Insurance Among Patients Seeking Care at a Municipal Sexually Transmitted Disease Clinic: Implications for Health Care Reform in the United States

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Introduction: Limited data exist on insured patients who receive care at publically funded sexually transmitted disease (STD) clinics, despite having access to a primary care provider. In this analysis, we compare patients with and without health insurance who sought services at City Clinic, the San Francisco municipal STD clinic.

Methods: We analyzed San Francisco City Clinic patients between August 1, 2011, and December 31, 2012. Insurance was self-reported and included both private and public insurance. Variables from the clinic electronic medical record were examined and included basic demographic and risk behavior questions, as well as positivity among patients tested for chlamydial and gonoccocal infection. We compared the characteristics of insured and uninsured patients using χ^2 test.

Results: There were 13,104 patients in this analysis, of whom 4981 (38%) were categorized as insured and 8123 (62%) as uninsured. Overall, insured patients were older, more likely to be male, more likely to be white, and less likely to be Hispanic compared with uninsured patients (all $P < 0.05$). In addition, insured patients were more likely to be among men who have sex with men and among HIV-infected individuals compared with uninsured patients (all $P < 0.0001$). Insured patients were less likely to have a diagnosis of chlamydia at any site or a diagnosis of rectal gonorrhea.

Conclusions: In our municipal STD clinic, more than one-third of patients report currently having insurance, yet still choose to seek care at the STD clinic. The different characteristics between insured and uninsured patients may reflect reasons other than affordability; therefore, STD clinics remain an important source of care for at-risk populations. These data suggest that the expansion of access to insurance may not result in a reduced need for categorical STD services. Maintaining access to high-quality sexual health services should remain a priority in the era of expanded health care access.

The 2012 National Health Interview Survey estimates that approximately 18.5% of persons in the United States were uninsured for some part of the prior year.[1] In the United States, health care reform promises increased access to health insurance. Some see health care reform as a harbinger of the closure of municipal sexually transmitted disease (STD) clinics; with increased access to health care, the need for the public health sector to provide "safety net" services may, in theory, dissipate.[2,3] Although not all clients who seek services at municipal STD clinics are uninsured,[4] limited data exist on the number and characteristics of insured patients who choose care at publically funded STD clinics, despite having access to a primary care provider.

In a 1997 study from 5 STD clinics across the United States, approximately 42% of STD clinic patients reported having either private insurance or Medicaid coverage and more than three-quarters of respondents had used non-STD medical care in the past 3 years.[4] The main reasons reported by insured patients for not using other providers included the following: they did not want their insurance company or parents to be aware they used STD services, or they did not want to pay a copayment or deductible.[4] In Alabama, approximately one-third of men who sought care at a STD clinic reported having a regular doctor; these men were significantly more likely to be older, have a higher education, and were less likely to be single, but engaged in similar rates of high-risk activities as men without a regular doctor.[5] In fact, despite being significantly less likely to be diagnosed as having a STD than men without a regular doctor, 81% of men with a regular doctor were diagnosed as having a STD.[5]

Although many factors influence testing patterns, some men who have sex with men (MSM) choose not to seek sexual health services at a primary health care provider, despite having insurance, because of concerns with confidentiality or reluctance to discuss sexual activity with providers.[6,7] Among MSM reporting previous testing in National HIV Behavioral Surveillance, respondents were more likely to have been tested for syphilis and gonorrhea if they had disclosed sexual activity to their health care provider.[8] Likewise in Massachusetts, MSM who had not disclosed their sexual orientation to their health care provider were less likely to have been tested for STDs, including HIV.[9] Furthermore, access to insurance also does not seem to equal access to recommended STD screening for sexually active women. In a national survey, less than 40% of respondents who were sexually active women aged 15 to 25 years reported being screened for chlamydia in the previous year.[10] In a population of insured women, a similar proportion of women younger than 26 years were not screened despite seeking care for reproductive health services; only 34% of young women had a chlamydia test.[11]

In this analysis, we compare demographics, testing, and risk factors for STD among patients with and without self-reported health insurance who sought services at City Clinic, the only municipal STD clinic in San Francisco. Current data on the use of municipal STD clinic services by patients with insurance will help inform the ongoing role of the public health sector in the delivery of sexual health services, as more clients gain access to insurance through health care reform.

