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Am J Prev Med. Author manuscript; available in PMC 2023 April 11.

Published in final edited form as:

Am J Prev Med. 2020 April ; 58(4): 555–561. doi:10.1016/j.amepre.2019.11.010.

Availability of Safety-net Sexually Transmitted Disease Clinical Services in the U.S., 2018

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Abstract

Introduction: Safety-net sexually transmitted disease services can prevent transmission of sexually transmitted disease. This study assesses the availability of safety-net sexually transmitted disease clinical services across the U.S.

Methods: A 2018 survey of U.S. local health departments examined the availability of safety-net providers and the availability of specific sexually transmitted disease clinical services, including point-of-care testing and treatment. In 2019, Rao−Scott chi-square tests were used to compare service availability by clinic type (sexually transmitted disease clinic versus other clinics).

Results: A total of 326 local health departments completed the survey (49% response rate). Of respondents, 64.4% reported that a clinic in their jurisdiction provided safety-net sexually transmitted disease services. Having a safety-net clinic that provided sexually transmitted disease services was more common in medium and large jurisdictions. Sexually transmitted disease clinics were the primary provider in 40.5% of jurisdictions. A wide range of specific sexually transmitted disease services was offered at the primary safety-net clinic for sexually transmitted diseases. Most clinics offered human papillomavirus vaccination and appropriate point-of-care treatment for gonorrhea and syphilis. Fewer than one-quarter of clinics offered point-of-care rapid plasma reagin or dark-field microscopy syphilis testing. Compared with other clinics, services more commonly offered at sexually transmitted disease clinics included same-day services, hepatitis B vaccination, rapid plasma reagin testing (syphilis), any point-of-care testing for gonorrhea, point-of-care trichomonas testing, and extragenital chlamydia or gonorrhea testing.

Conclusions: One-third of local health departments reported no safety-net sexually transmitted disease services or were not aware of the services, and availability of specific services varied. With-out an expansion of resources, local health departments might explore collaborations with healthcare systems and innovations in testing to expand sexually transmitted disease services.

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No financial disclosures were reported by the authors of this paper.

SUPPLEMENTAL MATERIAL

Supplemental materials associated with this article can be found in the online version at https://doi.org/10.1016/j.amepre.2019.11.010.

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INTRODUCTION

Reported cases of several sexually transmitted diseases (STDs)—chlamydia, gonorrhea, primary and secondary syphilis, and congenital syphilis—have increased from 2013 to 2017 in the U.S.[1] STDs are common and can have serious sequelae if untreated.[1] STDs have also been linked to HIV acquisition. Approximately 10% of HIV infections among men who have sex with men (MSM) are due to chlamydia and gonorrhea.[2] Subpopulations at the highest risk for STDs include young people, racial and ethnic minorities, and those with lower incomes.[1,3] These populations may also lack healthcare access and be uninsured or underinsured.[4,5] Thus, safety-net STD clinical services are important for STD prevention as they often provide services to populations at elevated STD risk.

Public health departments are the primary organizations accountable for a community's health, regardless of whether they provide healthcare services directly.[6,7] Link-age to healthcare services, or the provision of health care when services are unavailable in the community, is 1 of 10 essential public health services.[8] Although most health departments have insufficient funding,[9] many often fulfill this essential public health service, which may be especially important in smaller areas.[7] In some areas, federally qualified health centers may provide safety-net healthcare services in place of health departments.[10]

A 2013−2014 survey of local health departments (LHDs), limited to those that previously reported providing STD testing or treatment, had examined safety-net STD clinical services capacity. In most of these jurisdictions, combination STD−family planning clinics (31%), general public health clinics (26%), and STD clinics (22%) were the LHD's primary referral point for STD services.[11] Nearly two-thirds of the STD primary referral clinics provided same-day services, which is important to halt STD transmission. However, publicly funded STD and combination STD−family planning clinics were more likely than other types of clinics to report providing some key services, such as extragenital STD testing and some types of gonorrhea testing.[11] The study was limited in its scope as LHDs had to provide some STD testing or treatment to be included. In addition, it included a limited number of clinical services (STD testing only) and had a small sample size.

