Published in final edited form as:

Sex Transm Dis. 2019 July ; 46(7): 434–439. doi:10.1097/OLQ.0000000000001003.

Emergency Department Testing Patterns for Sexually Transmitted Diseases in North Texas

Arti Barnes, MD, MPH^{1,8}, Katelyn K. Jetelina, PhD^{2,6}, Andrea C. Betts, MPH^{3,6}, Theresa Mendoza⁴, Pranavi Sreeramoju, MD⁵, Jasmin A. Tiro, PhD^{6,7}

¹Cornell Scott-Hill Health Center, New Haven, CT

²Department of Epidemiology, Human Genetics & Environmental Sciences, University of Texas Health Science Center at Houston, School of Public Health in Dallas

³Department of Health Promotion and Behavioral Sciences, University of Texas Health Science Center at Houston, School of Public Health in Dallas

⁴Dallas-Fort Worth Hospital Council Education and Research Foundation

⁵Division of Infectious Diseases, Dept. of Internal Medicine, UT Southwestern Medical Center

⁶Department of Clinical Sciences, UT Southwestern Medical Center

⁷Harold C. Simmons Comprehensive Cancer Center, UT Southwestern Medical Center

⁸Division of Infectious Diseases, Dept. of Medicine, Yale School of Medicine

Abstract

Background: Little is known about population-level sexually transmitted disease (STD) testing in emergency departments. We sought to explore STD testing patterns in emergency departments (EDs) in a large, urban metroplex in North Texas, a high prevalence region.

Methods: ED claims data were extracted from the Dallas Fort Worth Hospital Council databank for patients attending 54 EDs in four counties (Dallas, Tarrant, Collin, and Denton) who were tested for an STD during an ED visit between July 2014 and June 2015. We analyzed patterns of testing for three types of STD tests: 1) combined gonorrhea and chlamydia DNA based tests; 2) HIV antibody tests; and 3) syphilis serological tests.

Results: EDs administered at least one STD test to 65,702 unique patients over 1 year; most were ethno-racial minorities (73%), female (72%) and had no known insurance (59%). Only 8% of patients received more than one of these tests at that same visit; of those, 90% were co-tested for HIV. The most common diagnosis code associated with STD testing was “genital/urinary symptoms” (31%). The majority of tests took place at the ED of a single county-funded hospital (42%). Only 36% of all patients had visits that were deemed true emergencies.

Corresponding author: Arti Barnes, Cornell Scott-Hill Health Center, New Haven, CT, USA. Phone: (319) 471-1076; fax: (203) 503-3158; arti.barnes@gmail.com.

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Disclosures: The authors have no conflicts of interest to report.

Conclusions: Most patients tested for syphilis, HIV or chlamydia/gonorrhea in EDs received only one test type at that visit, and most visits were non emergent in nature. Given shared risk factors for multiple STD and high co-infection rates, EDs serving high-risk populations could consider STD co-testing to help reduce transmission of undiagnosed, untreated infections.

SHORT SUMMARY

A study of emergency departments in North Texas found most patients tested for STDs were ethnoracial minorities with no known insurance presenting with non-emergencies. Few were tested for multiple STDs.

Keywords

emergency department; sexually transmitted disease; HIV

INTRODUCTION

Sexually transmitted diseases (STDs) place a significant economic strain on the US healthcare system, with 19–20 million¹ new cases, including about 39,000 new cases of human immunodeficiency virus (HIV), each year.² More than 110 million people in the US have a prevalent STD. While the rates of new diagnoses of HIV are slowly decreasing, the rates of curable STDs are now on the rise.¹ After a historic low in syphilis rates in 2000–2001, national rates of syphilis as well as gonorrhea and chlamydia reached a record high in 2017.³ The STD epidemic is particularly marked in the Southern region of the United States, specifically in Texas where reported case rates of syphilis and chlamydia are much higher than the national average.¹ Further, Texas has the fourth highest rate of congenital syphilis in the nation.¹ The North Texas region in particular, which includes the large Dallas Fort-Worth (DFW) metroplex, has the highest volume of gonorrhea, chlamydia, and syphilis cases in the state, and rates have risen dramatically in DFW since 2010.⁴ In 2017, DFW was among the top metropolitan areas in the nation for HIV incidence and prevalence.²