METHODS

San Francisco City Clinic is the only municipal STD clinic in San Francisco, is open Monday through Friday, and

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provides services on a drop-in basis. A flat $10.00 fee is charged for a clinic visit, although no one is turned away for an inability to pay. San Francisco City Clinic provides comprehensive STD services, including evaluation, testing, and treatment of STD by specially trained clinicians, patient education, partner notification and treatment services, family planning services, and HIV counseling and testing, as well as postexposure and preexposure prophylaxis. Beginning on August 1, 2011, insurance status was collected at registration as a yes/no variable. Insurance status was self-reported and included private insurance (e.g., Blue Cross, Kaiser Permanente, etc) and public insurance (e.g., Medicaid and Medi-Cal), although type of insurance was not collected. Specific insurer names were not collected; these data were collected to assess clinic level insurance status and not for billing or reimbursement purposes to the STD clinic. Insurance status is not used to make medical management decisions during the clinical visit.

All San Francisco City Clinic patients with at least 1 visit between August 1, 2011, and December 31, 2012, were included in the analysis. If a patient had multiple visits, the first visit was used. Data on demographics and risk behavior are obtained during registration and clinicians' visits; all information is collected and maintained in a standardized electronic medical record system. Variables were extracted from the clinic medical record and included age, race, sex, sexual orientation, HIV status, residency in San Francisco, drug use in the past 12 months, STD testing at visit, transactional sex (given or received money or drugs for sex), lifetime injection drug use, whether the patient was symptomatic, and number of male and female partners in the previous 3 months. Sexually transmitted diseases for which patients were tested that were included in this analysis were *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, and *Treponema pallidum*. Symptoms and signs included, but were not limited to, vaginal, urethral, or anal discharge; dysuria; lesions/sores; rashes; dyspareunia; hematuria; and abdominal or pelvic pain.

The APTIMA Combo 2 assay (Gen-Probe, San Diego, CA), a nucleic acid amplification test, was used to detect urogenital, pharyngeal, and rectal *C. trachomatis* and *N. gonorrhoeae* infections. Testing for syphilis included using a nontreponemal antibody test (Venereal Disease Research Laboratory), with *T. pallidum* particle agglutination confirmation (Fujirebio, Tokyo, Japan).

Positivity was calculated as the number of people diagnosed as having infection per the number of person-tests for the particular infection. Age was categorized into 5 categories for the purpose of this analysis (<25, 25–34, 35–44, 45–54, and 55+ years). In addition, demographics and risk factors were compared by insurance status among each sex/orientation (MSM, women, men who have sex with women [MSW]), which was determined through a combination of self-report of orientation and database review of sexual behavior. If men reported identifying as gay regardless of sex with men or as straight with a history of sex with men, they were classified as MSM. Sexually transmitted disease testing and diagnoses were compared separately for each sex/orientation and stratified by symptom status. χ^2 test and Fisher exact test were used to compare categorical variables, as appropriate, and Wilcoxon rank sum tests were used to compare continuous variables. All analyses were done using SAS version 9.3 (SAS Institute Inc, Cary, NC). Because these were de-identified surveillance data used for public health improvement purposes, this study was considered exempt from human-subjects considerations in accordance with the Code of Federal Regulations, Title 45.

RESULTS

During the study period, there were 25,912 visits to the municipal STD clinic among 14,835 patients. Of these visits, the insurance status was unknown for 1731 (11.2%) of patients who were excluded; subsequently, 23,677 visits among 13,104 patients were used in this analysis. Reasons for unknown insurance status were unwillingness of patient to provide information and/or patients not being asked at registration. Table 1 describes the population examined in this analysis. During the study period, 4981 (38.0%) were categorized as insured and 8123 (62.0%) were categorized as not insured. The proportion of insured patients was similar when using visits rather than patients as the unit of analysis (65.0% of visits were among patients who reported being uninsured). Patient-level data are reported in all subsequent results.