Therefore, an examination of STD safety-net clinical services among a larger sample of LHDs is needed to better characterize safety-net STD services across the U. S. The purpose of this study is to examine (1) the national availability of safety-net STD services, and (2) a broader range of key STD services offered by U.S. safety-net providers, including same-day appointments, and point-of-care (POC) testing and treatment as they are important to prevent transmission.

METHODS

Study Sample

A sample of 668 LHDs, including city, county, and regional agencies, were included in this study. First, the 51 cities and counties with the highest combined rate and cases of reportable STDs in 2015, including all cities and counties directly funded by the Centers for Disease Control and Prevention for STD prevention, were included. Second, a stratified, random

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sample (n=617) was selected from 2,533 LHDs that comprised the denominator for the 2017 National Profile Study, which assessed the infrastructure of LHDs in the U.S.[12] The study sample included an oversample of LHDs with ≥500,000 population and was stratified by U.S. Census region and jurisdiction population size. Data collection occurred from March to May 2018 via a web survey that was completed by the primary STD contact or local health official. Respondents were asked to seek input from other staff members where appropriate. The survey focused on public STD prevention infrastructure, including clinical services. The National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention reviewed the study and determined that it was exempt from human subjects review.

Measures

Survey items on STD safety-net clinical services were the focus of this analysis and included (1) availability of safety-net STD services, and (2) specific STD services offered by safety-net providers. Measures included whether the jurisdiction had a safety-net provider for STD clinical services and the type of clinic that served as the primary POC. For specific STD services, measures included same-day appointment (for symptomatic individuals and those who had a sex partner with an STD), percentage of same-day appointments, vaccination (hepatitis B virus [HBV], human papillomavirus [HPV]), syphilis testing (darkfield microscopy and POC syphilis rapid plasma reagin [RPR] testing), POC gonococcal urethritis testing for symptomatic men (Gram stain and methylene blue and gentian violet [MB/GV]), POC trichomoniasis testing for women (vaginal wet mount with potassium hydroxide [KOH] preparation), gonorrhea culture (important for antimicrobial resistance testing), extragenital chlamydia and/or gonorrhea testing (pharyngeal or rectal), and onsite STD treatment for gonorrhea (ceftriaxone 250 mg) and syphilis (benzathine penicillin G [Bicillin-LA] 2.4 million units). Two composite measures were created (1) any POC testing, which was dichotomous where “yes” consisted of an affirmative response to any of the POC test measures and “no” meant no POC tests were provided; and (2) gonococcal urethritis testing, consisting of testing by Gram stain, or MB/GV, or both.

In addition, the analyses included U.S. Census region (Northeast, Midwest, South, West), jurisdiction population size (small, <50,000; medium, 50,000−499,999; large, >500,000), high STD morbidity area (yes or no where high morbidity area was defined as being in the top 51 areas for reportable STD cases and rates), whether the LHD had an STD program, and whether the LHD’s state expanded Medicaid through 2017. Clinic type was recoded into the STD clinic (which included STD and combination STD−family planning clinics) and other clinics (which included the remaining clinic types).

Statistical Analysis

Using the U.S. Census region and jurisdiction population size, weights were calculated to adjust for nonresponse and to represent the population of LHDs who responded to the 2017 National Profile Study. For all analyses, study weights were included and SAS, version 9.4 was used. First, weighted frequencies for the characteristics of responding LHDs and the type of clinic that was the primary POC were examined. Second, Rao−Scott chi-square tests were used for comparing specific STD clinical services offered by STD clinics versus non-STD clinics (p<0.05). Weighted percentages and 95% CIs are provided. A

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few supplemental analyses were also conducted by jurisdiction-related measures, including whether jurisdiction had safety-net services, and POC STD tests, separately. Analyses were conducted in 2019.

