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U.S. Public STD Clinical Services in an Era of Declining Public Health Funding: 2013–14

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Abstract

Background—We examined the infrastructure for United States (U.S.) public STD clinical services.

Methods—In 2013–14, we surveyed 331 of 1,225 local health departments (LHDs) who either reported providing STD testing/treatment in the 2010 National Profile of Local Health Departments survey or were the 50 local areas with the highest STD cases or rates. The sample was stratified by jurisdiction population size. We examined the primary referral clinics for STDs, the services offered and the impact of budget cuts (limited to government funding only). Data were analyzed using SAS and analyses were weighted for non-response.

Results—Twenty-two percent of LHDs cited a specialty STD clinic as their primary referral for STD services; this increased to 53.5% of LHDs when combination STD-family planning clinics were included. The majority of LHDs (62.8%) referred to clinics providing same-day services. STD clinics more frequently offered extra-genital testing for chlamydia and/or gonorrhea (74.7%) and gonorrhea culture (68.5%) than other clinics (52.9%, 46.2%, respectively; $p < 0.05$). The majority of LHDs (61.5%) reported recent budget cuts. Of those with decreased budgets, the most common impacts were fewer clinic hours (42.8%; 95% CI, 24.4–61.2), reduced routine screening (40.2%; 95% CI, 21.7–58.8) and reductions in partner services (42.1%; 95% CI, 23.6–60.7). One-quarter of those with reduced STD budgets increased fees or copays for clients.

Conclusions—Findings demonstrate gaps and reductions in U.S. public STD services including clinical services that play an important role in reducing disease transmission. Furthermore, STD clinics tended to offer more specialized STD services than other public clinics.

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Keywords

safety net; clinical services; sexually transmitted diseases

Sexually transmitted diseases (STD) are the most common notifiable infectious diseases in the United States (U.S.);⁽¹⁾ and, in 2014, there were increases in reported cases of chlamydia, gonorrhea and syphilis.⁽²⁾ Increases in STDs are of heightened importance as some STDs may lead to serious health complications if left untreated, and STDs have been associated with human immunodeficiency virus (HIV) acquisition.⁽³⁾ Thus, public funding for health department programs that focus on STDs may fulfill an important role in the control and prevention of STD/HIV in the U.S. Perhaps most importantly for STD prevention, STD clinics often provide services on the same day they are requested. One study found that 68% of patients in five publicly funded STD clinics reported that they chose the STD clinic because they provided same day services.⁽⁴⁾ Prompt treatment of STDs can both reduce serious health complications for the patient and disrupt the transmission and spread of STDs among the population. Furthermore, publicly funded STD clinics often function as safety net clinics and are known to provide care for under- or uninsured populations.^(5–6) Subsequent to changes in the U.S. health care system in 2010, it has been estimated that almost 5 million persons will remain uninsured and in need of STD services in 2023.⁽⁷⁾ The estimated cost of these safety net STD services in 2023 is anticipated to exceed \$150 million.⁽⁷⁾ Additionally, STD clinics also often serve populations at high risk of acquiring HIV and may be ideal places to implement HIV testing or pre-exposure prophylaxis (PrEP) for at-risk persons. In 2013, STD clinics accounted for 27% of newly identified HIV-positive persons among all Centers for Disease Control and Prevention (CDC) funded HIV testing events.⁽⁸⁾ Thus, public health STD programs have the potential to impact HIV prevention efforts.

Research has previously shown the importance of public resources for STD and other disease prevention and control. Specifically, after accounting for additional factors that may impact STD incidence, one study found an inverse relationship between gonorrhea rates and STD/HIV funding levels during the previous 1–3 years.⁽⁹⁾ Thus, higher funding levels were associated with lower gonorrhea rates in succeeding years. ⁽⁹⁾ The estimated impact of public funding was a fourfold reduction in gonorrhea rates, resulting in approximately 32 million fewer cases over 30 years.⁽¹⁰⁾ A similar analysis also found that syphilis rates decreased in years following syphilis elimination funding.⁽¹¹⁾ Yet, public funding for public health has been declining and is expected to continue to do so through 2023.⁽¹²⁾ The full impact of this decline is unknown; however, a 2009 survey of STD services offered by health departments found reductions in budget, staffing and the closures of clinics providing STD services, including STD and family planning clinics.⁽¹³⁾ Given declining public health funding and the continued need for safety net STD services, it is important to understand the services provided by public STD prevention programs in the U.S. in order to assess gaps and changes that may have resulted from reduced funding and a changing healthcare system.

