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## Addressing Tobacco Cessation at Federally Qualified Health Centers: Current Practices & Resources

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### Abstract

This study assesses the current practices of Federally Qualified Health Centers (FQHCs) to address tobacco cessation with patients. A national sample of 112 FQHC medical directors completed the web-based survey. Frequently endorsed barriers to providing tobacco cessation services were: patients lacking insurance coverage (35%), limited transportation (27%), and variance in coverage of cessation services by insurance type (26%). Nearly 50% indicated that two or more tobacco cessation resources met the needs of their patients; 25% had one resource, and the remaining 25% had no resources. There were no differences among resource groups in the use of electronic health record (EHR) best-practice-alerts for tobacco use or in the perceived barriers to providing tobacco cessation assistance. Systems changes to harmonize coverage of tobacco assistance, such as broader accessibility to evidence-based cessation services could have a positive impact on the efforts of FQHCs to provide tobacco cessation assistance to their patients.

### Keywords

Tobacco; tobacco cessation; community health centers; federally qualified health centers

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Smoking is the leading cause of preventable death from cancers, heart disease, and respiratory illnesses in the United States (U.S.) and smoking tobacco and use of smokeless tobacco remain a significant public health concern.<sup>1,2</sup> While significant progress has been made in the reduction of tobacco use over the last decade, 15.5% of the adult population in 2016 continued to smoke.<sup>3</sup> Importantly, the gains made in tobacco control and prevention are not equally distributed among subpopulations. Tobacco use remains high among people

living below the poverty level, those with lower levels of education, and among certain racial and ethnic minority groups.<sup>2</sup> Socially and economically disadvantaged groups have lower cessation rates,<sup>4,5</sup> resulting in disparate health outcomes.<sup>6–8</sup> Federally Qualified Health Centers (FQHCs) provide comprehensive health services to economically disadvantaged populations in rural and urban communities across the U.S. FQHCs serve as the medical and health care home for over 25 million people nationally. In 2016, 92% of patients served by FQHCs were at or below 200% of the federal poverty line, 23.4% were uninsured, and 49.7% were Medicaid recipients.<sup>9</sup>

Recent studies indicate an exceptionally high burden of tobacco use among FQHC patient populations, with about 30% of health center patients identified as current tobacco users,<sup>10,11</sup> which is substantially higher than U.S. adults in general. Despite high rates of smoking, a recent study noted that 82% of FQHC patients who smoke cigarettes report a desire to quit,<sup>11</sup> suggesting that assistance with smoking cessation would be well-received by patients in this context. However, little is known about FQHCs' tobacco cessation practices and resources, or the barriers experienced by centers trying to provide evidence-based cessation treatment and programming. Identifying current practices, resources, and impediments to care can guide efforts targeting tobacco assessment and assistance resources to where they are most needed and where they can have an impact on population health. Therefore, the purpose of this study was to assess the current practices and capacity of FQHCs to address tobacco cessation with their patients.

## Methods

### Design and sample.

Using a cross-sectional study design, we identified and sampled FQHCs with a prevalence of adult tobacco use above the median of all U.S. FQHCs. We used 2013 Uniform Data System (UDS) FQHC data, which include quality-of-care indicators and patient demographics, to estimate tobacco use. Tobacco use is defined as using any form of tobacco including cigarettes, cigars, and smokeless tobacco, as documented during routine care. In 2013 there were 1,202 FQHCs; 601 had tobacco use prevalence above the median of 26%. From this pool, 300 were sampled. One of these sites was later identified as a duplicate and dropped. The sample for this study represents 299 randomly sampled FQHCs.