RESULTS

A total of 326 LHDs responded to the survey for a 49% response rate. Most responding LHDs were from small jurisdictions (61.7%), and 32.5% were from medium-sized jurisdictions and 5.7% from large jurisdictions (p=0.01) (Table 1). Of small jurisdictions, the highest percentage of LHDs was from the Midwest (38.7%). The highest percentages of LHDs from medium-sized jurisdictions were from the South (35.6%) and Midwest (31.2%), and large jurisdictions were from the South (42.8%). Respondents did not differ from nonrespondents by U.S. Census region but differed by population size with more nonresponders from small jurisdictions (p=0.04).

Of responding LHDs, 64.4% reported that there was a clinic in their jurisdiction that provided safety-net STD services, whereas 18.5% reported that they did not have such a clinic, and 17.1% were unsure (Appendix Table 1, available online). Having a clinic in their jurisdiction that provided safety-net STD services was more commonly reported by LHDs that had an STD program (84.6%) and in medium (88.2%) and large jurisdictions (95.9%). LHDs in states that expanded Medicaid before 2018 (77.0%) were less likely to report having a provider of safety-net STD services than states that had not expanded to Medicaid before 2018.

The LHDs also reported the clinic type that provides most safety-net STD services. The general public health clinic was the most common response (34.3%) followed by a combination of STD−family planning clinic (23.4%) and STD clinic (17.1%) (Table 2). The most common responses by jurisdiction size (p<0.05) were general public health clinic for small (39.1%) and medium-sized (30.3%) jurisdictions, and STD clinic for large jurisdictions (37.1%).

Using the recoded STD clinic measure, 40.5% of primary safety-net STD providers were STD clinics, and 59.5% were other clinics; this was examined by STD morbidity and jurisdiction population size (Table 3). LHDs from 51 areas with highest STD morbidity had higher reports of having an STD clinic (88.2%, p<0.001) as the primary provider of safety-net STD services compared with 35.4% of the remaining LHDs. No LHDs from small jurisdictions were in the high morbidity areas. For medium-sized jurisdictions, 92.5% of those in high morbidity areas had STD clinics as a primary safety-net provider compared with 39.2% of LHDs outside of high morbidity areas. For large jurisdictions, no differences were detected in clinic type by morbidity level.

Overall, there was a wide range in specific STD services offered at the primary safety-net clinic for STDs in local areas (Table 4). Most of LHDs (67.9%, 95% CI=61.0%, 74.7%) had same-day services for individuals who were symptomatic or who had a partner with an STD. Among LHDs who had any same-day appointments, the median percentage of appointments set aside was 73.1% (IQR=27.3, 99.3). Services that were offered by fewer than one-

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quarter of primary safety-net clinics included syphilis testing (darkfield microscopy; POC RPR testing) and POC gonococcal urethritis testing using Gram stain testing or MB/GV stain microscopy for symptomatic men. Services offered by 50%−74% of primary safety-net clinics included HBV vaccination, POC trichomoniasis testing for women (vaginal wet mount with KOH preparation), extragenital chlamydia and/or gonorrhea testing, and gonorrhea culture. Services offered by ≥75% of LHDs included HPV vaccination, onsite ceftriaxone 250 mg (for gonorrhea), and onsite benzathine penicillin G (Bicillin-LA) 2.4 million units (for syphilis). Services that were more commonly offered by STD clinics compared with other clinics, respectively, included same-day services (79.0%, 95% CI= 69.3%, 88.7% vs 60.4%, 95% CI=51.1%, 69.6%), HBV vaccination (53.4%, 95% CI=42.0, 64.6 vs 68.5%, 95% CI =59.5%, 77.5%), POC RPR testing for syphilis (30.5%, 95% CI=20.5%, 40.5% vs 15.2%, 95% CI=8.9%, 21.4%), any POC testing for gonococcal urethritis in men (32.3%, 95% CI=22.0%, 42.7% vs 10.4%, 95% CI=5.2%, 15.5%), POC Gram stain testing for gonococcal urethritis in men (31.9%, 95% CI=21.5%, 42.2% vs 10.1%, 95% CI=5.0%, 15.3%), POC MB/GV stain microscopy for gonococcal urethritis in men (12.5%, 95% CI=4.9%, 20.2% vs 3.9%, 95% CI=0.6%, 7.3%), POC trichomoniasis testing using vaginal wet mount with KOH preparation (70.7%, 95% CI=60.1%, 81.3% vs 41.3%, 95% CI=31.8%, 50.9%), and extragenital chlamydia and/or gonorrhea testing (82.1%, 95% CI=72.9%, 91.3% vs 60.0%, 95% CI=50.2%, 69.7%).

