

RESEARCH REPORT

Trends in Adolescent Dental Care Use

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Introduction

This report provides information on dental care utilization among Medicaid-enrolled and commercially-insured adolescents.

Key Findings

- Overall, dental care utilization among Medicaid-enrolled adolescents remained stable between 2013 and 2018.
- Commercially-insured adolescents had higher dental care utilization than Medicaid-enrolled adolescents.
- Among Medicaid-enrolled adolescents, Hispanic adolescents had higher rates of dental utilization compared to White and Black adolescents.
- Females, regardless of their insurer, were more likely than males to utilize dental care.

Why is oral health important in adolescence?

The physical and emotional changes during adolescence (ages 10–19 years) are significant and unique. These specific life changes magnify the risk factors for oral and dental disease. Adolescence also is a time when health-compromising and health-enhancing patterns of behavior are formed (1, 2). If good oral hygiene habits, healthy dietary choices, and consistent dental visits are not formed in youth, there may be long-term consequences for both oral and general health. Studies have shown that adolescents who form consistent dental care habits are more likely to maintain stable oral health behaviors throughout their lives (3). In addition, this is a critical time during which health care professionals can provide preventive services, health promotion, and early education (4).

Predictors of dental care utilization in adolescents

According to the Centers for Disease Control and Prevention, between 2003 and 2010, fewer than 50% of Medicaid-enrolled adolescents received any dental care (5). The American Academy of Pediatrics and the American Academy of Pediatric Dentistry recommend a routine preventive dental visit annually for adolescents. However, research has shown that a significant proportion of adolescents do not receive annual dental visits (6). Several predictors, such as race, ethnicity, insurance coverage, type of insurance, and parental socioeconomic status have been associated with dental visits in adolescents (1, 6). Despite improvements in Medicaid and commercial insurance coverage, significant disparities still exist in the use of dental care (1, 7). Although racial/ethnic and gender disparities have narrowed over the past decade, they still persist (8).

Methods

The CareQuest Institute for Oral Health used 2013–2018 administrative dental claims from the IBM Watson Truven MarketScan Medicaid and Commercial Databases to build the study cohort that consisted of all adolescents ages 10 to 19 years who had any dental services during that time. This includes preventive and restorative services, endodontics, orthodontics, periodontics, sealants, and oral surgery. Data for dental services was obtained using the Current Dental Terminology (CDT) codes. The study team also followed the World Health Organization's (WHO) definition of adolescents, which is people between the ages of 10 and 19 years (9). Demographic variables such as age, gender, and race also were evaluated in this study. The Chi-square test and proportion test were used to examine dental utilization trends among adolescents over time; all the differences described in this report are statistically significant.

Findings and Implications

For adolescents ages 10–14 years, 50.9–53.8% (depending on year) of Medicaid-enrollees received any dental treatment. Fewer adolescents in the older age group received any dental treatment. Only 37.8–40.9% of Medicaid-enrolled adolescents ages 15–19 years accessed dental care during this time period (Table 1).

For the study period 2013–2018, there was a decline in the use of preventive dental services for both age groups (Table 1). A mixed trend was seen for utilization of restorative dental services, with a decrease in services for the 10–14 year age group that ranged from 17.5% to 16.1%, and a decrease in restorative dental services seen for the 15–19 year age group that ranged from 16.1% to 14.1%.

Medicaid-enrolled Hispanic adolescents in both the 10–14 year age group and the 15–19 year age group had higher utilization of dental services compared to White and Black adolescents for all six years (Table 2). Adolescent females in both age groups were more likely than males to utilize dental care for all six years (Table 2). For the time frame of 2013–2018, an average of 51.0% of Medicaid-enrolled males from the 10–14 year age group received dental care. By comparison, an average of 54.3% of Medicaid-enrolled females from the same age group sought and received dental care. That average difference of 3.3% in receipt of dental care between males and females increased to 5.4% for the 15–19 years age group.

