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Using sexual orientation and gender identity data in electronic health records to assess for disparities in preventive health screening services

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Abstract

Background: Lesbian, gay, bisexual, transgender, and queer (LGBTQ) populations have an increased risk of multiple adverse health outcomes. Capturing patient data on sexual orientation and gender identity (SOGI) in the electronic health record (EHR) can enable healthcare organizations to identify inequities in the provision of preventive health screenings and other quality of care services to their LGBTQ patients. However, organizations may not be familiar with methods for analyzing and interpreting SOGI data to detect health disparities.

Purpose: To assess an approach for using SOGI EHR data to identify potential screening disparities of LGBTQ patients within distinct healthcare organizations.

Methods: Five US federally qualified health centers (FQHCs) retrospectively extracted three consecutive months of EHR patient data on SOGI and routine screening for cervical cancer, tobacco use, and clinical depression. The screening data were stratified across SOGI categories. Chi-Square and Fisher's Exact test were used to identify statistically significant differences in screening compliance across SOGI categories within each FQHC.

Results: In all FQHCs, cervical cancer screening percentages were lower among lesbian/gay patients than among bisexual and straight/heterosexual patients. In three FQHCs, cervical cancer screening percentages were lower for transgender men than for cisgender (i.e., not transgender) women. Within each FQHC, we observed statistically significant associations ($P < 0.05$) between

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Authors' contributions

CG and BWF conceived of the study design. CG conducted the analyses; HG and RJB helped to interpret the data analysis; HG wrote the manuscript with input and revisions by CG, RJB, and BWF.

Declaration of Competing Interest

The authors report no declarations of interest.

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SOGI categories and at least one screening measure. The small number of transgender patients, and limitations in EHR functionality, created challenges in interpretation of SOGI data.

Conclusions: To our knowledge, this is the first published report of using SOGI data from EHRs to detect potential disparities in healthcare services to LGBTQ patients. Our finding that lesbian/gay and transgender male patients had lower cervical cancer screening rates compared to heterosexual, bisexual, and cisgender women, is consistent with the research literature and suggests that using SOGI EHR data to detect preventive screening disparities has value. EHR functionality should allow for cross-checking gender identity with sex assigned at birth to reduce errors in data interpretation. Additional functionality, like clinical decision support based on anatomical inventories rather than gender identity, is needed to more accurately identify services that transgender patients need.

Keywords

sexual orientation; gender identity; SOGI data; electronic health record; LGBT; health disparities; federally qualified health center

1. Introduction[i]

Discrimination and stigma create conditions that increase health risks for people who are lesbian, gay, bisexual, transgender, queer, or other gender and sexual minorities (LGBTQ) [1-4]. In addition to having a higher prevalence of HIV, sexually transmitted diseases (STDs), and substance use disorders, LGBTQ people have an increased likelihood of cigarette smoking, depression, and anxiety [5-8]. LGBTQ people also experience challenges in accessing appropriate health care For example, lesbian women and transgender men have lower cervical cancer screening rates compared to heterosexual and cisgender women [9-11], and transgender people report delaying medically necessary care due to discrimination [12]. The routine collection of structured sexual orientation and gender identity (SOGI) patient data in electronic health records (EHRs) has been recommended as a key strategy for detecting, tracking, addressing, and ultimately reducing LGBTQ health disparities [13-16]. Collection of SOGI data can also de-stigmatize sexual and gender diversity, enable clinicians to offer more patient-centered care, and contribute to national and global research on LGBTQ health [17-19].

A growing number of US healthcare organizations have begun to integrate SOGI data collection into their EHR systems due in part to the enactment of new federal policies, including a 2018 requirement that all EHR systems certified under the US Meaningful Use Stage III incentive program have the capacity to record SOGI demographic data, and a 2016 mandate that all US federally qualified health centers (FQHCs) collect and report SOGI data [20,21]. Organizations that capture SOGI data have an opportunity to stratify clinical health indicators across SOGI categories in order to identify disparities in patient health outcomes or in provision of clinical services within their own patient population [22].

[i]LGBTQ: lesbian, gay, bisexual, transgender, queer, or other gender and sexual minorities; SOGI: sexual orientation and gender identity

In 2017, we collaborated with five FQHCs to retrospectively extract and analyze patient EHR data on SOGI and screening for cervical cancer, tobacco use, and clinical depression. The purpose was to assess for disparities in provision of preventive health screening services to LGBTQ patients within each FQHC in order to better understand the promise and challenges of analyzing and interpreting SOGI data collected through EHRs in healthcare practices.

2. Materials and methods

2.1. Project background

This retrospective study was conducted subsequent to a quality improvement project called "Transforming Primary Care for LGBT[ii] People" (*Transforming LGBT Care*), which focused on enhancing provision of comprehensive, culturally-responsive primary care to LGBTQ people seeking care at ten FQHCs [23]. These ten FQHCS, which were identified through a competitive application process, were located in rural and urban areas of nine geographically dispersed US states, and served 441,387 unique patients at 123 clinical sites in 2016. More detail on the quality improvement project has been published previously [23].