Finally, there were some differences in the availability of POC STD testing by LHD- and state-level characteristics (Appendix Table 2, available online). By the U.S. Census region, POC trichomoniasis testing using a vaginal wet mount with KOH preparation for women differed with the highest reports in the South (67.3%, 95% CI=57.0%, 77.6%) and Northeast (59.6%, 95% CI=37.7%, 81.4%). By jurisdiction population size, large jurisdictions had the highest reports for POC RPR testing for syphilis (48.2%, 95% CI=35.2%, 61.3%) and Gram stain testing for gonococcal urethritis in men (44.3%, 95% CI=31.3%, 57.3%); medium-sized jurisdictions had the highest reports for POC trichomoniasis testing using vaginal wet mount with KOH preparation (69.9%, 95% CI=60.7%, 79.1%). Jurisdictions that had an STD program in the LHD had higher reports of POC trichomoniasis testing using a vaginal wet mount with KOH preparation (57.0%, 95% CI=49.4%, 64.7%). There were no differences in POC testing by whether or not the state expanded Medicaid by 2017.

DISCUSSION

Findings from the 2018 survey focusing on STD infrastructure for safety-net clinical services highlighted some areas that may positively impact STD prevention efforts. Approximately two-thirds of responding LHDs had a primary referral site for safety-net STD clinical services, although this was more common if the LHD had an STD program, was not located in a small jurisdiction, and if the state did not expand Medicaid. This finding is somewhat inconsistent with previous research of maternal and child health services that found rural areas more likely to provide such services.[13] Local jurisdictions may perceive less need for safety-net services in Medicaid expansion states. A future analysis focusing on safety-net STD patient flows may show changes with Medicaid expansion that would be consistent with patients seeking care in other settings. This study also found that providers of safety-net STD clinical services tended to be general public health clinics, STD clinics,

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or combination STD−family planning clinics. These clinic types may be under the more direct supervision of LHDs, which could help expand needed services. STD clinics were more common as a safety-net provider if they were located in high STD morbidity areas. Federally qualified health centers, previously associated with a lower probability of LHD-provided clinical services,[10] were the primary referral points for safety-net STD services in 14% of local jurisdictions (18% of small jurisdictions). Finally, the overwhelming majority of safety-net STD providers offered same-day services, HPV vaccination, and important injectable medicines for gonorrhea and syphilis. Same-day services are vital for quickly halting transmission and were the most frequently reported reason for using STD clinics in previous studies.[5,14]

Findings from the survey also demonstrated challenges for STD prevention efforts. One-third of responding LHDs do not have or are not aware of a primary referral point for safety-net STD services. Obtaining access to needed STD services may be more difficult in smaller jurisdictions and the one-third of jurisdictions that lack a safety-net provider for STDs. Only a few safety-net STD providers offered POC testing for syphilis. Rapid diagnosis of syphilis is important to administer injectable medication and implement partner services to disrupt transmission, especially when primary, secondary, and congenital syphilis are increasing.[1] Only 53% of safety-net providers offered gonorrhea culture, which is important given antimicrobial resistance for gonorrhea. Consistent with previous research that has found rural areas have less access to health care than urban areas,[15,16] smaller jurisdictions were less likely to have POC STD testing. Given the widespread availability of key STD treatments, it is possible that these clinics rely more on syndromic management than stat labs. Less timely access to proper STD testing and treatment may increase opportunities for transmission of STDs.

