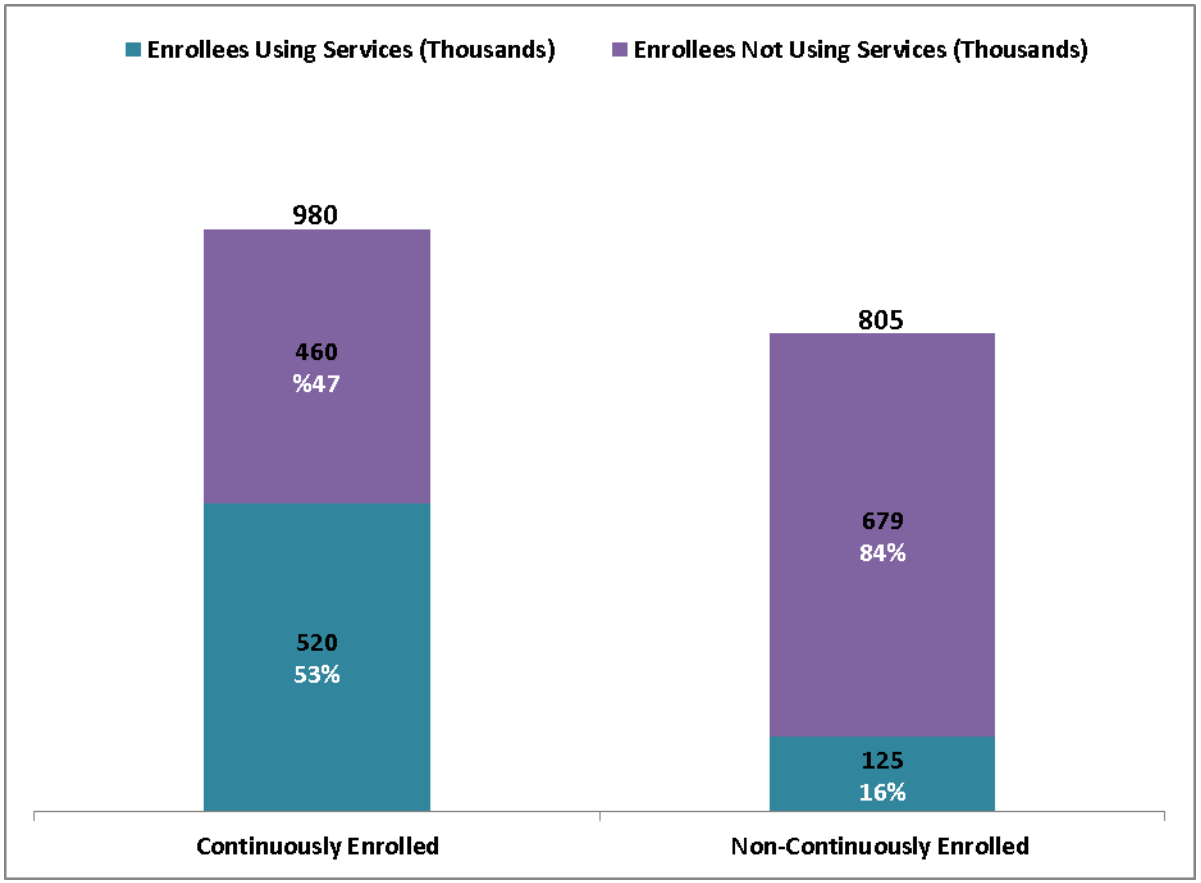
Section: All Ages

Children have always been the predominant users of Medicaid dental services. Eligibility for children expanded in January 2009, which contributed to the increased population of child users.

While percentage of children receiving care decreased in FY 2014, the number of children using services continued to increase.

In FY 2013, due to the adult dental cuts, just 13% of all users were adults compared to 27% in FY 2008. In FY 2014, which included the first six months of adult dental restoration, adult users rose from 13% to 23%.

Enrollees with at Least One Dental Service, Continuously vs. Non-Continuously Enrolled, FY 2014

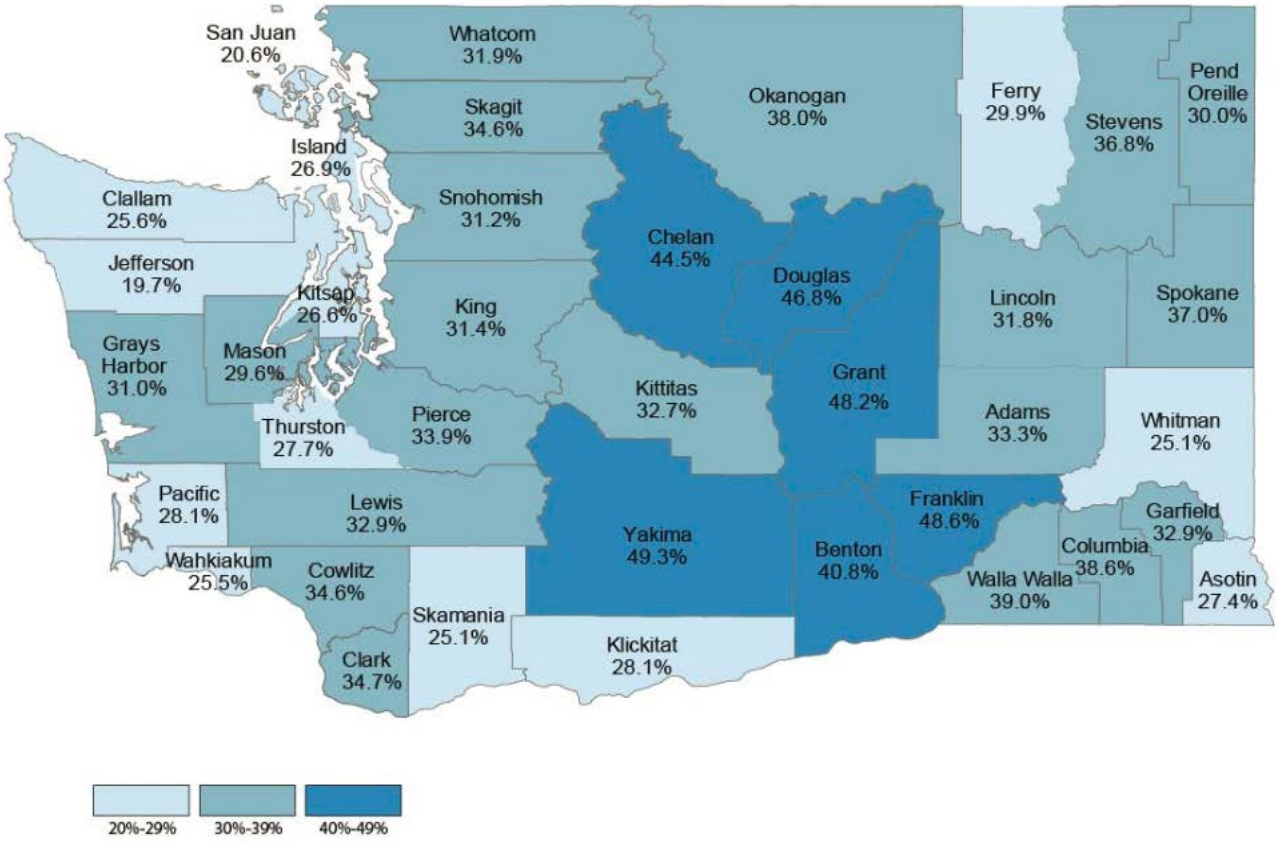


Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

Among enrollees with at least 11 months of continuous enrollment, 53% had at least one dental service in FY 2014, compared to only 16% of those who were not continuously enrolled.

Enrollees with at Least One Dental Service, by County, FY 2014

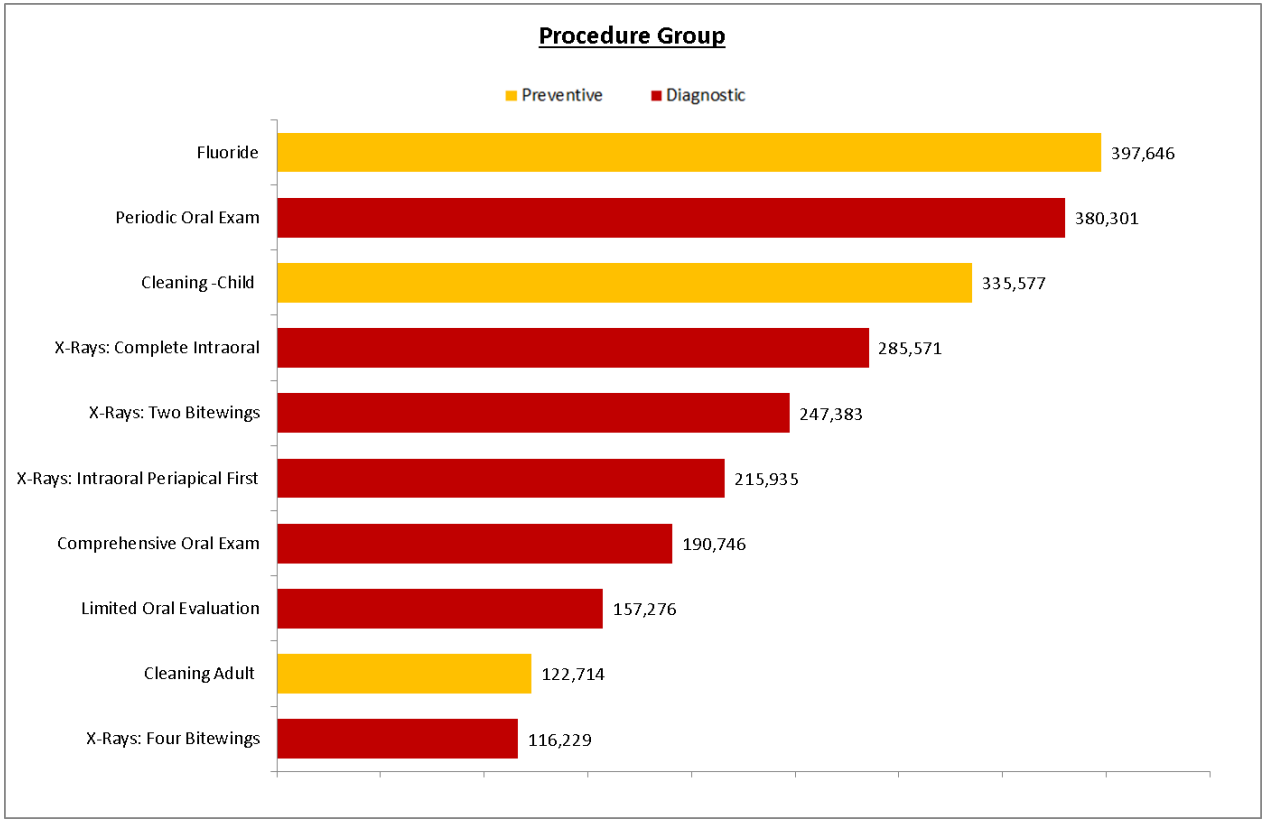


Note: Excludes out of state utilization and utilization where the county is unknown. Excludes claims with unmatched eligibility data. Includes FQHC claims.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Utilization rates vary by county with a low of 20% in Jefferson (indicated by light shading) and a high of 50% in Yakima County (indicated by dark shading). King County, with the largest population in the state, had a rate of 31%.

Top Ten Procedures by Number of Users, FY 2014



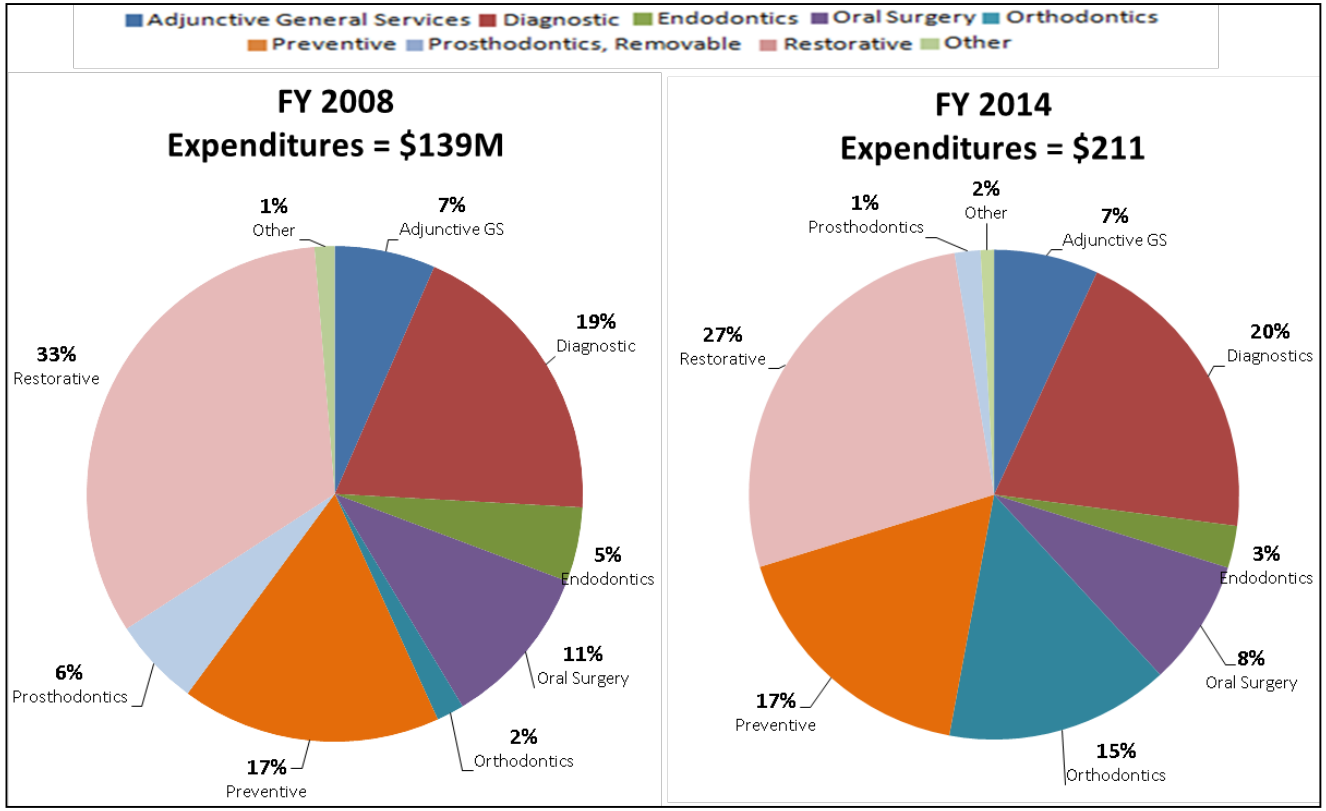
Note: Excludes claims with missing values for procedure categories. Procedure names are simplified; see methods for details on the procedures.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: All Ages

The most frequently accessed services are those that are preventive and diagnostic, such as oral exams and fluoride applications.

Total Expenditures by Procedure Group
FY 2008 vs. FY 2014



Note: Excludes FQHC claims and claims with missing values for procedure categories. "Other" includes Maxillofacial Prosthetics, Fixed Prosthodontics, Implant Services, and Periodontics. Combined, these categories had 1% of total expenditures for FY 2014. See Appendix for information on procedure groups.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

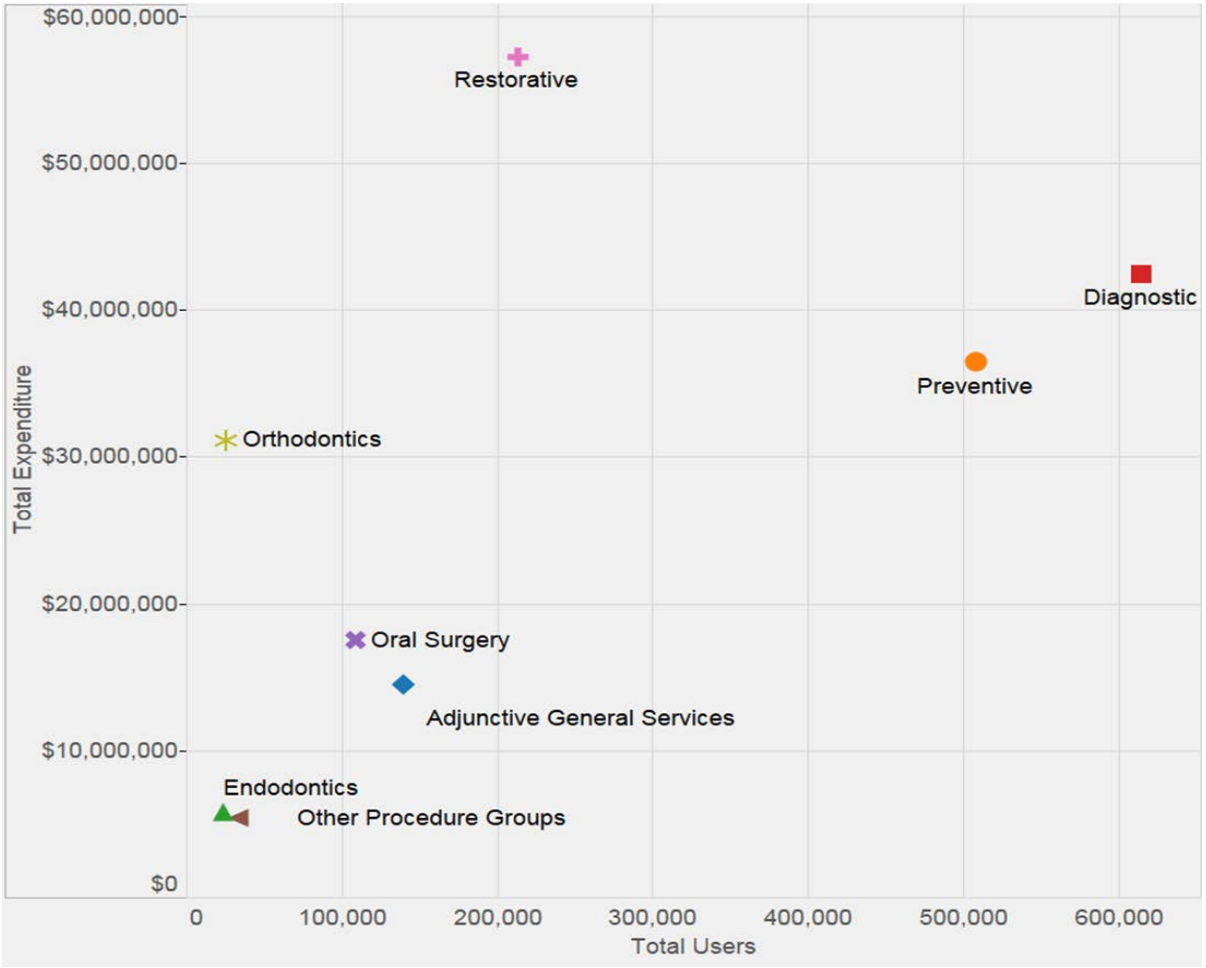
Section: All Ages

Restorative services made up the greatest portion of total expenditures in both FY 2008 and FY 2014. There was a slight decline in the percentage of costs associated with restorative services (from 33% in 2008 to 27% in 2014).