METHODS

Sample

We surveyed a sample of 331 local health departments (LHDs) across the United States (U.S.) including health departments within cities, counties and other sub-state regions (i.e., groups of counties). All cities and counties among the highest 50 for reported cases or rates of STDs in 2010 were included. Remaining respondents were randomly selected from the 1,225 LHDs who responded to the National Association of County and City Health Officials' (NACCHO) 2010 National Profile of Local Health Departments survey(14) and reported that they provided STD screening or treatment. The sample was stratified by jurisdiction population size for the city or county health department (large = 500,000 persons; medium = 50,000–499,999 persons; small = < 50,000 persons) and U.S. Census region (Northeast, Midwest, South and West). Data were collected from December 2013 to January 2014 (referred to as 2013–14 throughout) via a web survey. The National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP) at the Centers for Disease Control and Prevention (CDC) reviewed and approved the study.

Measures

The survey assessed the local public health infrastructure for STD prevention in the U.S. and included items focusing on public STD prevention clinical activities and local STD prevention budgets including budget cuts and their impact on STD services. For public STD prevention clinical activities, the survey focused on the primary source of referral for STD services including specialty STD clinic, family planning clinic, combination STD-family planning (STD-FP) clinic, federally-qualified health center (FQHC), general public health clinic, university-affiliated clinic and other clinic. Specialty STD clinics were defined as a clinic devoted to STD services or to a clinic that has hours and staff devoted wholly to STD services. The definition excluded multi-role clinics, such as maternal and child health or primary care clinics. Specific STD services that were included on the survey consisted of hepatitis B virus (HBV) and Human papillomavirus (HPV) vaccination; on-site rapid plasma reagin (RPR) test for syphilis; on-site Gram stain testing for symptomatic men (urethritis); extra-genital chlamydia and/or gonorrhea testing; gonorrhea culture; and Papanicolaou (Pap) test to screen for cervical cancer.

With respect to local budgets for STD prevention activities, the survey asked whether or not LHDs had received budget cuts from government sources to their STD programs in their fiscal years (FY) 2011–12. For LHDs who reported budget cuts in FY2011–12, the survey asked about the impacts on STD clinical services, co-payments for STD services, and STD partner services. We focused on cuts across two fiscal years to determine the impacts of the cuts more broadly than those occurring within one fiscal year.

Analyses

Rao-Scott chi-square tests were used to test for differences in clinical services by jurisdiction population size and U.S. Census region. Analyses were weighted with respect to Census region, jurisdiction population size, and non-response to represent the 1,225 LHDs who provided STD services in 2010. Specifically, we examined differences in primary

referral clinic for STD services by jurisdiction size and Census region. In addition, we used chi-squares to examine differences in provision of specific STD services by the type of primary clinic for STD referrals. Furthermore, we compared “STD clinics” (a composite variable created using specialty STD clinics, combination STD-FP clinics and “other” responses that included either type of clinic) to “other clinics” (family planning, FQHC, general public health clinic, university-affiliated clinic and other clinic). Finally, we examined budget cuts and impacts on clinical and partner services by jurisdiction size and Census region. All analyses were conducted using SAS 9.3 (Cary, NC). When possible, 95% confidence intervals (CIs) were calculated.

RESULTS

A total of 148 LHDs responded to the survey (response rate = 48%). Responding LHDs were from all four U.S. Census regions. There were significant differences in responding LHDs by Census region and jurisdiction population size ($p < 0.05$) with most respondents from the South (53%) and from small- (49%) or medium-sized (42%) jurisdictions (Table 1). As compared to other jurisdictions, very few responding LHDs from small jurisdictions were located in the Northeast (1.0%) but more were in the Midwest (33%). Among respondents from large jurisdictions, more were located in the Northeast and West as compared to responding LHDs from small and medium sized jurisdictions.

Overall, among responding LHDs, the primary referral or main clinic for STD services were combination STD-FP clinics (30.9%, 95% CI, 21.5–40.4), general public health clinics (25.8%, 95% CI, 16.8–34.9), and specialty STD clinics (22.1%, 95% CI, 13.8–30.5; Table 2). The primary point of referral for STD services in LHDs significantly varied by jurisdiction population size ($p < 0.001$). Specifically, specialty STD clinics were the most common referral clinics in medium (37.9%, 95% CI, 0.0–12.9) and large (34.5%, 95% CI, 17.2–51.9) jurisdictions while general public health clinics (38.5%, 95% CI, 23.5–53.5) were most common in small jurisdictions. Clinics not commonly used by LHDs as a main point of referral for STD services were similar across jurisdiction population size and included family planning clinics (5.0%, 95% CI, 1.0–9.1), FQHCs (4.3%, 95% CI, 0.4–8.2) and university-affiliated clinics (2.4%, 95% CI, 0.0–5.8). Finally, the primary referral for STD services by LHDs did not significantly differ by U.S. Census region.