This study demonstrates the importance of STD clinics. However, only 4 in 10 of the primary safety-net STD providers reported by respondents were STD clinics. This finding is important as STD clinics were more likely to have same-day services and provide key POC STD testing. Previous research suggests that 10% of STD clinics closed during the early 2000s.[17] In addition, a 2013−2014 study found that 53.5% of primary safety-net STD providers were STD clinics. However, half of responding LHDs in the earlier study were in the South; only 5% were in the Northeast.[11] The current study had a more even distribution across the 4 U.S. Census regions. Study findings revealed that STD clinics are important beyond POC STD testing and treatment services. STD clinics had higher reports of providing extragenital testing for chlamydia or gonorrhea than other safety-net STD providers. For sexually active MSM, at least annual extragenital screening for chlamydia and gonorrhea is recommended by the Centers for Disease Control and Prevention.[18] Studies have found that 22% of male STD attendees were MSM but MSM comprise about 2%−4% of the U.S. male population.[19−21] Thus, it may be especially important for STD clinics, as well as other safety-net clinics, to offer such testing.

The study findings underscore the extent of publicly funded STD services, as well as where resources may be useful to expand the availability of important STD safety-net services. Some of the subpopulations at highest risk of STD are uninsured or underinsured and may lack access to quality healthcare services.[1] Research has found that public funding for STD

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prevention efforts provided by the Centers for Disease Control and Prevention to state health departments and LHDs is associated with lower rates of chlamydia, gonorrhea, and syphilis in the following year.[22,23] However, determining local funding for STD services can be difficult (e.g., STD funding may be part of larger infectious disease or HIV funding). Even after recent healthcare reform, it has been estimated that annual costs for chlamydia services among uninsured individuals in need of STD services would range from $150 million to $154 million from 2016 to 2023.[24] Thus, safety-net services for STD are still essential to reduce the transmission of STDs and their sequelae.

Limitations

This study has some limitations. The response rate was 49%. Although this is lower than what has been thought of as ideal, response rates have been declining.[25,26] Nonresponding LHDs may have been less likely to provide STD services, which would result in the findings overestimating the availability of STD safety-net services. In addition, smaller LHDs were less likely to answer the survey, potentially skewing results for rural areas. The survey was broad; thus, it was only able to ask about the primary referral point for STD safety-net services. Other services may exist in some areas. As the survey focused on the availability of services, it does not shed light on how frequently or appropriately testing and screening services are offered. Chart reviews and patient surveys may be able to better assess the provision and quality of safety-net STD services that are available. Finally, given space considerations, the survey did not include some access-related barriers including co-payments for visits, daily limits on the number of patients, or staff and supply shortages. Therefore, it is unknown if all who need services can access them.

CONCLUSIONS

Although two-thirds of responding LHDs reported that STD safety-net services were available in their jurisdiction, one-third either had no safety-net STD services or were not aware of the services. The availability of STD safety-net services varied, with vaccination and STD treatment among the most frequently reported services, whereas the availability of key STD testing varied. STD clinics tended to have better availability of STD testing. STDs are among the most commonly reported infectious diseases in the U. S. and funding has been associated with a reduction in STD rates in later years. In addition, STDs have been associated with HIV and poor pregnancy outcomes. Therefore, given the current funding environment, LHDs might explore collaborations with healthcare systems and innovations in testing to expand STD services.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGMENTS

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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The study was supported by the Centers for Disease Control and Prevention (FOA OT13–1302: Building Capacity of the Public Health System to Improve Population Health through National, Nonprofit Organizations).

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Table 1.

Characteristics of Responding LHDs by U.S. Census Region and Jurisdiction Size, 2018

U.S. census region	Total, *n* (%) (N=326)	Jurisdiction population size [a]			Number of states LHDs represented[b]
		<50,000, *n* (%) (*n*=139)	50,000–499,999, *n* (%) (*n*=120)	≥500,000, *n* (%) (*n*=67)	
All LHDs	326 (100)	139 (61.7)	120 (32.5)	67 (5.7)	45 (90.0)
U.S. census region					
Northeast	63 (23.8)	26 **(26.5)**	24 **(19.7)**	13 **(17.9)**	8 (88.9)
Midwest	108 (35.0)	49 **(38.7)**	43 **(31.2)**	16 **(16.6)**	12 (100.0)
South	101 (29.1)	47 **(24.4)**	33 **(35.6)**	21 **(42.8)**	14 (87.5)
West	54 (12.1)	17 **(10.4)**	20 **(13.5)**	17 **(22.8)**	11 (84.6)

Note: All samples (*n*) are unweighted, and percentages weighted. Boldface indicates statistical significance ($p<0.05$).

