

Factors Improving Oral Health Services 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

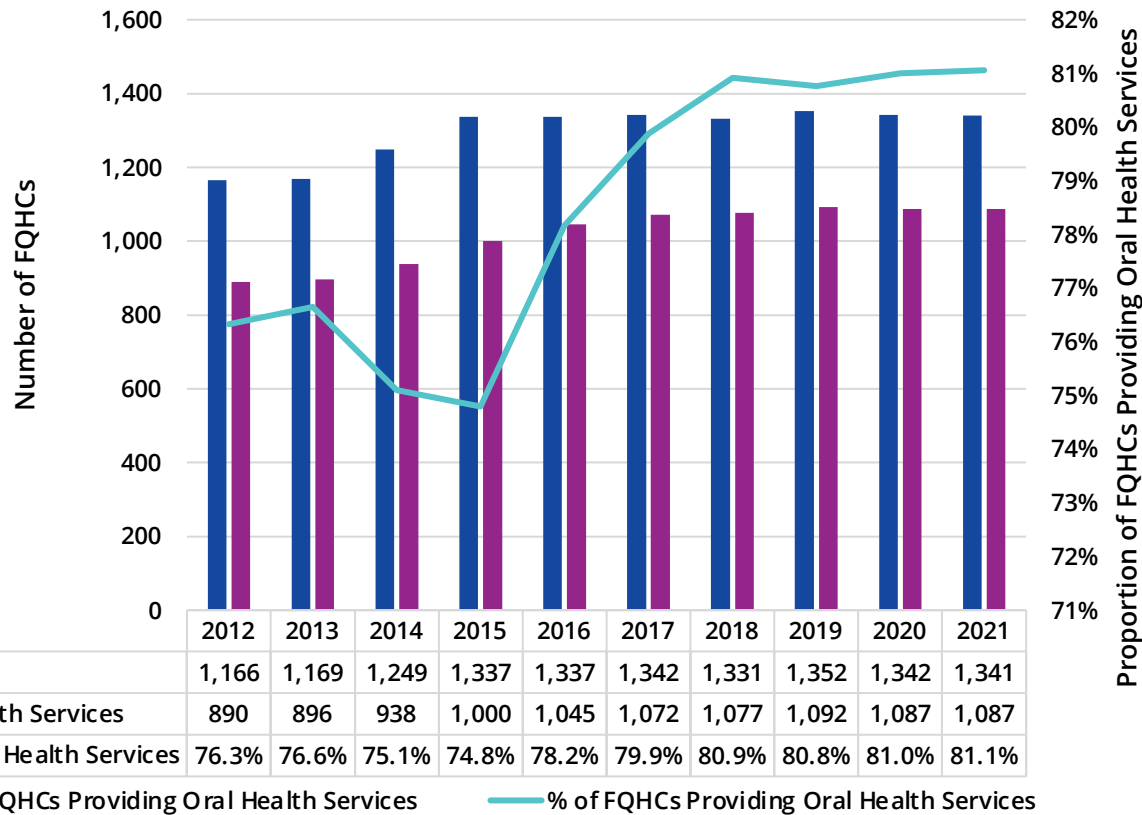
- **Proportion of FQHCs Delivering Oral Health Services:** Percentage of FQHCs with any full-time equivalent (FTE) dentists providing oral health services to at least 1 patient
- **Outcome Variable:** Number of patient visits with any oral health services provided at FQHCs providing dental care
- **Key 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