Designed and organized by the National Association of Community Health Centers, Washington, D.C., the Weitzman Institute, Middletown, CT, and Fenway Health, Boston, MA, with direct assistance and funding by the Centers for Disease Control and Prevention, *Transforming LGBT Care* included a year-long intervention from March 2016 to March 2017 focused on: making care environments more culturally affirming, implementing SOGI data collection and reporting, and increasing targeted STD and HIV screening of LGBTQ patients. As part of the *Transforming LGBT Care* intervention, FQHCs received training and technical assistance to improve SOGI data collection and documentation. FQHCs also worked directly with their EHR vendors to make necessary modifications to accommodate SOGI data fields. In addition, FQHC clinicians received didactic and case-based training in primary care health topics, including cancer prevention, smoking prevention, and mental health care for LGBTQ patients.

2.2. FQHC selection

At the completion of the *Transforming LGBT Care* quality improvement project, five of the ten FQHCs that had participated in the project were selected to join an ancillary study to detect potential LGBTQ disparities in preventive health services using SOGI EHR data. To be selected for this ancillary study, an FQHC needed to have met the following criteria: (a) participated in the *Transforming LGBT Care* intervention; (b) reported from their EHR to the 2016 Uniform Data System (UDS), which is an annual reporting system of the Health Resources and Services Administration (HRSA) for tracking patient demographics, diagnoses, and services [20], and (c) received an EHR Reporter Quality Improvement Award for Fiscal Year 2016, which is given by HRSA to FQHCs that employed EHRs to report on all clinical quality measure data for all of their patients.

[ii]LGBT was used for the project title because the federal government mostly uses LGBT in its communications and initiatives. For the purposes of this manuscript, we use LGBTQ when referring to the population, and LGBT when referring to the project title.

2.3. Study design

In August 2017, the five selected FQHCs retrospectively extracted three months (January 1, 2017 to March 31, 2017) of data on SOGI and routine screening for cervical cancer, tobacco use, and clinical depression. Data were de-identified and submitted in aggregate from each FQHC for analysis. We estimated the prevalence of screening for cervical cancer, tobacco use, and clinical depression stratified by SOGI category, and tested for significant differences in screening across SOGI categories within each FQHC.

The Community Health Center, Inc. Institutional Review Board approved a retrospective data analysis of the *Transforming LGBT Care* project. The FQHCs did not receive any financial compensation for participating.

2.4. Data Measures

2.4.1. Sexual orientation and gender identity (SOGI) measures—FQHCs collected SOGI data and entered the data into EHRs as part of routine workflow processes. Patients provided SOGI information during registration, during check-in with a nurse or medical assistant, and/or during the medical visit with a primary care provider. SOGI questions were answered by patients verbally, or were entered on paper forms, electronic tablets, or through computer portals.

FQHCs were guided to use SOGI questions based on HRSA UDS 2017 instructions [24], as follows:

Do you think of yourself as:

- Lesbian, gay, or homosexual
- Straight or heterosexual
- Bisexual
- Something else
- Don’t know
- Choose not to disclose

What is your gender identity?

- Male
- Female
- Transgender male, female-to-male (FTM), trans man
- Transgender female, male-to-female (MTF), trans woman
- Other (genderqueer)
- Choose not to disclose

What sex were you assigned at birth?

- Male

- Female

The gender identity question has two steps: the first assesses a person's self-reported gender identity. The second assesses a person's assigned sex at birth. Cross-checking both data points enables healthcare organizations to identify transgender people who currently identify as simply male or female (rather than transgender male or transgender female). This method has been recommended by authorities on transgender health, and is considered a best practice [16]. For this study, the participating FQHCs were encouraged to use the two-step method to identify and count transgender people. However, the FQHCs reported that their EHRs did not have the functionality to use the two-step method to identify transgender people while also reporting on screening measures. Therefore, the FQHCs submitted gender identity data based only on the first step of the question (i.e., *What is your current gender identity?*).

FQHCs with large numbers of Spanish-speaking populations translated the SOGI questions into Spanish. Patients who did not answer the SO or GI questions, or who checked "choose not to disclose," were grouped together in the analysis as "not disclosed/unknown."

2.4.2. Preventive health screening measures—

Preventive health screening data were collected by clinicians as part of routine care. EHR functionality indicated the screenings that patients were due for at their next visit. During or after patient visits, clinicians recorded in the EHR the screenings given to the patients. The three screening measures included in this analysis (Table 1) were defined and reported according to HRSA UDS 2017 instructions (except as noted in Table 1) [24].

We chose to use measures on screening for cervical cancer, tobacco use, and clinical depression because: (a) FQHCs were already required by HRSA to report these as quality of care performance data; (b) preventive screenings are good proxies for engagement in care and positive health outcomes; and (c) there is consistent evidence of disparities of cervical cancer screening, tobacco use, and depression in LGBTQ populations [6-8,10,11].

