

Factors Improving Oral Health Service Delivery at FQHCs

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Oral Health Workforce Research Center (OHWRC)

- OHWRC is based at the Center for Health Workforce Studies (CHWS), School of Public Health, University at Albany, State University of New York (SUNY)
- OHWRC was formed as a partnership between CHWS and the Healthforce Center at the University of California, San Francisco
- OHWRC, established in 2014, is 1 of 9 health workforce research centers in the country funded by the Health Resources and Services Administration (HRSA) and the only one uniquely focused on the oral health workforce

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Introduction

- Utilization rates of dental services are low among all Medicaid enrollees
 - States with Medicaid coverage of dental services for adults show higher utilization rates than those in states without coverage¹
- The COVID-19 pandemic and economic uncertainty have significantly impacted dental care utilization, especially for vulnerable patients²
- **Safety-net organizations** were established to meet the health care needs of vulnerable populations such as racial/ethnic minorities, low-income individuals, the uninsured, and those enrolled in Medicaid or residing in rural areas^{3,4}
- **HRSA-supported health centers (i.e., federally qualified health centers (FQHCs))** are essential safety-net providers in the US, receiving federal funds to deliver comprehensive primary care services to underserved populations^{3,5}

Purpose of Study

- This purpose of this study was to investigate changes in oral health services provided at FQHCs over the last decade (2012-2021) and identify factors associated with service delivery by these safety-net providers

Methods: Data Sources

FQHC-Level Data

- Health Resources and Services Administration (HRSA)'s Uniform Data System, 2012-2021
 - (1,166-1,341 total FQHCs) in the 51 regulatory jurisdictions of the US during the study period

State-Level Data

- Medicaid coverage of dental benefits for adults, 2012-2021
- Distribution of population by federal poverty level, 2012-2021

Methods: Statistical Analyses

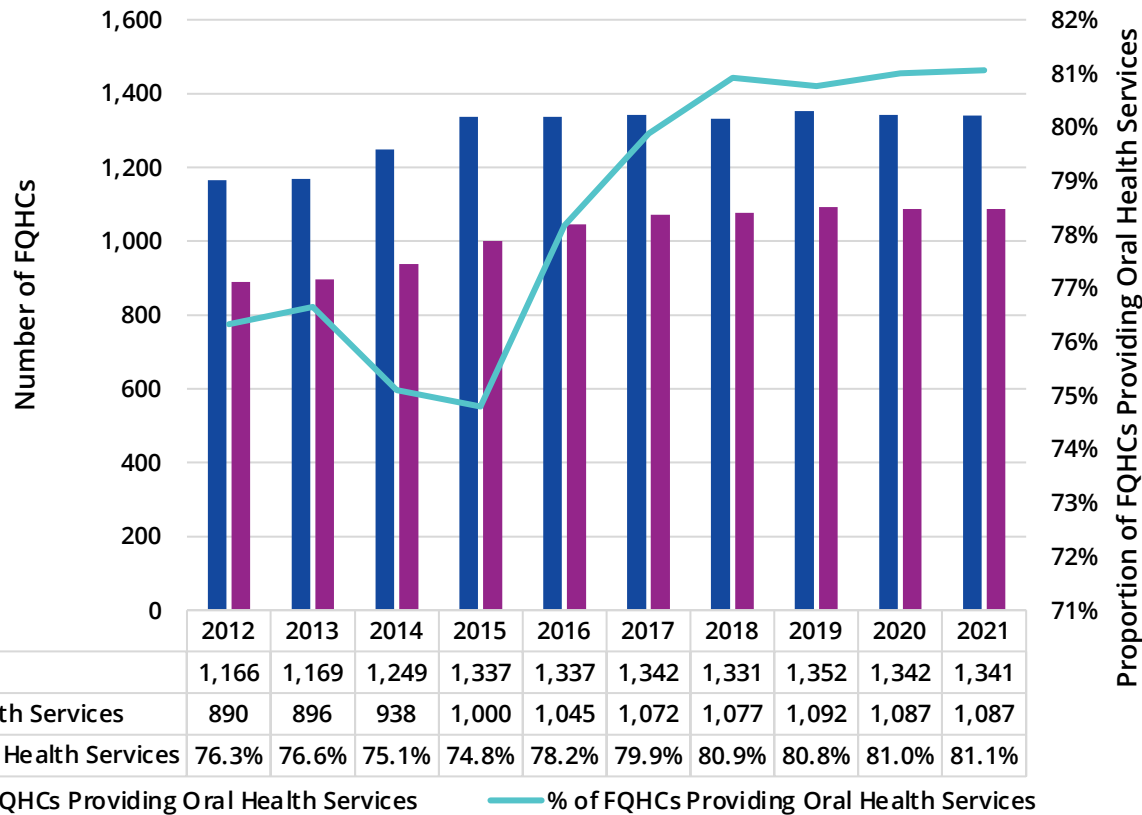
- **Proportion of FQHCs Delivering Oral Health Services:** Percentage of FQHCs with any full-time equivalent (FTE) dentists providing oral health services to at least 1 patient
- **Outcome Variable:** Number of patient visits with any oral health services provided at FQHCs providing dental care
- **Key Factors:**
 - Dental hygienists-to-dentist ratio
 - Dental assistants (advanced dental assistants) and other dental personnel (dental therapists, aides, and technicians)-to-dentist ratio
 - Revenue from federal grants
 - State Medicaid dental benefits for adults
- **Control Variables:** FQHC and state-level characteristics (eg, # of service delivery sites, # of total patients, urban-rural indicator, patients' age, gender, race/ethnicity, population living in poverty)