Orthodontics, treatment that commonly includes braces, contributed to a significantly greater percentage of total expenditures in FY 2014 than FY 2008 (15% vs. 2%). There was a rate increase for orthodontia in 2007, which led to an increase in the number of providers willing to see Apple Health clients.

On September 1, 2014, orthodontic treatment reimbursement rate was reduced by 22%.

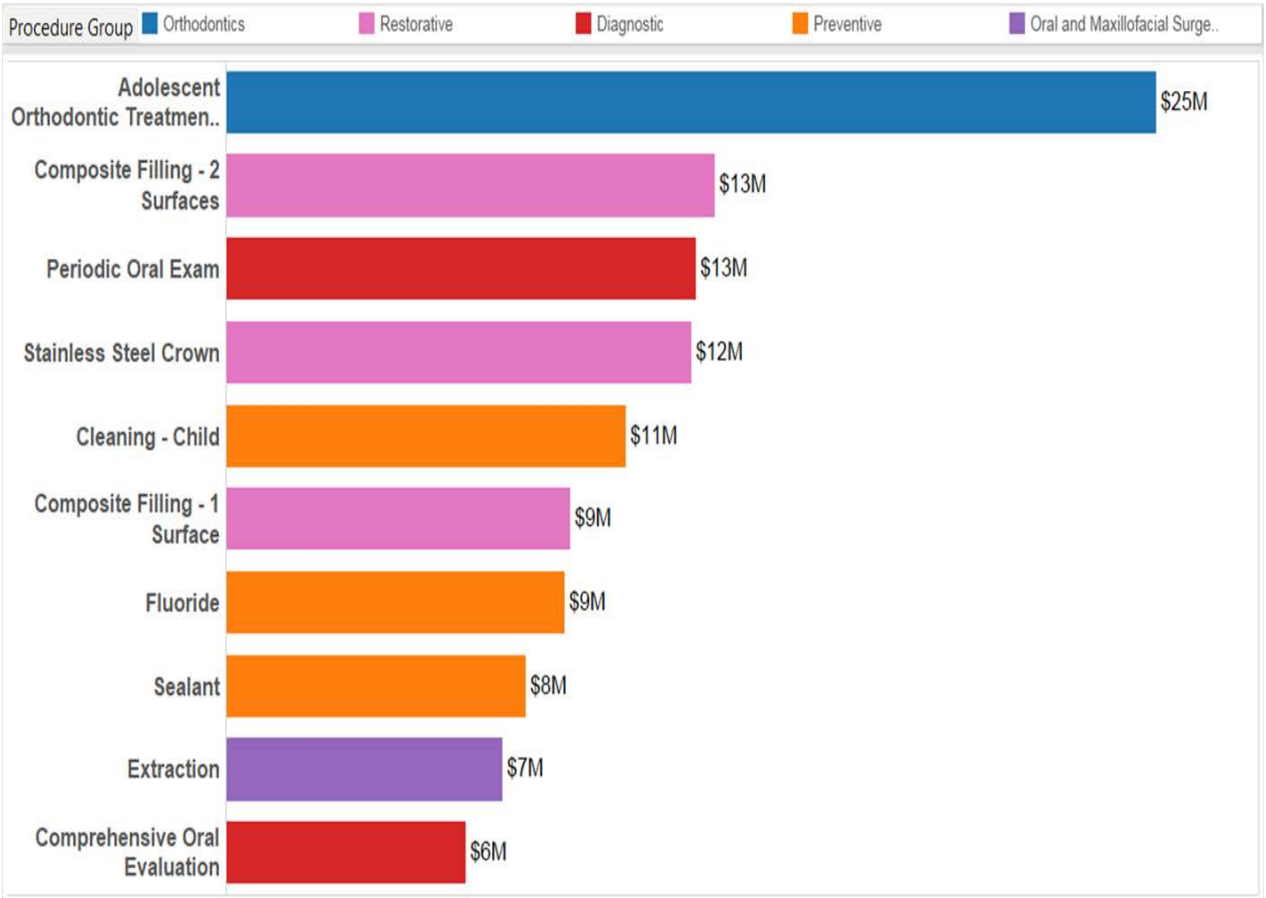
Dental Users and Total Expenditures by Procedure Group, FY 2014



Note: Excludes FQHC claims . Excludes claims with missing values for procedure categories. Maxillofacial Prosthetics, Prosthodontics (Removable), and Periodontics had less than 33,000 users and $5,500,000 in expenditures. They are included in the graph as "Other Procedure Groups."
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

While more people use diagnostic and preventive services, restorative services are much more costly.

Top Ten Procedures by Expenditures, FY 2014



Note: Excludes claims with missing values for procedure categories. Includes FQHC claims. Procedure names are simplified; see methods for details on the procedures.
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

The top ten procedures totaled approximately 114 million, about 39% of total dental expenditures in 2014. Adolescent orthodontic treatment, often involving braces for realignment of teeth topped the list at $25M.

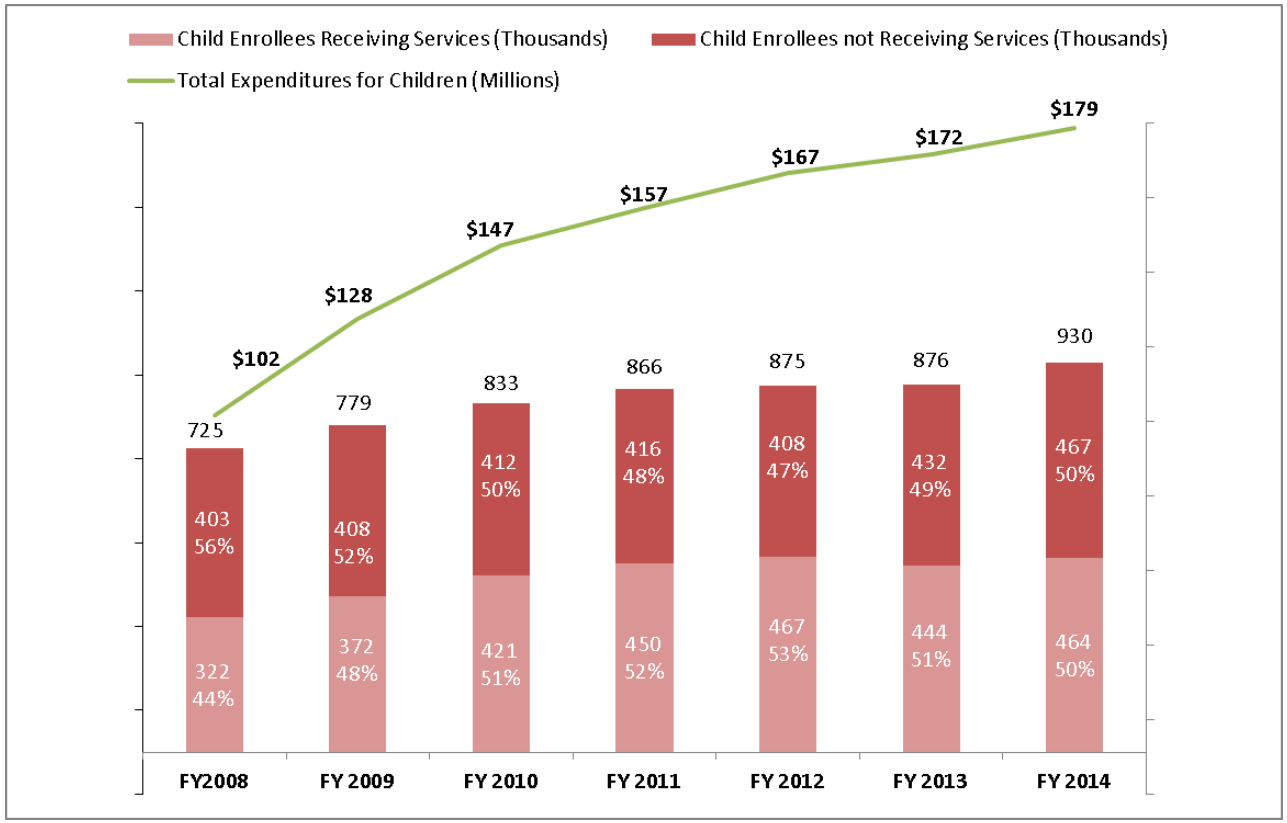
Summary
Total Expenditures and Services, All Ages

- Dental expenditures rose from $139M in FY 2008 to $211M in FY 2014 (excluding FQHC expenditures) due to an increase in enrollees, an increase in users, and an increase in per-person expenditures.
- Diagnostic and preventive services were the types of services most frequently used, but restorative services contributed to the largest proportion of total expenditures in both FY 2008 and FY 2014.
- Exams for both adults and children, cleanings for children, and fluoride applications were among the most common procedures in FY 2014.
- Utilization of dental services varied widely by county, ranging from 20% to 50% in FY 2014.
- Individuals continuously enrolled in Apple Health for 11 months or more were more likely to use dental services – 53% compared to 16%, in FY 2014.
- Dental expenditures for most users were under $500 in FY 2014. Fewer than 3% of users had expenditures of more than $2,000.

Note: Federally Qualified Health Center (FQHC) expenditures were incomplete for FY 2008-FY 2010. Subsequently, unless otherwise noted, expenditure data for the period FY 2008 – FY 2010 excludes FQHC expenditures; expenditure data for FY 2014 also excludes FQHC expenditures, for consistency, when compared to previous years; where expenditure data for FY 2014 are reported without comparison to previous years, FQHC expenditures are included since FY 2014 does allow us to report complete FQHC expenditures to the best of our knowledge. Please see the Methods for more details.

Expenditures and Services among Children

Utilization and Expenditures Among Children, FY 2008 – FY 2014



Note: Excludes claims with unmatched eligibility data and FQHC claims. Therefore, utilization rates will differ from graph on p.23 which includes all services such as dental visits received at FQHCs.

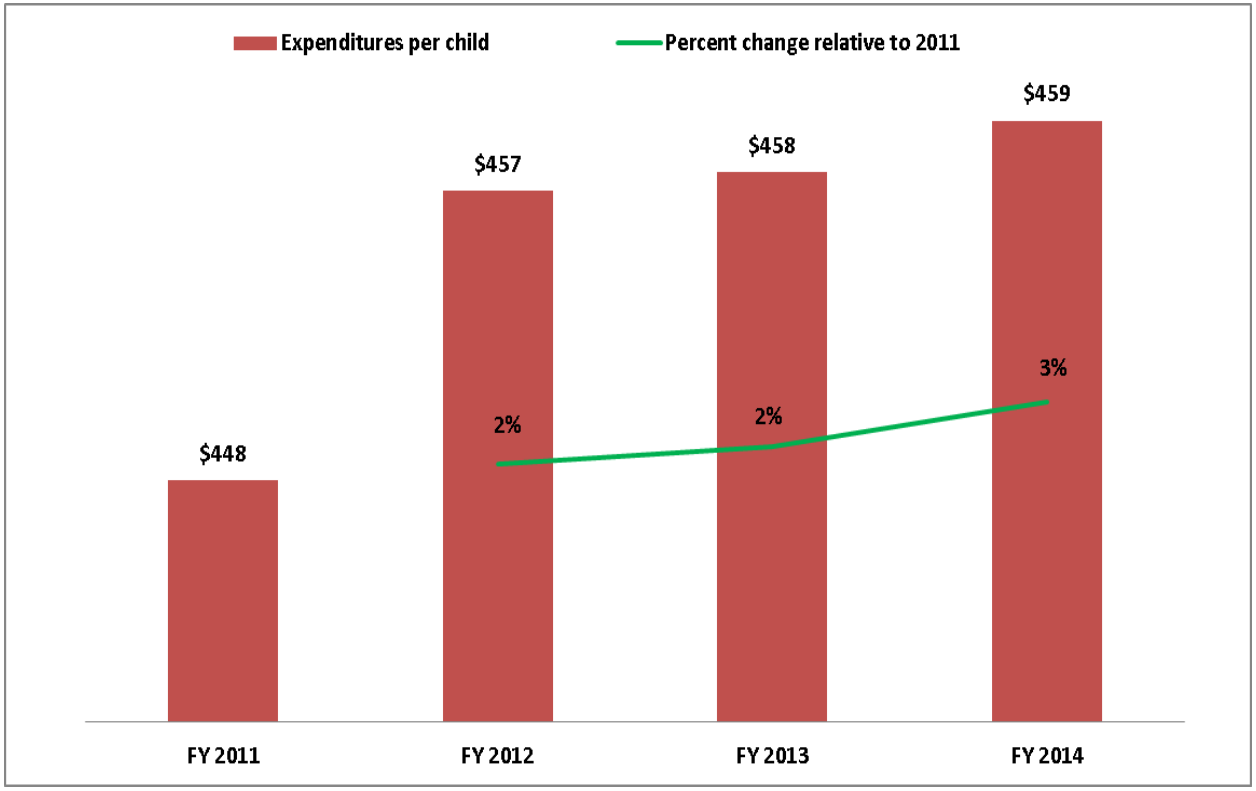
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Children

Between FY 2008 and FY 2014, there were increases in the number of children enrolled in Apple Health, and the associated dental expenditures.

Expenditures increased from $102 million in FY 2008 to $179 million in FY 2014, a 76% increase (adjusted for inflation the increase was 47%). This was related to the increase in the number of child enrollees (28%), the increase in the number of dental users (44%), and to the increase of children using services more frequently.

Average Child Dental Expenditures per User FY 2011 - FY 2014

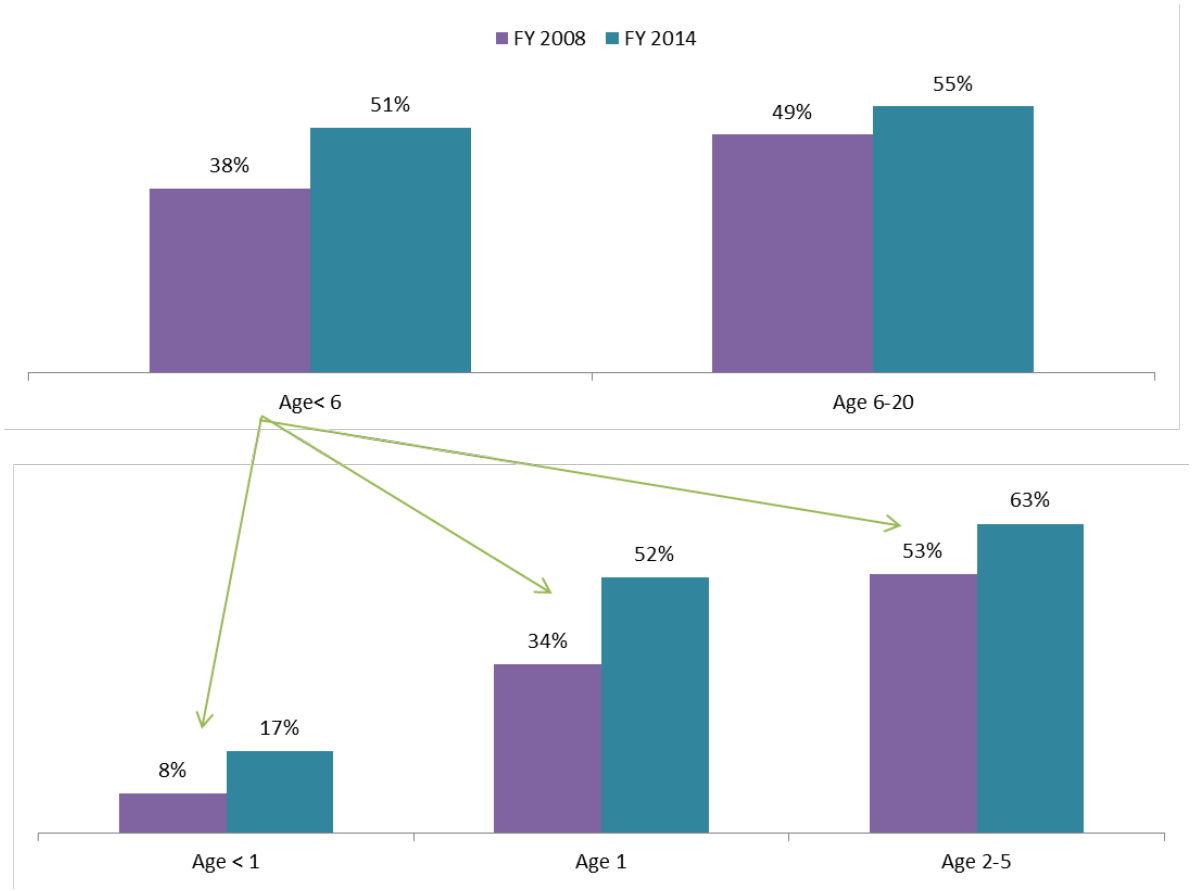


Note: Excludes claims with unmatched eligibility data. Includes Federally Qualified Health Center expenditures.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Dental expenditures per child enrollee slightly rose from $448 in FY 2011 to $459 in FY 2014, a 3% increase.

Percent of Child Enrollees Using at least One Service, by Age Group, FY 2008 vs. FY 2014



Note: Excludes claims with unmatched eligibility data. The percent of children using at least one service for all age groups in FY 2008 was 45.1% and in FY 2014 was 53.7%.

