

RESEARCH REPORT

# Unseen Needs

**The Frequency of Dental Care Received by People Living with HIV**

**SUGGESTED CITATION:**

Santoro, Morgan; Heaton, Lisa J.; Preston, Rebecca; Sonnek, Adrianna; O'Malley, John; Tranby, Eric P., *Unseen Needs: The Frequency of Dental Care Received by People Living with HIV*, Boston, MA: CareQuest Institute for Oral Health, July 2025. DOI: 10.35565/CQI.2025.2006  
Copyright © 2025 CareQuest Institute for Oral Health, Inc.

## Authors

### **Morgan Santoro, MPH**

Biostatistician, Analytics and Data Insights  
CareQuest Institute for Oral Health

### **Lisa J. Heaton, PhD**

Science Writer, Analytics and Data Insights  
CareQuest Institute for Oral Health

### **Rebecca Preston, MPH, CHES**

Program Manager, Analytics and Data Insights  
CareQuest Institute for Oral Health

### **Adrianna Sonnek, MPH**

Manager, Health Informatics  
CareQuest Institute for Oral Health

### **John O'Malley, MHI, MS**

Manager, Data Science  
CareQuest Institute for Oral Health

### **Eric P. Tranby, PhD**

Director, Analytics and Data Insights  
CareQuest Institute for Oral Health

## Acknowledgments

### **John F. Gabelus, MA**

Senior Grants and Program Associate, Philanthropy  
CareQuest Institute for Oral Health

### **Francisco Ramos-Gomez, DDS, MS, MPH**

Professor and Chair Section of Pediatric Dentistry  
Director UCLA Center Children's Oral Health  
University of California, Los Angeles

### **Sara Ward, BA**

Senior Manager, Public Relations  
CareQuest Institute for Oral Health

### **Lisa Sall, MPP**

Senior Marketing Manager, Marketing and Communications  
CareQuest Institute for Oral Health



As of 2022, there were approximately [1.2 million individuals living with human immunodeficiency virus \(HIV\) in the United States \(US\)](#), including nearly 32,000 new infections that same year.

[Adults aged 25–34](#) accounted for approximately 40% of new HIV infections in 2022. Although the overall rate of HIV infections decreased between 2017 and 2021 — particularly among 13-to-24-year-olds — racial and ethnic disparities in HIV diagnoses persist, with Hispanic and Black adults having a [4-fold and 20-fold higher diagnosis](#) rate than white adults, respectively. Reasons for disparities in HIV diagnoses are multifactorial and complex, and include [lack of access to adequate health care](#), [stigma](#), [racism](#), and [chronic stress and trauma](#).

Individuals with HIV face an [increased risk of oral health problems](#) due to a weakened immune response. Some of the [more common oral health problems](#) experienced by individuals with HIV are chronic dry mouth and its associated increased risk of dental caries/decay, [periodontal \(gum\) disease](#), and oral candidiasis (thrush). In addition to risk of dental disease, those who are HIV positive often face barriers to receiving adequate oral health care. [Lack of integrated electronic health records](#) between medical and dental providers may leave dental providers unaware of patients' full medication lists. Many adults with HIV report being [stigmatized and disrespected](#) in the dental setting, including [being denied dental care](#) or

having their care significantly delayed due to their HIV status, potentially due to [providers' lack of knowledge](#) about specific needs of patients with HIV.

An analysis of medical and dental claims data from 2013–2015 found that individuals with HIV were [less likely to have seen a dentist](#) and more likely to have had major restorative care or extractions than individuals without HIV. This report uses 2020–2022 medical and dental claims data to examine patterns in dental utilization and specific procedures received between individuals with and without HIV.