Methods: Statistical Analyses

- **Descriptive Statistics**
- **Multilevel Mixed-Effect Negative Binomial Regression Model**
 - A random intercept at the state level
 - Two levels were included: level 1 (FQHC-level) and level 2 (state-level) variables
 - Year-fixed effects included
- All data analyses were conducted **nationwide** using Stata 17SE

Proportion of FQHCs Providing Dental Care Increased by 6.2%

Proportion of FQHCs Providing Oral Health Services Nationwide, 2012-2021

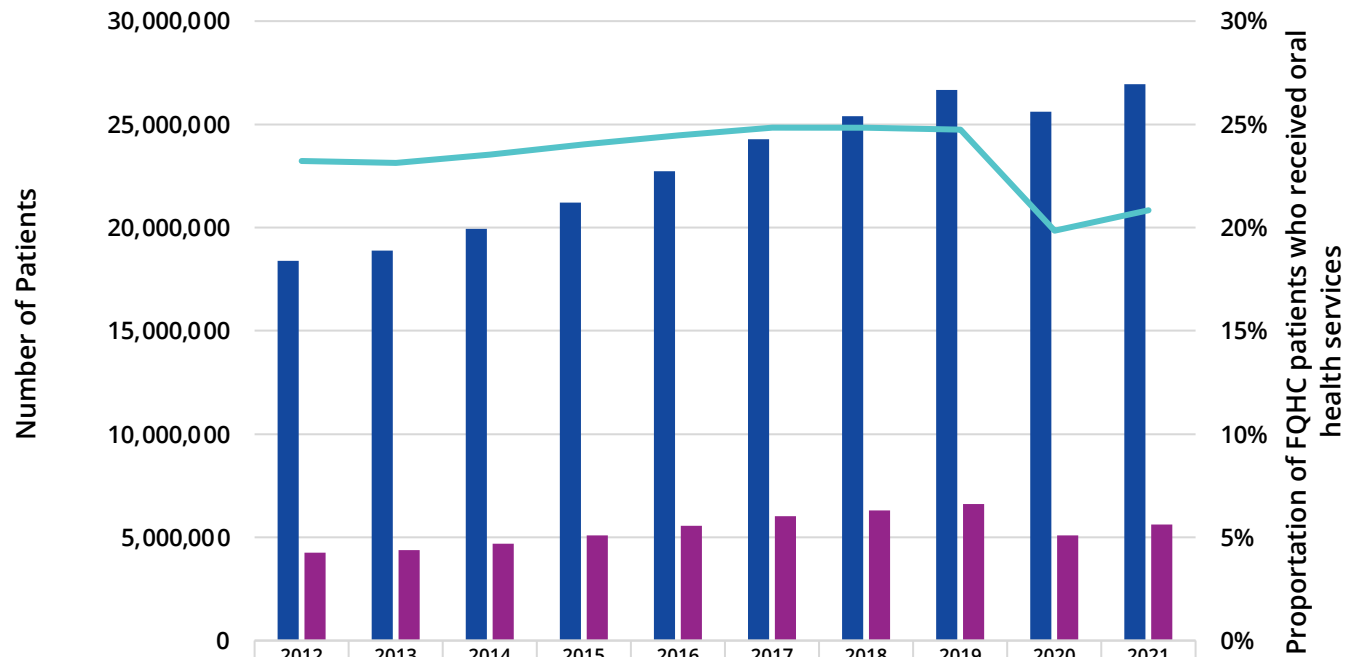


- Total number of FQHCs increased from 1,166 in 2012 to 1,341 in 2021
- Number of FQHCs providing dental care increased from 890 in 2012 to 1,087 in 2021
