

A National Survey of Federally Qualified Health Centers (FQHCs): The Impact of Dental Residency Programs and Student Externship Rotations on Oral Health Delivery

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ABSTRACT

Purpose of study: Recruiting and retaining a sufficiently sized oral health professional workforce is essential for Federally Qualified Health Centers (FQHCs) to respond in a timely manner to an ever-increasing demand from safety net patients for preventive care and routine treatment services, as well as emergency restorative and surgical services. This study was conducted to describe FQHCs' participation with dental education and dental residency programs as clinical rotation sites for dental student externs and/or residents. Of special interest to the research was whether health centers subsequently employed any dental students and/or dental residents who had completed dental education at the FQHC.

Methods: The number of FQHCs in the survey solicitation (1,275) matched the number of federally designated FQHCs in 2014. The number of FQHCs with active email addresses was 1,178. The invitation to participate in the survey contained an individualized link to the electronic survey that was designed and built on the Qualtrics Insight platform. The survey collected information about the FQHCs' participation in dental student externship or dental residency programs and the impact of that participation on recruitment and retention of the dental workforce at the FQHCs. The data were compiled, cleaned, and analyzed using SAS v.9.4. The data analysis included tabulations of several variables. Chi-square and Wilcoxon signed-rank tests were employed to compare oral health service delivery in the FQHCs participating with a dental residency or student externship program(s) to those not participating with a dental education program. Statistical significance was defined as $P < 0.05$ using 2-tailed tests.

Key Findings: At survey closure, 304 FQHCs had completed the survey for a response rate of 25.8%. Just 14.7% of respondents participated in dental residency programs, while 39.1% participated in extramural service learning through dental student externship programs. Fifty-five percent of FQHCs sponsoring dental residency rotations and 44.7% sponsoring dental student externships had hired at least 1 new dentist following completion of a residency or externship at the clinic. The structural capacity of the FQHC impacted participation in dental residency or dental student externship programs. FQHCs hosting a dental education program had a significantly higher average number of full-time dentists providing services compared with FQHCs without a dental education program (5.03 vs 2.69, $P < 0.016$), a significantly higher average number of fixed dental operatories co-located with the primary care clinic (15.48 vs 8.31, $P < 0.0001$) or in a separate location from a primary care clinic (14.49 vs 9.28, $P < 0.018$), and a significantly ($P < 0.005$) higher prevalence of oral health services provided to children and/or adults compared with those that did not host any programs.

Implications: Dental student externships and dental residencies serve as a pipeline for FQHCs to hire new dentists. Participation with educational programs appears to be alleviating some of the difficulties FQHCs encounter when recruiting dentists to work in the safety net. The clinical experiences obtained in safety net settings are valuable teaching tools for new dentists who have the opportunity, regardless of post-graduation practice choice, to include safety net patients in their private or public practice of dentistry.

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INTRODUCTION

One strategy of FQHCs to ensure sufficient workforce capacity to meet patient demand for oral health services was participation in dental student externship/community service learning programs and/or dental residency programs. Dental residents and student externs enlarged workforce capacity, improved workflows, and increased efficiency of oral health service delivery in many of the health centers.

Working with diverse patients in community health settings exposed students and residents to high needs populations and performing a large number of surgical and restorative procedures for high needs patients appeared to result in greater confidence and increased competence with providing those services. Dental students and residents were also a potential source of new workforce for safety net health centers.

This study aimed to describe FQHC's participation in dental education and dental residency programs and to describe whether this participation created a pipeline for recruitment of dentists to work in safety net organizations.

METHODS

This study used a web-based survey. An email solicitation was sent to dental directors or chief executive officers of 1,257 health centers with FQHC designation in 2014. Ninety seven emails were undeliverable, reducing the number of respondents to 1,178.

Survey data was analyzed using descriptive statistics, chi-square testing, t-tests, and Wilcoxon signed-rank tests. Significance was defined as $P < 0.05$ using 2-tailed tests.