**Individuals with HIV face an increased risk of oral health problems due to a weakened immune response.**

# Methods

Data to examine frequency of dental utilization between individuals with and without HIV for this analysis comes from the [2020–2022 Merative MarketScan Research Database](#). This nationally representative database represents administrative claims records from multiple deidentified US states. Individuals were divided into four age groups (0–14, 15–20, 21–64, and 65 and older) and were also stratified by race and ethnicity (Black, Hispanic, Other, white). The population analyzed contains all patients with a medical or dental visit in 2020, either inpatient or outpatient, and who also had at least 1,000 days of continuous enrollment with 90-day gaps in coverage allowed. All patients with a Code on Dental Procedures and Nomenclature (CDT) 2020 procedure code

within the administrative record were defined as having a dental service. Eight procedure categories were created based on those codes: diagnostic, preventive, minor restorations, major restorations, extractions, periodontal, orthodontic, and adjunctive general services. Specific codes included in each grouping are in the Appendix. Patients with HIV were identified using the International Classification of Diseases, Tenth Edition, (ICD-10) codes B20 and Z21 (code O98.7 did not produce any results). Patients with an HIV diagnosis anywhere in the administrative record were classified as being HIV positive, and all others were classified as being non-HIV positive. Statistical significance was evaluated using two-sample test of proportions testing. All analyses were performed using R.

## Results

Of the 8,891,093 individuals in the dataset, less than 1% (0.4%; n=39,478) had a positive HIV diagnosis. Of those diagnosed with HIV, more individuals were male (61.2%) than female (38.8%; Table 1). Most of the individuals diagnosed with HIV were between the ages of 21 and 64 (88%), while less than 1% of patients with HIV were aged 0–14 years (0.8%). Nearly 60% of the individuals diagnosed with HIV were Black (59.8%), followed by individuals identifying as white (28.8%), Other (6.3%), and Hispanic (5.1%).

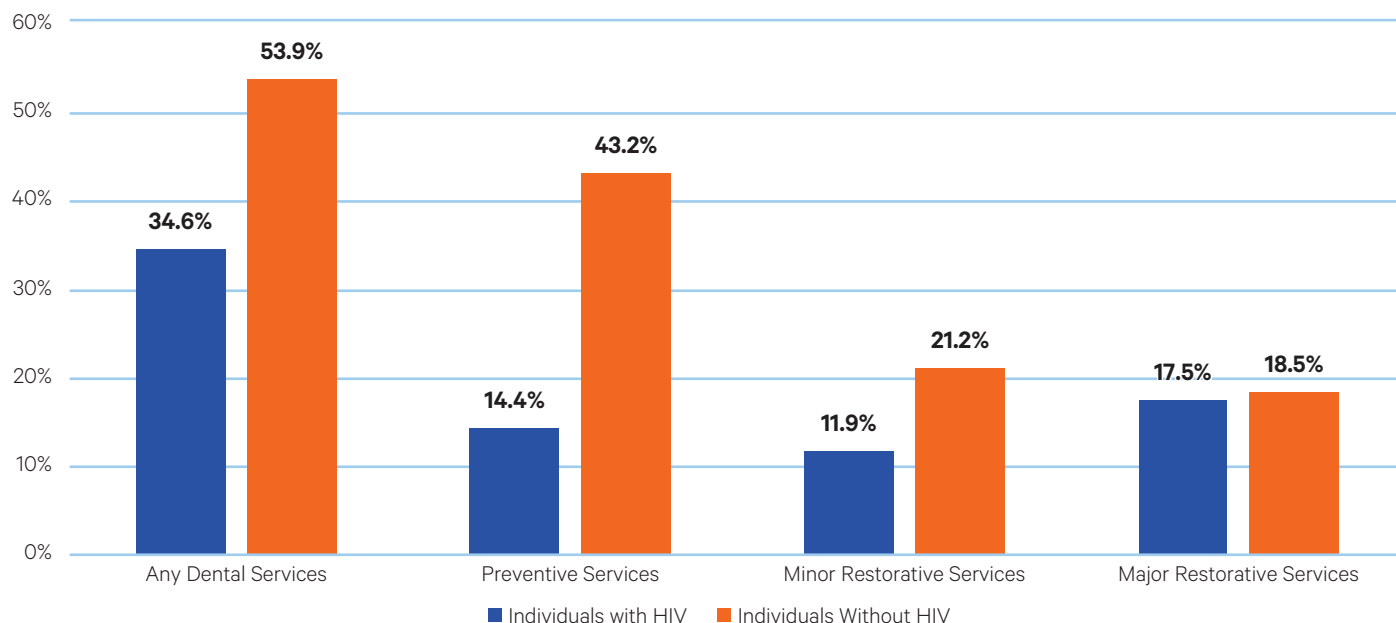
Of those individuals with an HIV diagnosis, 34.6% had at least one dental service, compared to 53.9% of individuals without