The names and email addresses of the medical directors for each FQHC were compiled and directors were sent an introductory email inviting them to complete a web-based survey; up to five follow-up/reminder emails were sent. Emails returned as undeliverable prompted the study staff to call the FQHC to identify a correct email for the medical director. All contacted medical directors were given the option to re-direct the survey to an individual in the practice who was more knowledgeable about the center's current tobacco assessment and assistance practices. Only one survey per FQHC was accepted. Upon completion of the survey, participants received a \$100 gift card as a token of appreciation for their time. Data collection began in August 2016 and concluded in October 2016.

## Variables.

The survey assessed FQHCs' current practices, electronic health record (EHR) documentation, and available resources for tobacco assessment and cessation assistance. Resources included individual and group counseling provided at the clinic, and fax referral and electronic referral to state quitlines. All states have access to a quitline, which offers tobacco cessation counseling via telephone, although eligibility varies by state. Clinicians can recommend that the individual call the quitline, can use a proactive referral via fax, or if available a direct electronic referral to a quitline can be issued. Proactive referrals result in the quitline calling the patient to invite them to enroll in a series of telephone counseling sessions to support tobacco cessation.

The survey consisted of nine sections, and specific measures for this report included FQHC characteristics, EHR documentation of tobacco use, perceived data accuracy and use of data, resources for tobacco cessation assistance, and barriers to providing tobacco cessation assistance. Barriers were identified from the literature<sup>12-14</sup> and from input from FQHC partner clinicians. The survey also assessed the role of the individual completing the survey and the number of years in that position. Descriptive characteristics were drawn from UDS indicators reported in 2013 by each FQHC, to compare the FQHCs that responded to the survey with those that did not respond. Indicators included FQHC location (urban or rural) and number of clinical sites. Early versions of the survey were pilot-tested with four practicing FQHC clinicians to compile feedback on the survey content, item wording, and overall length and flow of the survey. The web-based version was further pilot-tested to ensure appropriate flow through skip patterns. The survey was designed and managed using Qualtrics (Qualtrics 2018, Provo Utah).

## Data analysis.

Descriptive statistics of study participants' responses to each of the main sections of the survey were generated and reported. Bivariate associations were used to examine characteristics of three groups: FQHCs that reported having two or more tobacco cessation resources that met the needs of their patients, FQHCs that reported having only one resource, and FQHCs that reported having no resources that met the needs of patients. A "don't know about the availability" response for a particular resource was treated as "not meeting the needs of patients," in order to minimize missing data on the new three-category variable. Associations were tested using chi square and ANOVA. Multivariable analyses examined the independent association of clinic characteristics with the three categories of adequate tobacco cessation resources (i.e., 2, 1, 0). Associations were evaluated using  $p < .05$ . The study protocol was approved by the Case Western Reserve University Institutional Review Board.

## Results

Of the 299 FQHCs randomly selected to participate, 41 were excluded because the center requested no contact, the center was closed, or the study team was unable to identify a valid contact during the data collection period (Figure 1). Thus, 258 centers were emailed an

invitation to complete the survey. A total of 112 completed the survey for a 43% response rate.

The FQHCs that participated in the survey had a mean of 7.4 sites (SD 9.5) and 51% were located in a rural setting, as designated in the UDS 2013 data. The mean prevalence of adult patients who use tobacco was 39.5% (std dev 9.9). These characteristics were not statistically different from the sampled FQHCs that did not complete the survey (mean of 7.7 sites (SD 8.1) and 49% located in rural setting). The individuals completing the survey were predominantly the medical or clinical director (66%) and 80% had been in the position for a year or more. One site reported not having an EHR.

Nearly all (91%) of participating FQHCs reported having EHR health maintenance modules or prevention-focused clinical practice alerts. Of those, 79% reported having a specific tobacco use clinical practice alert available and turned on.

Documentation of specific tobacco use features are shown in Table 1. Patient smoking status (100%) and the amount that the patient smokes (86%) were most routinely documented. Other features such as age of smoking initiation (51%) and pack-year smoking history (54%) were less frequently endorsed as routinely documented. When asked about the perceived accuracy of the smoking status data, 62% of respondents reported that the data were very accurate.