[a] Chi-square $p=0.01$.

[b] LHDs were from 45 states plus the District of Columbia.

LHD, local health departments.

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Table 2.

Primary POC for Safety-net STD Services (Main Clinic) by Jurisdiction Size, 2018

			Jurisdiction population size[a]					
	Total (N=241)		<50,000 (*n*=75)		50,000–499,999 (*n*=103)		≥500,000 (*n*=63)	
Main clinic type	***n***	**% (95% CI)**	***n***	**% (95% CI)**	***n***	**% (95% CI)**	***n***	**% (95% CI)**
Specialty STD clinic	51	17.1 (11.8, 22.3)	5	**8.6 (1.2,15.9)**	22	**22.2 (13.8, 30.5)**	24	**37.1 (24.8, 49.5)**
Family planning clinic	16	8.2 (4.0, 12.3)	7	**10.7 (3.2, 18.3)**	8	**6.8 (2.2, 11.4)**	1	**1.4 (0.0, 4.2)**
Combination STD-family planning clinic	55	23.4 (17.4, 29.5)	16	**21.6 (11.8, 31.3)**	26	**25.9 (17.1, 34.6)**	13	**21.2 (10.6, 31.8)**
Federally qualified health center FQHC	31	14.0 (8.8, 19.1)	13	**18.4 (9.1, 27.7)**	12	**10.3 (4.7, 15.9)**	6	**8.6 (1.9, 12.3)**
General public health clinic	80	34.3 (27.6, 41.0)	33	**39.1(27.9,50.2)**	30	**30.3 (21.1, 39.5)**	17	**29.1(17.1, 41.1)**
University-affiliated health clinic	2	0.74 (0.0, 1.8)	0	—	2	0.74 (0.0, 1.8)	0	—
Other clinic	6	2.3 (0.2, 4.5)	1	**1.6 (0.0, 4.8)**	3	**3.0 (0.0, 6.4)**	2	**2.6 (0.0, 6.1)**

Note: All samples (*n*) are unweighted, and percentages weighted. Boldface indicates statistical significance ($p<0.05$) when omitting university-affiliated health clinic response options from chi-square analyses.

[a]Chi-square $p=0.02$.

POC, point-of-care; STD, sexually transmitted disease.

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Table 3.

Clinic Type and High STD Morbidity Area by Jurisdiction Population Size, 2018

	Jurisdiction population size[a]							
	Total (N=241)		<50,000 (*n*=75)		50,000–499,999 (*n*=103)		≥500,000 (*n*=63)	
High STD morbidity area[b]	***n***	**% (95% CI)**	***n***	**% (95% CI)**	***n***	**% (95% CI)**	***n***	**% (95% CI)**
Yes								
STD clinic	26	88.2 (76.0,100)	0	—	14	**92.5 (78.3,100)**	12	74.7 (52.4, 97.0)
Other clinic	5	11.8 (0, 24.0)	0	—	1	**7.5 (0, 21.7)**	4	25.3 (3.0, 47.6)
No								
STD clinic	80	35.4 (28.1, 42.7)	21	30.1(19.1,41.2)	34	**39.2 (28.7, 49.7)**	25	52.3 (37.4, 67.2)
Other clinic	130	64.6 (57.3, 71.9)	54	69.9 (58.8, 80.9)	54	**60.8 (50.3, 71.3)**	22	47.7 (32.8, 62.6)

Note: All samples (*n*) are unweighted, and percentages weighted. Boldface indicates statistical significance ($p<0.05$).

[a]Chi-square $p<0.001$.

[b]High STD morbidity was defined as the 51 jurisdictions with the highest combined cases/rates of reported chlamydia, gonorrhea, and primary and secondary syphilis in 2016.

STD, sexually transmitted disease.

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Table 4.