HIV (Table 2). For nearly all types of CDT codes, individuals without HIV had higher percentages of receiving that type of treatment than those with HIV (Figure 1, Table 2). The two exceptions to this trend were for extractions and periodontal care. The percentage of adults with HIV who had extractions (13.4%) was the same as for adults without HIV (13.4%). Meanwhile, twice as many individuals with HIV (4.4%) had at least one periodontal CDT code as those without HIV (2.2%). [Periodontal disease is more common](#) among individuals with HIV than without, making periodontal treatment important for individuals diagnosed with HIV.

**Table 1: Sample Demographics of Individuals with and Without HIV**

Variable	Individuals with HIV N (%)	Individuals Without HIV N (%)
Gender		
Female	15,295 (38.8%)	5,044,832 (57%)
Male	24,144 (61.2%)	3,802,458 (43%)
Age		
0–14	314 (0.8%)	3,415,766 (38.7%)
15–20	829 (2.1%)	1,323,358 (15%)
21–64	34,519 (88%)	3,438,806 (39%)
65+	3,545 (9%)	647,474 (7.3%)
Race/ethnicity		
Black	21,206 (59.8%)	2,480,193 (30.8%)
Hispanic	1,807 (5.1%)	817,667 (10.1%)
Other	2,225 (6.3%)	684,448 (8.5%)
White	10,211 (28.8%)	4,078,159 (50.6%)

**Figure 1: Dental Service Utilization Among Individuals with and Without HIV**



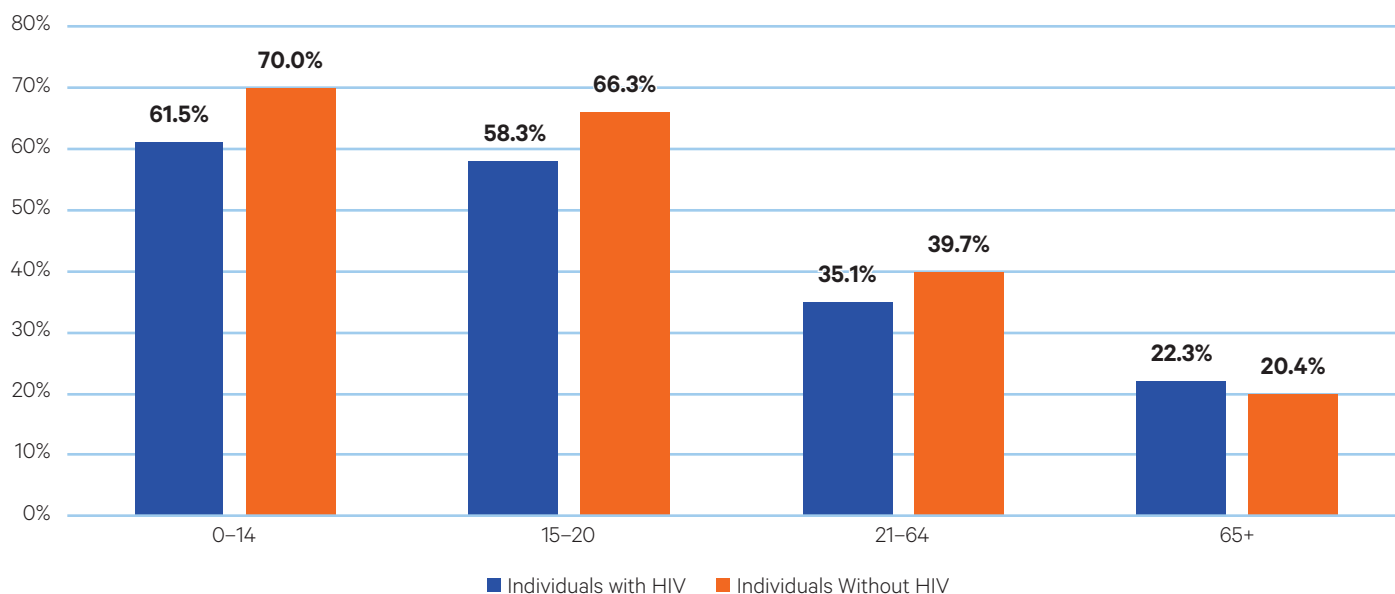
**Table 2: Presence of at Least One CDT Code by Category by HIV Status**