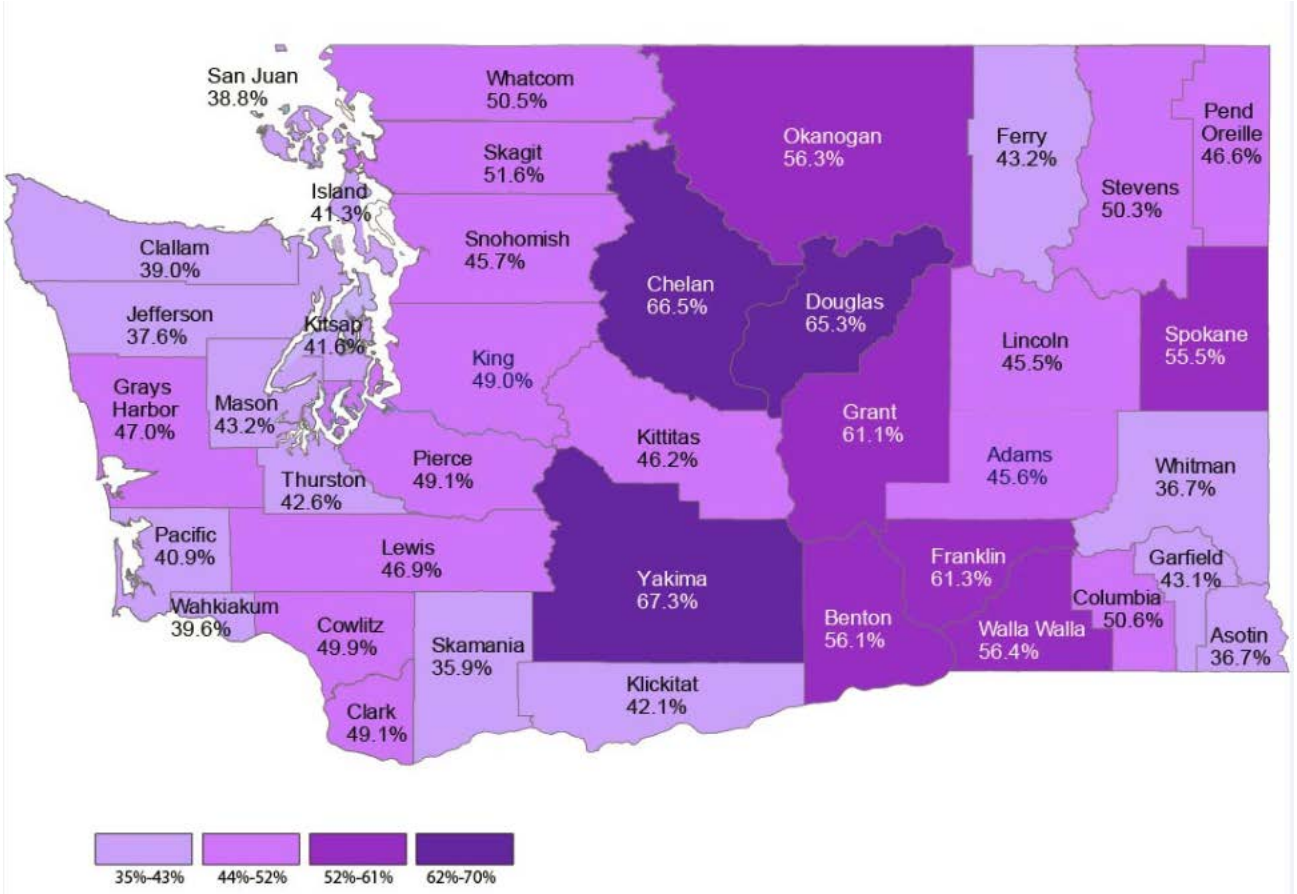
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Children

There have been notable increases since FY 2008 in the percent of children of all age groups that have received dental services.

The greatest increases have been among children ages one and under, a positive sign given that the American Academy of Pediatric Dentistry, the American Academy of Pediatrics, and American Academy of Family Physicians recommend the first dental screening by the first birthday by a dentist or physician.

Child Enrollees with at Least One Dental Service, by County, FY 2014



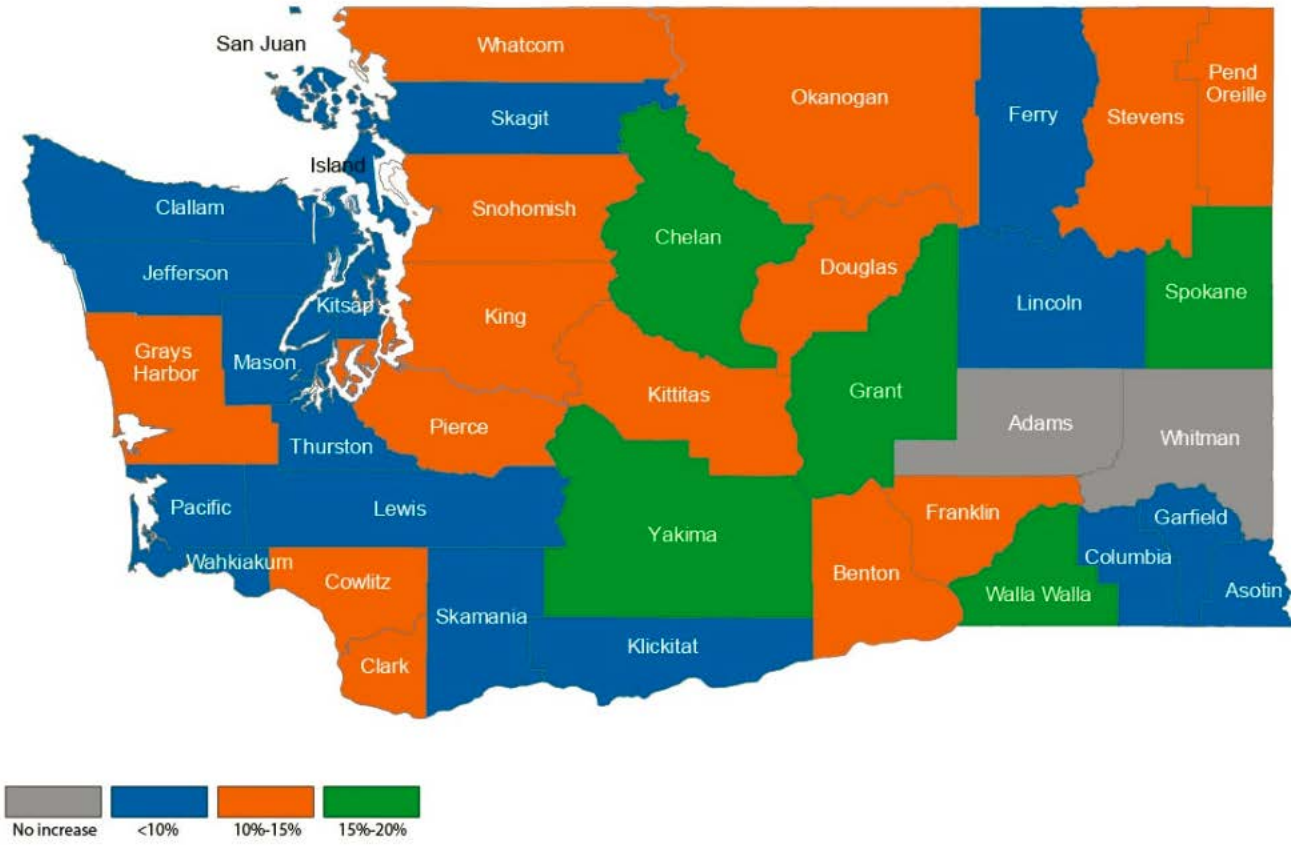
Note: Excludes out of state utilization and utilization where the county is unknown. Excludes claims with unmatched eligibility data. Includes FQHC claims.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Utilization across the state ranged from 36% to 67%.

Yakima, Chelan, and Douglas Counties had the largest percentage of children receiving dental services in FY 2014 (indicated by darker shading), while Jefferson, Skamania, and Asotin Counties had the lowest (indicated by lighter shading).

Change in Utilization for Children by County, FY 2008 vs. FY 2014

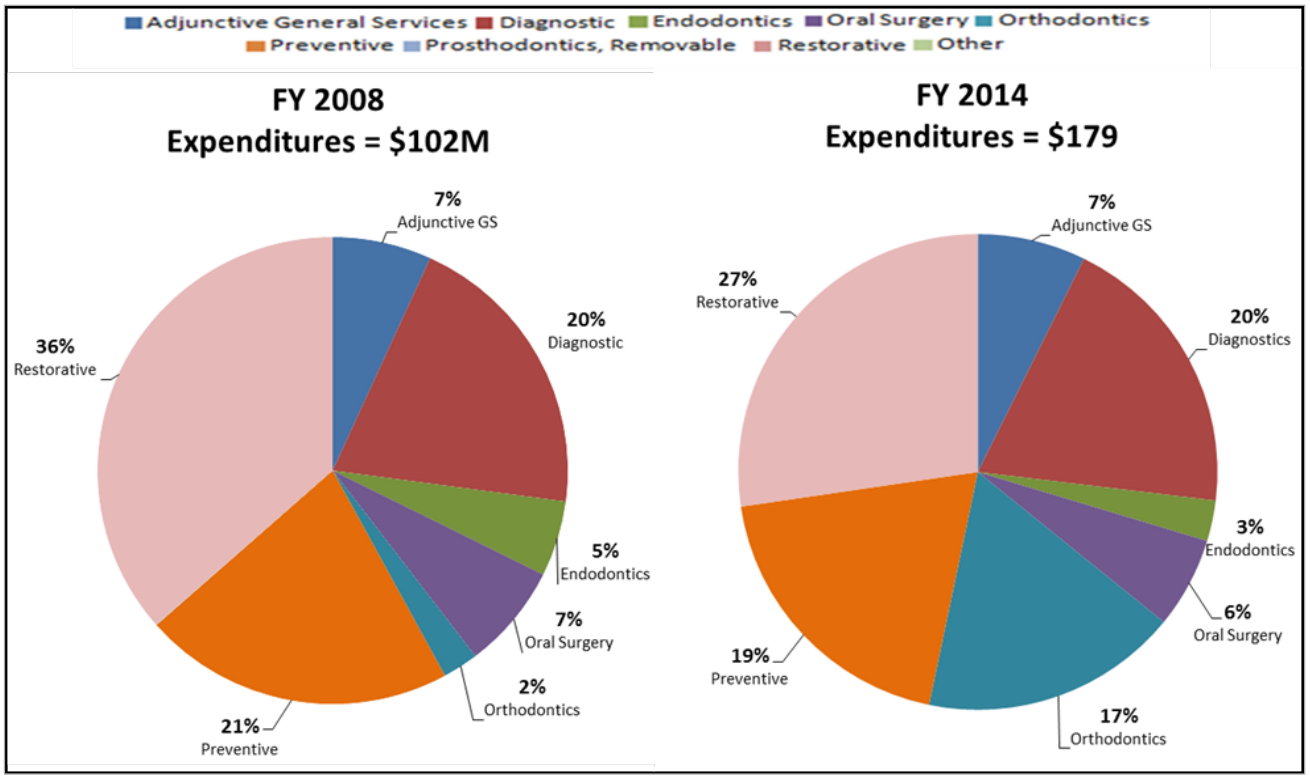


Note: Excludes records without a county identifier and records outside the state. Excludes claims with unmatched eligibility data. Includes FQHC claims.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

The percent of children enrolled in Apple Health with at least one dental visit increased between FY 2008 and FY 2014 for most of Washington's counties. Nineteen of the thirty-nine counties had increases of 10% or more.

Total Children Expenditures by Procedure Group FY 2008 vs. FY 2014



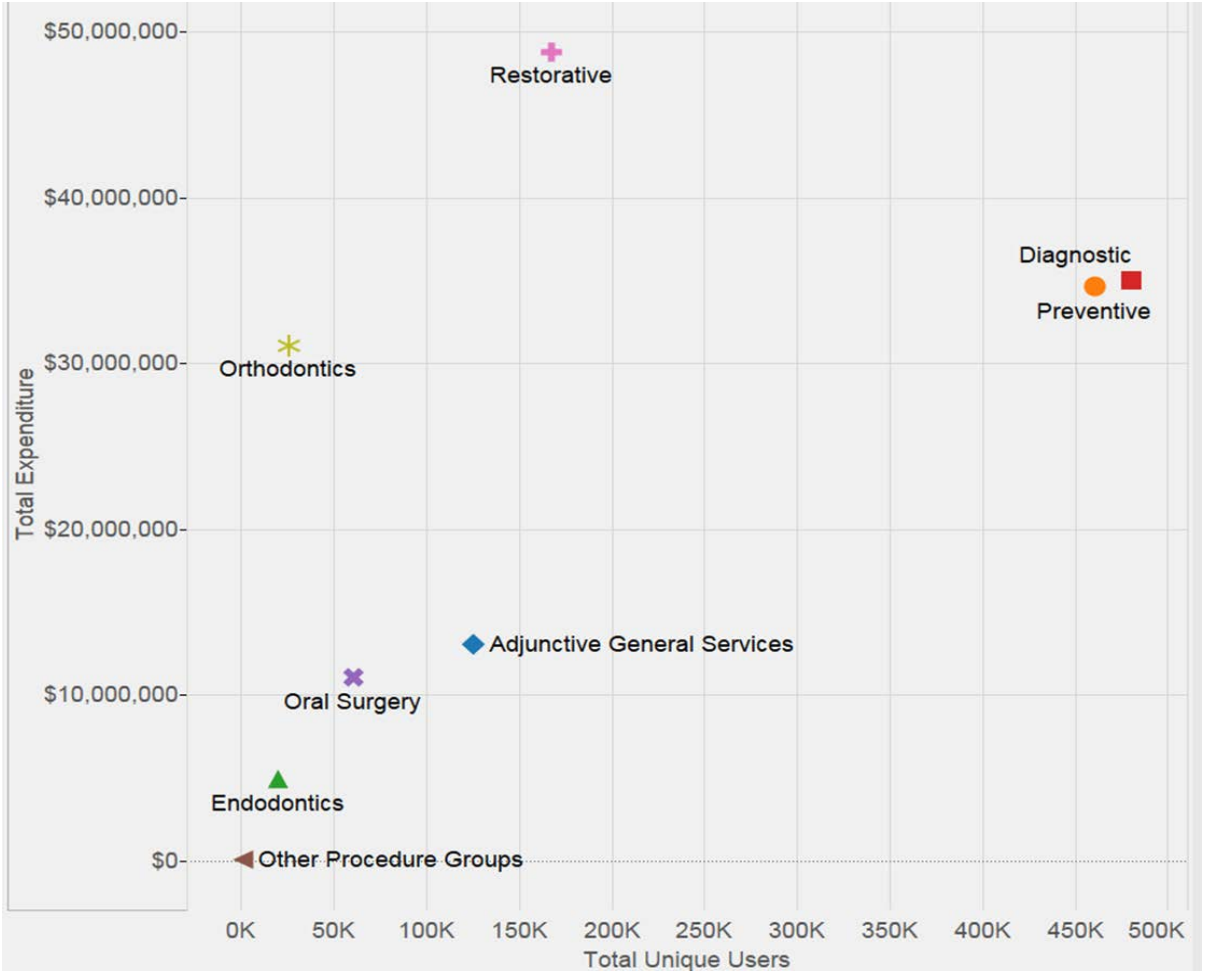
Note: Excludes FQHC claims and claims with missing values for procedure categories. See Appendix for information on procedure groups.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Restorative services made up the greatest portion of total expenditures in both FY 2008 and FY 2014.

The percentage of cost for restorative services for children decreased from 36% in 2008 to 27% in 2014.

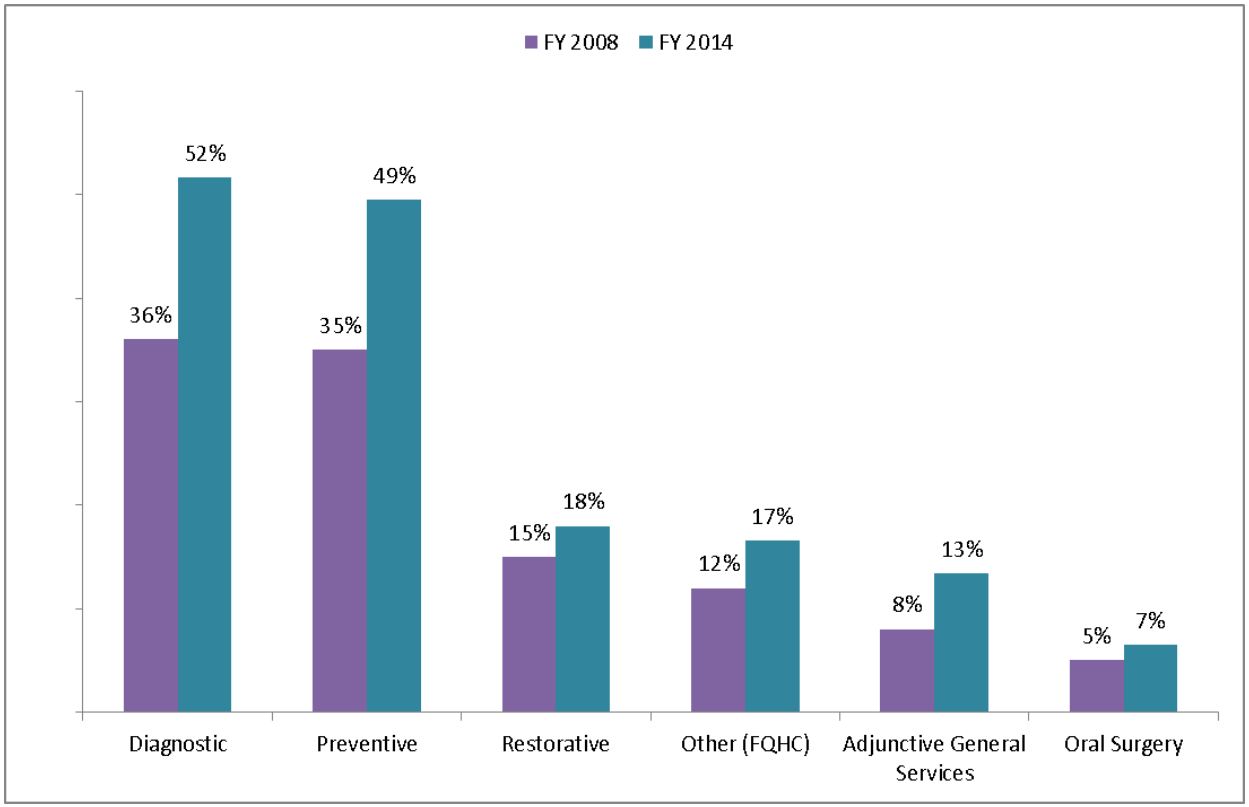
Child Dental Users and Total Expenditures by Procedure Group, FY 2014



Note: Maxillofacial Prosthetics, Prosthodontics (Removable), and Periodontics had less than 1,000 users and $100,000 in expenditures. They are included in the graph as "Other Procedure Groups."
Excludes claims with unmatched eligibility data.
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Children access diagnostic and preventive services (on the far right of graph) more than any other type, but restorative services (on the top of graph) were the most costly for the Apple Health program.