Responses to the type of primary referral clinic for STD services were also categorized into “STD clinic” vs. “other clinic.” About half of LHDs used a STD clinic as a primary point of referral for STD services (53.5%, 95% CI, 43.4–63.7) with the rest using another type of clinic (46.5%, 95% CI, 36.3–56.6). Responding LHDs were also asked if they provided same-day services and specific STD services at their primary clinic for STD care. The majority of LHDs reported that they provided same-day services (62.8%, 95% CI, 52.3–73.3) and this did not significantly differ by type of clinic (STD clinic or other clinics; Table 3). Most LHDs reported that their main clinic for STD services provided extra-genital chlamydia and/or gonorrhea testing (65.1%, 95% CI, 54.7–75.5) and gonorrhea culture (58.7%, 95% CI, 48.0–69.3); conversely, few of the clinics used Darkfield microscopy (10.3%, 95% CI, 4.0–16.6). We identified a few significant differences in services offered by clinic type ($p < 0.05$). STD clinics, consisting of specialty STD clinics and combination STD-

family planning clinics, were more likely to provide both extra-genital testing for chlamydia and/or gonorrhea (74.7%, 95%CI, 62.2–87.1) and gonorrhea culture (68.5%, 95%CI, 55.4–81.6) than other clinics (52.9%, 95%CI, 36.4–69.4 and 46.2%, 95%CI, 29.7–62.7, respectively, $p=0.04$). The majority of LHDs provided HBV vaccination (57.3%, 95%CI, 46.6–68.1) and HPV vaccination (51.1%, 95%CI, 40.2–62.0), and this did not differ by clinic type. Nearly half of the LHDs reported that the main clinic for STD services also provided Pap testing, and the difference between STD clinics (56.3%, 95%CI, 42.0–70.6) and other clinics (36.6%, 95%CI, 20.8–52.4) approached statistical significance ($p=0.07$). Finally, few LHDs provided on-site STD testing with 17.1% (95%CI, 8.9–25.3) providing stat RPR testing and 7.5% (95%CI, 2.6–12.5) providing stat Gram stain testing for symptomatic men. Stat RPR testing was provided more often at STD clinics (24%, 95%CI, 11.7–36.3) than other clinics (8.4%, 95%CI, 0.0–17.7; $p=0.06$). Stat Gram stain testing for symptomatic men was reported significantly more frequently at STD clinics (11.8%, 95%CI, 3.4–20.3) than other clinics (2.0%, 95%CI, 0.0–4.7; $p<0.01$).

Finally, LHDs were asked if they had received cuts to the government funded portion of their STD program budget in fiscal year (FY) 2011–12 and the impact of any budget cuts on clinical and partner services. Overall, 61.5% (95%CI, 50.9–72.1) of LHDs reported budget cuts in FY2011–12 with no significant differences by jurisdiction population size (Table 4). Among LHDs who had FY2011–12 budget cuts, many had impacts on clinical services including 42.8% (95%CI, 24.4–61.2) who reported fewer clinic hours for STD services, 40.2% (95%CI, 21.7–58.8) who had reductions in routine STD screening and 6.8% (95%CI, 0.0–14.8) who reported closures of specialty STD clinics. LHDs also reported that budget cuts impacted clinical services through fees or co-payments (co-pays) for STD clinical services. Nearly one in five (19.4%, 95%CI, 5.0–33.9) of LHDs who experienced budget cuts initiated fees or co-pays for STD services and 25.9% (95%CI, 9.9–42.0) increased existing fees or co-pays. A reduction in STD partner services was reported by 42.1% (95%CI, 23.6–60.7) of LHDs who experienced budget cuts. Furthermore, 17.2% of responding LHDs reported a decrease in staffing in FY2012 with 65% of these LHDs reporting a decrease in clinicians. When examining differences in impacts by jurisdiction size, we found significant differences for fewer clinic hours and a reduction in partner services. LHDs in medium (24.3%, 95%CI, 9.9–38.6) and large (28.0%, 95%CI, 8.7–47.3) jurisdictions were more likely to report fewer clinic hours ($p<0.001$); LHDs in large jurisdictions (37.6%, 95%CI, 16.5–58.6) had the highest reports of a reduction in STD partner services ($p<0.05$) given budget cuts. Impacts of budget cuts did not differ by U.S. Census region.