Guidelines for STD screening vary based on the epidemiological impact of each pathogen, with some recommending that healthcare providers assess risk with respect to age, sexual orientation, sexual behavior, and/or prevalence in the geographic region. For gonorrhea and chlamydia, the Centers for Disease Control and Prevention (CDC) guidelines recommend routine screening for all sexually active women under the age of 25 and risk-based screening for those older than 25 years or who are seen in “high prevalence settings.”⁵ Routine screening for chlamydia and gonorrhea in men is only to be considered for “young” men who are in a high prevalence setting or men who have sex with men (MSM). For syphilis, according to the CDC, screening is only required for MSM and pregnant women at the first pre-natal visit, with the option to repeat the test in the third trimester if a provider considers the woman to be at elevated risk. For HIV, the CDC recommends screening everyone aged 13–65 years and all pregnant women, regardless of stage of pregnancy or sexual risk. The US Preventive Services Task Force (USPSTF) guidelines vary slightly from the CDC’s and recommend that providers “screen sexually active, non-pregnant women at increased risk for chlamydia, gonorrhea, HIV, and syphilis infection” and only high-risk men for HIV and syphilis.⁵ “High” or “increased” risk due to sexual behavior may include having multiple

current partners, having a new partner, using condoms inconsistently, having sex while under the influence of alcohol or drugs, and having sex in exchange for money or drugs.⁶ Given the recommended risk-based triggers for screening for these STIs, any symptoms or history that triggers risk based screening for one STD should prompt screening for other STDs, based on the shared risk for the other diseases.

While emergency departments may not be the optimal site for routine STD screening, provider-or patient-triggered screening for STDs may occur frequently in such settings, given that many underinsured individuals use EDs as their primary source of healthcare. In 2016, 6.4% of gonorrhea cases in males in the United States were diagnosed in the ED, and 78.4% of the chlamydia cases were detected outside of STD clinics.¹ While some studies have evaluated STD testing within a single ED, or a specific population who present to EDs such as sexual assault victims,^{7,8} little information exists on population-level STD testing patterns across multiple EDs in a region. Understanding testing patterns is critically important to guide quality improvement and monitoring efforts, especially in high prevalence areas. Given that the risk perception or clinical findings that trigger the evaluation for one STD may include the assumption of risk for other types of STDs, testing for multiple types of STDs should be common, but this has yet to be examined. Furthermore, knowledge of patterns of STD testing in the EDs can be used to optimize healthcare delivery by appropriately triaging STD management in the ED. Therefore, this study's objectives were to: 1) determine the prevalence of STD testing for multiple types of STDs (i.e. syphilis, HIV, and combined chlamydia and gonorrhea) and 2) describe patient and hospital characteristics of STD testing across multiple EDs in a large, urban Southern metroplex.

MATERIALS AND METHODS

Sample and Data Collection

The Dallas-Fort Worth Hospital Council Education and Research Foundation (DFWHC) data warehouse was utilized to obtain claims data from regional EDs in the DFW area of North Texas. Since 2000, the DFWHC data warehouse has stored healthcare data for approximately 10.7 million unique patients and 51 million hospital encounters. This warehouse collects ED claims data from 80% of the hospitals in North Texas (88 out of 110). The DFWHC receives visit-centric data and establishes a regional enterprise master patient index (REMPI), which assigns a unique ID to all patients, allowing researchers to track any patient over time by hospital. The data is submitted in a standardized format and processed through a data quality tool that ensures accuracy and normalizes the data. The average data quality measurement for participating facilities is 93%. Critical data field errors are required to be fixed or the patient encounter is held until that error has been addressed. An example of a critical error would be an encounter missing the principal diagnosis code or having an invalid diagnosis code.

DFWHC data were extracted for all patients who visited an ED from July 2014 through June 2015 who had an STD test done during an ED visit. The two most populous cities (Dallas and Fort Worth) as well as large college towns were included in the four adjacent counties studied: Dallas, Tarrant, Collin, and Denton. We limited our analysis to a patient's *first visit* to the ED in which an STD test was performed, resulting in 90,183 unique patients during

the 12-month period across 54 of the 88 EDs in the DFWHC database. We further limited our analysis to only patients who received the gonorrhea/chlamydia (GC/CT) amplified probe tests (CPT codes 87270, 87490, 87491, 87492, 87590, 87591, 87592, 87850), HIV antibody tests (CPT codes 86701, 86702, 86703) or syphilis tests (CPT codes 86592, 86593) for a final sample size of 65,702. Human papilloma virus, herpes simplex and trichomonas testing were excluded due to lack of assessable measures for these STDs from claims-based data.

The data set provided to the authors was de-identified. The variables included in the data set were as follows: age groups, race, ethnicity, gender, payer source, hospital name, hospital and patient zip codes (latter when not identifiable), principal diagnosis for visit, secondary diagnoses (up to 25 additional diagnoses) for the visit, status determination for visit acuity. The research study was approved by North Texas Health Information and Quality Collaborative (NTHIQ), which determines the research quality and the patient/hospital confidentiality of all research projects at DFWHC Foundation. It also received an exemption by the Institutional Review Board of University of Texas, Southwestern Medical Center.