Among MSM, women, and MSW, insured patients differed by several demographic characteristics compared with noninsured patients (Table 1). Men who have sex with men had the highest proportion of insured patients (42.8%), whereas women had the lowest (29.2%) proportion of insured patients. Among MSM and women, insured patients were more likely to be older (both $P < 0.0001$) compared with uninsured patients. Insured MSM and MSW were more likely to be white and less likely to be Hispanic, whereas insured women were more likely to be black (all $P < 0.0001$) compared with uninsured patients. Insured MSM and MSW were more likely to be HIV infected and San Francisco residents (both $P < 0.05$). Insured MSM patients were also less likely to report the use of methamphetamines and cocaine and more likely to report the use of erectile dysfunction medications (all $P < 0.05$). Insured women were more likely to report crack use and ever-using injection drugs (both $P < 0.05$). Among all 3 groups, insured patients were less likely to be symptomatic compared with their noninsured counterparts (all $P < 0.05$).

There were also differences in testing and diagnoses among symptomatic and asymptomatic patients based on insurance status. Among both MSM symptomatic and asymptomatic patients, insured patients were more likely to be tested for pharyngeal chlamydia and gonorrhea (all $P < 0.005$). Symptomatic insured MSM were less likely to be diagnosed as having pharyngeal gonorrhea ($P = 0.03$), and asymptomatic insured MSM were less likely to be diagnosed as having pharyngeal chlamydia ($P = 0.004$) and urogenital gonorrhea ($P = 0.03$) compared with noninsured patients. No differences among insured and uninsured were seen among symptomatic women. Among asymptomatic women, insured patients were more likely to be tested for both rectal chlamydia and gonorrhea (both $P < 0.03$) compared with uninsured women. Among symptomatic MSW patients, insured patients were more likely to be tested for urogenital chlamydia compared with uninsured MSW. Among asymptomatic MSW, insured patients were more likely to be tested for urogenital chlamydia and less likely to be tested for syphilis (both $P < 0.05$) compared with uninsured patients (Tables 2–4).

CONCLUSIONS

Sexually transmitted disease clinics provide unique and comprehensive STD services, including evaluation, testing, and appropriate treatment of STD by specially trained clinicians, as well as partner notification and treatment services.[18–21] In our municipal STD clinic, more than one-third of patients currently report having insurance, yet still choose to seek care at the STD clinic. These data suggest that expanded access to insurance may not result in a reduced need for categorical STD services. In an anonymous waiting room survey conducted at City Clinic between June and August of 2012, more than 50% of respondents reported that confidentiality was the most important reason they sought care at the STD clinic (unpublished data). In

TABLE 1. Comparison of Demographic and Behavioral Characteristics by Insurance Status Among Clinic Visits, SF, August 1, 2011–December 31, 2012