Table 1. Dental care utilization for Medicaid-enrolled adolescents, 2013–2018

Ages 10–14 years (%)						
Dental Services	2013 (n = 1,474,007)	2014 (n = 1,511,295)	2015 (n = 1,667,318)	2016 (n = 1,663,327)	2017 (n = 1,704,992)	2018 (n = 1,443,563)
All Dental	53.8	53.5	50.9	52.6	52.9	52.0
Preventive	50.3	50.0	47.6	49.1	49.4	48.7
Restorative	17.5	17.0	16.1	16.6	16.3	16.1
Endodontics	1.9	1.8	1.8	1.7	1.7	1.7
Orthodontics	2.3	2.3	2.2	2.3	2.3	2.8
Periodontics	0	0	0	0	0	0
Sealants	12.1	11.9	11.1	11.3	11.6	11.1
Oral Surgery	7.1	6.8	6.5	6.7	6.6	6.5
Ages 15–19 years (%)						
Dental Services	2013 (n = 1,228,279)	2014 (n = 1,266,846)	2015 (n = 1,471,524)	2016 (n = 1,472,430)	2017 (n = 1,492,514)	2018 (n = 1,258,256)
All Dental	40.9	40.6	37.8	39.0	39.1	38.5
Preventive	35.0	34.6	32.3	33.3	33.4	32.7
Restorative	16.0	15.4	14.2	14.6	14.5	14.1
Endodontics	1.2	1.1	1.0	1.0	1.0	1.0
Orthodontics	2.3	2.2	2.2	2.4	2.5	3.1
Periodontics	0	0	0	0	0	0
Sealants	3.6	3.4	3.1	3.2	3.3	3.2
Oral Surgery	5.6	5.5	5.1	5.2	5.1	4.9

Table 2. Utilization of dental services for Medicaid-enrolled adolescents by race and gender, 2013–2018

Variables	Ages 10–14 years (%)							Ages 15–19 years (%)						
	2013	2014	2015	2016	2017	2018	Total (Avg)	2013	2014	2015	2016	2017	2018	Total (Avg)
Race														
White	53.5	53.9	49.9	52.6	52.6	52.0	52.4	41.7	41.7	37.8	39.7	39.4	39.1	39.9
Black	53.8	53.8	50.4	50.5	50.9	49.4	51.5	41.1	40.8	37.3	37.0	37.0	35.5	38.1
Hispanics	70.8	69.0	65.6	64.5	65.1	64.8	66.6	52.7	52.7	49.7	49.3	49.7	50.0	50.7
Gender														
Males	52.3	52.1	49.2	50.8	51.1	50.3	51.0	38.6	38.1	35.0	36.2	36.2	35.6	36.6
Females	55.3	54.9	52.7	54.4	54.6	53.8	54.3	43.1	42.9	40.7	41.9	41.9	41.4	42.0

Medicaid-enrolled Hispanic adolescents had higher utilization of preventive dental services and restorative dental visits compared to White and Black adolescents for both age groups from 2013 to 2018 (Figures 1–4).

Figure 1. Proportions of Medicaid-enrolled adolescents ages 10–14 years who had a preventive visit by race/ethnicity 2013–2018