With regard to EHR querying capabilities to identify subgroups, 60% reported that their site could use the system to identify current smokers; however, far fewer could identify former smokers (32%) or smokers with a  $\geq 30$  pack year history (5%). Nonetheless, over one-quarter of respondents (27%) reported using tobacco-use data from their EHR for population-based outreach efforts.

Perceived barriers to providing smoking cessation services are noted in Table 2. The most frequently noted major barriers were: patients lacking insurance coverage (35%), limited transportation to smoking cessation programs (27%), and variance in coverage of cessation services by insurance type (26%). In contrast, very few (<10%) respondents reported that the effectiveness of available programs and the reliability of the state quitline were barriers.

Thirty-eight respondents (34%) provided an open-ended response when reporting “Other Barriers.” Synthesis of these responses by content identified “patient motivation to quit” as the most common barrier (38%), followed by “limited time to address tobacco cessation adequately during patient visits” (21%). Patients’ other pressing health concerns (e.g., mental health issues), cost, and “accessibility to services in terms of location and timing” were also noted barriers.

The availability of resources for tobacco cessation and whether those resources met the needs of patients were also assessed. As shown in Table 3, individual tobacco cessation support at the clinic (47%), and fax referral to a state quitline (45%) were the most commonly reported resources that met the needs of patients. Group tobacco cessation support (31%) and individual support (23%) located outside the clinic setting were most commonly noted to be available, but *not* meet patient needs. Group or individual tobacco

cessation support at the clinic and electronic referrals to the state quitline were most commonly reported as unavailable by the respondents.

It is also interesting to note that a sizable portion of respondents reported that they did not know about the availability of certain tobacco cessation resources, including individual (31.5%) and group (21.8%) counseling outside the health center, and fax (23.6%) and electronic referrals (37%) to state quitlines.

Next, we examined three groups of FQHCs: FQHCs with two or more tobacco cessation resources that met patient needs, FQHCs with one resource, FQHCs with no resources that met patient needs, and the association with documentation practices and perceived barriers to addressing tobacco cessation. Fifty percent of respondents indicated that two or more tobacco cessation resources were available and met the needs of their patients; 25% had one such resource, and the remaining 25% had no resources that met patients' needs. Those FQHCs with two or more resources were significantly more likely to document lung disease history (80% vs. 52% vs. 58%) and to use the EHR smoking data for population-based outreach (39% vs. 24% vs. 8%,  $p < .001$ ). No other characteristics were significantly associated with the number of tobacco cessation resources. Specifically, there were no differences among those groups in the use of EHR best practice alerts for tobacco use, in the rating of perceived barriers to providing tobacco cessation assistance, in urban vs. rural FQHCs, or in quartile of prevalence of patients using tobacco.

## Discussion

There is a high burden of smoking-related diseases—such as cancers of the lung, esophagus, and colon; heart disease; and stroke.<sup>15</sup> Given the high prevalence of tobacco use among patients served by FQHCs, many of whom are socioeconomically disadvantaged, it is critically important to ensure access to effective and practical tobacco cessation resources in U.S. FQHCs. The largest network of primary care safety-net providers in the U.S., FQHCs have experienced even greater demand for services since the passage of the Patient Protection and Affordable Care Act (ACA).<sup>16</sup> This study sheds light on current practices of assessing tobacco use and offering tobacco cessation assistance to patients seeking health care in the FQHC context.