2.5. Data analysis

We calculated screening prevalence stratified by SOGI using SAS version 9.4. Chi-Square and Fisher's Exact tests were used to identify differences in compliance among SOGI categories in each FQHC; statistical significance was determined at the $p < 0.05$ level.

3. Results

3.1. Health center characteristics

The participating FQHCs were located in Arizona, California, Colorado, Connecticut, and Pennsylvania. While the race/ethnicity proportions at each of the FQHCs differed, all FQHCs had over 50% racial/ethnic minority patients, and all but one FQHC had over 50% of unique patients who identified their ethnicity as Hispanic/Latino (Table 2). The majority of patients at each FQHC were on Medicaid and/or Medicare and had a household income at or below 100% of the federal poverty level.

Table 3 presents the SOGI distribution of all unduplicated FQHC patients with at least one visit during the study period. The FQHCs, on average, saw 1.4% lesbian/gay patients (range: 0.8 to 1.8%), 1.0% bisexual (range: 0.7 to 1.5%) patients, 0.2% transgender male patients (range: 0.0% to 0.4%) and .2% transgender female (range: 0.0% to 0.5%). About 32% of patients (range: 17.6 to 46.8%) had not disclosed/unknown SO, and 27.8% (range: 5.1 to 46.7%) had not disclosed/unknown GI. The SOGI data include patients of all ages, including the approximately 34% of patients who were under 18 years old. Because FQHCs are not required by HRSA to ask the SOGI of patients younger than 18 years, the not disclosed/unknown category is likely comprised primarily of patients under 18 years old.

3.2. Screening compliance across SOGI categories

3.2.1. Cervical cancer screening—In each of the five FQHCs, a lower percentage of lesbian/gay and bisexual patients compared to straight/heterosexual patients received cervical cancer screening (Table 4). Additionally, cervical cancer screening percentages were lower for transgender men than for cisgender women in three FQHCs (FQHC2, FQHC3, and FQHC4). FQHC5, however, had higher cervical cancer screening percentages for transgender men than for cisgender women. The number of transgender men due for cervical cancer screening in each FQHC was small, however (range: 3 to 70).

Unexpectedly, four FQHCs reported cervical cancer screening in cisgender men. Because the FQHCs were unable to cross-check sex assigned at birth with gender identity, we could not determine if these patients were assigned female at birth who identified as men (rather than as transgender men) and were due for screening (assuming they retained a cervix); or, if patients were misclassified as cisgender men, when in fact they were cisgender women or transgender. It is also possible that these were simply data entry errors.

Three FQHCs reported cervical cancer screening in transgender women. There are no current guidelines for cytology screening of transgender women who have undergone genital surgeries. Although these FQHCs reported some transgender women as due for and receiving cytology screening, we do not know if these data were a result of data entry error, misclassification, or the clinicians' decision to screen transgender women.

Among four of the five FQHCs, we observed a statistically significant relationship between SO and cervical cancer screening. In all five FQHCs, we observed a statistically significant relationship between GI and cervical cancer screening.

3.2.2. Tobacco and depression screening—We did not detect clear trends in disparities for tobacco and depression screening for LGBTQ patients in any of the FQHCs (Tables 4 and 5). However, in each of the five FQHCs, patients whose SOGI was not disclosed/unknown had lower clinical depression screening percentages than patients in all other SOGI categories. In addition, we observed statistically significant relationships ($P < 0.05$) between depression screening and both SO and GI in four FQHCs; a statistically significant relationship between SO and tobacco screening in three FQHCs, and a statistically significant relationship between GI and tobacco screening in all five FQHCs.

4. Discussion

This study provides an example of how healthcare organizations can extract and analyze SOGI data from the EHR to detect possible disparities in preventive services for LGBTQ patients. We believe this is the first publication that demonstrates such an approach. Consistent with the research literature [9-11], our data showed that lesbian/gay patients had lower cervical cancer screening percentages than straight/heterosexual and bisexual patients, and that transgender men had lower screening percentages than cisgender women, except in one of the FQHCs. Stratification of SOGI data across screening measures also revealed statistically significant differences in distribution on at least one screening measure for each of the FQHCs, although it does not tell us which categories accounted for those differences. These findings suggest that using SOGI EHR data to detect screening disparities in healthcare organizations is feasible and has value, although we did encounter some challenges in analyzing and interpreting the data.

4.1. Challenges and limitations with EHRs and SOGI data

This study was completed as ancillary to a quality improvement project among a small number of FQHCs; its findings, therefore, cannot be generalized to other FQHCs. Nevertheless, the point of the study was not to perform generalizable research, but to present an example of using SOGI data in the EHR in order to manage the population health of LGBTQ patients within a healthcare organization. The limitations, therefore, are related to making conclusions based on the data within each FQHC. Because the data for this study were collected as part of standard of care, rather than as part of a research protocol, the data reflect the current limitations and realities of capturing and analyzing data in healthcare settings.