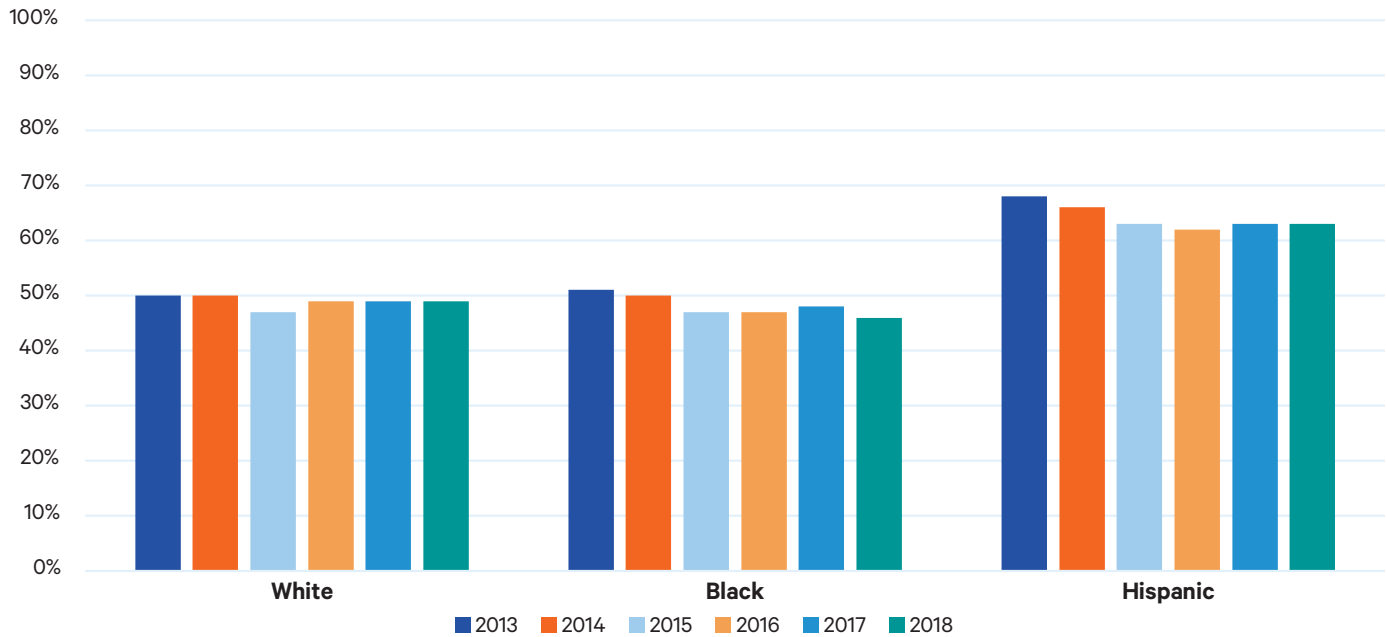


Figure 2. Proportions of Medicaid-enrolled adolescents ages 15–19 years who had a preventive dental visit by race/ethnicity from 2013–2018

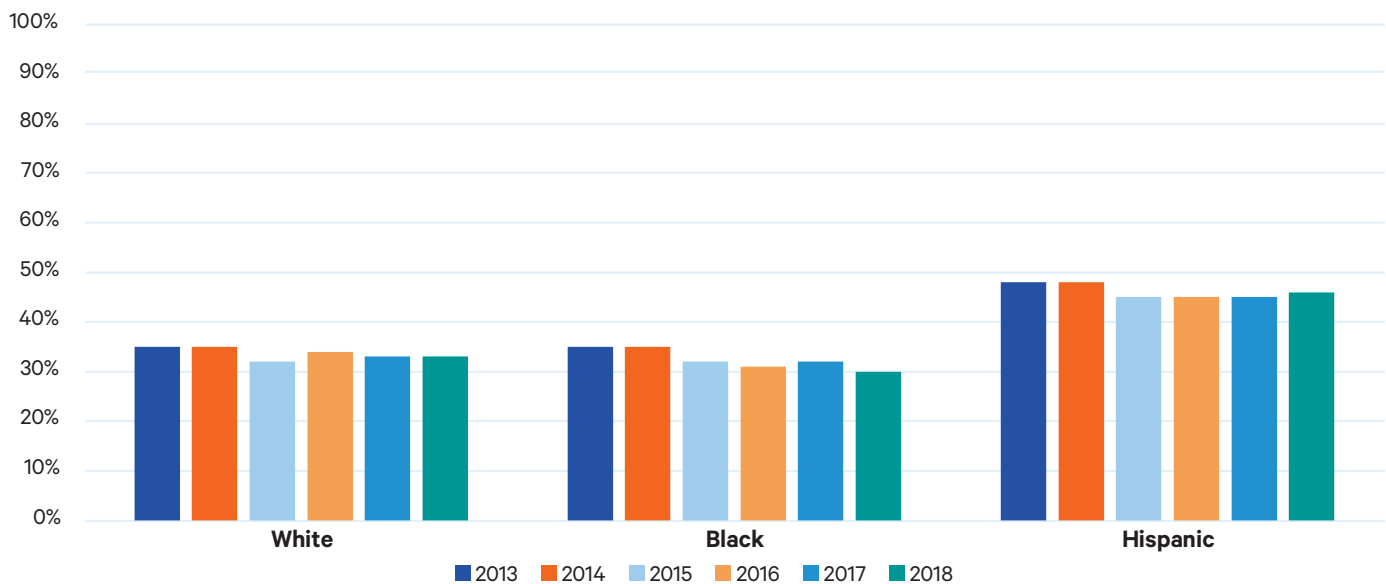


Figure 3. Proportion of Medicaid-enrolled adolescents ages 10–14 years who had a restorative dental visit by race/ethnicity from 2013–2018