Variable	Individuals with HIV	Individuals Without HIV	p value
1+ CDT code			
Yes	13,641 (34.6%)	4,775,394 (53.9%)	<0.001
No	25,837 (65.4%)	4,076,221 (46.1%)	
1+ diagnostic CDT code			
Yes	120,803 (32.4%)	4,625,060 (52.3%)	<0.001
No	26,675 (67.6%)	4,226,555 (47.7%)	
1+ preventive CDT code			
Yes	5,682 (14.4%)	3,819,630 (43.2%)	<0.001
No	33,796 (85.6%)	5,031,985 (56.8%)	
1+ minor restorative CDT code			
Yes	4,683 (11.9%)	1,873,302 (21.2%)	<0.001
No	34,795 (88.1%)	6,978,313 (78.8%)	
1+ major restorative CDT code			
Yes	6,892 (17.5%)	1,636,218 (18.5%)	<0.001
No	32,586 (82.5%)	7,215,397 (81.5%)	
1+ periodontal CDT code			
Yes	1,724 (4.4%)	197,979 (2.2%)	<0.001
No	37,754 (95.6%)	8,653,636 (97.8%)	
1+ orthodontic CDT code			
Yes	63 (0.2%)	189,079 (2.1%)	<0.001
No	39,415 (99.8%)	8,662,536 (97.9%)	
1+ adjunctive CDT code			
Yes	1,770 (4.5%)	1,887,680 (13.4%)	<0.001
No	37,708 (95.5%)	7,663,935 (86.6%)	
1+ extraction CDT code			
Yes	5,293 (13.4%)	1,187,342 (13.4%)	0.97
No	34,185 (86.6%)	7,664,273 (86.6%)	