For example, EHR reporting functionality prevented FQHCs from using the recommended two-step method of cross-checking gender identity with sex assigned at birth [16]. As a result, we could not verify that all people who identified as men or as women were cisgender and not transgender. Notably, the inability to cross-check gender identity with sex assigned at birth made it impossible to know whether the cisgender men reported as receiving cervical cancer screening were assigned female at birth (and had a cervix), or were misclassified.

Another limitation of the data was the relatively high percentage of patients with “not disclosed/unknown” or otherwise missing data in several FQHCs. In order to improve data completeness and accuracy, healthcare organizations need to improve workflows and prioritize staff training in asking SOGI questions. Patients may also need to be educated in why these questions are being asked and how the data can benefit public and personal health. Further, those responsible for data cleaning will want to run monthly reports of SOGI data to identify problem areas and look for unexpected patterns and statistical outliers. They can also select patient charts at random and cross-check forms with data entered in the EHR.

Another limitation of the data is the small number of patients identifying as transgender. The average percentage of transgender patients (0.4%) in these FQHCs was similar to the percentages found in an analysis of all FQHCs in 2016, and to other US population estimates of transgender populations [25]. Therefore, most organizations will encounter a

similar issue of having a low number of transgender people in a table cell, which can make it difficult to interpret the data with confidence. Healthcare organizations with small or average LGBTQ patient populations will likely need more than three months of data before definitively characterizing disparities in services or health outcomes. Still, quarterly data can offer insight on potential disparities and can allow FQHCs to make adjustments in real-time rather than waiting for annual data.

4.2. Next steps

As increasing numbers of FQHCs and other healthcare organizations implement SOGI data collection into their EHRs, they will look for ways to apply the data to improve quality of care and health outcomes for LGBTQ patients. The methods described in this article could be adapted in various healthcare settings, with some caveats and improvements, such as determining how to cross-check sex assigned at birth with gender identity categories. Three months of data provides only a snapshot of one point in time, but can be used as a baseline. Organizations can continue to track data each quarter to look for trends. If disparities continue, organizations can form quality improvement teams to begin uncovering possible reasons for the disparities. For example, they can share the data with clinical teams to receive feedback, hold focus groups of patients, and review other care and services measures. Once the issue(s) are identified, the organization can offer targeted training, develop materials, or make modifications to the workflow or EHR.

The Health Information Technology (HIT) staff of healthcare organizations will also need to ensure their EHR is capturing SOGI data according to best practices, and that the data can be extracted in a way that enables comparisons along clinical measures. To support their customers, EHR vendors can work on improving the flexibility of their products to accommodate SOGI data since many EHR systems still need modifications. In addition, EHR vendors can expand clinical decision support tools to incorporate SOGI fields. For example, the creation of an anatomical inventory form could more accurately identify people due for cervical cancer screening than gender identity or assigned sex at birth [21]. Finally, it is critical for healthcare organizations to access training for their clinical and front-line staff to help build understanding and confidence around talking to patients about routine SOGI data collection and its relationship to health outcomes and equity. Free online training materials are available from the National LGBTQIA + Health Education Center, www.lgbthealtheducation.org.

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References

[1]. Frost DM, Lehavot K, Meyer IH, Minority stress and physical health among sexual minority individuals, J Behav Med. 38 (1) (2015) 1–8. [PubMed: 23864353]

[2]. Hatzenbuehler ML, Pachankis JE, Stigma and minority stress as social determinants of health among lesbian, gay, bisexual, and transgender youth: research evidence and clinical implications, Pediatr Clin North Am. 63 (6) (2016) 985–997. [PubMed: 27865340]

[3]. White Hughto JM, Reisner SL, Pachankis JE, Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions, Soc Sci Med. 147 (2015) 222–231. [PubMed: 26599625]

[4]. Hatzenbuehler ML, McLaughlin KA, Keyes KM, Hasin DS, The impact of institutional discrimination on psychiatric disorders in lesbian, gay, and bisexual populations: a prospective study, Am J Public Health. 100 (3) (2010) 452–459. [PubMed: 20075314]

[5]. Ross LE, Salway T, Tarasoff LA, MacKay JM, Hawkins BW, Fehr CP, Prevalence of depression and anxiety among bisexual people compared to gay, lesbian, and heterosexual individuals: A systematic review and meta-analysis, J Sex Res. 55 (4-5) (2018) 435–456. [PubMed: 29099625]

[6]. Gonzales G, Przedworski J, Henning-Smith C, Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: results from the National Health Interview Survey, JAMA Intern Med. 176 (9) (2016) 1344–1351. [PubMed: 27367843]

[7]. Fredriksen-Goldsen KI, Kim HJ, Barkan SE, Muraco A, Hoy-Ellis CP, Health disparities among lesbian, gay, and bisexual older adults: results from a population-based study, Am J Public Health. 103 (10) (2013) 1802–1809. [PubMed: 23763391]

[8]. HIV Surveillance Report, Centers for Disease Control and Prevention, Atlanta, GA, 2015, http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html.