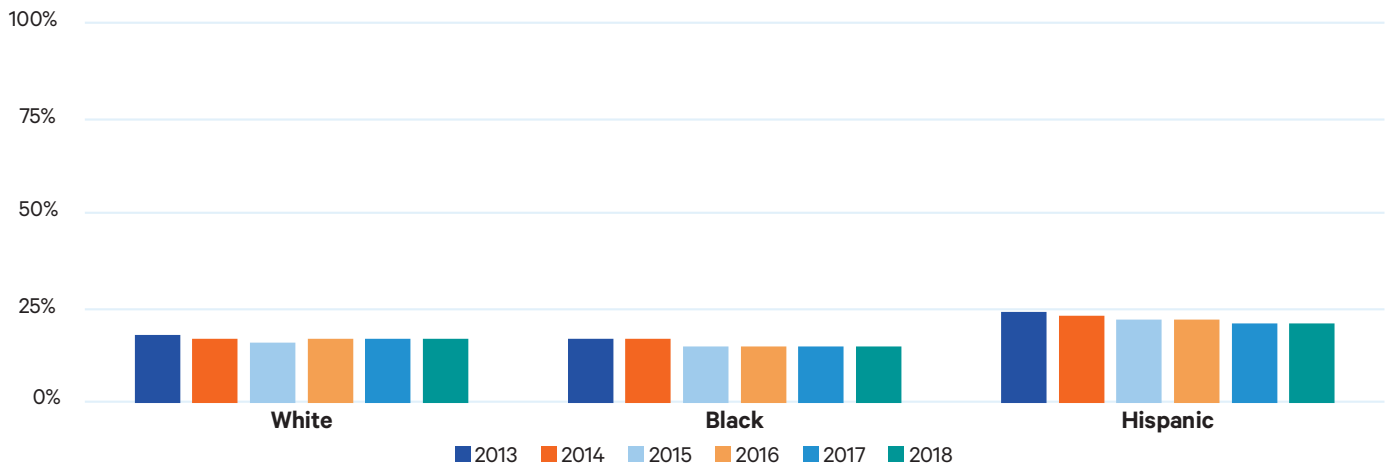
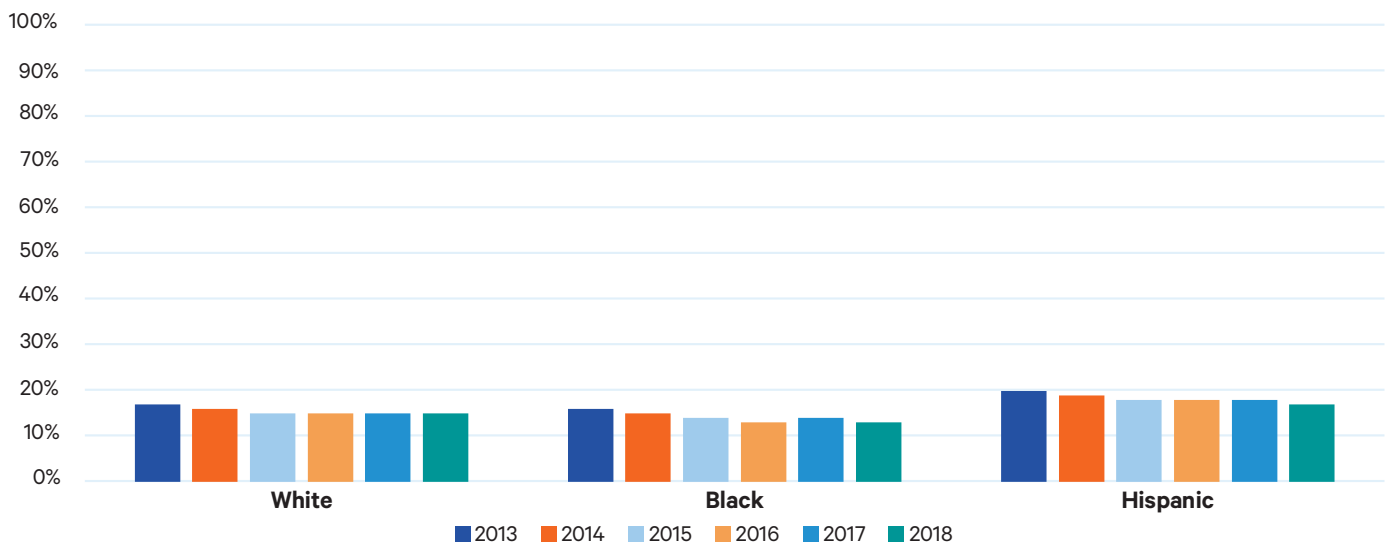