STD Services Offered at Primary POC for safety-net STD Services (Main Clinic) by STD Clinic or Not, 2018

			STD clinic[a]			
	Total		No		Yes	
Services[b]	***n***	**% (95% CI)**	***n***	**% (95% CI)**	***n***	**% (95% CI)**
Same-day services for persons who were symptomatic or who had a partner with an STD (*n*=240)						
No	41	19.0 (13.3, 24.7)	29	**23.4 (15.3, 31.5)**	12	**12.5 (5.2,19.8)** *
Unsure	24	13.1 (7.9,18.4)	18	**16.2 (9.0, 23.4)**	6	**8.6 (1.0,16.1)**
Yes	175	67.9 (61.0, 74.7)	88	**60.4 (51.1, 69.6)**	87	**79.0 (69.3, 88.7)**
Percentage of appointments set aside for same-day, median (IQR)	123	73.1 (27.3–99.3)	63	74.6 (36.1–99.3)	60	67.0 (26.3–93.1)
Provides service (*n*=225)[c]						
Vaccination						
HBV vaccination	141	62.2 (55.0, 69.4)	81	**68.5 (59.5, 77.5)**	60	**53.4 (42.0, 64.6)** *
HPV vaccination	168	74.7 (68.1, 81.2)	94	78.5 (70.5, 86.6)	74	69.3 (58.6, 80.0)
STD tests						
Darkfield microscopy (syphilis)	32	9.6 (5.6, 13.7)	15	8.7 (3.6, 13.8)	17	10.9 (4.5, 17.4)
POC RPR testing (syphilis)	64	21.6 (15.9, 27.3)	27	**15.2 (8.9, 21.4)**	37	**30.5 (20.5, 40.5)** **
POC gonococcal urethritis testing for symptomatic men	58	19.6 (14.0, 25.1)	19	**10.4 (5.2, 15.5)**	39	**32.3 (22.0, 42.7)** ***
POC Gram stain testing for symptomatic men	56	19.2 (13.7, 24.8)	18	**10.1 (5.0, 15.3)**	38	**31.9 (21.5, 42.2)** ***
POC MB/GV stain microscopy for symptomatic men	20	7.5 (3.7, 11.4)	7	**3.9 (0.6, 7.3)**	13	**12.5 (4.9, 20.2)** ***
POC wet mount with KOH preparation (trichomoniasis)	128	53.6 (46.2, 61.1)	54	**41.3 (31.8, 50.9)**	74	**70.7(60.1, 81.3)** ***
Any of above POC testing[d]	146	58.7 (51.3, 66.1)	63	**46.2 (36.6, 56.0)**	81	**76.0 (65.7, 86.2)** **
Extragenital chlamydia and/or gonorrhea testing	167	69.2 (62.2, 76.3)	79	**60.0 (50.2, 69.7)**	88	**82.1(72.9, 91.3)** **
Gonorrhea culture	126	50.5 (43.1, 57.9)	64	48.6 (38.9, 58.4)	62	53.2 (41.9, 64.5)
STD treatment (POC)						
Ceftriaxone 250 mg	201	87.1 (81.7, 92.4)	110	88.7 (82.2, 95.2)	91	84.9 (75.9, 93.9)
Benzathine penicillin G (Bicillin-LA) 2.4 million units	181	76.2 (69.6, 82.8)	95	73.8 (64.8, 82.8)	86	79.5 (69.8, 89.3)

Note: All samples (*n*) are unweighted, and percentages weighted. Boldface indicates statistical significance

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*p<0.05

**p<0.01

***p<0.001).

[a]STD clinic consists of LHDs who reported that an STD clinic or a combination STD/FP clinic was the primary POC for STD safety-net services.

[b]0.1% of respondents did not know the types of services offered at the main clinic for STD referrals and were recoded as missing.

[c]For services, % are row percentages for each grouping.

[d]Includes the following POC tests: RPR, Gram stain, MB/GV, and wet mount with KOH preparation.

HPB, hepatitis B; HPV, human papillomavirus; KOH, potassium chloride; MB/GV, methylene blue and gentian violet POC, point-of-care; RPR, rapid plasma reagin; STD, sexually transmitted disease.