[9]. Cochran SD, Mays VM, Bowen D, et al. , Cancer-related risk indicators and preventive screening behaviors among lesbians and bisexual women, Am J Public Health. 91 (4) (2001) 591–597. [PubMed: 11291371]

[10]. Potter J, Peitzmeier SM, Bernstein I, et al. , Cervical cancer screening for patients on the female-to-male spectrum: A narrative review and guide for clinicians, J Gen Intern Med. 30 (12) (2015) 1857–1864. [PubMed: 26160483]

[11]. Charkhchi P, Schabath MB, Carlos RC, Modifiers of cancer screening prevention among sexual and gender minorities in the Behavioral Risk Factor Surveillance System, J Am Coll Radiol. 16 (4 Pt B) (2019) 607–620. [PubMed: 30947895]

[12]. Grant JMML, Tanis J, Harrison J, Herman JL, Keisling M, Injustice at every turn: A Report of the National Transgender Discrimination Survey, Washington, DC (2011).

[13]. Collecting Sexual Orientation and Gender Identity Data in Electronic Health Records: Workshop Summary, Institute of Medicine, Washington, DC, 2013.

[14]. The Joint Commission. Advancing effective communication, cultural competence, and patient- and family-centered care for the lesbian, gay, bisexual, and transgender (LGBT) community: A field guide, IL: Joint Commission, Oak Brook, 2011.

[15]. Pinto AD, Glattstein-Young G, Mohamed A, Bloch G, Leung FH, Glazier RH, Building a foundation to reduce health inequities: Routine collection of sociodemographic data in primary care, J Am Board Fam Med. 29 (3) (2016) 348–355. [PubMed: 27170792]

[16]. Deutsch MB, Green J, Keatley J, et al. , Electronic medical records and the transgender patient: recommendations from the World Professional Association for Transgender Health EMR Working Group, J Am Med Inform Assoc. 20 (4) (2013) 700–703. [PubMed: 23631835]

[17]. Dilley JA, Simmons KW, Boysun MJ, Pizacani BA, Stark MJ, Demonstrating the importance and feasibility of including sexual orientation in public health surveys: health disparities in the Pacific Northwest, Am J Public Health. 100 (3) (2010) 460–467. [PubMed: 19696397]

[18]. Donald C, Ehrenfeld JM, The opportunity for medical systems to reduce health disparities among lesbian, gay, bisexual, transgender and intersex patients, J Med Syst. 39 (11) (2015) 178. [PubMed: 26411930]

[19]. Maragh-Bass Ac, Torain M, Adler R, et al. , Risks, benefits, and importance of collecting sexual orientation and gender identity data in healthcare settings: a multi-method analysis of patient and provider perspectives, LGBT Health 4 (2) (2017) 141–152. [PubMed: 28221820]

[20]. Cahill SR, Baker K, Deutsch MB, Keatley J, Makadon HJ, Inclusion of sexual orientation and gender identity in stage 3 meaningful use guidelines: A huge step forward for LGBT health, LGBT Health. 3 (2) (2016) 100–102. [PubMed: 26698386]

[21]. Department of Health and Human Services, Health Resources and Services Administration. Program Assistance Letter (PAL 2016-02). Approved Uniform Data System Changes for Calendar Year 2016, Health Resources and Services Administration, Washington, DC, 2016.

[22]. Grasso C, McDowell MJ, Goldhammer H, Keuroghlian AS, Planning and implementing sexual orientation and gender identity data collection in electronic health records, J Am Med Inform Assoc. 26 (1) (2019) 66–70. [PubMed: 30445621]

[23]. Furness BW, Goldhammer H, Montalvo W, et al. , Transforming primary care for lesbian, gay, bisexual, and transgender people: a collaborative quality improvement initiative, Ann Fam Med 18 (4) (2020) 292–302. [PubMed: 32661029]

[24]. Bureau of Primary Health Care, Health Resources and Services Administration, Uniform Data System: Reporting Instructions for 2017 Health Center Data. OMB Number: 0915-0193.

[25]. Grasso C, Goldhammer H, Funk D, et al. , Required sexual orientation and gender identity reporting by US health centers: first-year data, Am J Public Health. 109 (8) (2019) 1111–1118. [PubMed: 31219717]

Summary Points

What was already known on the topic:

- Capturing patient data on sexual orientation and gender identity (SOGI) in the electronic health record (EHR) can enable healthcare organizations to identify inequities in the provision of clinical services to LGBTQ patients.
- An increasing number of healthcare organizations are collecting SOGI data; however, organizations may not be familiar with methods for analyzing and interpreting the data to detect disparities.

What this study added to our knowledge:

- This first example of using SOGI data in the EHR to detect potential disparities in healthcare services to LGBTQ patients shows potential for adaptation in other healthcare settings, with some caveats due to EHR functionality.
- Expanded EHR functionality is needed to more accurately identify services for transgender patients.