	MSM		Women		MSW	
Overall	**Insured**	**Not Insured**	**Insured**	**Not Insured**	**Insured**	**Not Insured**
Total	2271 (42.8)	3033 (57.2)	1014 (29.2)	2463 (70.8)	1672 (39.4)	2572 (60.6)
Age, y						
<25	310 (13.7)	405 (13.4)*	370 (36.5)	850 (34.5)*	386 (23.1)	441 (17.2)*
25–34	650 (28.7)	1223 (40.4)	396 (39.1)	1170 (47.5)	710 (42.5)	1208 (47.0)
35–44	605 (26.7)	777 (25.6)	148 (14.6)	296 (12.0)	323 (19.3)	568 (22.1)
45–54	470 (20.7)	482 (15.9)	72 (7.1)	116 (4.7)	145 (8.7)	253 (9.8)
55+	234 (10.3)	143 (4.7)	28 (2.8)	30 (1.2)	107 (6.4)	101 (3.9)
Race						
Asian/Pacific Islander	284 (12.5)	365 (12.0)*	162 (16.0)	497 (20.2)*	221 (13.2)	293 (11.4)*
Black	194 (8.5)	322 (10.6)	317 (31.3)	442 (18.0)	267 (16.0)	516 (20.1)
Hispanic	332 (14.6)	829 (27.3)	106 (10.5)	462 (18.8)	150 (9.0)	580 (22.6)
Native American	13 (0.6)	19 (0.6)	13 (1.3)	13 (0.5)	0	7 (0.3)
White	1428 (62.9)	1470 (48.5)	407 (40.1)	1010 (41.0)	1015 (60.7)	1139 (44.3)
Other	12 (0.5)	20 (0.7)	5 (0.5)	31 (1.3)	10 (0.6)	25 (1.0)
Unknown	8 (0.4)	8 (0.3	4 (0.4)	8 (0.3)	9 (0.5)	12 (0.5)
HIV status						
Positive	491 (21.6)	476 (15.7)*	12 (1.2)	14 (0.6)	16 (1.0)	8 (0.3)*
Negative	1721 (75.8)	2477 (81.7)	810 (79.9)	2011 (81.7)	1090 (65.2)	1931 (75.1)
Unknown	59 (2.6)	80 (2.6)	192 (18.9)	438 (17.8)	566 (33.9)	633 (24.6)
SF resident	1707 (75.2)	2202 (72.6)*	798 (78.7)	1930 (78.4)	1321 (79.0)	1951 (75.9)*
Drug use in last 12 mo†						
Methamphetamine	176 (8.5)	300 (10.8)*	34 (3.6)	74 (3.2)	23 (1.5)	51 (2.1)
Crack	25 (1.2)	29 (1.1)	30 (3.2)	27 (1.2)*	15 (1.0)	15 (0.6)
Cocaine	169 (8.1)	266 (9.7)	50 (5.3)	132 (5.8)	118 (7.6)	186 (7.8)
Poppers	265 (13.0)	319 (11.9)	0	1 (0.1)	1 (0.1)	1 (0.1)
ED meds	195 (9.5)	215 (7.9)*	0	0	33 (2.1)	49 (2.1)
IDU ever	117 (5.2)	168 (5.5)	65 (6.4)	82 (3.3)*	62 (3.7)	85 (3.3)
Transactional sex	198 (8.7)	306 (10.1)	47 (4.6)	116 (4.7)	183 (10.9)	245 (9.5)
Male partners in previous 3 mo, mean (median)	5.0 (3.0)	4.9 (2.0)*	2.11 (1.0)	2.46 (1.0)*	0	0
Female Partners in previous 3 mo, mean (median)	0.45 (0)	0.70 (0)*	0.12 (0)	0.15 (0)	2.3 (2.0)	2.4 (2.0)*
Symptomatic, mean (median)	534 (43.4)	1567 (51.7)*	534 (52.7)	1400 (56.8)*	927 (55.4)	1609 (62.6)*

Values are presented as n (%), unless otherwise indicated.
ED indicates emergency department; SF, San Francisco.
*$P \leq 0.05$.
†Among those patients asked about drug use.
IDU indicates injection drug use.

the same survey, approximately 20% of patients reported that they would not have gone anywhere for services if City Clinic had not been available (unpublished data). These data, together with the results presented above, suggest that there is a need for categorical STD care outside primary care settings and that affordability is not the sole driver for many clients that are seeking services at our clinic.

It is notable that insured patients were tested at the same or greater frequency compared with their noninsured counterparts. Insured patients may have been more likely to report risk behavior that triggered screening at the visit per clinic protocol, were more likely to be "due" for a STD screen based on recommended screening intervals, or seeking care at the STD clinic because their medical home did not offer extragenital testing, as compared with uninsured patients. However, symptomatic insured MSM were less likely to be diagnosed as having pharyngeal gonorrhea than symptomatic uninsured MSM, and asymptomatic insured MSM were less likely to be diagnosed as having pharyngeal chlamydia or urogenital gonorrhea than asymptomatic uninsured MSM. Rates of disease among insured patients seeking services at the STD clinic were still high, particularly among MSM, indicating that this is a population in need of accessible sexual health services.

Compared with women and other men, a higher proportion of MSM were insured, and our analysis illustrates that STD clinics remain an important center of sexual health services for MSM, including HIV-infected MSM. Although low-income HIV-infected persons have access to services through Ryan White funded clinics, they may feel marginalized in a primary care setting, uncomfortable discussing their sexual health with their primary care provider, or may have concerns regarding privacy and confidentiality that cause them to seek sexual health services at a STD clinic rather than through primary care.[2] In addition, insured symptomatic patients may seek care at the STD clinic because of a perception of higher quality of service and/or the convenience of walk-in hours.