Percent of Child Enrollees Using Services, by Procedure Group, FY 2008 vs. FY 2014

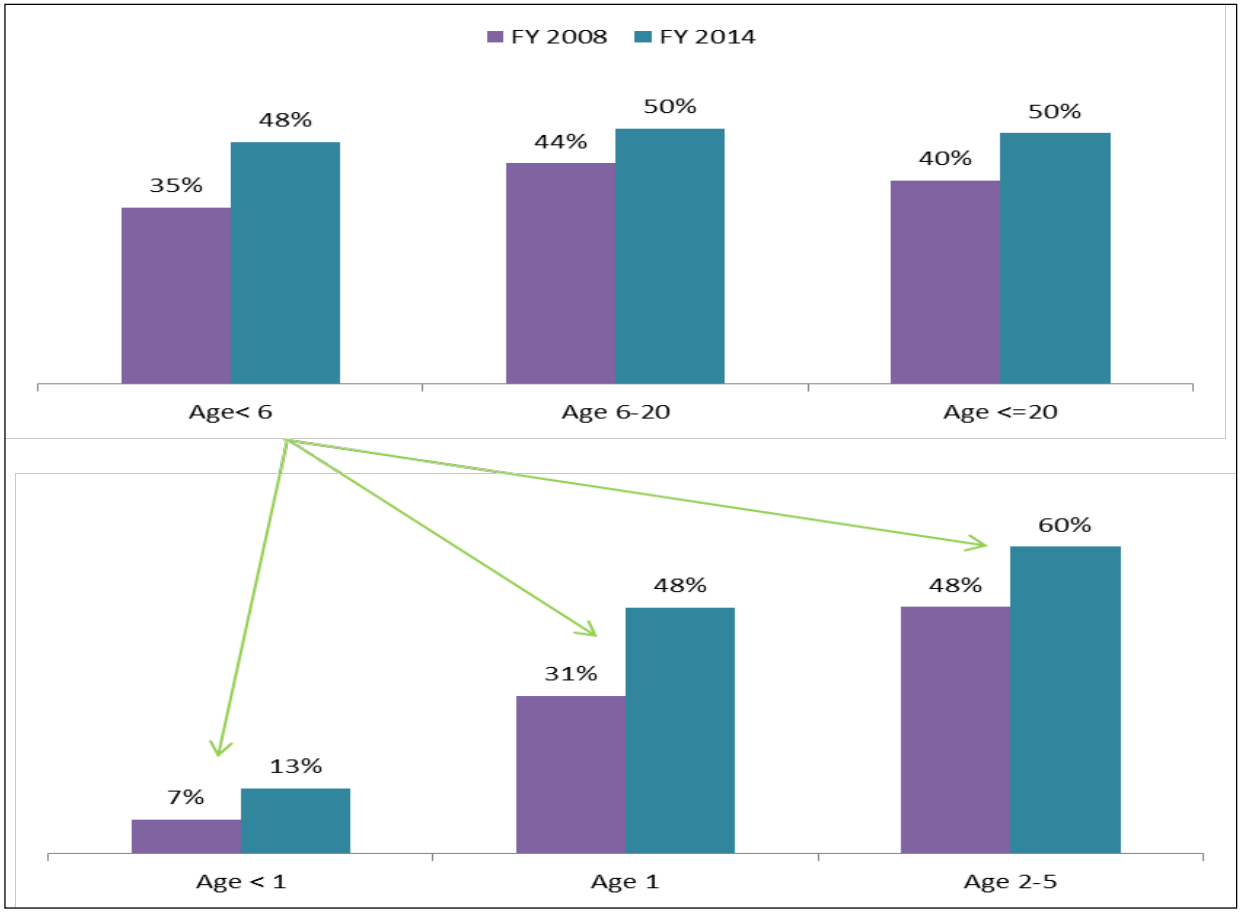


Note: The percent of users with Endodontics, Orthodontics, Periodontics, Prosthodontics (Removable), and Maxillofacial Prosthetics was 3% or less for both years. Excludes claims with unmatched eligibility data.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Among children eligible for care, there have been large increases in those that receive preventive and diagnostic services. This suggests that more children are getting the care needed to prevent disease, rather than solely treatment services to fix problems.

Percent of Child Enrollees Using Preventive Services, by Age Group, FY 2008 vs. FY 2014



Note: Excludes claims with unmatched eligibility data.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Children

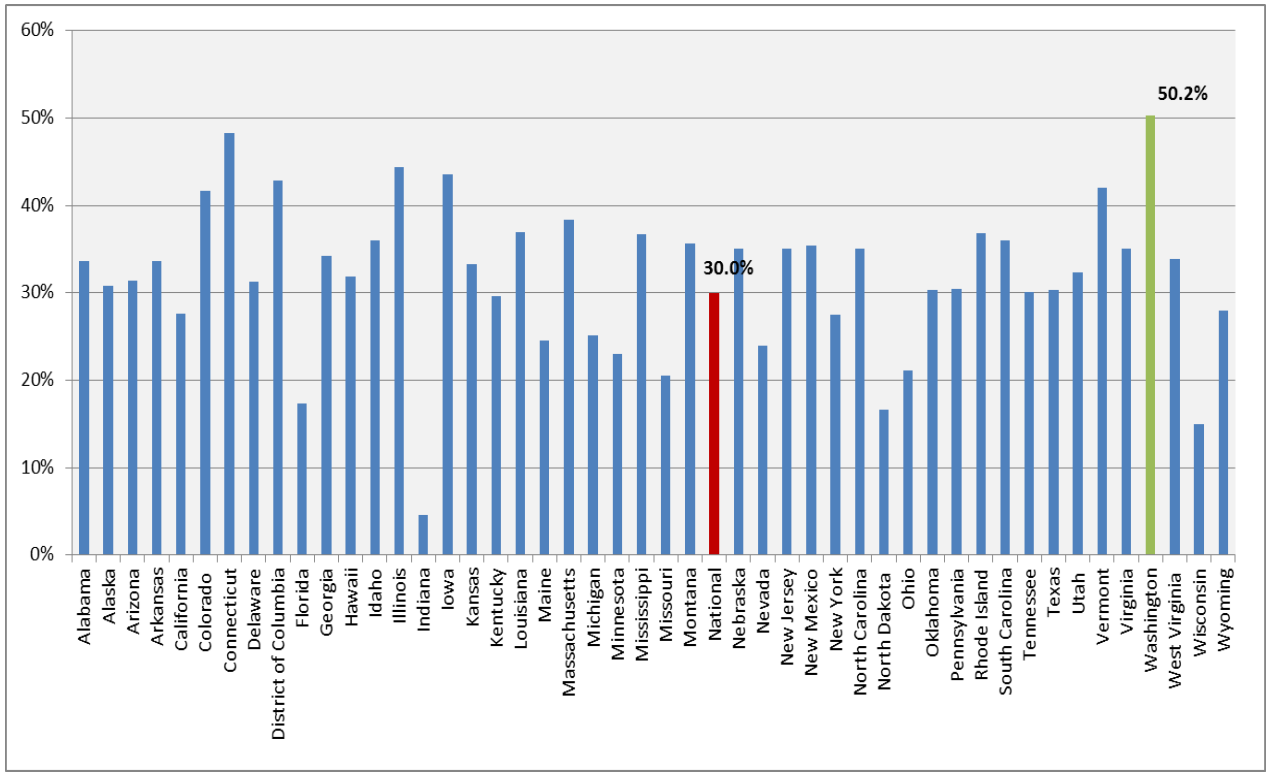
The percentage of children who received preventive dental care increased for all age groups from FY 2008 to FY 2014. By FY 2014, 60% of children between the ages of 2 and 5 received preventive dental care.

The percent of children using preventive services for all age groups in FY 2008 was 40% and in FY 2014 was 50%.

Utilization for Young Children Washington vs. Other States

Washington State leads the country in the percentage of Apple Health insured young children receiving preventive dental care.

Percentage of Children Age 0-5 Enrolled in EPSDT for at Least 90 Continuous Days Receiving **Preventive Dental Services** by or under the Supervision of a Dentist, FY2014



Note: Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit provides comprehensive and preventive health care services for children under age 21 who are enrolled in Medicaid. EPSDT is key to ensuring that children and adolescents receive appropriate preventive, dental, mental health, and developmental, and specialty services.
Source: FY2013 CMS-416 reports, Line 1b and Line 12b (accessed 06/16/2015).

Section: Children

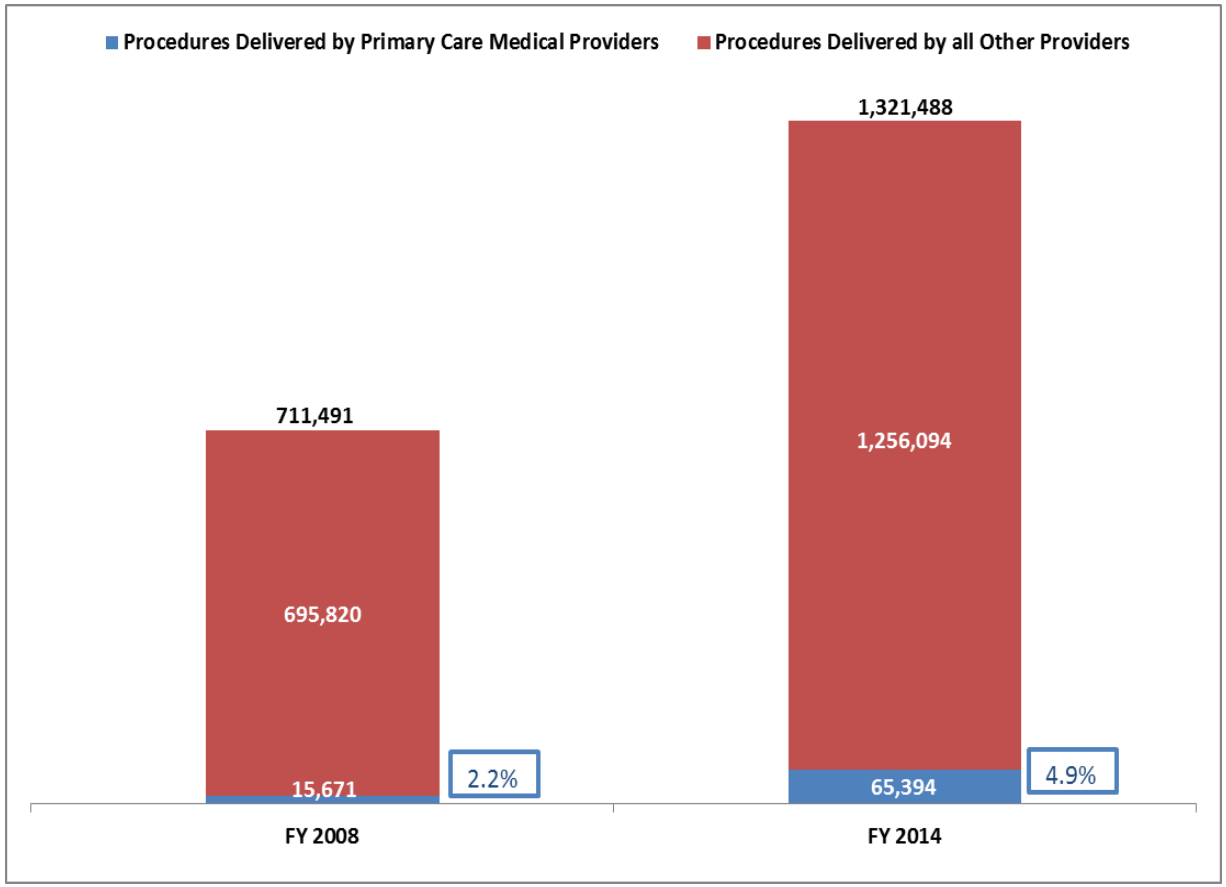
WA Leads the Country in Children's Dental Utilization

Washington State is one of the states that leads innovative programs to improve access to dental care for young children.

ABCD: Connects Apple Health-insured children under age six to dental care and engage primary care medical providers in delivering preventive services.

Early learning: Head Start and child care providers, as well as home visitors, have been trained to identify children at risk for oral health problems and connect them to community resources.

Preventive Oral Health Services Provided by Primary Care Medical Providers



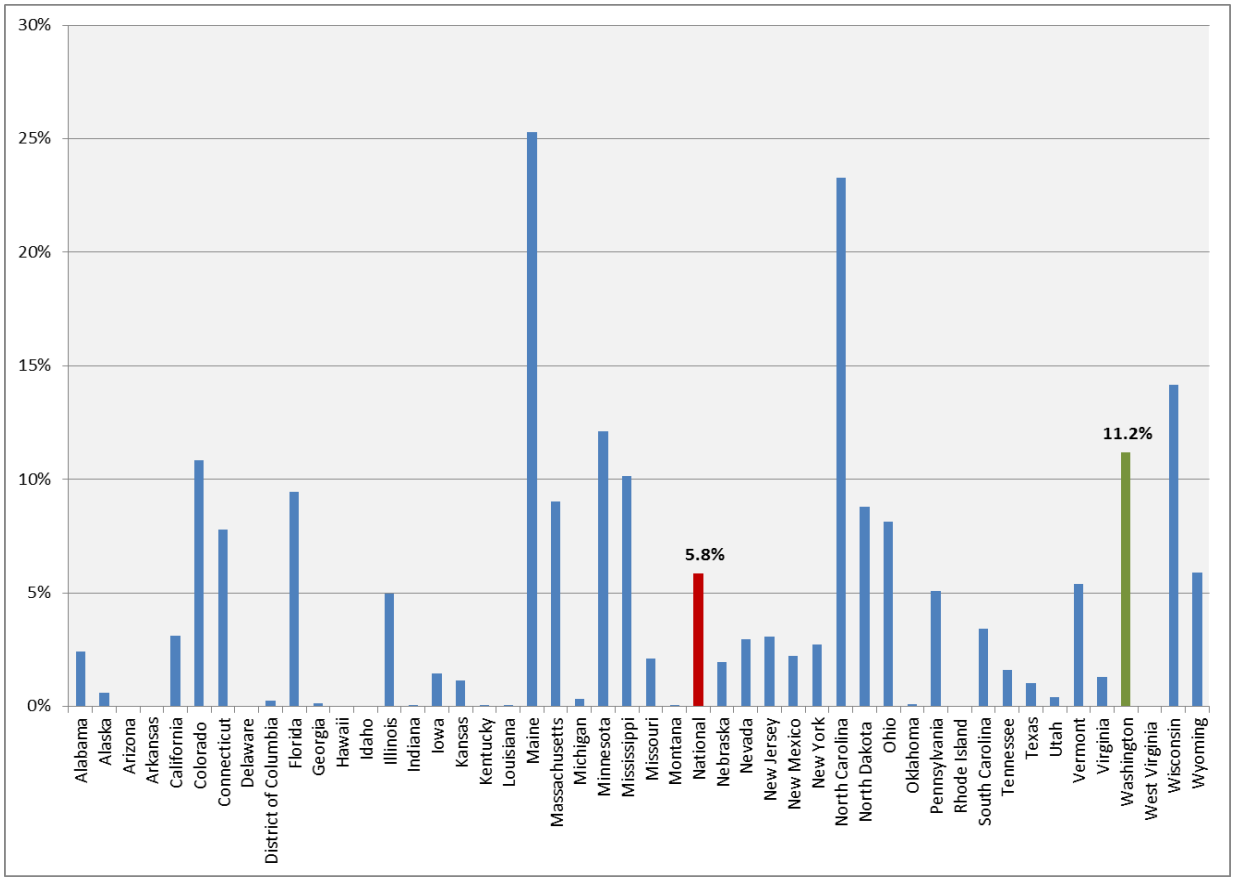
Note: Primary Care Medical Providers include primary care physicians, other physicians who include some primary care services in their practices, and some non-physician providers, such as nurse practitioners and physician's assistants. Primary care providers are physicians specifically trained for and skilled in comprehensive first contact and continuing care for persons with any undiagnosed sign, symptom, or health concern .

The number of oral health services provided by primary care medical providers to Apple Health-insured children dramatically increased from 2008 to 2014.

Delivering oral health preventive care in the primary care setting plays an important role in improving oral health. It offers the opportunity to expand access for nearly all patients, particularly high-risk and vulnerable patients who bear the greatest burden of oral disease.

Children Receiving Oral Health Preventive Services by a Non-Dentist Provider

Percentage of Children Age 0-5 Enrolled in EPSDT for at Least 90 Continuous Days Receiving Oral Health Services Provided by a Non-Dentist Provider, FY2014



Note: Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit provides comprehensive and preventive health care services for children under age 21 who are enrolled in Medicaid.
Non-Dentist Providers include pediatricians, independently practicing dental hygienists, and all other licensed practitioners that are not dentists.
Source: FY2013 CMS-416 reports, Line 1b and Line 12f (accessed 6/16/2015)

Washington is a leader in the percent of children who receive oral health preventive services from primary care medical providers during well-child visits.

Approximately 45% of WA's pediatricians and family practitioners have been trained to deliver oral health preventive services during well-child visits in the last 10 years (2004 through 2014).