The standard of care for treating tobacco dependence in clinical practice is to consistently identify and document tobacco use status and offer treatment to every user.<sup>17</sup> The 5 As protocol (Ask, Advise, Assess, Assist, Arrange) provides a framework to achieve that care standard.<sup>17,18</sup> We found that the majority of the FQHCs report routinely documenting tobacco use status and quantity consumed. However, documentation of other tobacco history information such as the year of smoking initiation and pack-years were routinely documented by only 55% and 51% of FQHCs, respectively. Such information informs risk and level of addiction and can guide cessation strategies, treatment plans for modifiable smoking-related chronic disease, and lung cancer screening eligibility.<sup>19</sup>

While documentation of smoking status seemed to be a routine activity, this study found great variability in the cessation services (Advise and Assist) that are available across

FQHCs. The majority of centers in this sample indicated having access to at least one tobacco cessation resource that met the needs of their patients. The most commonly cited resource was fax referral to a state quitline (which is encouraging given its evidence base),<sup>20</sup> low cost, accessibility, and widespread availability.<sup>21,22</sup> Quitlines are also important as individual and group tobacco cessation classes were frequently pointed to as not being available at the health center: 46% and 75%, respectively. The benefit of quitlines, which provide telephonic tobacco cessation support, is further evidenced by the fact that 55% of FQHCs are located in rural areas, where other clinical and public health resources may be limited.<sup>16</sup>

However, it is a matter for concern that 25% of respondents indicated that they did not have access to any resources that would meet their patients' needs. Others have found that safety-net health systems serving low-income populations often face substantial barriers, which affect the provision of tobacco cessation services.<sup>23,24</sup> Clinicians working in underserved communities note as key barriers having limited time during clinical encounters and inadequate patient resources for cessation.<sup>24</sup> Barriers to providing tobacco cessation support identified by this study included lack of transportation to cessation classes, challenges created by the variability of coverage depending on insurance, a lack of resources for populations with comorbidities such as complex mental health concerns, and a lack of patient motivation to quit.

The limitations in Medicaid insurance coverage for cessation services, and variability in coverage across insurance types, may be of particular importance to FQHCs given that nearly half of patients served by community health centers are enrolled in Medicaid.<sup>16</sup> Prior to 2014, states were not required to cover tobacco cessation medications for patients on Medicaid. Beginning in 2014, the ACA led to significant shifts in coverage by mandating that all state Medicaid programs cover at least some medications and requiring that comprehensive tobacco benefits be made available to subsets of the Medicaid population (e.g., pregnant women). Comprehensive coverage of tobacco cessation has been shown to increase quit attempts and successful smoking cessation among Medicaid recipients.<sup>25,26</sup> However, there is significant variability in the breadth and depth of this coverage by state.<sup>27</sup> Cost-sharing, prior authorization requirements, and variations in eligibility for counseling services remain significant barriers for the Medicaid population<sup>14</sup> and likely affect both patient and provider uptake of these services by making routine approaches difficult to implement at the point of care.

This study found that centers reporting two or more tobacco cessation resources that met the needs of their patients were equally likely to report substantial barriers to providing tobacco cessation assistance compared with those centers reporting no tobacco cessation resources. This suggests that despite having resources that meet the needs of patients, substantial barriers that could impede uptake of those tobacco cessation resources remain for most FQHCs. Many of the barriers to cessation uptake lie outside of the context of the individual clinic visit. Therefore, it may be prudent to focus on systems changes that identify and address deficits in the clinic setting and harmonize with existing public health and community resources. For example, it is encouraging that at least some centers report the ability to query their EHR to identify specific groups of smokers, and that they may be using

this information for tailored outreach efforts outside of the clinic context. Others have shown that the use of a tobacco patient registry, coupled with targeted outreach, has been shown to be effective in linking patients to smoking counseling<sup>28</sup> and may also reduce staff costs.<sup>29</sup>

Alleviating barriers through transportation vouchers or more accessible locations on public transportation routes, and designing cessation services for individuals with complex health histories is an area for further investment. We believe it is prudent to seek opportunities to bridge community-based public health resources and/or behavioral health services with primary care practices, including formal integration of the latter two.