Sexually transmitted disease clinics provide care for a large proportion of nonwhite MSM,[12] a population at particularly high need for screening services. In a study of MSM in New York, nonwhite men were significantly less likely to disclose their sexual orientation to a health care provider compared with white men.[7] Racial and ethnic minorities, particularly black and Hispanic MSM, have disproportionately higher rates of STDs than whites,[13] and municipal STD clinics may provide a confidential setting where nonwhite MSM can seek sexual health services. As resources continue to dwindle and the availability of STD clinic services

TABLE 2. Comparison of Tests Performed and Results by Insurance Status Among Symptomatic and Asymptomatic MSM, San Francisco, August 1, 2011–December 31, 2012

	Symptomatic			Asymptomatic		
Overall	**Insured, n (%)**	**Not Insured, n (%)**	***P***	**Insured, n (%)**	**Not Insured, n (%)**	***P***
Total	985 (38.6)	1567 (61.4)	1	1286 (46.7)	1466 (53.3)	
STD testing						
Chlamydia test						
Pharyngeal	644 (65.4)	933 (59.5)	0.003	959 (74.6)	1016 (69.3)	0.002
Urogenital	820 (83.3)	1298 (82.8)	0.79	1062 (82.6)	1179 (80.4)	0.15
Rectal	487 (49.4)	723 (46.1)	0.10	765 (59.5)	829 (56.6)	0.12
Gonorrhea test						
Pharyngeal	644 (65.4)	933 (59.4)	0.003	959 (74.6)	1016 (69.3)	0.002
Urogenital	795 (80.7)	1255 (80.1)	0.70	1041 (81.0)	1152 (78.6)	0.12
Rectal	487 (49.4)	723 (46.1)	0.10	766 (59.6)	829 (56.6)	0.11
Syphilis test	768 (78.0)	1180 (75.3)	0.12	1084 (84.3)	1216 (83.0)	0.34
STD diagnosis						
Chlamydia*						
Pharyngeal	11 (1.7)	19 (2.0)	0.64	9 (0.9)	27 (2.7)	0.004
Urogenital	65 (7.9)	95 (7.3)	0.61	18 (1.7)	33 (2.8)	0.08
Rectal	50 (10.3)	83 (11.5)	0.51	56 (7.3)	83 (10.0)	0.06
Gonorrhea*						
Pharyngeal	48 (7.5)	99 (10.6)	0.03	59 (6.2)	77 (7.6)	0.21
Urogenital	90 (11.3)	134 (10.7)	0.65	4 (0.4)	14 (1.2)	0.03
Rectal	57 (11.7)	103 (14.3)	0.20	46 (6.0)	68 (8.2)	0.09
Syphilis*	69 (9.0)	99 (8.4)	0.65	25 (2.3)	40 (3.3)	0.16

*Positivity among those tested.

decline, it is critical to ensure that MSM of color retain access to high-quality sexual health care.

These data have important implications for how STD and reproductive health care will be provided in the post-affordable care act era. As more Americans gain access to health insurance, the hope is that primary care would be coordinated through the providers within a patient's network. Increased access to primary care through health insurance has been suggested to result in a decreased need for categorical STD clinics.[2,14] Our data highlight that many patients with access to insurance choose to seek services at our STD clinic. If city, state, and national resources devoted to STD care in the public sector are diverted, many insured Americans may forgo STD services rather than seek them from their primary care provider. Exploring the reasons patients seek out categorical STD services may be a valuable direction for future research. In addition, in the future, categorical STD clinics will need to explore ways to bill insurance for services and other means of reimbursement.