Table 1

Definitions of preventive health screening measures

Measure	Definition
Cervical Cancer Screening	Percentage of unduplicated patients 23–64 years of age with at least one medical visit during the measurement period who were due for cervical cytology based on anatomy (a cervix)[+] and who received cervical cytology one or more times during the measurement period (or two years prior to the measurement period for patients who are at least 21 years old at the time of the test)[++].
Screening for Clinical Depression and Follow-Up Plan	Percentage of unduplicated patients age 12 years and older with at least one eligible medical visit during the measurement period who were screened for clinical depression on the date of the visit using an age-appropriate standardized depression screening tool, *and*, if screened positive, who had a follow-up plan documented on the date of the positive screen.
Tobacco Use: Screening and Cessation Intervention	Percentage of unduplicated patients aged 18 years and older with at least one medical visit during the measurement period who were screened for tobacco use one or more times within 24 months before the end of the measurement period *and* who received cessation counseling intervention if defined as a tobacco user.

Notes :

[+] In the Reporting Instructions for 2017 Health Center Data, cervical cancer screening is written as “percentage of women 23–64 years of age.”

[++] Measurement period was January 1, 2017 to March 31, 2017.

Table 2

Sociodemographic characteristics of the total unique patient populations served by the five participating federally qualified health centers (FQHCs) in 2017[+]

	FQHC 1	FQHC 2	FQHC 3	FQHC 4	FQHC 5
Total patient population	15,548	96,204	101,536	25,003	53,842
Race and ethnicity (% of known)					
Racial and/or ethnic minority	86.1	74.6	77.4	50.0	92.3
Non-Hispanic White	14.3	48.0	23.3	63.3	7.7
Hispanic/Latino	64.5	56.5	64.7	33.7	50.9
Black/African American[++]	15.7	26.6	4.6	20.1	3.1
Asian[++]	5.3	5.7	1.7	0.7	1.5
Native Hawaiian/ Other Pacific Islander[++]	0.1	0.1	0.2	0.7	0.1
American Indian/Alaska Native[++]	1.2	0.7	7.3	0.3	0.2
More than one race[++]	2.5	0.6	0.8	0.8	Data unavailable
Insurance Status (% of total patients)					
Uninsured	21.6	12.2	13.6	11.0	41.1
Medicaid/CHIP	70.4	67.3	54.3	65.7	49.8
Medicare	3.7	7.1	11.9	9.4	5.5
Dually Eligible (Medicare and Medicaid)	2.9	5.77	4.7	4.6	3.5
Other Third Party Insurance	4.3	13.5	20.2	13.9	3.6
Age (% of total patients)					
<18 years old	23.3	41.1	33.9	40.9	32.3
18 - 64 years old	71.0	52.6	55.7	53.6	62.4
Age 65 and older	5.7	6.3	10.4	5.5	5.3
Income Status (% of known)					
At or below 200% of federal poverty level	80.0	88.4	91.7	89.6	96.2
At or below 100% of federal poverty level	49.2	59.8	69.0	54.4	72.6

Notes :

[+]Data are from the Health Resources and Services Administration (HRSA) Health Center Program 2017 grantee data: https://bphc.hrsa.gov/uds/datacenter.aspx.

++Includes Hispanic/Latino and Non-Hispanic/Latino

Table 3

Sexual orientation and gender identity distribution of unduplicated FQHC patients with at least one visit during the study period (January 1, 2017 to March 31, 2017)

	Lesbian/Gay	Bisexual	Straight/Heterosexual	Something Else	Don't Know	Not Disclosed/Unknown
	%	%	%	%	%	%
FQHC 1 (n = 7,691)	1.2	0.8	83.4	0.3	1.6	12.6
FQHC 2 (n = 38,462)	1.5	1.3	66.9	0.4	0.2	29.7
FQHC 3 (n = 46,095)	1.7	0.8	44.1	6.6	0.0	46.8
FQHC 4 (n = 8,868)	1.8	1.5	68.8	0.2	0.4	27.4
FQHC 5 (n = 26,326)	0.8	0.7	63.3	0.2	17.4	17.6
All FQHCs (n = 127,442)	1.4	1.0	59.1	2.6	3.8	32.2
	Cisgender Women	**Cisgender Men**	**Transgender Women**	**Transgender Men**	**Other**	**Not Disclosed/Unknown**
	%	%	%	%	%	%
FQHC 1 (n = 7,691)	58.1	36.6	0.1	0.1	0.1	5.1
FQHC 2 (n = 38,462)	42.1	27.9	0.5	0.4	0.1	29.0
FQHC 3 (n = 43,591)	34.7	18.3	0.0	0.2	0.1	46.7
FQHC 4 (n = 8,868)	45.6	27.0	0.1	0.1	0.0	27.1
FQHC 5 (n = 26,326)	47.8	30.7	0.1	0.0	15.7	5.7
All FQHCs (n = 124,938)	41.9	25.6	0.2	0.2	3.4	28.7