A significant portion of center respondents reported that they did not know about the availability of certain evidence-based tobacco cessation resources. This is surprising given the widespread availability of resources such as quitlines and several methods to refer patients including fax-, web- or e-referral. Further research should explore how to raise awareness, reduce misperceptions, and identify opportunities for system-wide integration of quitlines as a tobacco cessation resource. In addition, 29% of respondents reported that even when available, a fax or electronic referral to the quitline did not meet the needs of their patients. Further research is needed to understand this.

On the bright side, 27% of respondents reported using practice EHR data for population-based outreach efforts. This survey did not inquire about the specifics of these outreach efforts, but further investigation about these population-based efforts could serve as a useful next step for identifying how FQHCs could effectively employ population-level tobacco use data to improve secondary and tertiary prevention efforts among their patient populations. This approach will also likely become increasingly important for FQHC economic viability as community health center reimbursement moves from cost-based for government-funded coverage and fee for service for private insurers to incentives for improved population-level outcomes as a marker of health care value.

The findings from this study should be interpreted in light of several study limitations. Our national study of FQHCs with adult tobacco use prevalence above the median for all FQHCs used a sound sampling scheme and yielded a 42% response rate. The FQHCs that did not complete the survey were similar in organization size and proportion located in a rural area compared with those that did complete the survey. However, study participants might have been more interested in the topic of tobacco cessation, and thus might over represent those sites that are active in tobacco cessation services. Further, this study used a self-report survey by a medical director (or other knowledgeable person designated by the medical director) on behalf of the FQHC. This is less likely to influence the report of EHR capability or availability of resources but represents only the respondent's rating of perceived barriers.

In conclusion, the majority of FQHCs in this sample indicated having access to at least one tobacco cessation resource that meets the needs of their patients, however, one quarter had none. Important barriers to smoking cessation remain among all FQHCs, regardless of having zero, one, two, or more tobacco cessation resources. Systems changes that optimize efficiencies in the EHR and enable effective referrals to tobacco cessation resources are needed. Implementation of such changes would enhance FQHCs contributions to broader

public health goals focused on tobacco control and elimination of related disparities among medically underserved populations.

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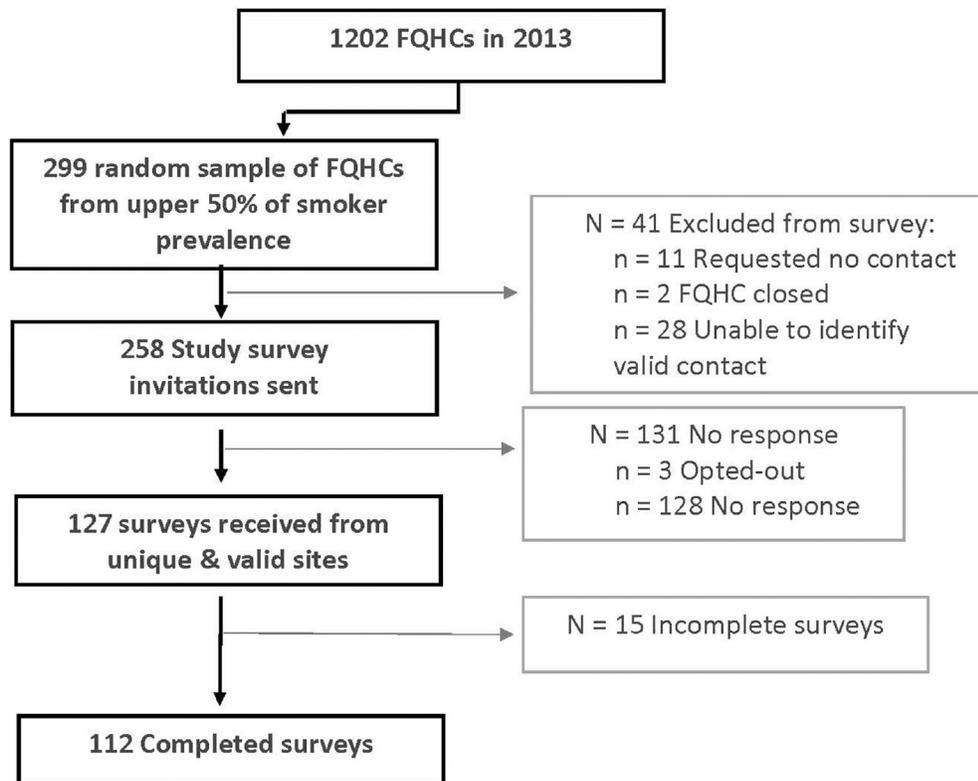
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**Figure 1.**  
Schema of sample and responses.