Furthermore, these data are important from a provider perspective. As more STD quality indicators, such as healthcare effectiveness data and information set[15] and the US Preventive

TABLE 3. Comparison of Tests Performed and Results by Insurance Status Among Symptomatic and Asymptomatic Women, San Francisco, August 1, 2011–December 31, 2012

	Symptomatic			Asymptomatic		
Overall	**Insured, n (%)**	**Not Insured, n (%)**	***P***	**Insured, n (%)**	**Not Insured, n (%)**	***P***
Total	534 (27.6)	1400 (72.4)		480 (31.1)	1063 (43.2)	
STD testing						
Chlamydia test						
Pharyngeal	5 (0.9)	8 (0.6)	0.36	8 (1.7)	8 (0.8)	0.11
Urogenital	456 (85.4)	1216 (86.9)	0.40	310 (64.6)	697 (65.6)	0.71
Rectal	3 (0.6)	9 (0.6)	1.0	8 (1.7)	4 (0.4)	0.01
Gonorrhea test						
Pharyngeal	5 (0.9)	8 (0.6)	0.36	8 (1.7)	8 (0.8)	0.11
Urogenital	454 (85.0)	1213 (86.6)	0.35	306 (63.8)	686 (64.5)	0.77
Rectal	3 (0.6)	9 (0.6)	1.0	8 (1.7)	5 (0.5)	0.03
Syphilis test	124 (23.2)	283 (20.2)	0.15	150 (31.3)	251 (23.6)	0.001
STD diagnosis						
Chlamydia*						
Urogenital	28 (6.1)	72 (5.9)	0.87	16 (5.2)	50 (7.2)	0.23
Gonorrhea*						
Urogenital	1 (0.2)	12 (1.0)	0.21	4 (1.3)	6 (0.9)	0.51
Syphilis*	4 (3.2)	3 (1.1)	0.21	1 (0.7)	2 (0.8)	1.0

*Positivity among those tested.

TABLE 4. Comparison of Tests Performed and Results by Insurance Status Among Symptomatic and Asymptomatic MSW, San Francisco, August 1, 2011–December 31, 2012

	Symptomatic			Asymptomatic		
Overall	**Insured, n (%)**	**Not Insured, n (%)**	***P***	**Insured, n (%)**	**Not Insured, n (%)**	***P***
Total	1236 (33.8)	2424 (66.2)		967 (39.3)	1493 (60.7)	
STD testing						
Chlamydia test						
Urogenital	785 (63.5)	1408 (58.1)	0.0015	536 (55.4)	766 (51.3)	0.0454
Gonorrhea test						
Urogenital	599 (48.5)	1155 (47.7)	0.6410	296 (30.6)	489 (32.8)	0.2654
Syphilis test	224 (18.1)	486 (20.1)	0.1633	201 (20.8)	379 (25.4)	0.0087
STD diagnosis						
Chlamydia*						
Urogenital	73 (9.3)	142 (10.1)	0.5530	36 (6.7)	56 (7.3)	0.6805
Gonorrhea*						
Urogenital	20 (3.3)	61 (5.3)	0.0660	1 (0.3)	2 (0.4)	1.0
Syphilis*	1 (0.5)	3 (0.6)	1.0	0	0	

*Positivity among those tested.

Services Task Force recommendations,[16] are being established, knowing who is seeking services outside the insured network may be useful in identifying missed opportunities for quality improvement. Although rates of chlamydia screening coverage in the United States has been improving in privately insured systems,[15] they are still low and should continue to be a target of clinic improvement plans.

There are important limitations to this analysis. First, insurance status was based on self-report and was not verified, which may have led to misclassification of insurance status. Insurance status may have been underreported, as was seen among Medicaid-enrolled patients at a STD clinic.[17] In addition, because insurance status was collected as a yes/no variable, we cannot differentiate between clients with public versus private insurance. Furthermore, a small proportion of clinic patients did not report insurance status. Symptom status was also inclusive of symptoms at any site, not particular to the site where the patient was tested.

Categorical STD clinics provide culturally competent sexual and reproductive health care for a broad range of patients. Here, we show that more than one-third of the patients seen at our clinic self-reported having insurance and, as a result, should have access to primary care. Furthermore, many of the patients with insurance in our analysis reported behaviors that would indicate high risk for HIV and/or STD infection. Interventions may be needed in primary care settings to improve (real or perceived) confidentiality and judgment around stigmatized behaviors. Maintaining and improving access to high-quality sexual health services should remain a priority in the era of expanded health care access, and municipal STD clinics will likely continue to play an important role.

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