DISCUSSION

Our findings suggest that only about one-quarter of LHDs who provided STD testing or treatment used a specialized STD clinic as their primary referral point for STD clinical services. However, specialized STD clinics were more common in LHDs in jurisdictions with a population of 50,000 or greater. Combination STD-FP clinics and general public health clinics were reported as the main referral point for STDs in approximately half of LHDs. LHDs in jurisdictions with less than 50,000 people tended to use general public clinics as their primary referral point for STD services. This is in contrast to an earlier study

of six rural LHDs in Kansas that identified STD and family planning clinics as the provider for public STD services in smaller jurisdictions.(15) We also found that approximately half of the primary STD referral sites for LHDs provided same-day services and HBV and HPV vaccination.

When expanding the definition of STD clinics to include combination STD-FP clinics, 53.5% of LHDs referred clients to this type of clinic for STD services. The majority of LHDs' main referral clinics for STD provided extra-genital testing for STDs and gonorrhea culture; however, these services were more common in LHDs who referred to STD clinics than LHDs who referred to other types of clinics. Few of the main STD referral clinics had on-site Gram stain testing for symptomatic men and RPR testing, although the latter was reported significantly more frequently by STD clinics. These findings reveal the importance of STD clinics, those that specialize in STD services, as infections may be missed in other public settings. Early detection and treatment of STDs reduces the length of time an individual is infectious(16) and, thus, is essential in order to minimize additional opportunities to transmit STDs. Additionally, our findings that STD clinics are more likely to offer extra-genital testing are especially relevant for some subpopulations such as men who have sex with men (MSM). Future work that identifies the key essential services that STD clinics should provide would be helpful. This could assist jurisdictions' in assessing the availability of key safety net services within their areas.

The majority of STD programs in LHDs reported cuts to their budgets in FY2011–12. These cuts resulted in reduced clinical services, including hours of operation, and an increase in patient co-payments. For some LHDs, budget cuts also had a negative impact on the provision of partner services, which are often offered to patients and their sex partners. Partner services may also be important in reducing the length of time a person is infectious and potentially transmitting STDs and in reducing repeat infections in persons treated for STDs. Additionally, of those LHDs who had a decrease in staff, 65% reported that they had cuts to clinical staff. These findings are worth noting for several reasons. First, although the 2010 health reform may increase access to some STD services, many, including those who remain uninsured, will continue to need safety net STD services. For some STD services, this may also be true of many who will be underinsured and who may not be able to afford copays. For example, most STD screening in men is not A or B rated by the U.S Preventive Services Task Force, USPSTF. Also, STD screening of both male and female partners may not be covered (e.g., herpes simplex virus (HSV) screening).

These budgetary impacts have the potential to adversely impact patients. A survey of clients at 21 STD clinics in the US found that 24% reported that the primary reason they used the STD clinic was because of cost.(6) Half of the patients in the same survey identified the ability to get same day, walk-in care as the reason they sought services at the STD clinic. (6) Limiting hours could reduce the ability of patients to get same-day care, although a majority of LHDs still offer some level of same-day services. Furthermore, specific subpopulations, such as adolescents and young adults, may want to receive services without using their health insurance in order to access services in a confidential manner (i.e., without their parents' receiving insurance plan communications such as explanation of benefits, EOBs). (5) In New York City, approximately half of patients were insured in 2012; yet, 48% of these

patients would not be willing to use their insurance in the STD clinics.(17) Among patients at 21 STD clinics, significantly fewer patients with private insurance or on their parent's plan were willing to use their insurance than those who had Medicaid.(6) Second, as previously highlighted, lower federal budget levels for STD have been associated with future increases in the number of STDs.(9–11) Thus, it is possible that local budget cuts in FY2011–12 may have an impact on future STD rates. Research that examines funding for public STD clinical services and STD rates in subsequent years may be useful. It should be noted that reported cases of chlamydia, gonorrhea and syphilis in the U.S. all increased in 2014,(2) although we currently do not have direct evidence that these increases are associated with decreased public spending on STDs. Finally, our findings related to budget decreases and their impact on STD clinical services and staff have been supported by other studies. A 2009 survey of state and selected local health departments found that 69% of programs experienced budget cuts and 31% had reduced STD clinical services in 2008–09. (13) Similarly, a 2011 survey demonstrated that 45% of LHDs reported a lower budget in their current fiscal year as compared to the previous one.(18)