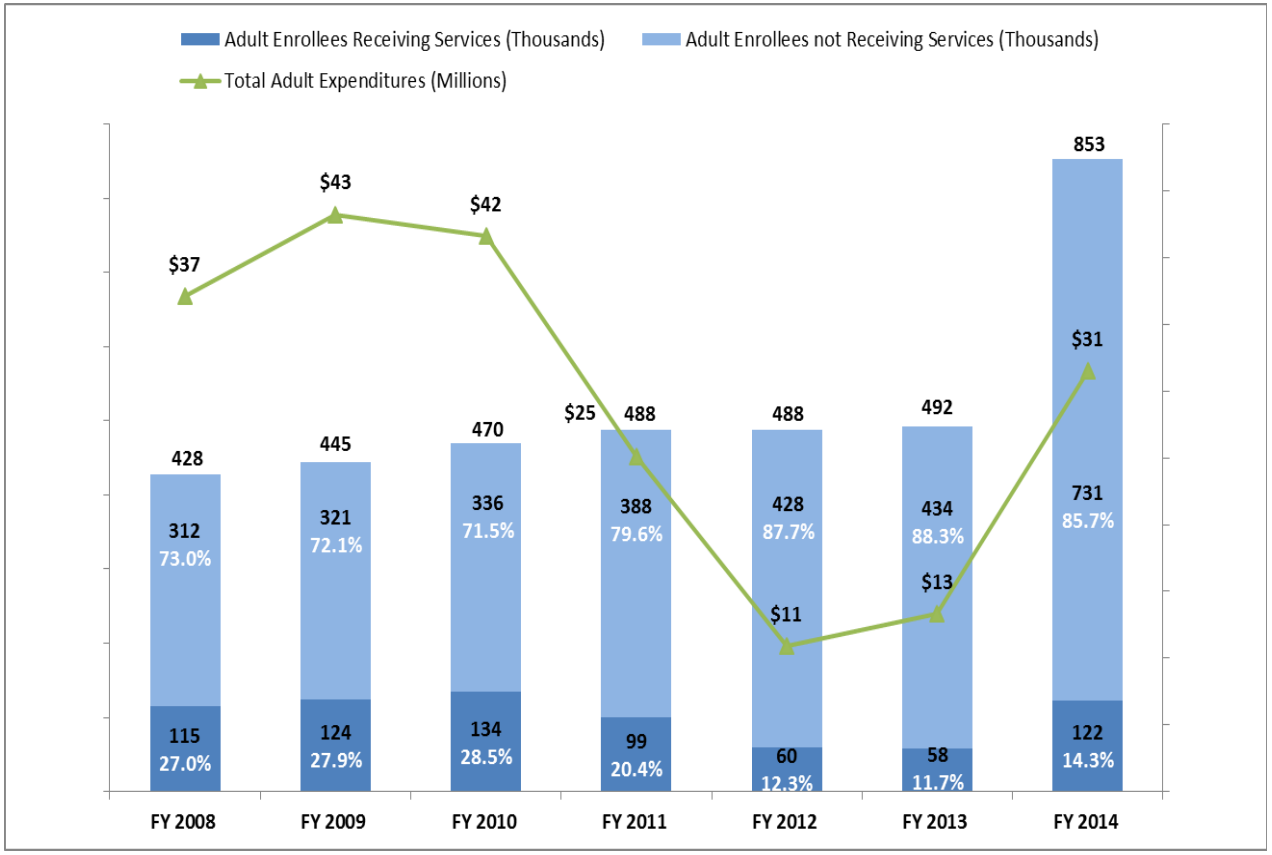
Summary
Total Expenditures and Services, Children

- WA Apple Health spent $179M on dental services for children in FY 2014, compared to $102M in FY 2008 (excluding FQHC expenditures).
- Increases in the number of enrollees, the number of children accessing services and the costs per child each contributed to the $77M increase in dental expenditures.
- The percentage of children accessing dental services was 45% in FY 2008, compared to 54% in FY 2014.
- The percentage of children accessing dental services increased across all age groups between FY 2008 and FY 2014 and was dramatic among the youngest age groups.
- The percentage of children accessing dental services increased in all counties between FY 2008 and FY 2014. However, geographic disparities remain - utilization by county ranged from 36% to 67%, in FY 2014.
- The rate of children accessing preventive services also increased, from 40% in FY 2008 to 50% in FY 2014.

Note: Federally Qualified Health Center (FQHC) expenditures were incomplete for FY 2008-FY 2010. Subsequently, unless otherwise noted, expenditure data for the period FY 2008 – FY 2010 excludes FQHC expenditures; expenditure data for FY 2014 also excludes FQHC expenditures, for consistency, when compared to previous years; where expenditure data for FY 2014 are reported without comparison to previous years, FQHC expenditures are included since FY 2014 does allow us to report complete FQHC expenditures to the best of our knowledge. Please see the Methods for more details.

Expenditures and Services among Adults

Trend in Dental Utilization and Expenditures Among Adults, FY 2008 – FY 2014



Note: Excludes claims with unmatched eligibility data. Excludes FQHC claims. Therefore, utilization rates will differ from graph on p.23 which includes all services such as dental visits received at FQHCs.

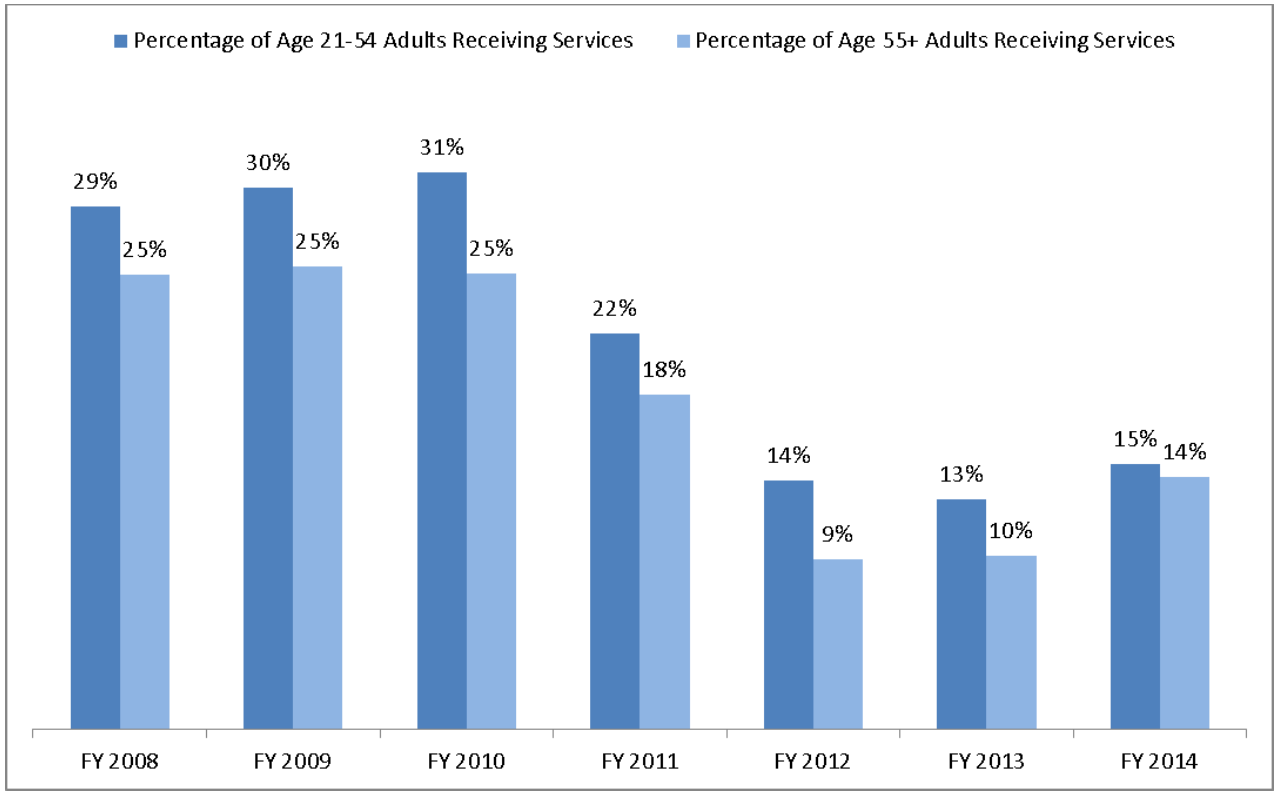
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Adults

Total expenditures and utilization fell dramatically after the adult dental cuts went in effect in January of 2011. Expenditures fell to just $13 M in FY 2013 compared to a high of $43 M in FY 2009. In FY 2014, with the first six month of adult dental restoration, Expenditures increased to $31M.

In FY 2014, 14% of adults received services compared to 12% in FY 2013 and FY 2012.

Trend in Dental Utilization and Expenditures Among Adults, Ages 21-54 and 55+, FY 2008 – FY 2014



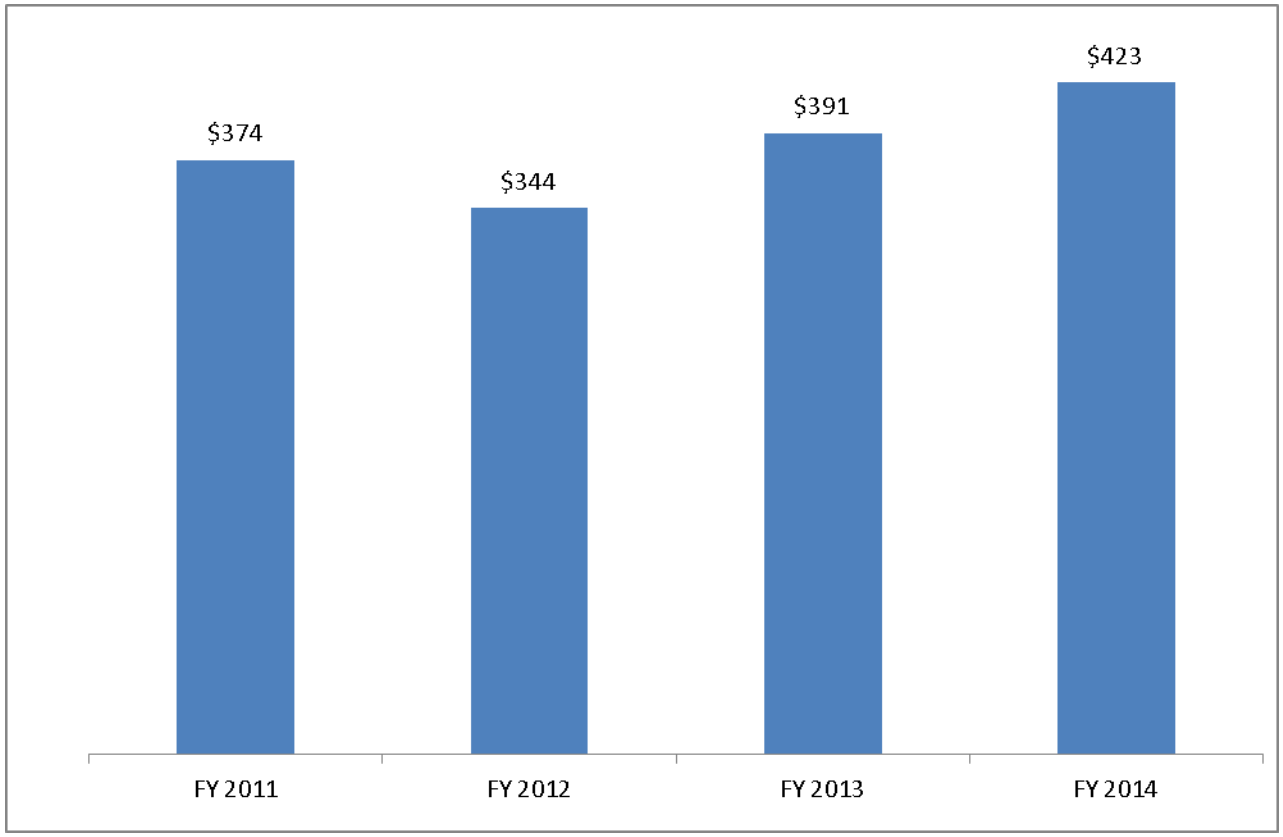
Note: Excludes claims with unmatched eligibility data. Excludes FQHC claims.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Adults

While enrollees ages 21-54 had higher rates of utilization than those age 55 and older, both groups experienced declines in use of services between FY 2010 and FY 2013. With the restoration of adult dental program in January 2014, utilization rates for both groups increased slightly in FY 2014.

Average Adult Dental Expenditures per User, FY 2011 – FY 2014

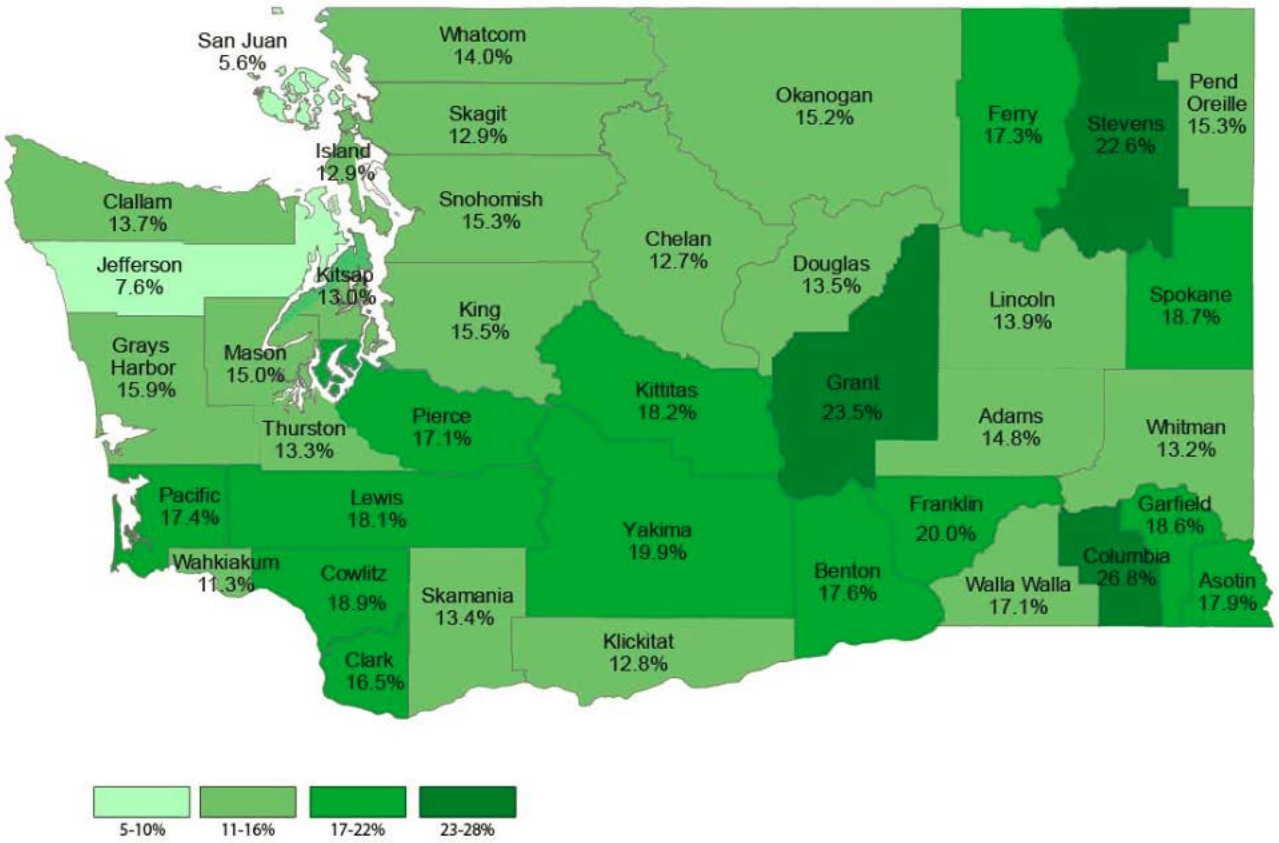


Note: Excludes claims with unmatched eligibility data. Includes Community Health Clinic expenditures.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Expenditures per user declined from $374 in FY 2011 to $344 in FY 2012 (8% decrease). Expenditures subsequently rose again in FY 2013 to $391 per person (4.5% increase) and $423, a 13% increase from FY 2011.

Adult Enrollees with at Least One Dental Service, by County, FY 2014



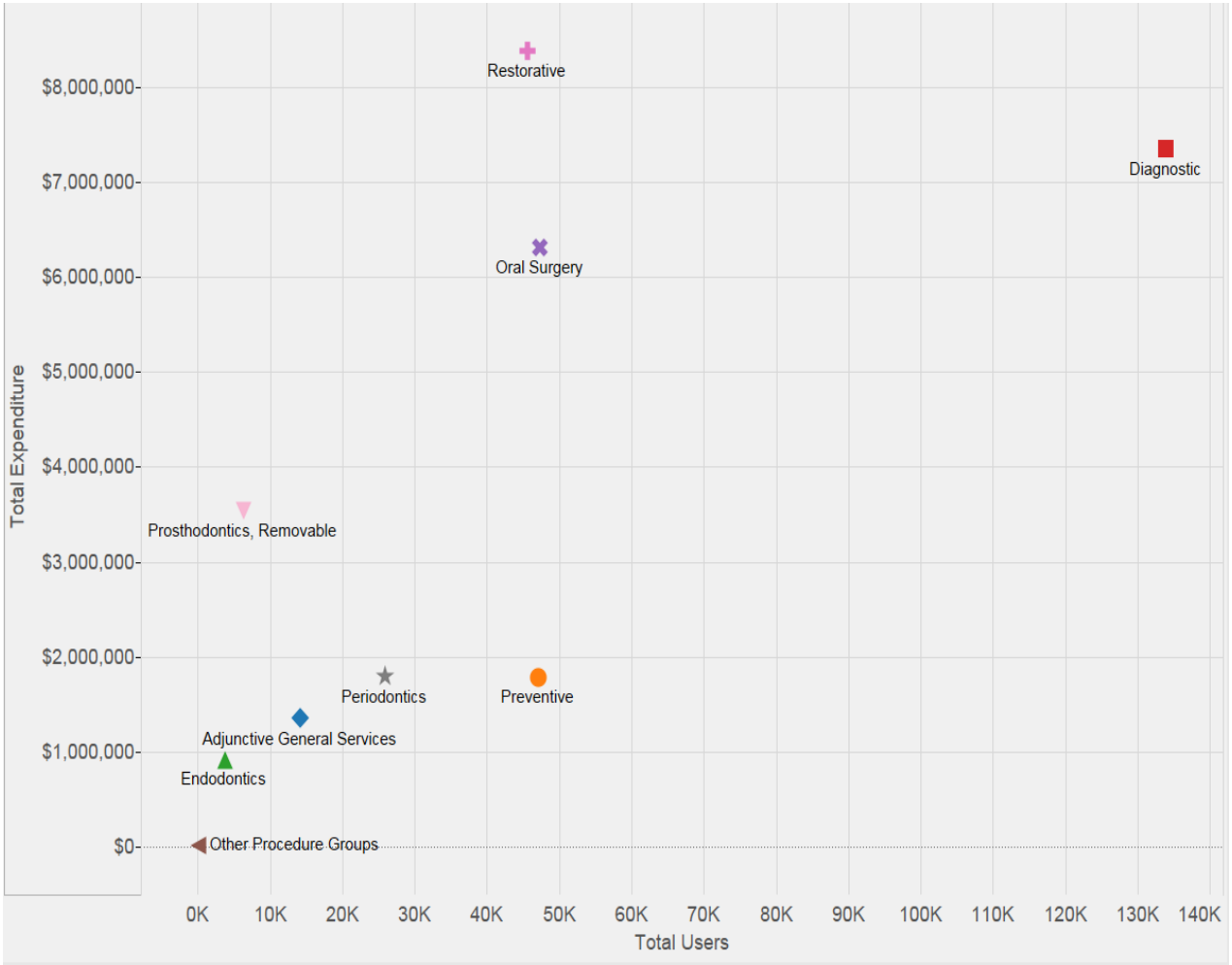
Note: Excludes out of state utilization and utilization where the county is unknown.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Adults

Grant County had the largest percentage of Apple Health adult enrollees receiving dental services in FY 2014, 24% (indicated by darker shading), while Jefferson County had the lowest 8% (indicated by lighter shading).