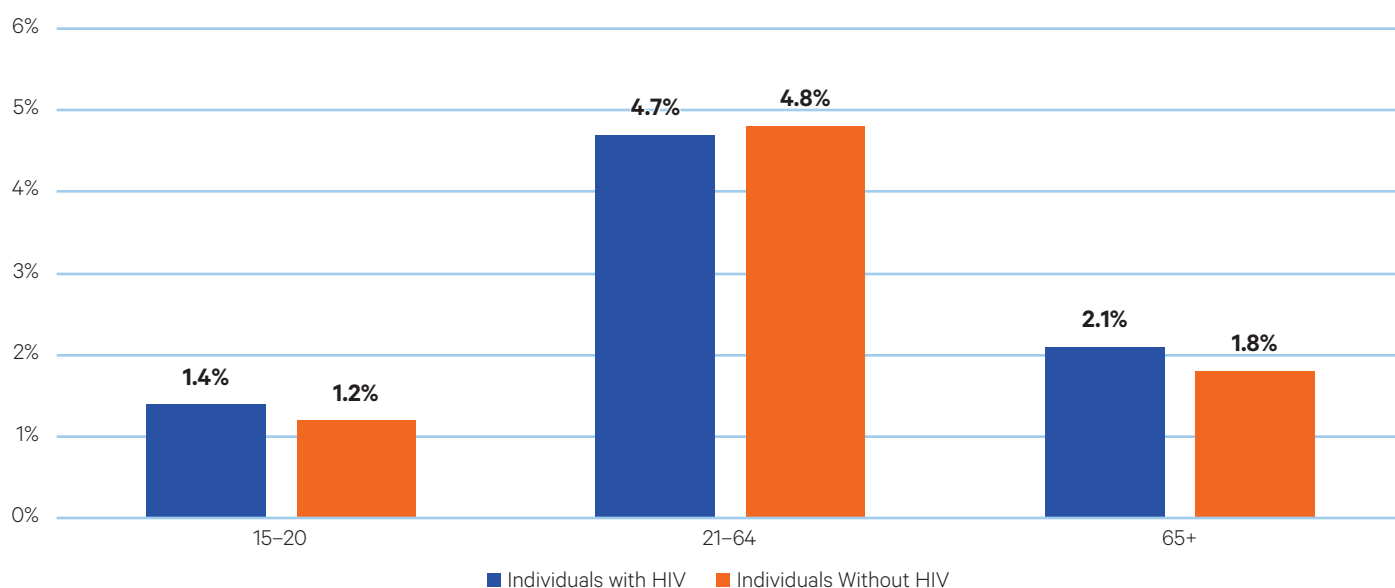
Across nearly all age groups, individuals with HIV received dental treatment of any type less frequently than those without HIV (Figure 2). The only exception to this trend was for adults aged 65 and older. While 22.3% of adults in this age group who have HIV received dental care, 20.4% of adults in the same age group without HIV received dental treatment. Children and adolescents aged 0–14 years received dental treatment of any type in the largest percentages (61.5% with HIV, 70.0% without HIV), followed by adolescents and young adults aged 15–20 (58.1% with HIV, 66.3% without HIV) and adults aged 21–64 (35.1% with HIV, 39.7% without HIV).

Adults aged 21–64 received periodontal care in greater percentages than individuals in other age groups (Figure 3). While slightly more adults aged 21–64 who do not have HIV received periodontal care (4.8%) than those aged 21–64 with HIV (4.7%), this pattern was reversed in older adults. While 2.1% of adults aged 65 and older with HIV received periodontal care, only 1.8% of adults in this age group without HIV received periodontal care. Less than 1% of children aged 0–14 received periodontal treatment, whether they had been diagnosed with HIV (0%) or not (0.1%).