Figure 4. Proportion of Medicaid-enrolled adolescents ages 15–19 years who had a restorative dental visit by race/ethnicity from 2013–2018



Comparison of Medicaid-enrolled and commercially-insured adolescents

Figures 5 and 6 provide a comparative analysis between Medicaid-enrolled and commercially-insured adolescents for both age groups. Commercially-insured adolescents had higher utilization of any dental, preventive, and orthodontic services. From 2013–2018, 72.1–76.0% of adolescents ages 10–14 years who were enrolled in a commercial insurance plan received any dental care, compared to 50.9–53.8% of adolescents enrolled in Medicaid. There is a substantial difference seen in utilization of orthodontic care between commercially-insured and Medicaid-enrolled adolescents. Commercially-insured adolescents were six to seven times more likely to receive orthodontic services than were Medicaid-enrolled adolescents. This is because Medicaid coverage for orthodontic treatment varies in cost, type of dentist eligible to provide care, and qualifying criteria by state (10). Although the desire for orthodontic treatment was higher, a disparity exists between the patients who need orthodontic treatment to correct a serious malocclusion and patients who are receiving the

treatment (11). There is evidence that increasing Medicaid reimbursement rates for orthodontic services to the same level as paid by private insurance can significantly increase the case acceptance of orthodontic treatment and reduce disparities between Medicaid-enrolled adolescents and those with private insurance (12).

In 2013, 58% of commercially-insured and 35% of Medicaid-enrolled adolescents received preventive dental care (Figure 6). The disparity in preventive care utilization for each subsequent year increased significantly between Medicaid-enrolled and commercially-insured adolescents. This significant difference could be because of several factors, including lack of awareness, lack of perceived need for preventive care, cultural barriers, and lower oral health literacy of Medicaid-enrolled adolescents and their families (13, 14). However, preventive care can be cost saving in the long run, and increasing it can lead to early detection of oral diseases, improved quality of life for adolescents, and potentially the reduced cost of restorative treatments, which is beneficial for Medicaid programs.

Figure 5. Dental utilization across Medicaid-enrolled vs. commercially-insured adolescents ages 10–14 years