**Table 1.**TOBACCO USE ASSESSMENT AND DOCUMENTATION PRACTICES IN FQHCS (N = 111)<sup>a,b</sup>

	n	%
Routinely Documented in EHR		
Patient smoking status (current, former, never)	111	100.0
Year or age patient started smoking	57	51.4
Year or age patient quit smoking	68	61.3
Amount patient smoked (e.g., packs per day)	97	87.4
Patient pack-years smoking history	60	54.1
History of lung disease	75	67.5
Accuracy of Smoking Status Data		
Very accurate	68	61.3
Somewhat accurate	39	35.1
Not at all accurate	3	2.7
Don't know	1	.9
Use EHR Routinely to Identify		
Current smokers	66	59.5
Former smokers	36	32.4
Smokers with more than 30 pack-years smoking history	6	5.4
Patient Tobacco-Use Data Used for Population-Based Outreach	30	26.8

Note:

<sup>a</sup>Percentages may not add to 100 due to rounding.

<sup>b</sup>One site reported they did not have an EHR, therefore, N = 111.

**Table 2.**  
**BARRIERS TO PROVIDING SMOKING CESSATION SERVICES IN FQHCs (N = 112)<sup>a</sup>**

	Major barrier		Moderate barrier		Minimal barrier		Not a barrier	
	n	%	n	%	n	%	n	%
Patients lacking insurance coverage	39	34.8	29	25.0	28	25.0	16	14.3
Limited transportation to smoking cessation programs	30	26.8	45	40.2	22	19.6	15	13.4
Coverage of cessation services varies by insurance type	29	25.9	36	32.1	29	25.9	18	16.1
Non-English speaking patients are difficult to refer to available programs	26	23.2	31	27.7	27	24.1	28	25.0
Specific populations (e.g., those with comorbid conditions) are difficult to refer to available programs	20	17.9	40	35.7	33	29.5	19	17.0
Available programs are ineffective	11	9.8	32	28.6	32	28.6	37	33.0
Quitline is unreliable	9	8.0	11	9.8	32	28.6	60	53.6

Note:

<sup>a</sup>Percentages may not add to 100 due to rounding.

**Table 3.** TOBACCO ASSESSMENT AND SMOKING CESSATION RESOURCES IN PARTICIPATING FQHCS (N= 112)<sup>a</sup>

	N <sup>b</sup>	Available and meets the needs of our patients		Available, but does not meet the needs of our patients		Not available		Don't know about availability	
		n	%	n	%	n	%	n	%
Group smoking cessation classes/support at the clinic	111	19	17.1	9	8.1	82	73.9	1	.9
Group smoking cessation classes/support outside of the clinic	110	24	21.8	34	30.9	28	25.5	24	21.8
Individual smoking cessation classes/support at the clinic	112	53	47.3	10	8.9	48	42.9	1	.9
Individual smoking cessation classes/support outside of the clinic	108	25	23.1	25	23.1	24	22.2	34	31.5
Fax referral to state quitline	110	49	44.5	22	20.0	13	11.8	26	23.6
E-referral to state quitline	108	18	16.7	10	9.3	40	37.0	40	37.0

Note:

<sup>a</sup> Percentages may not add to 100 due to rounding.

<sup>b</sup> N for each item varies due to missing data.