**Figure 2: Any Dental Service Utilization Among Individuals with and Without HIV by Age**



**Figure 3: Periodontal Care Among Individuals with and Without HIV**

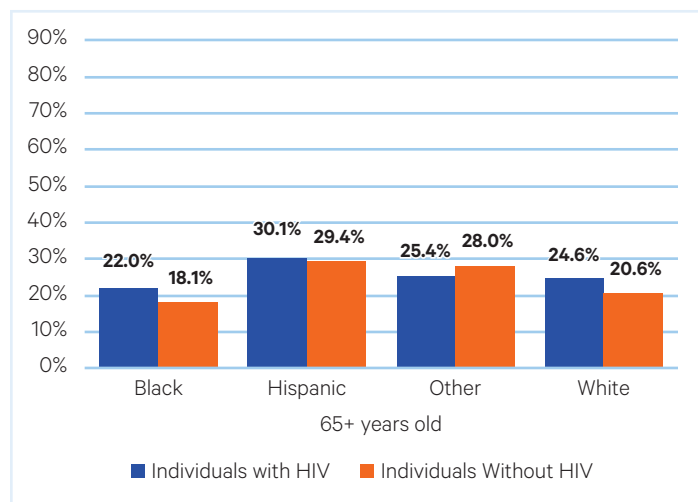
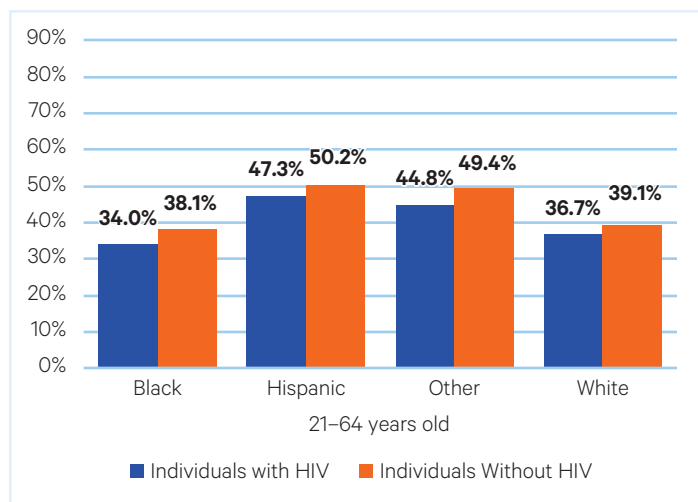
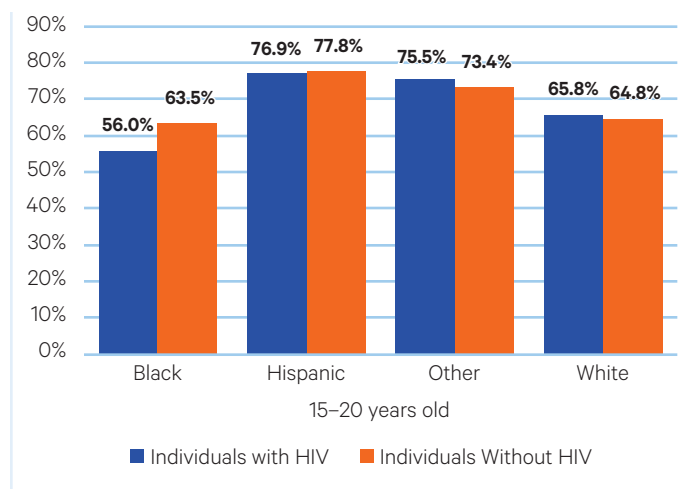
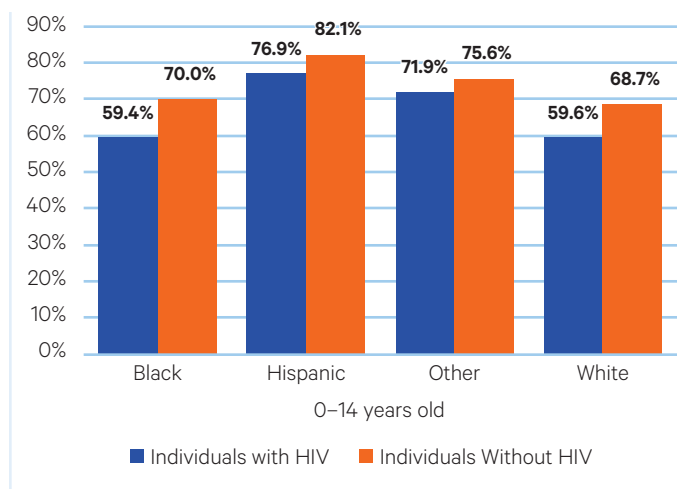


*Less than 1% of children aged 0–14 had a periodontal treatment code; these data are not pictured above.*

Across age groups, individuals identifying their race/ethnicity as Hispanic or Other had higher frequencies of receiving any code for dental treatment than individuals identifying as Black or white (Figure 4). For those aged 0–14 years and 21–64 years, individuals with HIV had dental treatment codes in smaller percentages than those without HIV, indicating fewer dental treatments received by individuals with HIV, regardless of race/ethnicity. For adolescents and young adults aged

15–20 years and identifying their race/ethnicity as Other or white, individuals with HIV had dental treatment codes in larger percentages than individuals without HIV identifying as Black or Hispanic. For adults aged 65 or older, most individuals with HIV had more dental treatment codes than adults without HIV, with the exception of adults identifying their race/ethnicity as Other (25.4% with HIV, 28.0% without HIV).