Table 4

Preventive health screenings stratified by sexual orientation categories

Cervical cancer screening									
		Lesbian/Gay n = 502	**Bisexual n = 545**	**Straight/ Heterosexual n = 30,888**	**Something Else n = 679**	**Don't Know n = 901**	**Not Disclosed/ Unknown n = 6,733**	***X*² *(df)***	***P-value***
FQHC 1 (n = 2,614)	Screened n (%)	10 (34%)	23 (55%)	1,343 (54%)	5 (56%)	5 (63%)	110 (46%)		0.0993 +
	Not Screened n	19	19	1154	4	3	127		
FQHC 2 (n = 12,966)	Screened n (%)	116 (53%)	109 (55%)	6,647 (64%)	31 (70%)	6 (40%)	1,165 (55%)	71.2441 (5)	< .0001 ++
	Not Screened n	102	91	3754	13	9	938		
FQHC 3 (n = 13,488)	Screened n (%)	76 (62%)	119 (74%)	7,341 (75%)	407 (67%)	0 (0%)	1986 (73%)	44.2673 (4)	< .0001 ++
	Not Screened n	46	41	2446	200	0	826		
FQHC 4 (n = 2,803)	Screened n (%)	17 (39%)	31 (57%)	1,402 (54%)	1 (20%)	6 (43%)	26 (34%)	18.8199 (5)	0.0021 ++
	Not Screened n	27	23	1207	4	8	51		
FQHC 5 (n = 8,154)	Screened n (%)	48 (54%)	60 (67%)	3,349 (60%)	9 (64%)	460 (53%)	963 (64%)	30.1575(5)	< .0001 ++
	Not Screened n	41	29	2245	5	404	541		
Tobacco use: screening and cessation intervention									
		Lesbian/Gay n = 1,560	**Bisexual n = 804**	**Straight/ Heterosexual n = 51,762**	**Something Else n = 701**	**Don't Know n = 2,912**	**Not Disclosed/ Unknown n = 9,395**		***P-value***
FQHC 1 (n = 2,890)	Screened n (%)	34 (83%)	17 (81%)	2,475 (95%)	7 (88%)	8 (100%)	193 (93%)		0.0026 +
	Not Screened n	7	4	130	1	0	14		
FQHC 2 (n = 27,254)	Screened n (%)	422 (88%)	301 (84%)	20,287 (92%)	100 (94%)	46 (96%)	3,802 (89%)	102.7376 (5)	< .0001 ++
	Not Screened n	56	56	1682	6	2	494		
FQHC 3 (n = 25,084)	Screened n (%)	561 (77%)	181 (70%)	14,346 (80%)	1 (100%)	1,779 (80%)	2,930 (86%)	3435.0775 (5)	< .0001 ++
	Not Screened n	164	79	3576	0	452	486		
FQHC 4 (n = 4,360)	Screened n (%)	121 (100%)	79 (99%)	4,002 (99%)	9 (100%)	19 (100%)	82 (96%)		0.2623 +

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	Not Screened n	0	1	44	0	0	3		
FQHC 5 (n = 8,137)	Screened n (%)	91 (88%)	73 (96%)	5,217 (90%)	17 (89%)	604 (90%)	1,324 (89%)	6.589 (5)	0.253 ++
	Not Screened n	104	13	3	560	2	67		
Screening for clinical depression and follow-up plan									
		Lesbian/Gay n = 1,032	**Bisexual n = 720**	**Straight/ Heterosexual n=51,283**	**Something Else n = 396**	**Don't Know n = 314**	**Not Disclosed/ Unknown n = 4,801**	***X*** **²** ***(df)***	***P-value***
FQHC 1 (n = 5,212)	Screened n (%)	52 (76%)	30 (70%)	3,687 (80%)	15 (88%)	10 (83%)	325 (67%)	54.4408 (5)	< .0001 ++
	Not Screened n	16	13	897	2	2	163		
FQHC 2 (n = 23,501)	Screened n (%)	296 (87%)	263 (89%)	15,282 (89%)	86 (83%)	54 (87%)	3,188 (62%)	2015.3671 (5)	<. 0001 ++
	Not Screened n	44	34	1929	18	8	1959		
FQHC 3 (n = 24,394)	Screened n (%)	353 (85%)	174 (82%)	13,697 (86%)	1,142 (83%)	9 (100%)	4,849 (74%)	469.6665 (5)	< .0001 ++
	Not Screened n	64	39	2152	242	0	1663		
FQHC 4 (n = 4,333)	Screened n (%)	71 (97%)	60 (95%)	3,676 (97%)	9 (100%)	16 (84%)	334 (90%)		< .0001 +
	Not Screened n	2	3	121	0	3	38		
FQHC 5 (n = 14,471)	Screened n (%)	128 (96%)	91 (88%)	8,748 (89%)	22 (92%)	1,433 (87%)	2,403 (88%)	11.3849 (5)	0.0443 ++
	Not Screened n	6	13	1094	2	212	319		