RESULTS

At survey closure, 304 FQHCs had completed the survey for a response rate of 25.8%.

About 81% of FQHCs provided direct dental services to patients in their clinics. More than 88% provided oral health preventive services.

Nearly 60% of FQHCs provided 4 or more types of oral health services.

Table 1. Oral Health Services Provided at FQHCs by Types of Patients Served

One or More Oral Health Services Provided (n=296)	Children 0-20		Adults <65 years		Adults >65 years		All	
	FQHCs		FQHCs		FQHCs		FQHCs	
	n	%	n	%	n	%	n	%
a. Screening services	252	85.1%	230	77.7%	228	77.0%	261	88.2%
b. Referral services	261	88.2%	256	86.5%	252	85.1%	269	90.9%
c. Vouchers for services from community dentists	28	9.5%	37	12.5%	36	12.2%	39	13.2%
d. Preventive services	256	86.5%	245	82.8%	239	80.7%	263	88.9%
e. Diagnostic services	241	81.4%	238	80.4%	233	78.7%	249	84.1%
f. Restorative services	225	76.0%	231	78.0%	224	75.7%	239	80.7%
g. Oral surgery services	165	55.7%	180	60.8%	176	59.5%	186	62.8%
h. Emergency/walk-in services	225	76.0%	228	77.0%	225	76.0%	237	80.1%
i. Denture services	102	34.5%	169	57.1%	169	57.1%	175	59.1%
j. Other	43	14.5%	42	14.2%	40	13.5%	51	17.2%

RESULTS (cont.)

The average number of dental operatories in FQHCs' dental clinics that were co-located or adjacent to a primary care clinic was 2.3.

Table 2. Number of Dental Operatories in FQHCs

Oral Health Services Provided In Fixed Dental Clinic(s)	In the Same or Adjacent Buildings to a Primary Care Clinic (Co-located) FQHCs		In a Location Separate From a Primary Care Clinic FQHCs	
	n	%	n	%
Number of fixed clinics				
1	95	42.4%	56	64.4%
2	61	27.2%	17	19.5%
3	36	16.1%	7	8.1%
4	14	6.3%	2	2.3%
5 or more	18	2.7%	5	5.8%
Total	224	100.0%	87	100.0%
Mean (Minimum-Maximum)	2.3 (1-18)		1.8 (1-11)	
Median (25 th -75 th percentiles)	2 (1-3)		1 (1-2)	
Number of operatories				
1 to 5	69	30.8%	37	42.5%
6 to 10	70	31.3%	23	26.4%
11 to 20	54	24.1%	22	25.3%
21 or more	31	13.8%	5	5.8%
Total	224	100.0%	87	100.0%
Mean (Minimum-Maximum)	11.8 (1-85)		11.5 (1-204)	
Median (25 th -75 th percentiles)	8 (5-16)		6 (4-12)	

Approximately 15% of FQHCs participated with dental residency programs and 39% participated with dental student externship programs.

Two-thirds of the FQHCs (66.7%) that hosted dental residency programs also participated with dental student externship programs.

Table 3. Number of FQHCs Participating in Dental Education Programs

Dental Education Programs	Dental Residency Program(s) FQHCs		Dental Student Externship Program(s) FQHCs		Dental Residency and/or Student Externship Program(s) FQHCs	
	n	%	n	%	n	%
Yes	39	14.7%	104	39.1%	117	43.2%
No or unsure	226	85.3%	162	60.9%	154	56.8%
Total	265	100.0%	266	100.0%	271	100.0%

The benefits to the FQHC from hosting dental programs included an increased capacity to meet the oral health needs of the FQHC's patients, the opportunity to recruit new dentists to the FQHC, flexibility in scheduling patients in the dental clinic, and a positive contribution to staff retention.