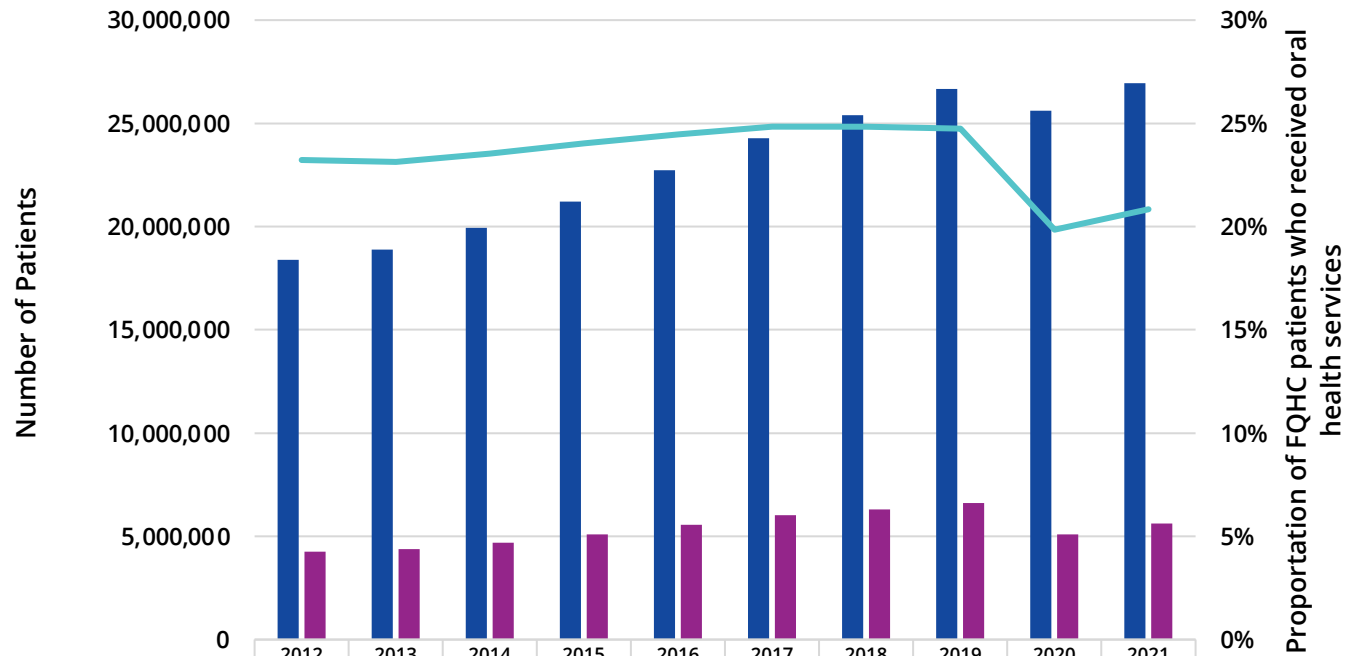


- Total number of FQHCs increased from 1,166 in 2012 to 1,341 in 2021
- Number of FQHCs providing dental care increased from 890 in 2012 to 1,087 in 2021
- Proportion of FQHCs providing dental care increased from 76.3% in 2012 to 81.1% in 2021 (+6.2% change)