Our study has a few limitations. Our response rate was not ideal and may limit our ability to generalize findings to all LHDs who provided some STD testing or treatment; however, we adjusted for non-response to strengthen the representativeness of our findings. In some instances, 95% confidence intervals overlapped slightly where chi-square results were significant. This overlap may have resulted from relatively small sample sizes. Our sample had a slight overrepresentation of LHDs in south and underrepresentation of LHDs in northeast, but this mirrored the U.S. Census region breakdown of respondents to NACCHO's 2010 National Profile of Local Health Departments survey who indicated that they provide STD testing or treatment (14). In some instances, limited categorical response options may not fully demonstrate the magnitude of program impacts. Finally, additional data, such as the demographics of clients served by primary referral clinics, disease prevalence and number of uninsured persons in jurisdiction, could help to characterize the severity of the identified service gaps.

Public Health Implications

Our survey identified gaps in STD services provided by LHDs across the U.S. Additionally, we found reductions in STD clinical services during FY 2011–2012. Given that safety net STD services will still be needed in many jurisdictions post-2010 health reform implementation, future research is needed to monitor public STD services and budgets and their impact on STD prevention both locally and nationally. Finally, we found more STD services were offered at STD clinics than other clinics; therefore, jurisdictions may want to consider the type of clinic and services offered by the primary safety net clinic for STDs in their areas.

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Characteristics of responding U.S. local health departments: US Census region and jurisdiction size, 2013–14

Table 1

	Jurisdiction Population Size							
	< 50,000		50,000–499,999		500,000			
	N	%	n	%	N	%		
All LHDs (n= 148)	148	-	58	48.8	52	42.4	38	8.7
US Census Region *								
Northeast	22	5.2	5	1.0	11	8.7	16	12.1
Midwest	42	28.5	18	32.9	25	25.6	10	17.8
South	53	52.7	13	55.5	18	50.8	10	45.8
West	31	13.6	11	10.5	10	15.0	11	24.3

Note. All n's are unweighted and percentages are weighted to represent the 1225 LHDs who provided STD services in 2010. LHD – local health department

* p < 0.05

Table 2
 Primary point of referral for STD services (main clinic) by jurisdiction size, 2013–14

Primary referral for STD services**	Jurisdiction Population Size											
	Total (n=125)			< 50,000 (n=49)			50,000–499,999 (n=43)			500,000 (n=33)		
	N (%)	95%CI	N (%)	95%CI	N (%)	95%CI	N (%)	95%CI	N (%)	95%CI	N (%)	95%CI
Specialty STD clinic	34 (22.1)	13.8–30.5	3 (5.6)	0.0–12.9	18 (37.9)	22.3–53.5	13 (34.5)	17.2–51.9	0 (0)	-	0 (0)	-
Family planning clinic	7 (5.0)	1.0–9.1	2 (2.4)	0.0–6.8	5 (9.0)	0.9–17.0	6 (23.0)	6.1–40.0	0 (0)	-	0 (0)	-
Combination STD-family planning clinic	36 (30.9)	21.5–40.4	18 (33.9)	19.6–48.1	12 (29.4)	14.6–44.1	4 (11.1)	0.0–22.8	7 (21.1)	5.6–36.6	3 (10.2)	0.0–22.0
Federally-qualified health center (FQHC)	7 (4.3)	0.4–8.2	2 (4.9)	0.0–11.6	1 (2.3)	0.0–6.8	4 (11.1)	0.0–22.8	0 (0)	-	0 (0)	-
General public health clinic	29 (25.8)	16.8–34.9	16 (38.5)	23.5–53.5	6 (12.7)	2.2–23.1	7 (21.1)	5.6–36.6	0 (0)	-	0 (0)	-
University-affiliated health clinic	2 (2.4)	0.0–5.8	0 (0)	-	2 (5.6)	0.0–13.2	0 (0)	-	0 (0)	-	0 (0)	-
Other clinic	12 (9.4)	3.5–15.3	8 (14.7)	4.3–25.2	1 (3.3)	0.0–9.6	3 (10.2)	0.0–22.0	0 (0)	-	0 (0)	-

Note. All n's are unweighted and percentages are weighted to represent the 1225 LHDs who provided STD services in 2010. CI – confidence interval

** p < 0.001, when omitting family planning clinic and university-affiliated health clinic response options from chi-square analyses.