Adult Dental Users and Total Expenditures by Procedure Group, FY 2014



Note: Maxillofacial Prosthetics, Prosthodontics (Removable), Orthodontics, and Periodontics had less than 10,000 users and $2,000,000 in expenditures. They are included in the graph as "Other Procedure Groups."
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Adults

In FY 2014, with adult dental restoration in effect for a period of six months, preventive services were used by 47,053 adults (orange dot), which is three times more adults than the previous fiscal year. Diagnostic procedures, which had the greatest number of users, were typically done in conjunction with other procedures (e.g., prior to emergency oral surgery). Restorative services (on the top of the graph) were the most costly procedures.

In sharp contrast to utilization by children, more adults had oral surgery procedures (e.g. extractions) than preventive services in FY 2014.

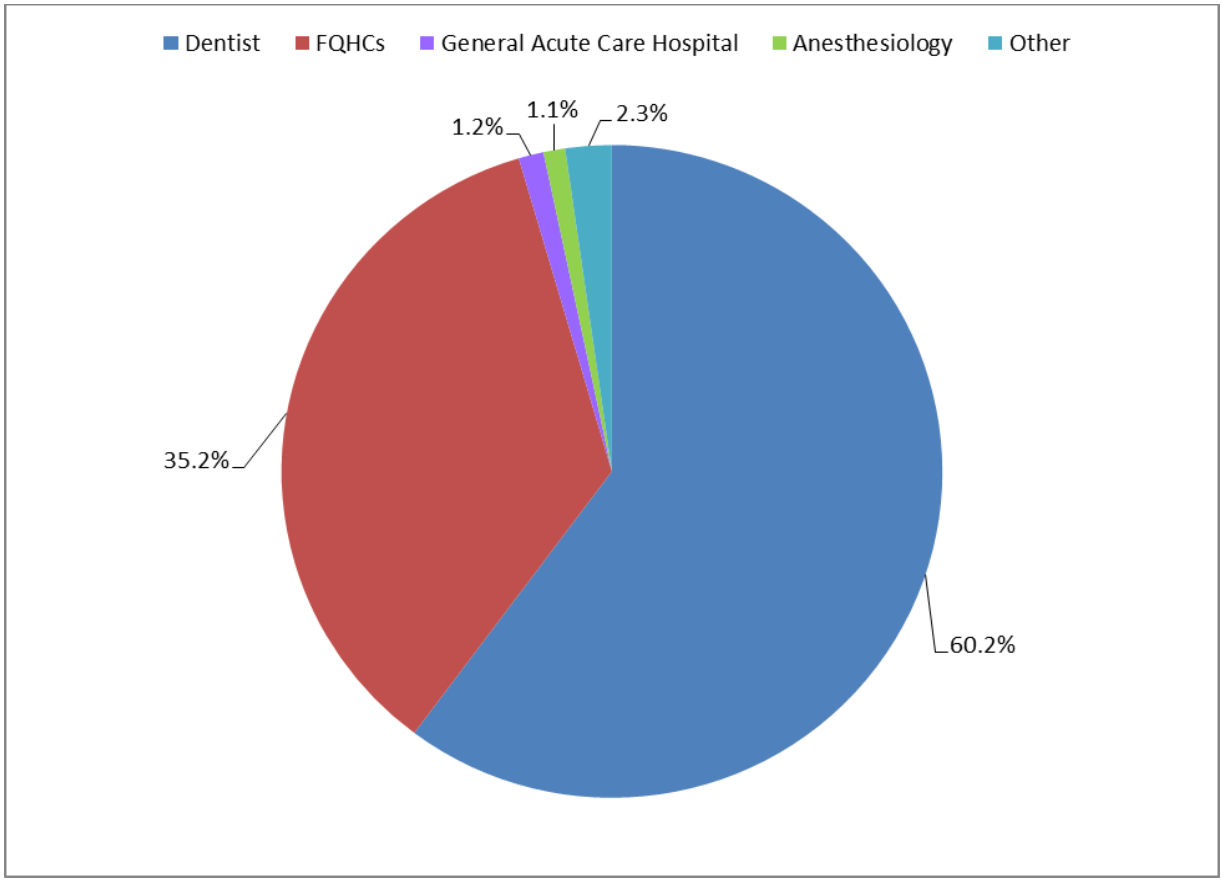
Summary
Total Expenditures and Services, Adults

- Budget cuts largely eliminated the Apple Health adult dental program between 2011 and 2014, except for emergency services and services for select populations (i.e., pregnant women, those in long-term care/nursing homes, and clients who are eligible under a 1915 (c) waiver program). Only small numbers of adults who were exempted from the cuts or who received emergency dental care continued to receive services during that period.
- The state legislature recently restored the adult dental program and comprehensive services resumed in January 2014. The utilization and expenditure results reflect six month worth of data.
- The state spent $37M on dental services for adults in FY 2008, compared to $31M in FY 2014 (excluding FQHC expenditures).
- Just 17% of the adult population received services in FY 2014, compared to 28% in FY 2008. Adults over age 55 had lower utilization than other adults.
- In FY 2013 and FY 2014, more adults received oral surgery procedures than preventive services.

Note: Federally Qualified Health Center (FQHC) expenditures were incomplete for FY 2008-FY 2010. Subsequently, unless otherwise noted, expenditure data for the period FY 2008 – FY 2010 excludes FQHC expenditures; expenditure data for FY 2014 also excludes FQHC expenditures, for consistency, when compared to previous years; where expenditure data for FY 2014 are reported without comparison to previous years, FQHC expenditures are included since FY 2014does allow us to report complete FQHC expenditures to the best of our knowledge. Please see the Methods for more details.

Providers of Oral Health Services

Expenditures by Billing Provider Type Specialty, FY 2014



Note: Excludes unmatched eligibility data. "Other" includes Multi-Specialty, Dental Hygienists, Pediatrics, Denturists, Oral & Maxillofacial Surgery, Nurse Anesthetist (Certified Registered), Single Specialty, Public Health, Family Practice, Nurse Practitioner, Internal Medical, and General Practice.

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

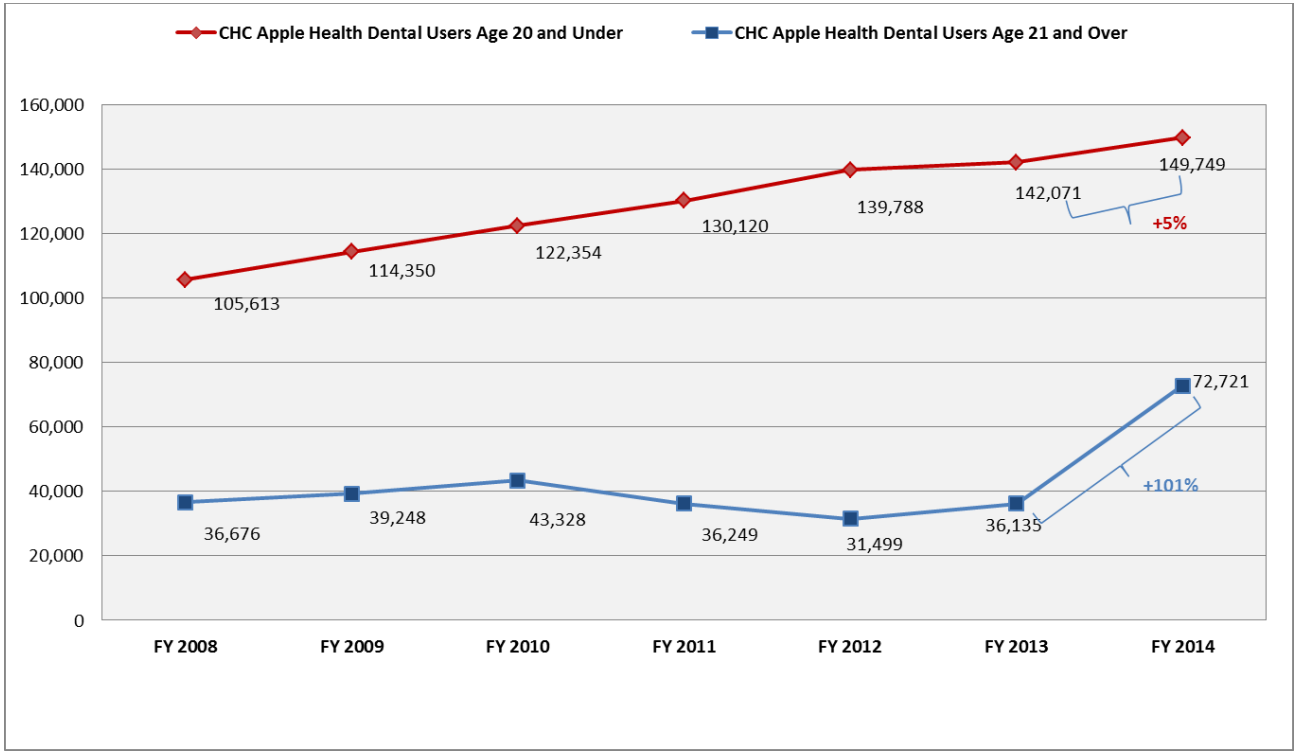
Section: Providers

In FY 2014, ninety-five cents out of every dollar for dental services went to dentists or Community Health Centers. The remaining 5% went to dental hygienists, anesthesiologists, and other dental providers.

Approximately fifty-eight percent of dental services in FY 2014 were provided by private practice, while thirty-seven was provide by Community Health Clinics.

HCA pays dental claims on a fee-for-service basis for private practitioners. Community Health Centers are reimbursed a flat fee for most patient visits, regardless of the services performed during that visit.

Apple Health Dental Users Served by Community Health Centers, FY 2008 – FY 2014



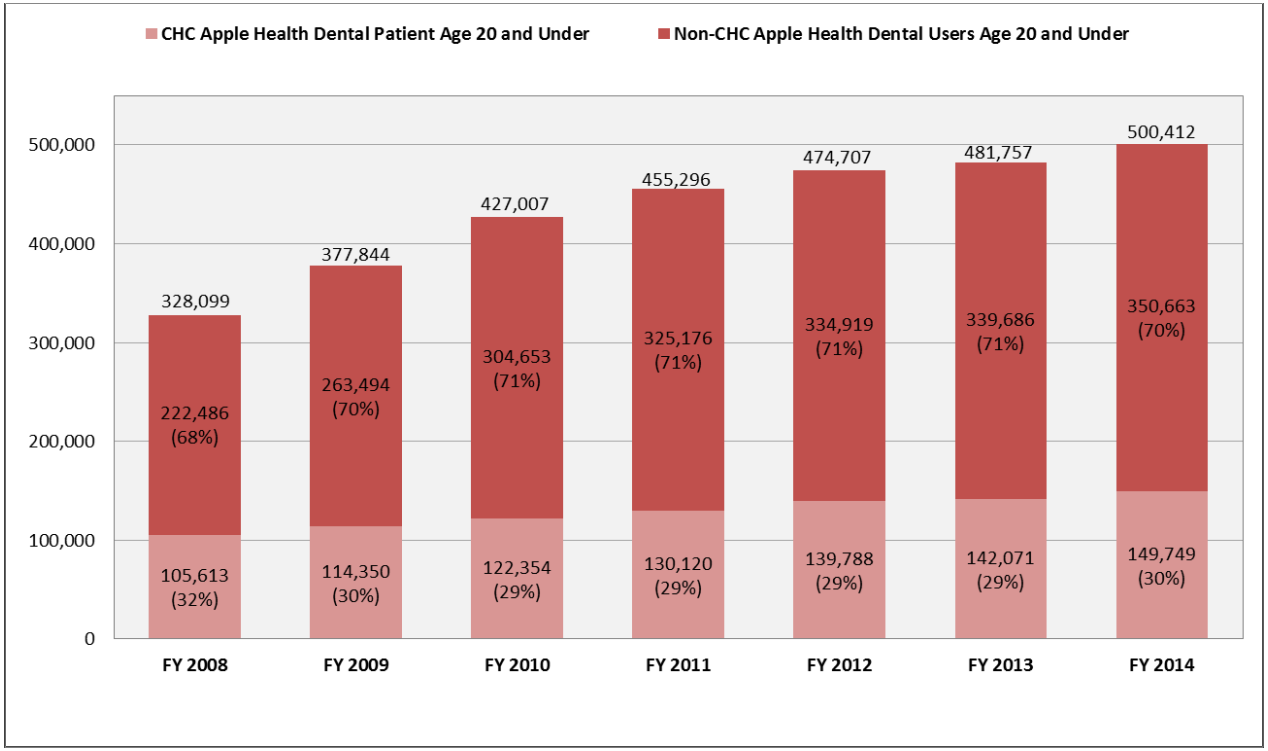
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Overall, many more children are served by community health centers than adults, as more children use dental services, in general.

The number of adults served by community health centers declined between 2011 and 2013, when the cuts to Apple Health adult dental benefits went into effect.

In FY 2014, the number of adults served by community health centers increased by 101% as a result of the adult dental benefit restoration.

Children Served by Community Health Centers as a Portion of Total Child Users FY 2008 – FY 2014

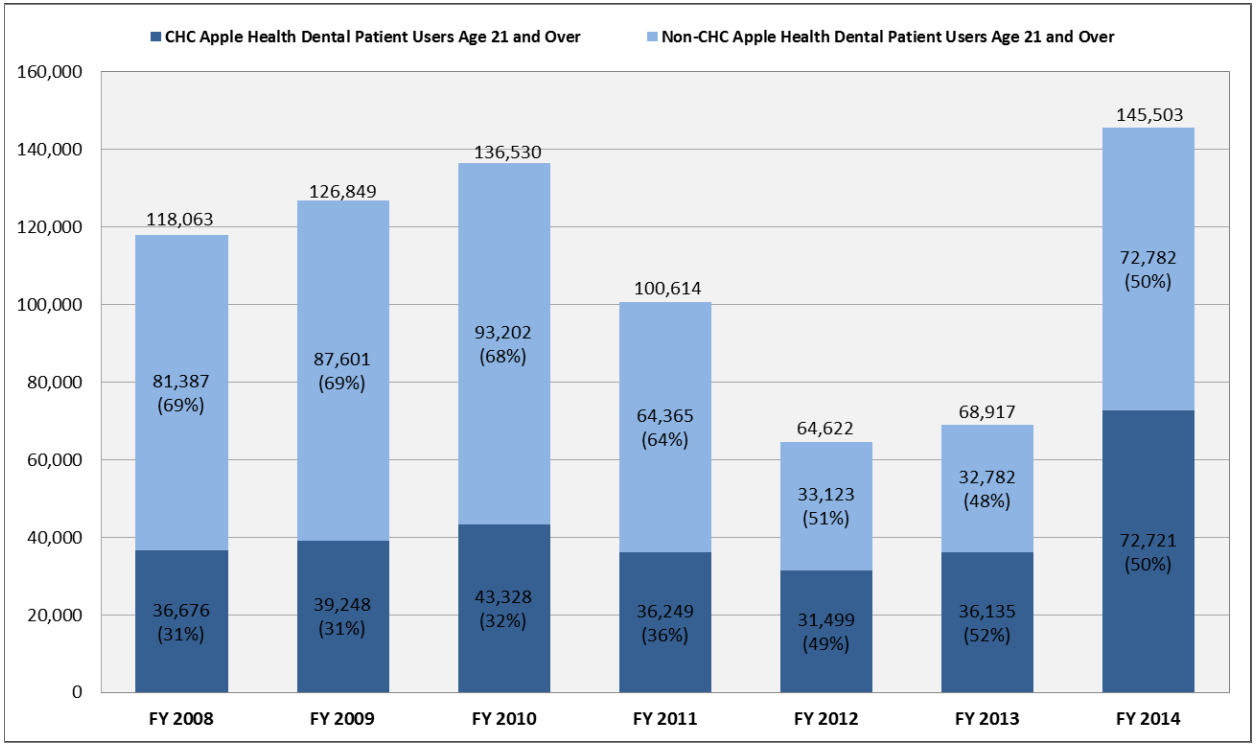


Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Providers

The portion of child dental users served by community health centers was consistent from FY 2008 to FY 2014, around 30%.

Adults Served by Community Health Centers as a Portion of Total Adult Users FY 2008 – FY 2014

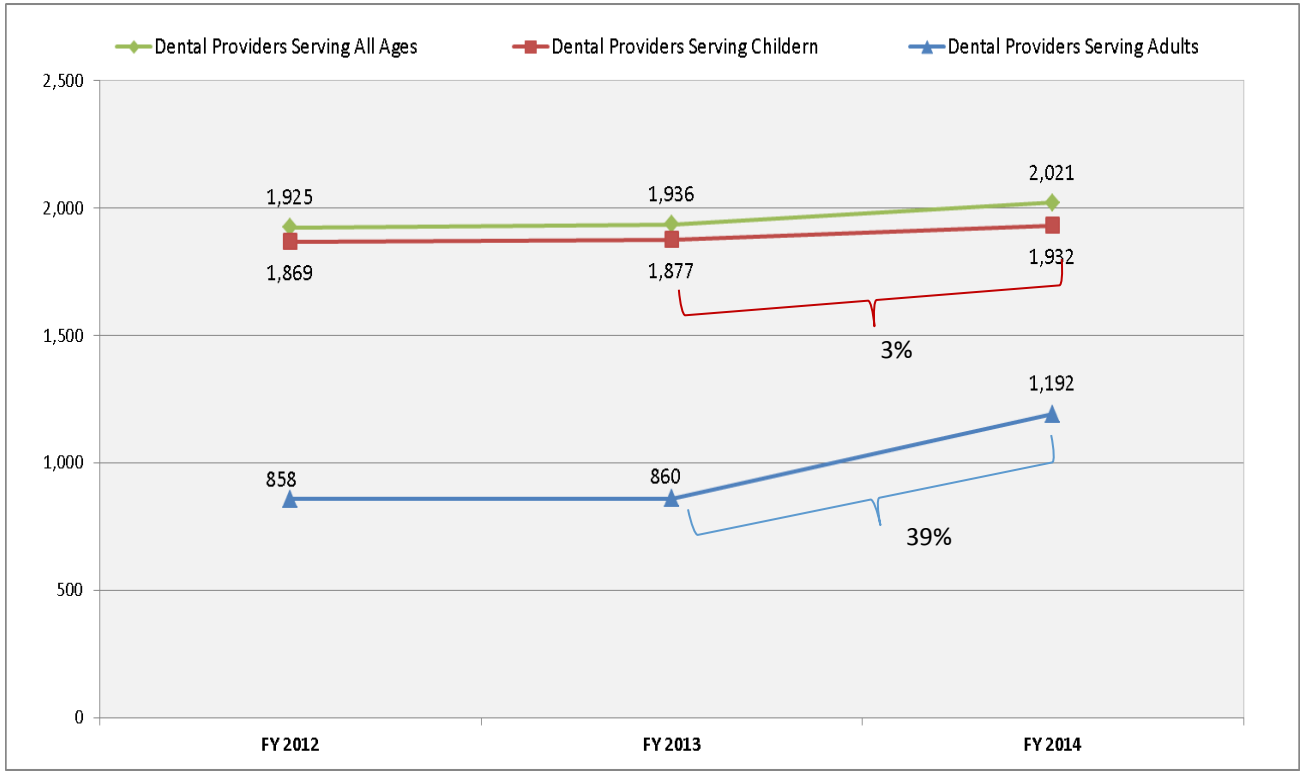


Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

The portion of adult dental users served by community health centers has been on the rise since 2011, peaking at 52% in FY 2013.