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

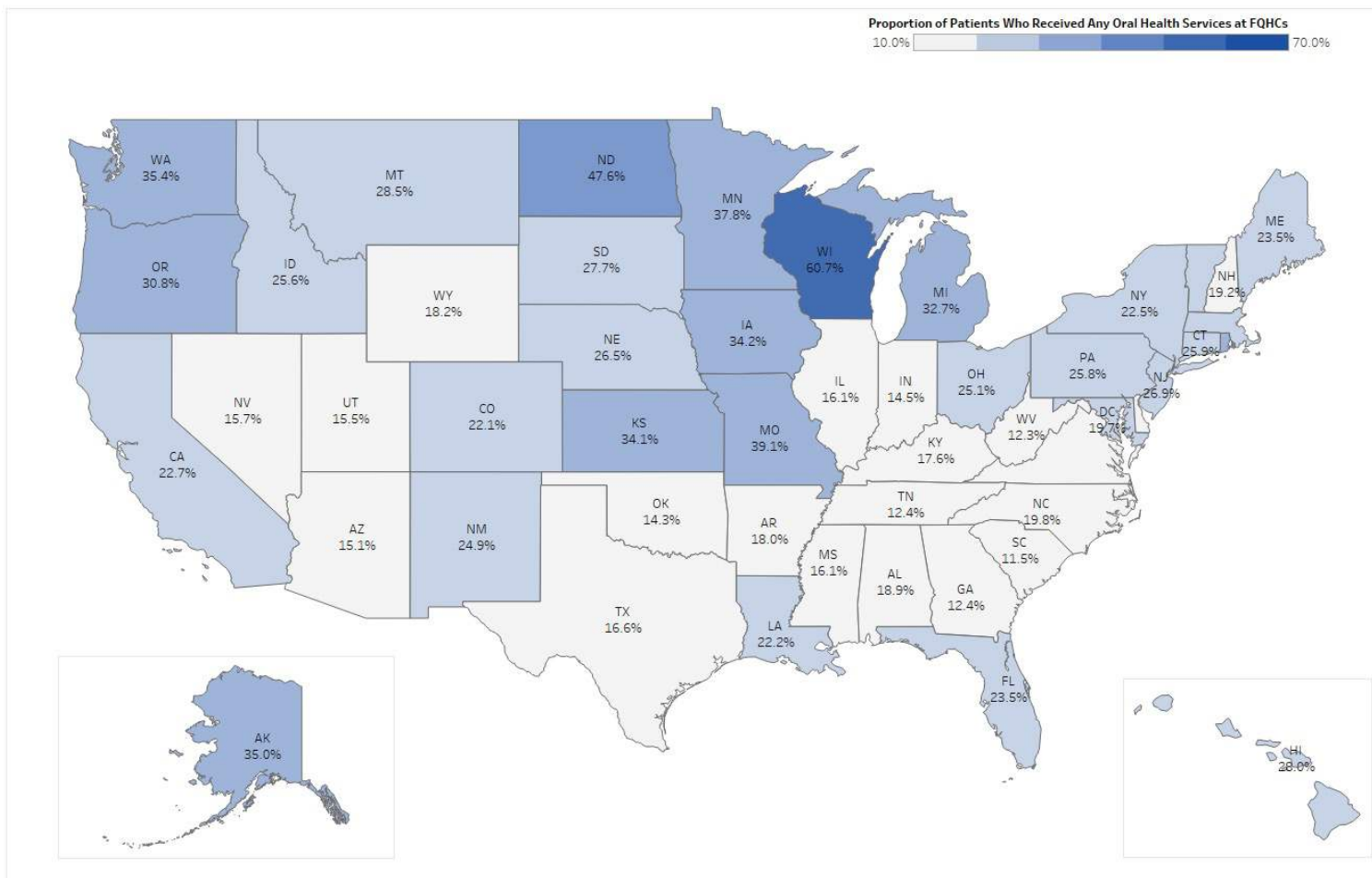


- Number of patients who accessed care at FQHCs increased from 18.4 million in 2012 to 26.9 million in 2021
- Proportion of FQHC patients who received any oral health services increased from 23.2% in 2012 to 24.8% in 2019 but decreased to 19.9% in 2020 and recovered to 20.8%

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

Source: Uniform Data System, 2012-2021.

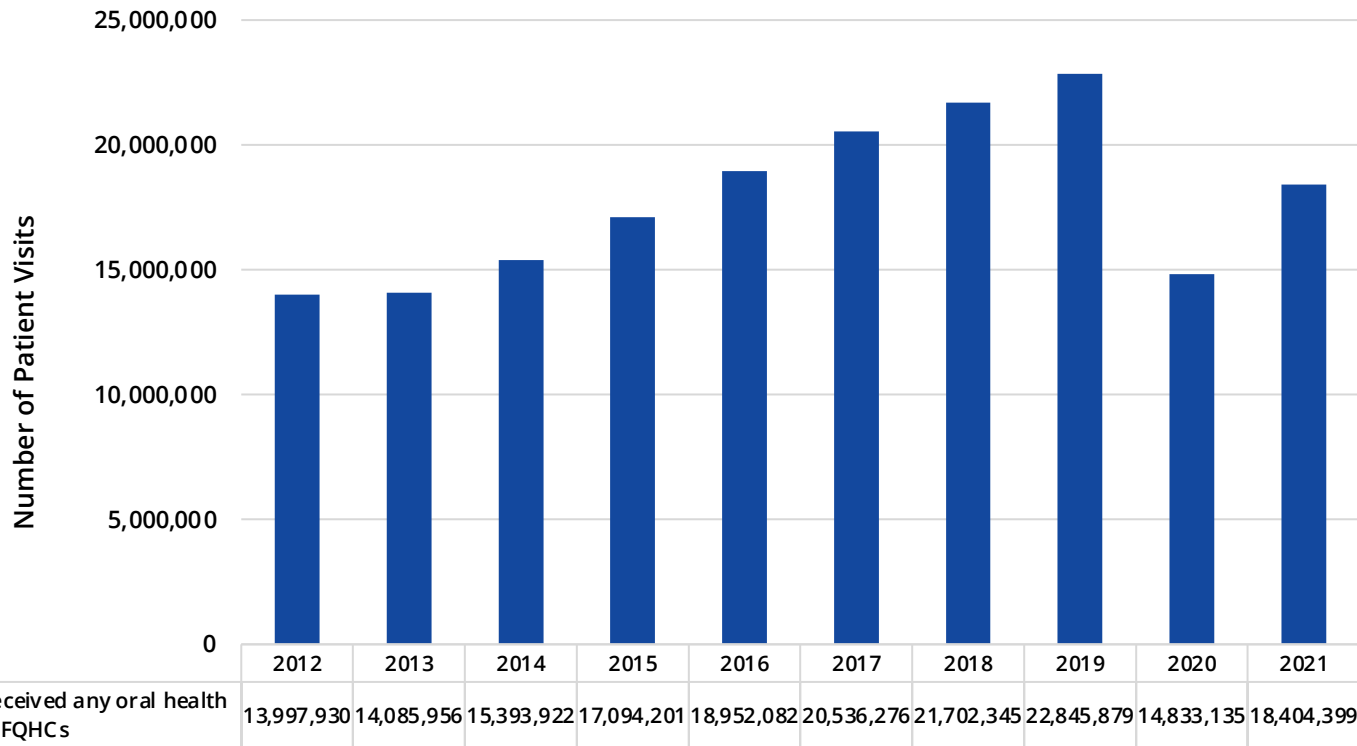
Proportion of Patients Who Received Any Oral Health Services at FQHCs Varied by State