- Proportion of FQHCs providing dental care increased from 76.3% in 2012 to 81.1% in 2021 (+6.2% change)

Source: Uniform Data System, 2012-2021.

Proportion of Patients Who Received Any Oral Health Services Fluctuated During the COVID-19 Pandemic

Proportion of Patients Who Received Any Oral Health Services at FQHCs Nationwide, 2012-2021



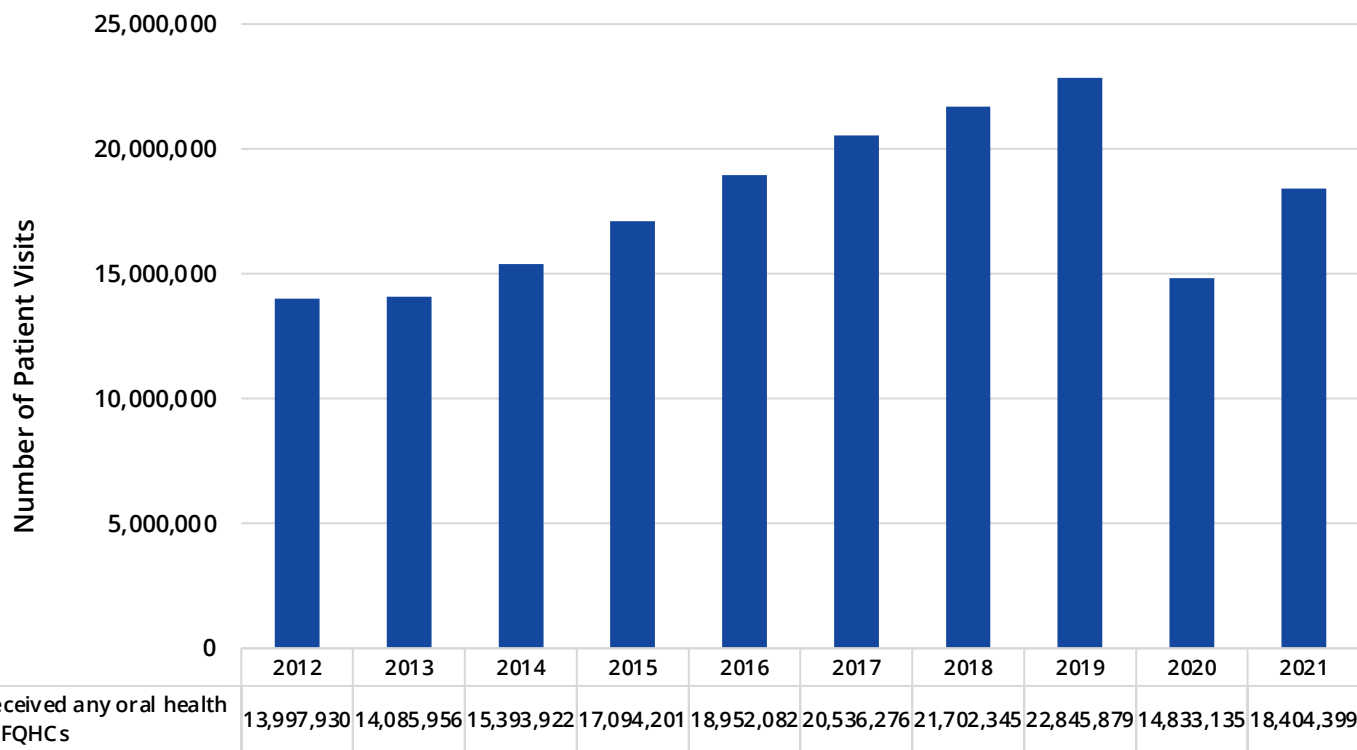
- Number of patients who accessed care at FQHCs increased from 18.4 million in 2012 to 26.9 million in 2021
- Proportion of FQHC patients who received any oral health services increased from 23.2% in 2012 to 24.8% in 2019 but decreased to 19.9% in 2020 and recovered to 20.8%