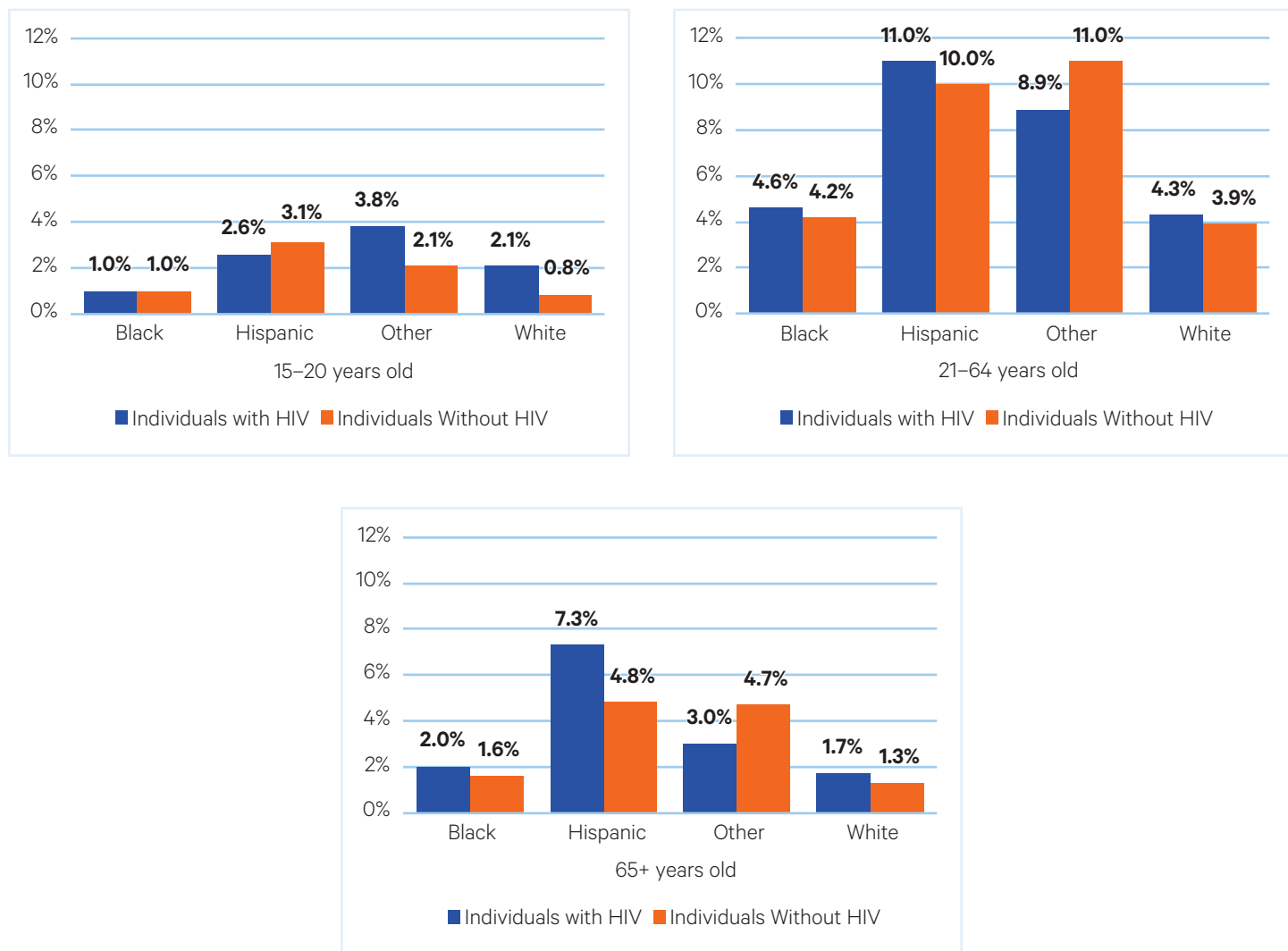
**Figure 4: Any Dental Service Utilization Among Individuals with and Without HIV by Age and Race/Ethnicity**