- **WI, ND, and MO** were the states with the highest proportion of patients receiving any oral health services at FQHCs from 2012 to 2021
- **SC, WV, and TN** were the states with the lowest proportion of patients receiving any oral health services at FQHCs from 2012 to 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

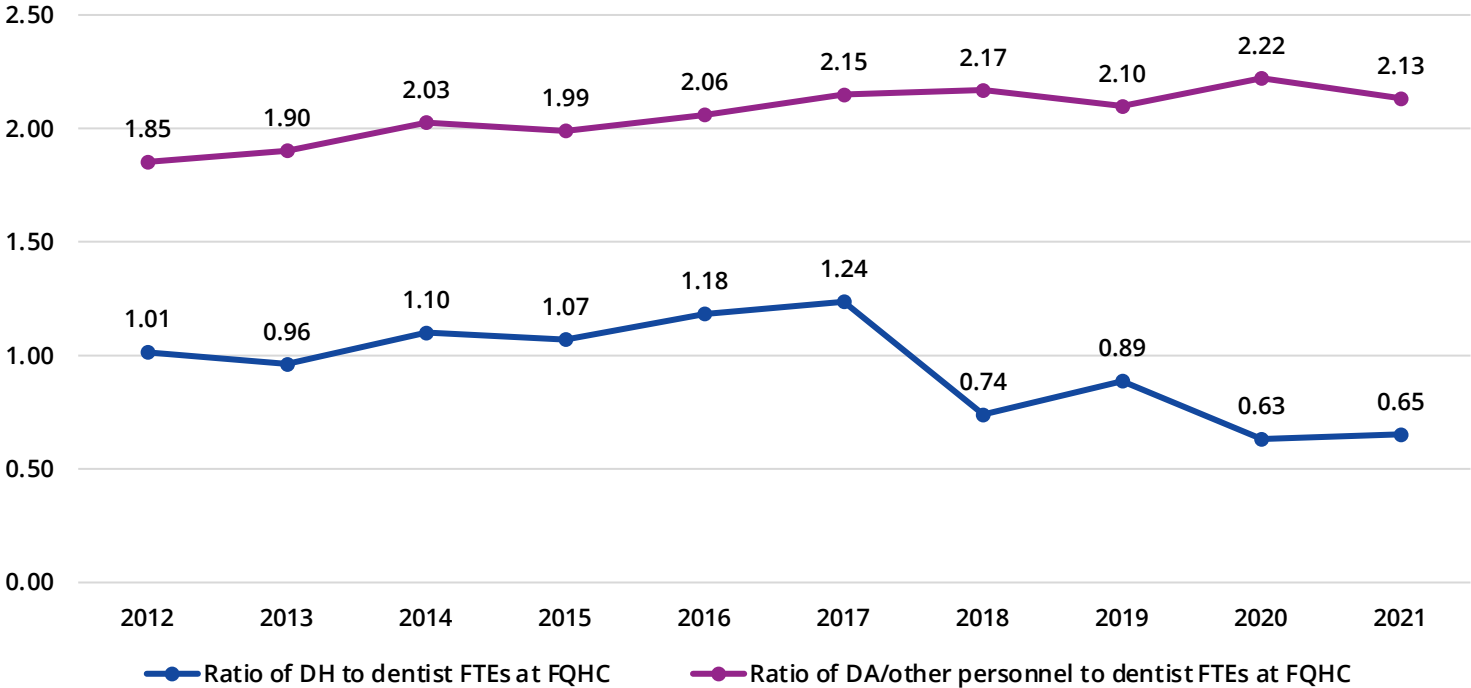


- Total number of FQHCs' patient visits receiving any dental care increased from 14.0 million in 2012 to 22.8 million in 2019 (+63.2% change)
- There was a large decline in the total number of patient visits receiving any dental care at FQHCs in 2020 (-35.1% change)

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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