■ FQHC patients ■ FQHC patients who received oral health services — % of FQHC patients who received oral health services

Source: Uniform Data System, 2012-2021.

Total Number of Patient Visits Who Received Any Oral Health Services Decreased by 35.1% in 2020

Total Number of Patient Visits Who Received Any Oral Health Services at FQHCs Nationwide, 2012-2021

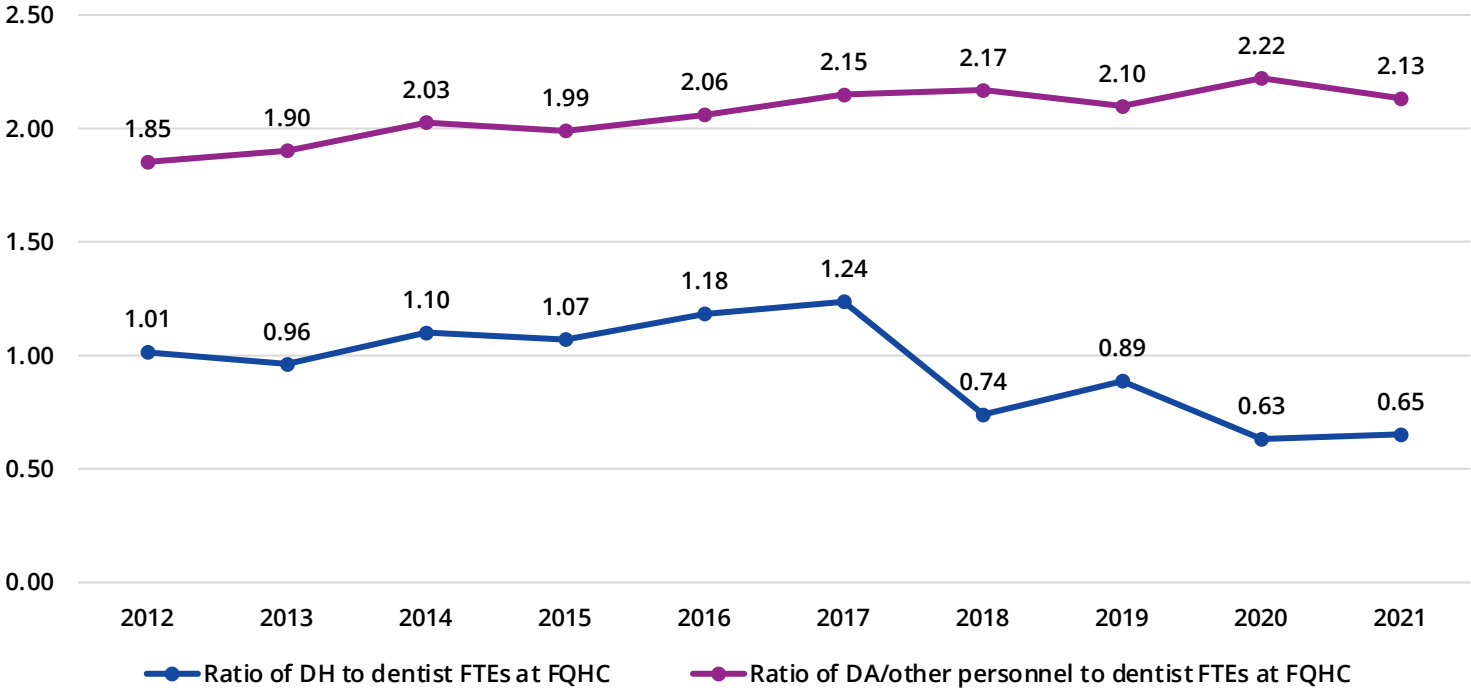


- Total number of FQHCs' patient visits receiving any dental care increased from 14.0 million in 2012 to 22.8 million in 2019 (+63.2% change)
- There was a large decline in the total number of patient visits receiving any dental care at FQHCs in 2020 (-35.1% change)

Source: Uniform Data System, 2012-2021.

Ratio of DH to Dentist FTEs Decreased by 35.8%

Oral Health Staffing at FQHCs Nationwide, 2012-2021



- Ratio of DH to dentist FTEs decreased from 1.0 in 2012 to 0.7 FTEs in 2021 (-35.8% change)
- Ratio of DA/other dental personnel-to-dentist FTEs increased from 1.9 in 2012 to 2.1 in 2021 (+15.1% change)

Source: Uniform Data System, 2012-2021.

Notes:
 DH, dental hygienists
 DA, dental assistants and advanced dental assistants
 Other dental personnel, dental therapists, aides, and technicians
 FTE: full-time equivalents

Key Factors Related to the Provision of Direct Oral Health Care

Associations Between FQHCs Provision of Direct Oral Health Care and FQHCs and State Characteristics, 2012-2021

Interest Variables	IRR	95% CI		P Value
		Lower Limit	Upper Limit	
Staffing at FQHC (Ratio of FTEs)				
Dental assistants and other dental personnel to Dentists	1.18	1.15	1.200	<0.000
Medicaid coverage policy for adults				
Extensive versus emergency only	1.08	1.01	1.17	0.028
Revenue from federal grants (\$)				
Capital development grants (in \$100,000s)	1.00	1.00	1.01	0.009

- There were **positive and significant adjusted associations** between the provision of direct oral health services by FQHCs and:
 - Dental assistants and other dental personnel to dentists FTEs
 - State Medicaid dental benefits for adults
 - Revenue from federal grants

Source: Uniform Data System, 2012-2021.

Note: A multilevel mixed-effect negative binomial regression model with a random intercept at the state level (incidence rate ratio [IRR], 95% confidence interval [95% CI]).

Conclusions and Implications

- An increase in the number of oral health professional FTEs at FQHCs can enhance the provision of oral health services by safety-net organizations
- Investing more federal funds to improve infrastructure and workforce capacity of FQHCs is crucial for provision of oral health services to patients
- Inclusion of adult dental benefits into a state's Medicaid program contribute to increased oral health service delivery at FQHCs
- Future studies will investigate how various factors influence different types of oral health services provided in the safety-net

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