

Nature And Evolution of Dental Services at a Community Health Center Before, During, and After the COVID-19 Pandemic (January 2018–March 2026)

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ABSTRACT

Community Health Centers (CHCs) serve as a cornerstone of oral healthcare delivery for underserved populations. This retrospective service-delivery analysis examines the nature and volume of dental services provided at a community health center from January 2018 through March 2026, spanning four distinct phases: pre-COVID-19, peak pandemic emergency-only care, declining pandemic recovery, and post-pandemic normalization. Aggregate encounter and billing data were extracted from the electronic health record and billing systems with assistance from the institutional information technology department. Despite stable clinic infrastructure, service utilization and procedure mix shifted substantially across pandemic phases, reflecting both public health restrictions and workforce variability. These findings underscore the resilience of CHC dental programs and their essential role in maintaining oral healthcare access during prolonged public health crises.

Keywords: Community health centers; dental safety net; COVID-19; oral health disparities; emergency dental care; underserved populations

INTRODUCTION

Oral health disparities remain pervasive in the United States, disproportionately affecting low-income, uninsured, and medically vulnerable populations [1–3]. Community Health Centers (CHCs) serve as a cornerstone of the dental safety net by providing comprehensive oral healthcare regardless of patients' ability to pay [4,5]. Prior to the COVID-19 pandemic, CHC dental clinics delivered preventive, restorative, and urgent care services that mitigated unmet oral health needs among underserved groups. The COVID-19 pandemic introduced sustained and multifactorial disruptions to dental service delivery, necessitating rapid adaptation and service prioritization. Examining longitudinal service trends within CHC dental programs provides critical insight into system resilience, workforce capacity, and access to care during public health emergencies.

BACKGROUND

CHCs are federally supported healthcare organizations designed to reduce health disparities through accessible, community-based care [6]. Dental programs within CHCs have historically played a vital role in addressing oral disease burden through preventive and restorative services [7,8]. In March 2020, national and state-level public health guidance restricted dental practices to emergency-only services in response to COVID-19 transmission risks [9]. These restrictions disproportionately affected vulnerable populations with limited access to private dental care. CHCs, operating under a mission-driven model, remained essential providers throughout the pandemic, adapting workflows and infection-control protocols to continue serving patients safely [10–12]. CHCs demonstrated operational adaptability by rapidly modifying workflows, infection-control protocols, and service prioritization strategies. These adaptations occurred within a broader context of heightened oral health vulnerability among populations disproportionately affected by pandemic-related care disruptions.

Study Design and Data Retrieval

A retrospective descriptive study design was employed. De-identified encounter-level and procedure-level data were retrieved from the clinic's electronic health record (EHR) and billing systems with assistance from the organization's information technology department. Data extraction focused on visit counts, patient age categories, and procedure codes aggregated across four pandemic-defined time periods. The study was conducted as a quality-improvement and service-evaluation initiative using aggregate data, without individual patient identifiers. Data were analyzed descriptively to characterize trends in utilization and service mix across pandemic-defined periods.

Clinic Model and Staffing

Throughout the study period, the dental clinic generally maintained a stable staffing model consisting of two dentists, three dental assistants, two front desk staff members, and nine fully equipped dental chairs. However, one dentist relocated out of state in early January 2024, resulting in a temporary transition to a single-provider model until the position was filled in November 2024. This period of reduced provider capacity coincided with a measurable decline in visit volume and service output during the post-pandemic phase. Despite these constraints, the remaining clinical and support staff continued to deliver essential dental services to an underserved population, underscoring the clinic's operational resilience and commitment to access amid ongoing public health and workforce challenges.

Results

Dental service utilization and procedure mix varied meaningfully across the four pandemic-defined time periods. The pre-COVID phase demonstrated stable utilization with a balanced distribution of preventive, restorative, and diagnostic services. During the peak pandemic period, overall visit volume remained relatively stable; however, the composition of care shifted markedly toward emergency-driven services, particularly extractions and limited examinations. Subsequent recovery and post-pandemic phases reflected a partial return of preventive services, although total utilization did not reach pre-COVID levels, a trend that coincided with a temporary reduction in provider capacity following the departure of one dentist in early 2024 and the subsequent transition to a single-provider model until the position was filled later that year.

Figure 1 illustrates the total dental visit volume across the four study periods.