+ Fisher's Exact Test

++ Chi-square Test; FQHC = federally qualified health center

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Table 5

Preventive health screenings stratified by gender identity categories

Cervical cancer screening									
		Cisgender Women n = 34,027	**Cisgender Men n = 114**	**Transgender Women n = 13**	**Transgender Men n = 99**	**Other n = 763**	**Not Disclosed/ Unknown n = 4,959**	***X*² *(df)***	***P-value***
FQHC 1 (n = 2,822)	Screened n (%)	1,461 (54%)	1 (33%)	1 (25%)	–	1 (100%)	32 (35%)		0.0009 +
	Not Screened n	1262	2	3	–	0	59		
FQHC 2 (n = 12,977)	Screened n (%)	6,933 (64%)	–	0 (0%)	41 (59%)	7 (47%)	1,094 (55%)	57.0991 (4)	< .0001 ++
	Not Screened n	3979	–	4	29	8	885		
FQHC 3 (n = 13,488)	Screened n (%)	8,112 (75%)	22 (54%)	–	5 (28%)	4 (44%)	1,786 (70%)	50.1116 (4)	< .0001 ++
	Not Screened n	2771	19	–	13	5	751		
FQHC 4 (n = 2,803)	Screened n (%)	1,446 (53%)	8 (62%)	–	1 (33%)	0 (0%)	28 (35%)		0.005 +
	Not Screened n	1260	5	–	2	1	52		
FQHC 5 (n = 8,154)	Screened n (%)	4,164 (61%)	26 (46%)	2 (40%)	7 (88%)	376 (51%)	157 (58%)		< .0001 +
	Not Screened n	2639	31	3	1	361	115		
Tobacco use: screening and cessation intervention									
		Cisgender Women n = 34,548	**Cisgender Men n = 23,000**	**Transgender Women n = 173**	**Transgender Men n = 176**	**Other n = 677**	**Not Disclosed/ Unknown n = 9,871**	***X*² *(df)***	***P-value***
FQHC 1 (n = 2,890)	Screened n (%)	1,847 (97%)	833 (90%)	0 (0%)	1 (100%)	–	53 (88%)		< .0001 +
	Not Screened n	54	94	1	0	–	7		
FQHC 2 (n = 27,254)	Screened n (%)	13,050 (94%)	8,022 (90%)	138 (91%)	105 (95%)	32 (97%)	3,611 (88%)	161.0507 (5)	< .0001 ++
	Not Screened n	903	890	14	5	1	483		
FQHC 3 (n = 25,084)	Screened n (%)	11,509 (84%)	4,965 (72%)	–	38 (73%)	16 (80%)	4,257 (84%)	498.8324 (4)	< .0001 ++
	Not Screened n	2184	1977	–	14	4	840		
FQHC 4 (n = 4,360)	Screened n (%)	2,753 (99%)	1,462 (98%)	6 (100%)	7 (100%)	1 (100%)	83 (97%)		0.0245 +

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	Not Screened n	21	24	0	0	0	3		
FQHC 5 (n = 8,137)	Screened n (%)	1,955 (88%)	4,329 (91%)	12 (86%)	5 (83%)	552 (89%)	473 (89%)	26.6029 (5)	< .0001 ++
	Not Screened n	272	404	2	1	71	61		
Screening for clinical depression and follow-up plan									
		Cisgender Women n = 31,662	**Cisgender Men n = 25,027**	**Transgender Women n = 164**	**Transgender Men n = 155**	**Other n = 1,486**	**Not Disclosed/ Unknown n = 13,077**	***X*** ^{2} ***(df)***	***P-value***
FQHC 1 (n = 5,212)	Screened n (%)	2,536 (81%)	1,451 (79%)	6 (75%)	4 (100%)	1 (50%)	121 (57%)		< .0001 +
	Not Screened n	602	397	2	0	1	91		
FQHC 2 (n = 23,161)	Screened n (%)	8,887 (88%)	7,009 (89%)	125 (93%)	78 (87%)	33 (89%)	3,037 (61%)	2146.8855 (5)	< .0001 ++
	Not Screened n	1177	835	10	12	4	1954		
FQHC 3 (n = 24,394)	Screened n (%)	9,999 (87%)	5,329 (86%)	3 (100%)	37 (73%)	9 (64%)	4,847 (73%)		< .0001 +
	Not Screened n	1529	863	0	14	5	1759		
FQHC 4 (n = 4,333)	Screened n (%)	2,273 (97%)	1,570 (96%)	3 (100%)	1 (50%)	1 (100%)	318 (89%)		< .0001 +
	Not Screened n	67	59	0	1	0	40		
FQHC 5 (14,471)	Screened n (%)	4,048 (88%)	6,680 (89%)	14 (93%)	8 (100%)	1,260 (88%)	816 (90%)	4.4998 (5)	0.4799 ++
	Not Screened n	544	834	1	0	172	94		

+ Fisher's Exact Test

++ Chi-square Test; FQHC = federally qualified health center; – = No patients reported

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