Similar to dental utilization overall, across age groups, individuals identifying their race/ethnicity as Hispanic or Other had higher frequencies of having at least one periodontal code than individuals identifying as Black or white (Figure 5). However, for most age and race/ethnicity groups, individuals with HIV had *more* periodontal treatments than those without HIV, indicating more periodontal care received by those with

HIV. Individuals without HIV who had higher percentages of periodontal care than individuals with HIV include Hispanic adolescents/young adults aged 15–20 years old (2.6% with HIV, 3.1% without HIV) and adults identifying their race/ethnicity as Other who were 21–64 years old (8.9% with HIV, 11% without HIV) or 65+ years old (3.0% with HIV, 4.7% without HIV).

**Figure 5: Periodontal Treatment Codes Among Individuals with and Without HIV by Age and Race/Ethnicity**



*Less than 1% of children aged 0–14 had a periodontal treatment code; these data are not pictured above*



## Conclusions

In this analysis of medical and dental claims data, individuals with HIV were less likely to have had at least one dental service than those without HIV and were less likely to have preventive care or minor restorative care. Meanwhile, they were only marginally less likely to have had major restorative care than individuals without HIV. Periodontal care was the only treatment category where individuals with HIV had higher utilization rates. As individuals with HIV are more susceptible to oral infections such as [periodontal disease](#) due to their weakened immune systems, [treatment for periodontal disease and other dental needs](#) is particularly important for those with HIV.

Individuals with HIV face significant barriers to receiving adequate dental care, including [experiencing discrimination and stigma in the dental setting](#). Improving access to dental care for individuals living with HIV, therefore, requires a multifaceted approach that addresses systemic, social, and individual barriers to care. Oral health providers should receive training on both [oral health risks associated with HIV](#) as well as ways to provide compassionate, inclusive, and culturally sensitive and responsive care. Integrating dental care into community health clinics and [HIV-specific clinics](#) would help lower barriers to receiving comprehensive, whole-person care from interdisciplinary care teams that can be tailored specifically to individuals with HIV. Community health workers or [medical case managers](#) can help connect individuals with HIV with oral health care.

For individuals with HIV who may have limited financial resources, clinics that offer sliding-scale fees based on income, and states that provide adult dental benefits through Medicaid, can offer financial support to individuals with HIV who are most in need. Programs like the [Ryan White HIV/AIDS Program](#) through the US Department of Health and Human Services fund efforts to provide oral health care to individuals with HIV as well as to train oral health providers in caring for these individuals. Finally, it is important to continue to track dental care utilization by those with HIV to identify specific gaps to care. The findings of this analysis reinforce the importance of culturally competent, stigma-free dental care and the integration of oral health services into HIV care frameworks.

**Individuals with HIV face significant barriers to receiving adequate dental care, including experiencing discrimination and stigma in the dental setting.**

# Appendix

## List of 2020 CDT Diagnostic Code Groups

Diagnostic Services: D0000 to D0999

Preventive Services: D1000 to D1999

Minor Restorations: D2000 to D2664

Major Restorations: D2665 to D3999; D5000 to D7999

Periodontal: D4000 to D4999

Orthodontic: D8000 to D8999

Adjunctive General: D9000 to D9999

Extractions: D7111 to D7251

---

## CareQuest Institute for Oral Health

CareQuest Institute for Oral Health® is a national nonprofit championing a more equitable future where every person can reach their full potential through excellent health. We do this through our work in philanthropy, analytics and data insights, health transformation, policy and advocacy, and education, as well as our leadership in dental benefits and innovation advancements. We collaborate with thought leaders, health care providers, patients, and local, state, and federal stakeholders to accelerate oral health care transformation and create a system designed for everyone. To learn more, visit [carequest.org](https://carequest.org).

---

This report and others are available at [carequest.org](https://carequest.org).