In FY 2014, 50% of adult dental users were served by community health centers and 50% were served by private practice.

Private Dental Providers/Practices Serving Apple Health-insured Clients, FY 2012 – FY 2014



Note: Adult dental benefits were restored in January 2014. Data reflects six months adult dental services only
Private dental providers/practices include unique individual dentists identified through Service Provider's NPI (dentists may all be working at the same clinic)

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

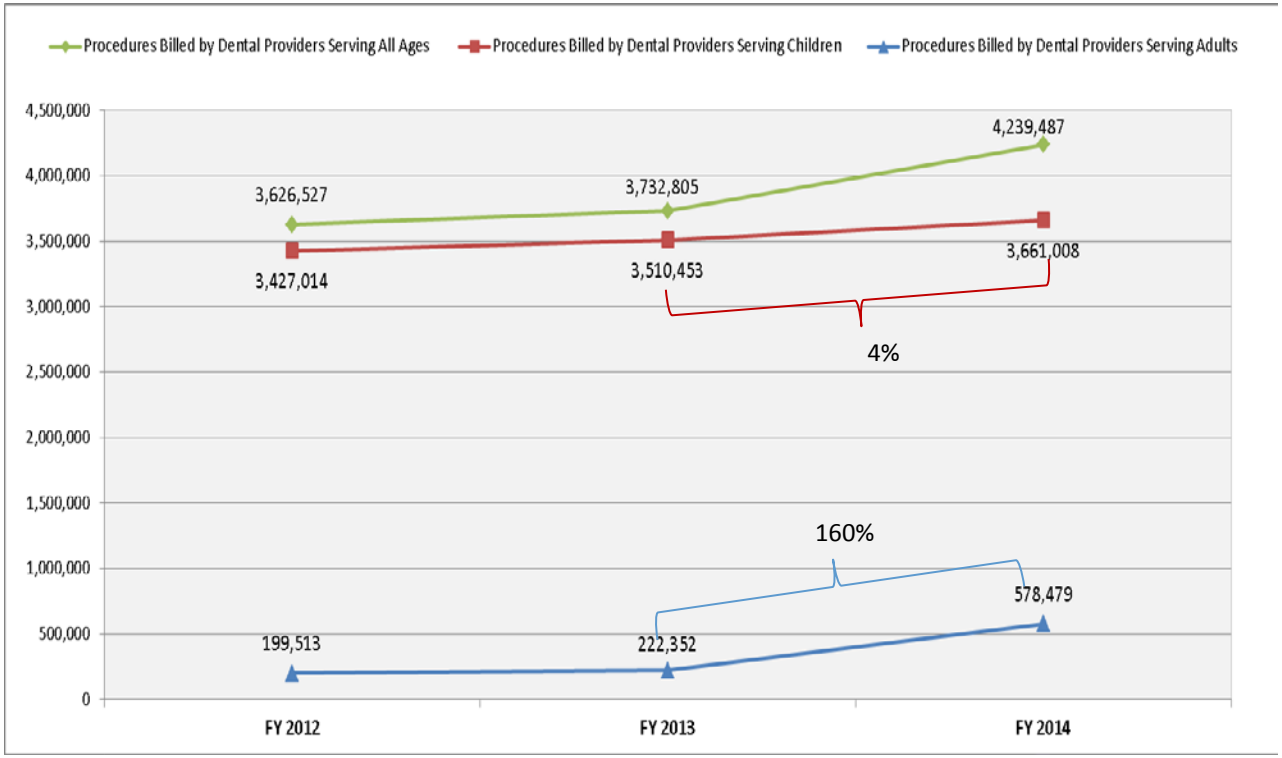
Section: Providers

The total number of private dentists/practices serving Apple Health-insured clients increased by 5% since 2012.

In FY 2012 and FY 2013, twice as many private dentists served children age 20 and under than adults.

In the last fiscal year, the total number of private dentists serving adults increased by 39% as a result of the adult dental benefit restoration.

Total Apple Health Dental Procedures Billed by Private Dental Providers/Practices FY 2012 – FY 2014



Note: Adult dental benefits were restored in January 2014. Data reflects six months adult dental services only
Private dental providers/practices include unique individual dentists identified through Service Provider's NPI (dentists may all be working at the same clinic)

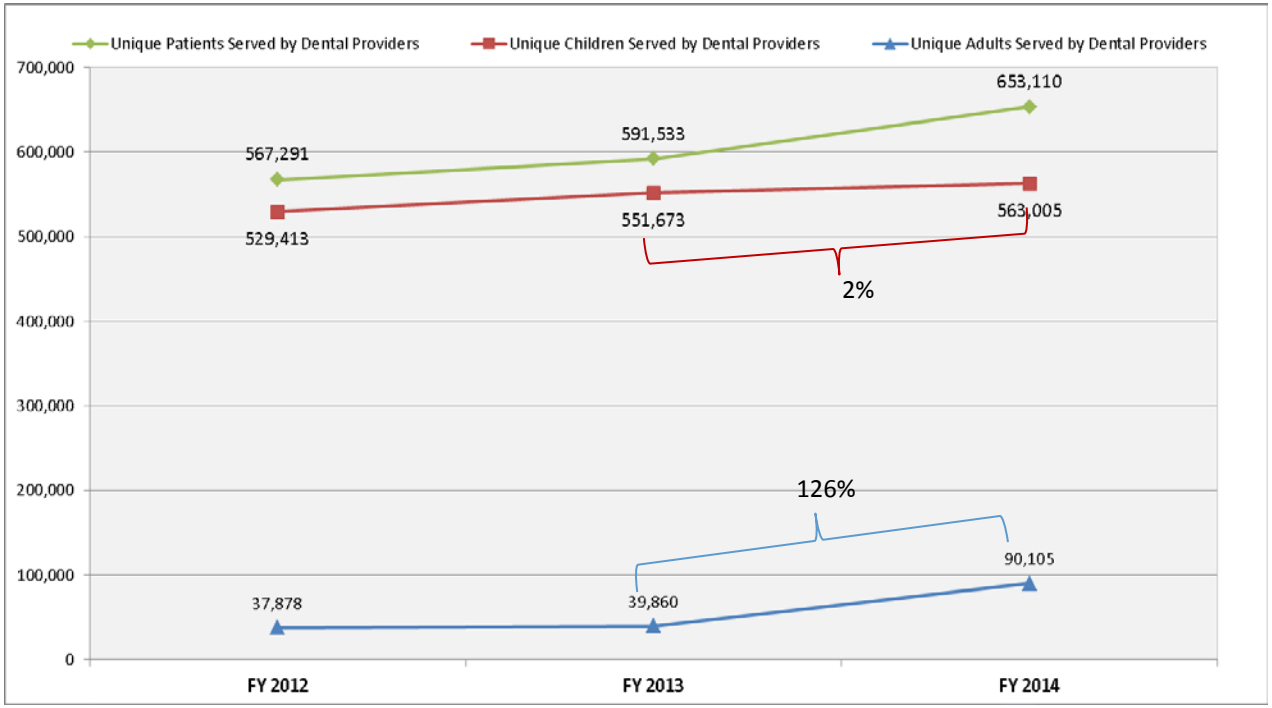
Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Providers

The total number of Apple Health dental procedures billed by private dentists increased by 17% in the last two years.

In FY 2014, the number of Apple Health adult dental procedures billed by private dentists increased by 160% as a result of the adult dental benefit restoration.

Apple Health-insured Patients Served by Private Dental Providers/Practices FY 2012 – FY 2014



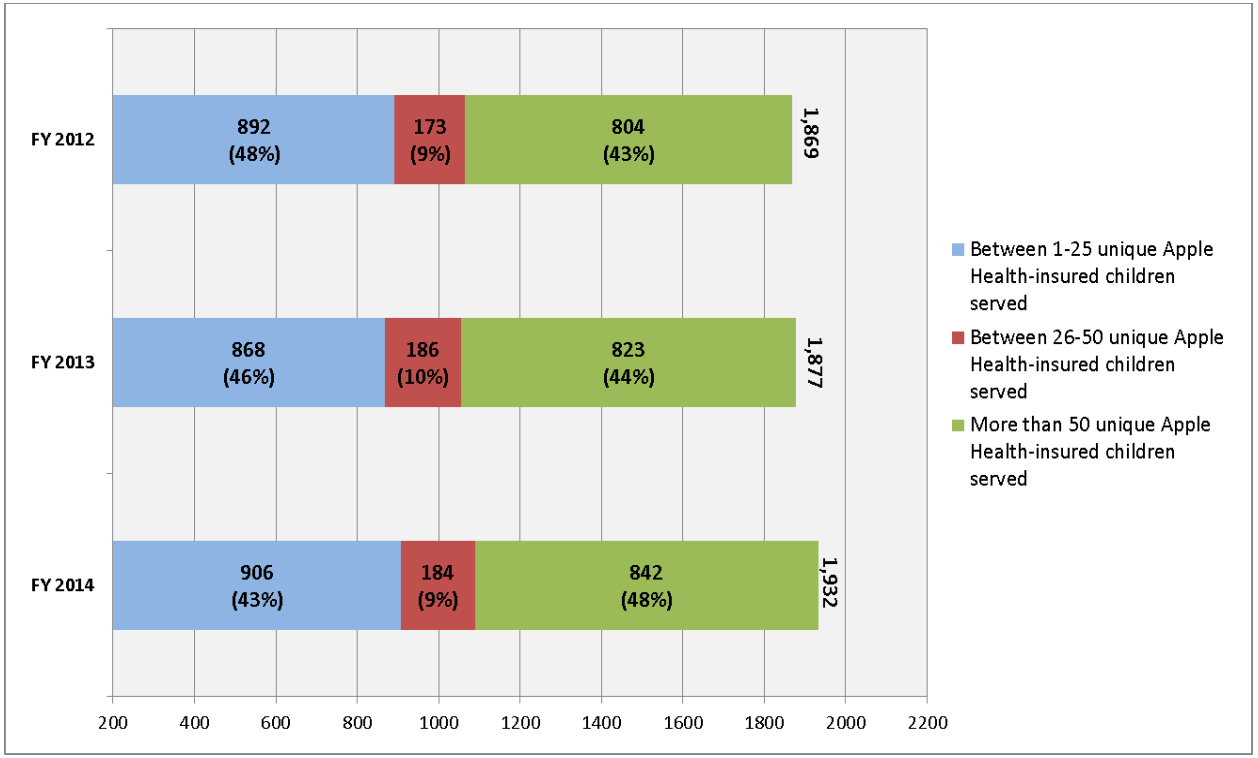
Note: Adult dental benefits were restored in January 2014. Data reflects six months adult dental services only
Private dental providers/practices include unique individual dentists identified through Service Provider's NPI (dentists may all be working at the same clinic)

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Overall, many more children were served by private dentist than adults, as more children use dental services, in general.

In FY 2014 total number of Apple Health-insured children served by private dentists increased by 2%, while the total number of Apple Health-insured adults increased by 126%, as a result of the adult dental benefit restoration.

Private Dental Providers/Practices and Number of Apple Health-insured Children Served FY 2012 – FY 2014



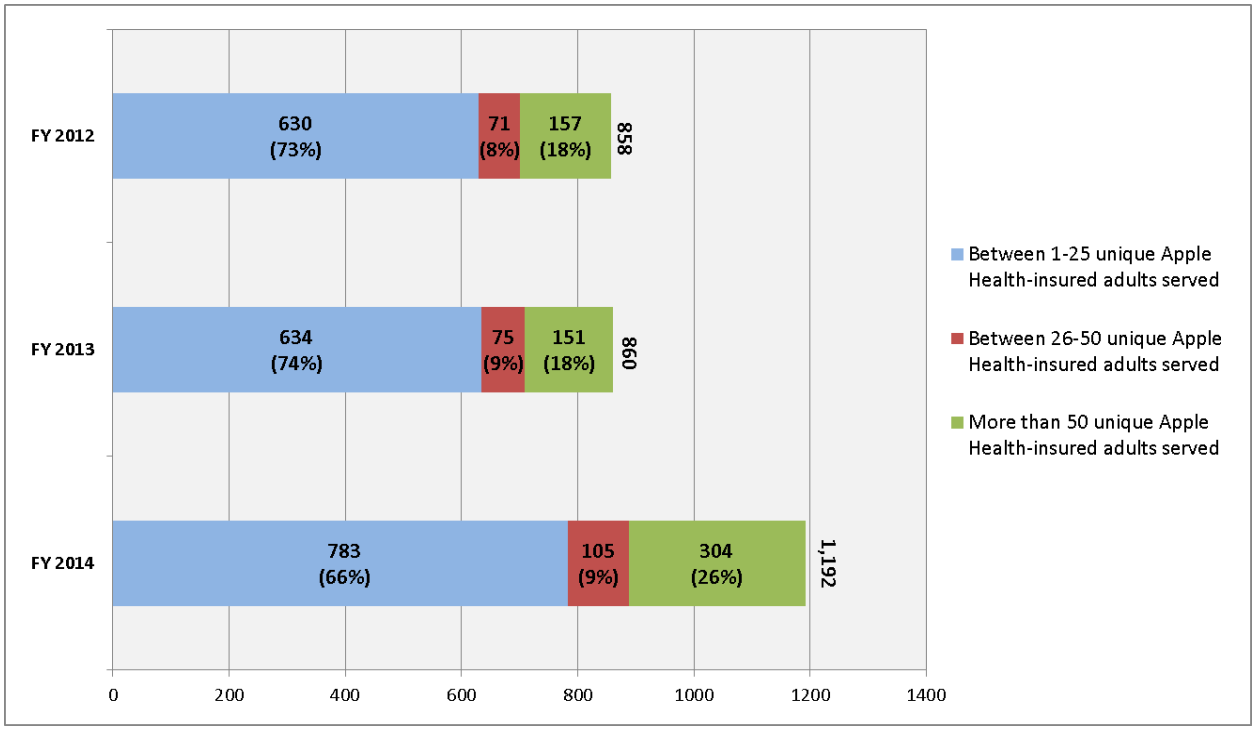
Note: Adult dental benefits were restored in January 2014. Data reflects six months adult dental services only
Private dental providers/practices include unique individual dentists identified through Service Provider's NPI (dentists may all be working at the same clinic)

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Section: Providers

Between 2012 and 2014, slightly more than half (52%-57%) of private dentists/practices served 50 or less unique Apple Health-insured children age 20 and under, while remaining dental providers/practices (43%-48%) served more than 50 unique Apple Health-insured children.

Private Dental Providers/Practices and Number of Apple Health-insured Adults Served FY 2012 – FY 2014

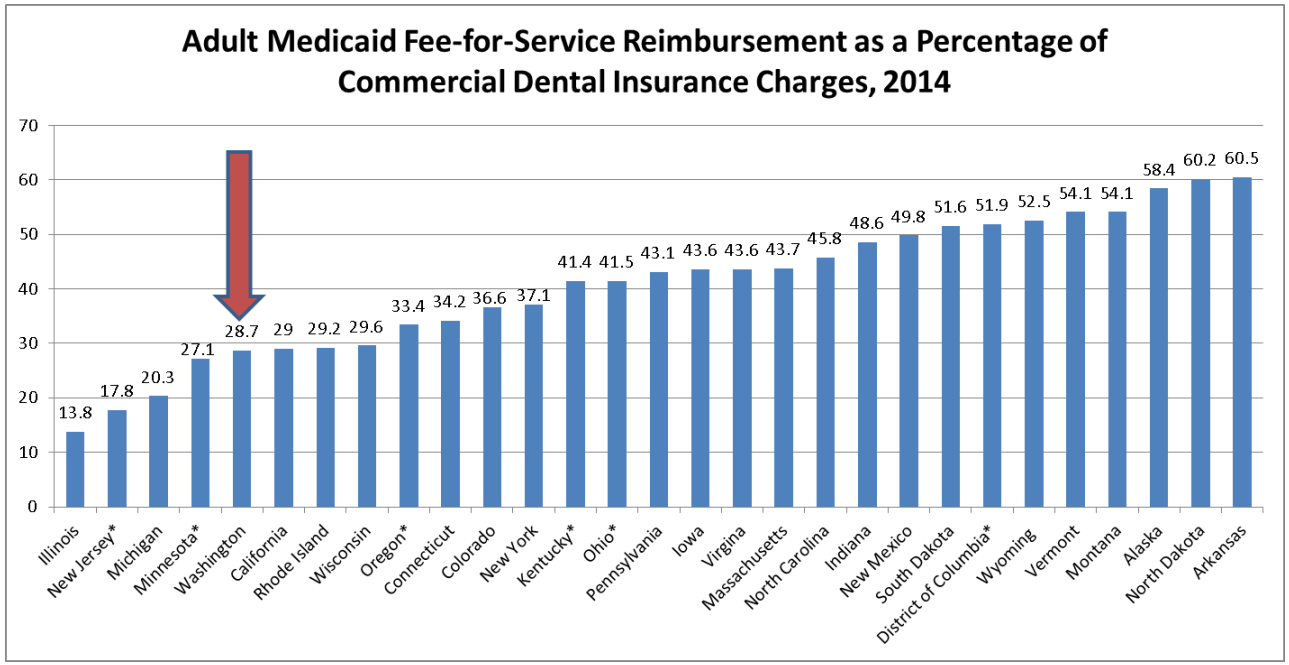


Note: Adult dental benefits were restored in January 2014. Data reflects six months adult dental services only
Private dental providers/practices include unique individual dentists identified through Service Provider's NPI (dentists may all be working at the same clinic)

Source: Washington State Health Care Authority, Apple Health Dental Services Enrollment and Utilization Data

Between 2012 and 2014, the majority (75%-83%) of private dental providers/ practices served 50 or less unique Apple Health-insured adults age 21 and over, while remaining dental providers/practices (18%-26%) served more than 50 unique Apple Health-insured adults.