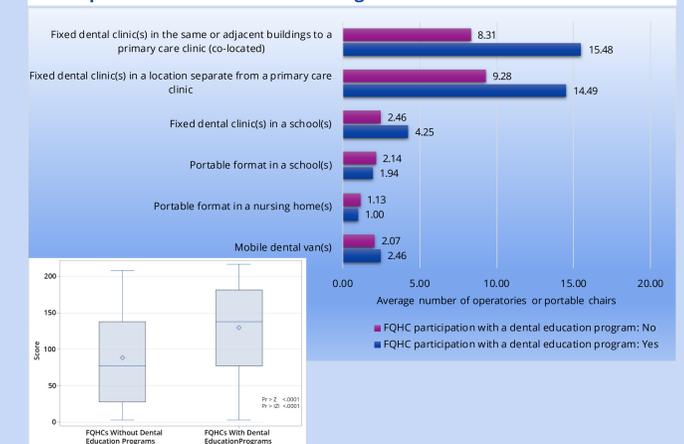
Table 4. Benefits for the FQHC From Hosting Dental Residency or Student Externship Programs

Benefits of Hosting a Dental Education Program	Dental Residency Program(s) FQHCs (n=39)		Dental Student Externship Program(s) FQHCs (n=104)	
	n	%	n	%
Dental residents/student externs increase the FQHC's capacity to meet the oral health care needs of patients	35	89.7%	65	62.5%
Hosting dental residents/student externs in clinical rotations positively contributes to staff retention	22	56.4%	46	44.2%
Hosting dental residents/student externs has a positive fiscal impact for the FQHC	22	56.4%	26	25.0%
Dental residents/student externs contribute to greater flexibility in scheduling patients in the clinic	24	61.5%	45	43.3%
Dental residents/student externs improve workflows in the clinic	15	38.5%	25	24.0%
Dental residents/student externs contribute to improved efficiencies for staff dentists	12	30.8%	33	31.7%
Dental residents/student externs provide an opportunity to recruit new dentists to the FQHC	35	89.7%	77	74.0%

RESULTS (cont.)

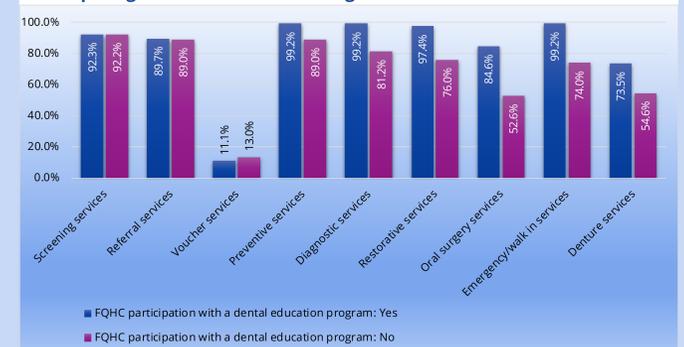
FQHCs hosting a dental education program had a significantly higher number of dental operatories compared to those without education programs.

Figure 2. Average Number of Operatories or Portable Chairs by FQHCs' Participation in Dental Education Programs



There were significant positive associations between the FQHC's hosting of students/residents and the prevalence of providing preventive, diagnostic, restorative, oral surgery, emergency/walk-in, and denture services.

Figure 3. Prevalence of Oral Health Services Provided by FQHCs Participating in Dental Education Programs



CONCLUSIONS

FQHCs that participated in dental education programs had more fixed dental clinics that were either co-located or separately located from a primary care health clinic and a greater number of dental operatories within those clinics.

Hosting dental students and residents improves FQHCs' capacity to provide services and also provides a pipeline for new workforce.

REFERENCE

Langelier M, Surdu S, Rodat C. Survey of Federally Qualified Health Centers to Understand Participation in Dental Residency Programs and Student Externship Rotations. Rensselaer, NY: Oral Health Workforce Research Center, Center for Health Workforce Studies, School of Public Health, SUNY Albany; December 2016.