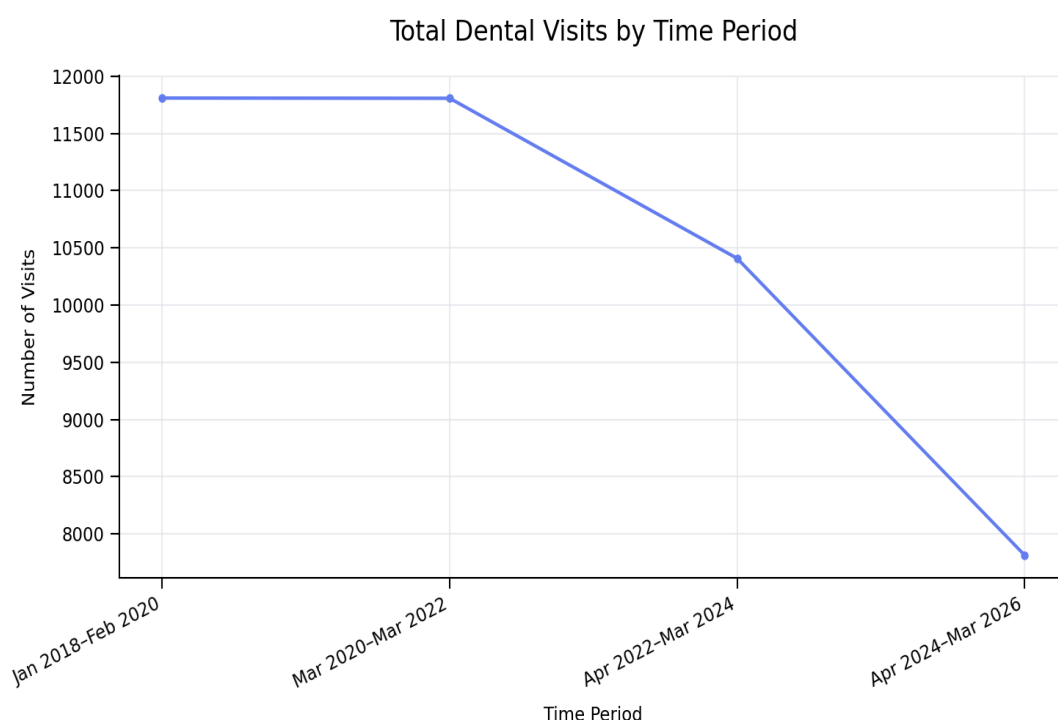
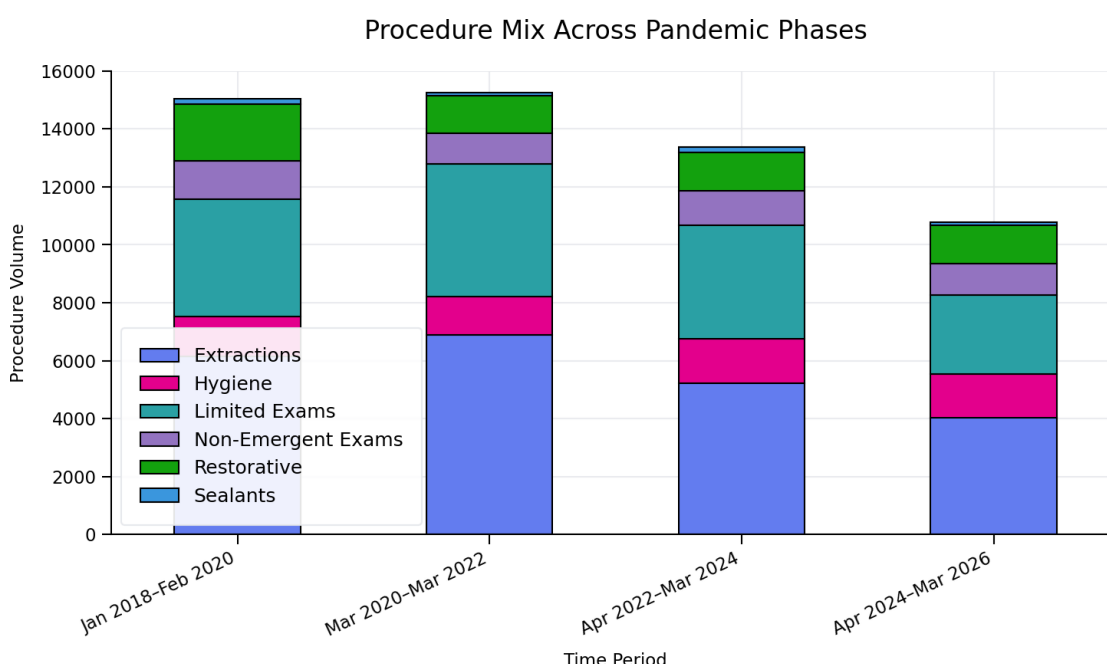


Table 1. Dental Visits by Age Group and Time Period

Period	<18	18+	Total
Jan 2018–Feb 2020	566	11243	11809
Mar 2020–Mar 2022	583	11224	11807
Apr 2022–Mar 2024	953	9455	10408
Apr 2024–Mar 2026	591	7224	7815

Figure 2 illustrates changes in procedure mix across pandemic phases.



DISCUSSION

The findings demonstrate a pronounced shift toward emergency-driven dental care during the peak COVID-19 period, with extractions and limited examinations comprising a larger proportion of services [9,13]. Deferred preventive care likely contributed to disease progression, resulting in higher extraction volumes. The recovery and post-pandemic phases demonstrated a partial return of preventive services; however, overall utilization did not return to pre-COVID levels. This pattern coincided with a temporary reduction in provider capacity following the departure of one dentist in early 2024 and the clinic's transition to a single-provider model until the position was filled later that year. Workforce instability and prolonged vacancies have been widely documented in safety-net dental settings and are known to directly constrain service volume and access, even in clinics with otherwise stable infrastructure and demand [21].

LIMITATIONS

This study has several limitations. As a retrospective analysis of aggregate service data from a single community health center, the findings may not be generalizable to all safety-net dental settings. In addition, fluctuations in provider availability—most notably a temporary reduction to a single-dentist model during part of the post-pandemic period—may have influenced service volume independently of patient demand or broader public health conditions.

CONCLUSION

This longitudinal analysis highlights the essential role of Community Health Centers in sustaining oral healthcare access before, during, and after the COVID-19 pandemic. The ability of the CHC dental program to adapt service delivery while maintaining staffing stability underscores its resilience as part of the dental safety net. Continued investment in CHC dental infrastructure, workforce support, and preventive services is critical to addressing ongoing oral health disparities and ensuring preparedness for future public health emergencies.

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Conflict of Interest: The authors declare no conflicts of interest related to this study.

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