Adult Reimbursement Rates
WA Dental Providers vs. Other States

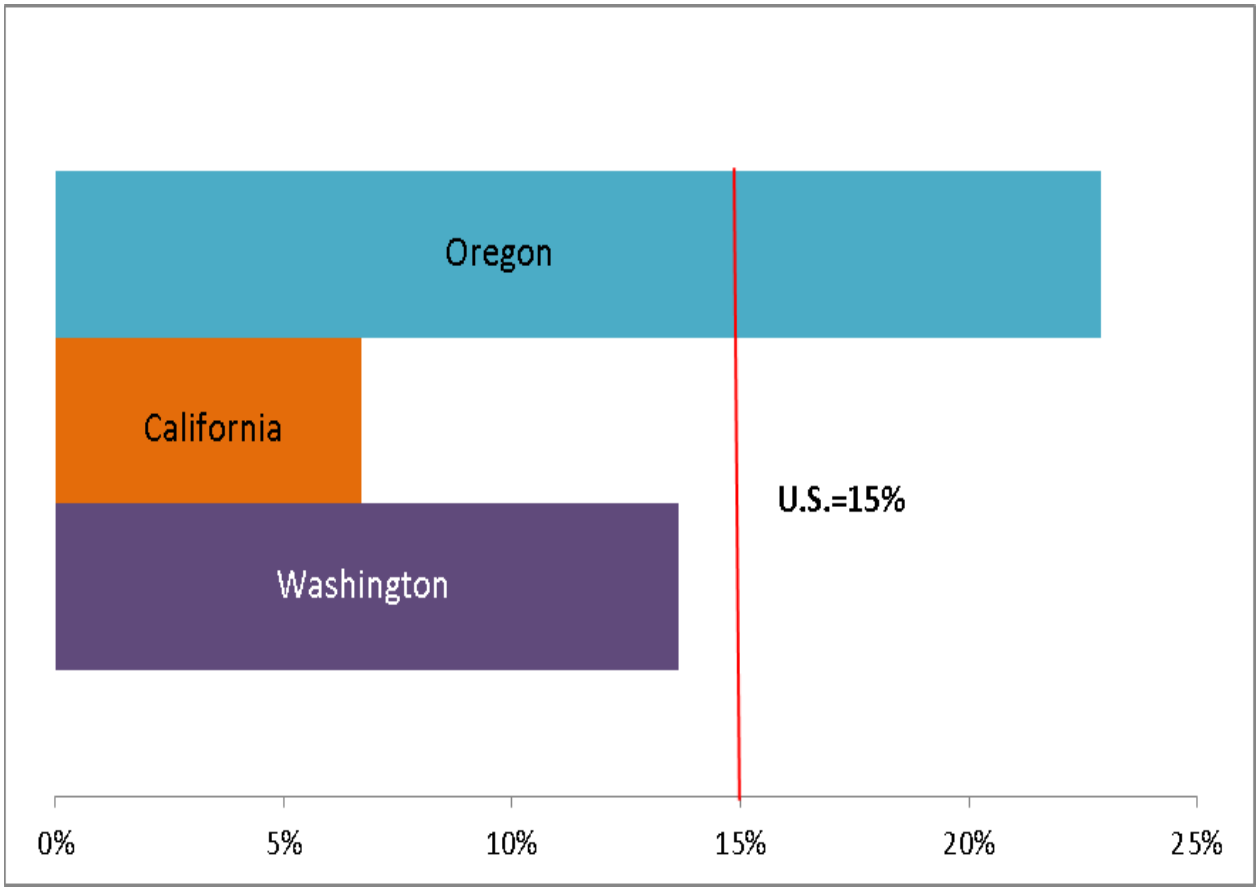


Source: : Nasseh K, Vujicic M, Yarbrough C. A ten-year, state-by-state, analysis of Medicaid fee-for-service reimbursement rates for dental care services. Health Policy Institute Research Brief. American Dental Association. October 2014. Available from: http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1014_3.ashx.

Washington's adult reimbursement rates for dentists serving Apple Health-insured clients are among the lowest in the Nation. Only four states have lower Medicaid reimbursement rates than WA.

The children's Apple Health reimbursement rate is higher (40.9%), but falls below the national average of 48.8%. Only 12 states have lower Medicaid children reimbursement rates than WA.

Percentage of Population Living in a Dental Health Professional Shortage Area (HPSA): US vs. West Coast States, 2010



Source: Designated Health Professional Shortage Areas (HPSA) Statistics, Health Resources and Services Administration (HRSA), February 2012. Percentages calculated using 2010 population data from U.S. Census Bureau.

Nearly 14% of people in Washington state live in a dental Health Professional Shortage Area, slightly below the U.S. average of 15%.

Policy and Additional Data Needs

Policy Implications and Opportunities

- The increase in the number of young children receiving preventive dental care is a promising trend. Yet, there is a need to improve access to underutilized, proven preventive strategies, like sealants.

- Though the percentage of children aged 0-5 accessing dental services is on the rise, there is wide variation among the counties, ranging from 29% to 65%. These variations can be attributed to the age of the ABCD program, effectiveness of local health networks, robust dental communities with a growing number of specialists vying for pediatric patients, and the effectiveness of outreach efforts. Learning from long-established programs with particularly high utilization rates, like Yakima County and Chelan-Douglas Counties may be helpful in replicating their success elsewhere.

- Given that the number of adults covered by Apple Health has soared and the percentage accessing dental care is significantly lower now than the time period prior to the adult dental cut, the need to recruit additional providers to serve this population is paramount.

Additional Data Needs

Due to data limitations, we were not able to report on Apple Health dental expenditures and utilization in several domains.

The following data would be helpful to inform future policy:

- **Utilization of oral health services by pregnant and post-partum women –** Better understanding the proportion of pregnant and post-partum women that are accessing oral health services could inform strategy to ensure a high number receive care in order to prevent disease among their babies and toddlers.

- **Utilization of oral health service by adults with chronic health conditions –** Given recent evidence that people with health conditions, such as diabetes, have significantly lower medical costs when they receive oral health care, the opportunity exists to examine progress in WA in getting these populations into dental care.

- **Emergency department dental visits** – According to the Washington State Hospital Association, dental visits are a top reason Apple Health-insured patients visit the E.D. Better quantifying the cost and types of patients (e.g., age, health conditions, etc.) that seek care in the E.D could inform strategies to divert these visits.

Additional Data Needs Continued

- **Dental treatment requiring operating room use** – Children, and some adults with disabilities, that need treatment for severe tooth decay often necessitate the care be provided under general anesthesia in an operating room. Capturing these trends would provide a gauge for progress in reducing these severe cases.

- **Percent of children receiving sealants**- Sealants protect the chewing surface of teeth from decay. Permanent molars, which first appear when a child is about 6 years old, are the most likely to benefit from sealants. Measuring percent of children receiving sealant identifies the prevalence of sealant placement on a permanent molar tooth during a particular year for children. However, this measure has its limitation as it does not absolutely measure percentage of children who have ever had a sealant on a permanent molar. It does not identify those whose teeth have not erupted, those whose have already received sealants in prior years, and those not candidates for sealants due to decay/filled teeth. Therefore, a better measure is needed to monitor trends in sealant placement over time as well as variations in sealant placement between reporting periods.

Resources and Appendixes

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Slide 4: Introduction

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Slide 17: Apple Health Expenditures Adjusted to 2012 Dollars: Adults and Children, FY 2008 – FY 2014

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Slide 21: High Cost Dental Service Users, FY 2014

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Slide 35: Percent of Child Enrollees Using at least One Service, by Age Group, FY 2008 vs. FY 2014

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Slide 42: Utilization for Children in Washington vs. Other States

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Additional Resources

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About the Sponsor and Authors

Washington Dental Service (WDS) Foundation

Washington Dental Service (WDS) Foundation completed this document for the purpose of better understanding the use and expenditures associated with dental services for Washington's Apple Health population. WDS Foundation is a non-profit funded by Delta Dental of Washington, committed to lasting approaches to improving the oral health of Washington's residents. The Foundation's mission is to prevent oral disease and improve overall health. The Foundation works closely with partner organizations to develop and implement innovative programs and public policies that produce permanent changes in the healthcare arena and improve the public's long-term oral health.

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They wish to acknowledge the support and guidance of Dr. Lisa Maiuro at Health Management Associates in the completion of this report. Dr. Lisa Maiuro was the lead author and researcher for the Washington State Medicaid Facts and Figures FY2008-FY 2012, which was published in 2013. She is a former UCLA/Rand Corp. Pew Health Policy Fellow and has more than 25 years of experience in health policy and research and data analysis, including the analysis of oral health data for the purposes of improving access to quality dental care through data driven information. (http://www.healthmanagement.com)

Methods

Claims Data:
The expenditure and utilization analyses for this presentation were based on the Washington Apple Health paid claims data as extracted by the Washington Dental Service Foundation . Data are included for Fiscal Year 2008 through Fiscal Year 2014.

The dental procedure codes are grouped into sections as follows:

I. Diagnostic D0100-D0999. Examples of services include exams and x-rays.
II. Preventive D1000-D1999. Examples of services include application of fluoride and sealants.
III. Restorative D2000-D2999. Examples of services a crown which may be used to restore an already broken tooth or a tooth that has been severely worn down.
IV. Endodontics D3000-D3999. An example of a service is a root canal.
V. Periodontics D4000-D4999. Examples of services include the removal of plaque and tartar from under the gums.
VI. Prosthodontics, removable D5000-D5899. An example of a service is removable dentures.
VII. Maxillofacial Prosthetics D5900-D5999. Examples of services include orbital and other facial prosthetics.
VIII. Implant Services D6000-D6199. Examples of services include the surgical placement of implants.
IX. Prosthodontics, fixed D6200-D6999. Examples of services include permanent retainers.
X. Oral and Maxillofacial Surgery D7000-D7999. Examples of services include dental extractions.
XI. Orthodontics D8000-D8999. Examples of services include dental braces.
XII. Adjunctive General Services D9000-D9999. Examples of services include anesthesia and other services related to dental treatment.

Data for Federally Qualified Health Center (FQHC) services based on the specific dental procedures in the twelve groups above were not available. Therefore, all FQHC based dental care was classified as "Other." In 2010 the Washington State Department of Social and Health Services (DSHS) replaced its Apple Health Management Information System with a new payment processing system named Provider One. ProviderOne is now the primary provider payment processing system for DSHS. Prior to that point, not all the dental FQHC expenditures were reported in the dental data. Consequently, total dental expenditures that include FQHC data for FY 2008 through FY 2010 are incomplete and therefore this document does not include FQHC expenditures for FY 2008 through FY 2010. Please note that, subsequently, total dental expenditures in this document, depending on the unit of analysis e.g. all dental payments or all dental payments less FQHC services, differ from those on the Washington State Health Care Authority website. Including FQHC expenditures in total expenditures for longitudinal analyses from FY 2008 through FY 2014 implies a rate of growth not supported by the data given that the Washington Apple Health FY 2008 through FY 2010 claims data do not include all FQHC payments and these payments were not available from other sources.

For purposes of reporting in this document we applied the following guide unless otherwise noted on the page: Expenditure data for the period FY 2008 – FY 2010 *excludes* FQHC expenditures; expenditure data that compares expenditures for any of the years in the FY 2008 – FY 2010 period with FY 2014 *excludes* FQHC expenditures; total expenditure data for FY 2011 through FY 2014 *includes* FQHC expenditures , unless otherwise noted, as long as it is not being compared to expenditures for years prior to FY 2011.

Methods

Sealants:
CMS' Oral Health Initiative seeks to improve children's access to dental care, with an emphasis on early prevention. One of the initiative goals is to increase the proportion of Apple Health and CHIP children ages 6 to 9 who receive a sealant on a permanent molar by 10 percentage points. [1]

Enrollee Demographic Data:
The enrollee demographic data for this presentation were based on the Washington Apple Health paid claims data as provided by Heath Care Authority. Demographic data (e.g., age and county) for a single enrollee may vary by claim within a given year. However, in order to track an enrollee's utilization and expenditures over time based on demographic factors it was necessary to have a single indicator for a given year for many of these demographic fields. Subsequently, demographic information was based on the value for which the enrollee had the most months of eligibility, e.g. if the enrollee was in King County for 8 of the 12 months, the enrollee's county was designated as King for the year.[2] This is an obvious study limitation but necessary for this type of analysis and we do not believe this approach has a material impact on our findings.

Access/Utilization Measures:
There are many definitions of and methods by which to measure access to care and utilization. One of the most basic is a utilization rate, i.e., the proportion of a population that uses a service in a specified time period. The numerator in this equation is typically an unduplicated count of users, i.e., an individual is only counted once regardless of the number of times that person is seen or the number of services received. The denominator, however, can be specified in several different ways, each of which tends to influence how the data are interpreted.

Most of the analyses used an unduplicated count of enrolled members, referred to as "enrollees" over the course of the year. This reflected the aggregate number of people who had the benefit of dental services at any time during the period analyzed. However, it is important to note that in the Washington Apple Health program, like all Medicaid programs, over the course of a year some individuals may be eligible for a month or two while others may be eligible for the entire year. Thus, it isn't reasonable to assume that people who have been enrolled for a month have had the same opportunity to receive dental care as those who have been enrolled for a year.

Dental Care during Pregnancy:
Every pregnant woman should have an oral evaluation, be counseled on proper oral hygiene, and be referred for preventive and therapeutic oral health care.[3] Ideally, our analysis would have included an exploration of dental care for pregnant Apple Health enrollees. However, data limitations prohibited this given that the only way to identify a pregnant woman and their stage of pregnancy would involve an analysis of the medical claims data. We were able to examine dental utilization for a subset of Apple Health enrollees classified as Pregnancy Categorically Needy Emergency and related services only, aid codes 1095 and 1096. This includes women who are not federally qualified for full scope Apple Health and thus exclude all the pregnant women who are in aid codes that do qualify for full scope. It also covers several month of postpartum care. Thus, while utilization rates for this population given us information about this subset of pregnant women they do not necessarily represent utilization rates for all pregnant women in the Washington Apple Health program during their pregnancy.

[1] Sebelius, Kathleen. "Executive Summary: 2012 Annual Report on the Quality of Care for Children in Apple Health and CHIP." December 2012. Department of Health and Human Services. Accessed April 26, 2013. [http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/2012-Ann-Sec-Rept-ES.pdf]
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Methods

Top Procedures by Expenditures and Users:
The top procedures by expenditures and the top 10 procedures by users slides contain simplified procedure names. Below are the full procedure names and procedure codes:

- **Adolescent Orthodontic Treatment:** Comprehensive Orthodontic Treatment of the Adolescent Dentition (D8080)
- **Stainless Steel Crown:** Prefabricated Stainless Steel Crown (D2930)
- **Periodic Oral Exam:** Dental - Periodic Oral Examination (D0120)
- **Composite Filling - 2 Surfaces:** Resin-Based Composite - 2 Surfaces Posterior (D2392)
- **Fluoride- Child:** Topical Application of Fluoride (Prophylaxis Not Included) - Child (D1203)
- **Cleaning – Child:** Prophylaxis - Child (D1120)
- **Composite Filling - 1 Surface:** Resin-Based Composite - 1 Surface Posterior (D2391)
- **Sealant:** Sealant - Per Tooth (D1351)
- **Extraction:** Extraction Erupted Tooth/Exposed Root (D7140)
- **Comprehensive Oral Exam:** Comprehensive Oral Evaluation Orthodontics (D0150)
- **X-Rays Two Bitewings:** Bitewings-Tow Films (D0272)
- **X-Rays Complete Intraoral:** Dental- Intraoral-Complete Series (D0220)
- **X-Rays Intraoral Periapical First:** Dental Intraoral Periapical First Film (D0230)

Apple Health Expenditures Adjusted to 2014 Dollars:
Calculating real dollars: Price inflation causes the value of a dollar to fall over time, and so the same dollar amount in two different years will usually represent different amounts of purchasing power. To counteract this problem, analysts typically adjust dollar figures to account for inflation. Figures that have not been adjusted for inflation are said to be in 'nominal dollars,' while those that have been adjusted are in 'real dollars.' Converting costs to 'real dollars' allows us to compare costs incurred in different years. For our analysis we used the medical consumer price index to capture changes in price related to medical services.

Definitions

- **Adjunctive General Services:** Services performed in addition to another procedure, such as anesthesia, only when the procedure is directly related to the original procedure.
- **Continuously Eligible:** An enrollee who was enrolled in the dental program for 11 or more consecutive months during a fiscal year.
- **Diagnostic Services:** Services used to determine the cause of an illness.
- **Endodontics:** A dental specialty concerned with treatment of the root and nerve of the tooth.
- **Fixed Prosthodontics:** Replacement of missing teeth with artificial materials, such as a bridge or denture, in a permanent fashion.
- **Health Professional Shortage Area:** A HPSA is a geographic area wherein the population has an inadequate number of dentists to serve their dental needs. The designation is used primarily for the purposes of loan repayment for dentists and hygienists.
- **Maxillofacial Prosthetics:** Surgery of, pertaining to, or affecting the jaws and the face.
- **Oral Surgery:** Procedures used to correct problems or damage to the mouth, teeth, or jaw by incision or manipulation.
- **Orthodontics:** A dental specialty concerned with straightening or moving misaligned teeth or jaws with braces or surgery.
- **Periodontics:** A dental specialty concerned with the treatment of gums, tissue, and bone that support the teeth.
- **Other:** Comprised of procedures codes T1015, Clinic Services-FQHC Encounter and T2035, Utility Services Anesthesia, where the former accounts for 97% of the expenditures for these two services categories.
- **Preventive Services:** Services performed to help avoid sickness or other problems in the mouth.
- **Removable Prosthodontics:** Replacement of missing teeth with artificial materials, such as a bridge or denture, in a temporary fashion.
- **Restorative Services:** Procedures used to correct problems or damage to the mouth, teeth, or jaw without surgery.
- **Sealant:** Plastic resin placed on the biting surfaces of teeth to prevent bacteria from attacking the enamel and causing tooth decay.
- **User:** An enrollee who received one or more services.