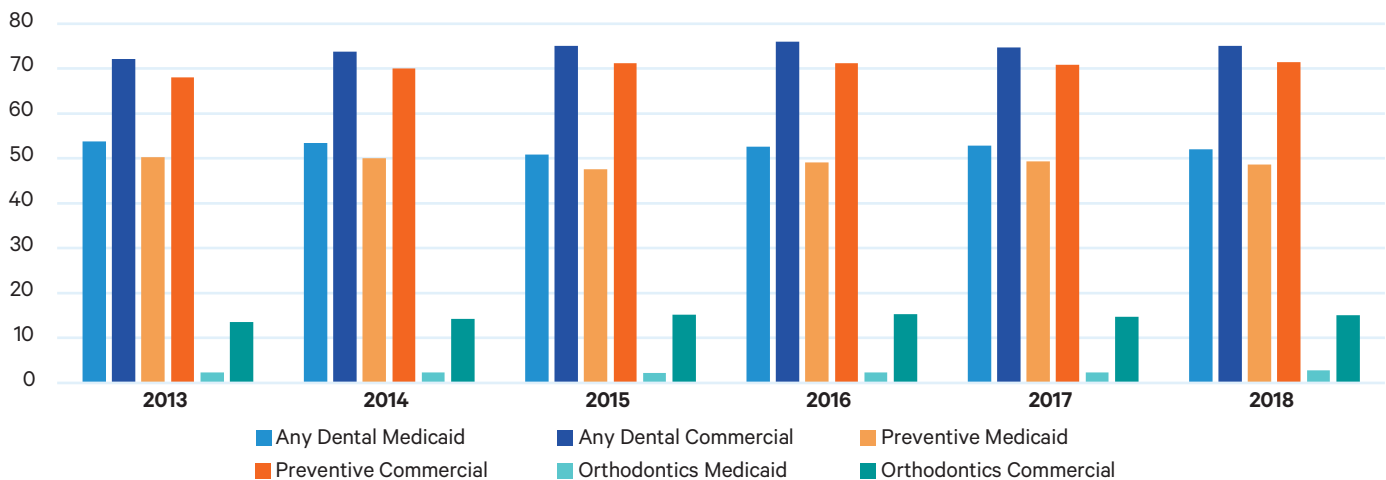
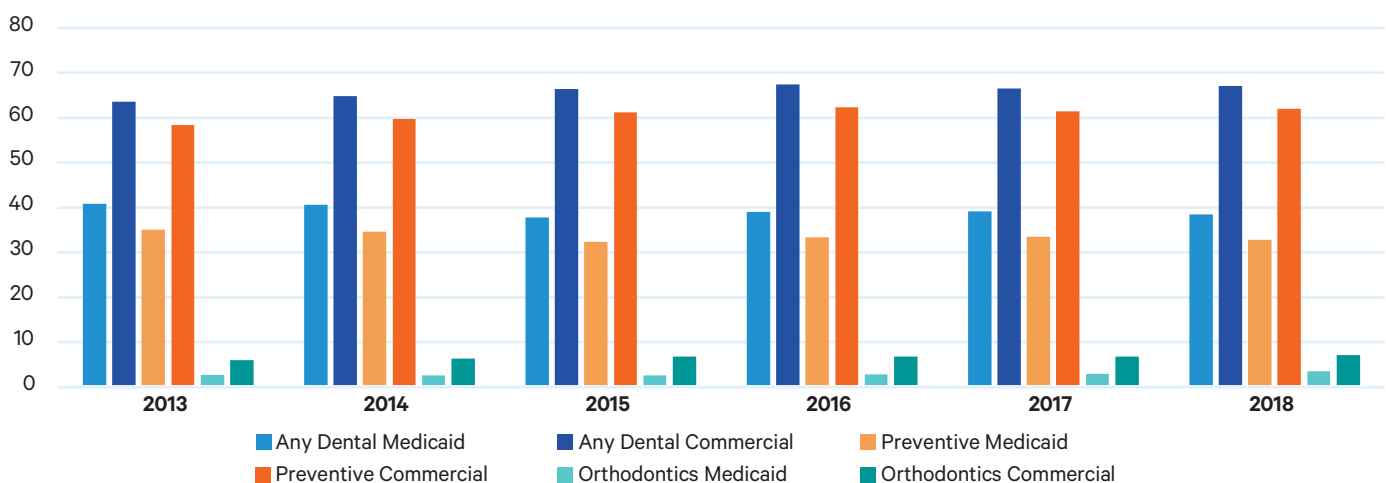


Figure 6. Dental utilization across Medicaid-enrolled vs. commercially-insured adolescents ages 15–19 years





Call to Action

Dental health services utilization in the Medicaid-enrolled adolescent population is less compared to their commercially-insured peers. In addition to considering issues related to access to care, it is imperative to understand perceptions, attitudes, and beliefs of adolescents related to dental service utilization and oral health, in general. Additional research is urgently warranted to understand their social determinants of health and barriers to care, including oral health literacy, in order to effectively address disparities in use of dental services.

Furthermore, state and federal agencies partnering with schools promote utilization of dental services in adolescents — ultimately improving their current oral health outcomes and laying a foundation for lifelong positive oral health-related behaviors. Starting with state-run or -funded school-based oral health programs (SBOPHs), schools can play a central role in promoting oral health as a priority for adolescents. SBOHPs have a wider reach, not only to their students, but also to parents and families (15). Also, schools can develop innovative programs, such as high school ambassadors for oral health, to encourage their peers to utilize dental care services.

The role of primary care physicians and pediatricians cannot be emphasized enough in helping adolescents establish a dental home. Although the American Academy of Pediatrics has some guidelines for prevention and health promotion of oral health for infants and young children, guidelines for adolescents' oral health are few to none (16). A collaborative medical-dental approach can lead to higher utilization of dental services in this population.

Today's adolescents will be future parents and the future workforce. Having optimal oral health can be a foundation that contributes to optimal quality of life, equitable overall health outcomes, and healthier families in the future.

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