Table 3

STD services offered at primary referral for STDs (main clinic) by clinic type, 2013–14

Services	Main Clinic for STD Referrals						
	Total (n=112)		STD Clinic* (n=66)		Other Clinic (n=46)		
	N (%)	95%CI	N (%)	95%CI	N (%)	95%CI	P value
All LHDs	--	--	72 (53.5)	43.4–63.7	55 (46.5)	36.3–56.6	--
Same-day services (no prior appointment needed)	75 (62.8)	52.3–73.3	49 (65.1)	51.1–79.1	26 (59.8)	43.8–75.9	0.62
Specific Services							
HBV vaccination	67 (57.3)	46.6–68.1	42 (63.1)	49.3–76.9	25 (50.0)	33.5–66.3	0.23
HPV vaccination	56 (51.1)	40.2–62.0	29 (48.9)	34.4–63.3	27 (54.0)	37.4–70.5	0.21
Darkfield microscopy	19 (10.3)	4.0–16.6	4 (4.5)	0.0–11.0	15 (14.8)	5.0–24.6	0.11
Stat (on-site) RPR testing	23 (17.1)	8.9–25.3	17 (24.0)	11.7–36.3	6 (8.4)	0.0–17.7	0.06
Stat (on-site) Gram stain testing for symptomatic men	17 (7.5)	2.6–12.5	14 (11.8)	3.4–20.3	3 (2.0)	0.0–4.7	<0.01
Extra-genital chlamydia &/or gonorrhea testing	76 (65.1)	54.7–75.5	50 (74.7)	62.2–87.1	26 (52.9)	36.4–69.4	0.04
Gonorrhea culture	66 (58.7)	48.0–69.3	44 (68.5)	55.4–81.6	22 (46.2)	29.7–62.7	0.04
Pap testing	51 (47.6)	36.7–58.5	34 (56.3)	42.0–70.6	17 (36.6)	20.8–52.4	0.07

Note. 0.1% of respondents didn't know the types of services offered at the main clinic for STD referrals and were recoded as missing.

* STD clinic was a composite variable that includes "specialty STD clinic" and "combination STD/family planning clinic" as well as "other" responses for primary point of care for STD patients that included STD and STD/FP combo.

All n's are unweighted and percentages are weighted to represent the 1225 LHDs who provided STD services in 2010. CI – confidence interval

Table 4

Budget cuts and the associated negative program impacts in FY2011–2012

Impact of Cuts	Jurisdiction Population Size					Among LHDs who reported budget cuts (n=43)
	ALL LHDs (n=109)	< 50,000 (n=43)	50,000–499,999 (n=41)	500,000 (n=25)	% (95%CI)	
Had budget cuts to STD program	61.5 (50.9–72.1)	60.7 (44.7–76.7)	57.9 (41.5–74.2)	86.4 (74.3–98.4)		--
Reduced clinical services						
Specialty STD clinic closures	2.2 (0.0–4.8)	0 (0.0–0.0)	3.8 (0.0–9.0)	6.5 (0.0–18.8)		6.8 (0.0–14.8)
Fewer clinic hours	14.1 (6.8–21.4)	1.8 (0.0–4.8)**	24.3 (9.9–38.6)	28.0 (8.7–47.3)		42.8 (24.4–61.2)
Reduction in routine screening	13.3 (5.8–20.7)	5.4 (0.0–12.5)	18.5 (4.8–32.2)	28.7 (8.4–49.1)		40.2 (21.7–58.8)
Co-payments for clinical services						
Initiated fees or co-pays	6.4 (1.4–11.4)	2.8 (0.0–7.9)	7.9 (0.0–16.9)	18.3 (0.7–35.9)		19.4 (5.0–33.9)
Increased existing fees or co-pays	8.5 (2.8–14.3)	7.2 (0.0–14.8)	9.8 (0.2–19.4)	9.6 (0.0–23.1)		25.9 (9.9–42.0)
Reduction in partner services	13.9 (6.4–21.4)	6.2* (0.0–14.7)	17.4 (4.4–30.5)	37.6 (16.5–58.6)		42.1 (23.6–60.7)
Other	4.8 (1.1–8.5)	4.3 (0.0–10.2)	2.9 (0.0–7.1)	18.3 (0.7–35.9)		14.6 (3.5–25.8)

Note. All n's are unweighted and percentages are weighted to represent the 1225 LHDs who provided STD services in 2010. LHD – local health department; CI – confidence interval

* p<0.05

** p<0.001