Statistical Analysis

Data were analyzed by generating descriptive statistics (tabulations, percentages, means, and standard deviations) to explore the univariate distribution of patient demographics, hospital systems, and patterns of testing for a single STD. Stratification was used to compare patient and hospital characteristics across patterns of co-testing. Bivariate and multivariate analyses were not used to determine statistical differences due to the large sample size increasing the likelihood of a Type I error (finding a significant difference where no true difference exists).⁹ This was apparent after initial bivariate and multivariate models were run to test sociodemographic differences across STD testing patterns and revealed all the tests were significant regardless of whether they were clinically meaningful. All analyses were conducted using SAS 9.4 (SAS Institute Inc., 2014).¹⁰

RESULTS

Sample description

A description of the sample is provided in Table 1. A majority of the sample were 18–44 years of age (72%) and female (72%). Forty percent of the patients were Non-Hispanic Black, and 33% were Hispanic. A majority (59%) of the patients had no known insurance (charity or self-pay constituted over 50% of this group), followed by Medicaid (19%) and private insurance (16%). Sixty eight percent of patients presented to Dallas County hospitals; 42% of the sample presented at a single county tax- funded safety-net hospital in Dallas, Texas. Thirty six percent of our sample had the visit deemed a true emergency based on acuity (i.e. “emergent”) compared to less than one percent of all the ED visits in that period

Table 1 also presents primary diagnosis at ED visit. A third (31%) of patients tested for at least one STD presented with genitourinary system issues or symptoms, 15% had complications of pregnancy and 5% had pre-existing diagnoses of an STD or contact with or

exposure to communicable diseases. Due to privacy concerns with the small sample size, we excluded pre-existing HIV diagnoses.

Overall testing patterns for STIs

About 4.6% of all patients attending those EDs during the study period were tested for these STDs. Although eligible for all three test types, most patients tested for an STD (92%) received only one STD test (Table 2). Among these, the chlamydia/gonorrhea test was most frequently conducted, followed by HIV. Less than 0.2% of patients received all three STD tests—HIV, syphilis and GC/CT—at the same visit. Among patients who received two tests, the most common co-testing pattern was for HIV and syphilis.

Testing patterns across patient and hospital characteristics

Table 3 presents single and co-testing patterns across patient and hospital characteristics.

Single STD test patterns—Testing for only HIV occurred predominantly in those aged 25–44 years and older. Females also had a higher prevalence of receiving HIV, syphilis or GC/CT testing alone compared to men. Compared to other ethno-racial groups, Hispanics were most frequently tested for HIV or syphilis alone, and non-Hispanic Blacks were the most frequently tested for GC/CT alone. Most of those tested had no known healthcare coverage. Of those who did have identified healthcare coverage, a majority of those tested for HIV had Medicaid whereas most of those tested for syphilis and GC/CT had either private health coverage or Medicaid. Testing also predominantly occurred in two counties (Dallas and Tarrant).

Forty eight percent of those who underwent HIV testing alone had visits that were deemed “emergent” based on the acuity. As for the primary diagnoses associated with single STD test types, most of those who underwent HIV testing had respiratory or “other symptoms” (“Other” referred to non-genitourinary/pregnancy related or mental health symptoms), the majority of those tested for syphilis (42%) presented with complications of pregnancy, and the majority of those tested for GC/CT presented with genitourinary system related symptoms or diagnoses.

Co-testing patterns—Patients who were tested for HIV and another STD were mostly younger (under 45 years), female, and Hispanic. The highest prevalence of co-testing for HIV with syphilis or GC/CT occurred specifically at a Dallas county-funded ED (87%). Further, patients who presented to the ED with pregnancy or childbirth complications had the highest prevalence of co-testing.

HIV and syphilis co-testing occurred mostly in Hispanics, those with no known healthcare coverage, visits to the Dallas county safety-net system, visits with “unclassified” visit acuity and visits with complications of pregnancy or childbirth as the primary diagnosis.

HIV and GC/CT co-testing occurred mostly in non-Hispanic Blacks, those with unknown health coverage, visits to Tarrant county safety-net systems, with “indeterminate” visit acuity and in those with genito-urinary symptoms.

Receipt of all three STD tests occurred mostly in Hispanics and non-Hispanic Blacks, those with Medicaid, in Tarrant county safety-net systems, visits with “unclassified” acuity and in those with complications of pregnancy or childbirth.

DISCUSSION

This study used a sample of patients presenting to North Texas emergency departments to describe the testing patterns for three major STD test types—HIV, syphilis and GC/CT—as well as patient and hospital characteristics of co-testing. Overall, most of the individuals who underwent STD testing during an ED visit were younger (under 45 years), non-Hispanic Black and Hispanic, and females. These findings are consistent with the demographic distribution in the Dallas and Fort Worth zip codes with the highest number of ED visits.¹¹ A large proportion of the testing (42%) in our study took place at the ED of the public safety-net hospital in Dallas County (the most populous county¹²), a hospital which has a program for routine testing for HIV. Most patients (59%) who underwent STD testing had no known source of insurance. Furthermore, only 36% of all cases were deemed true emergencies. HIV testing appeared to be the exception with 48% of the HIV testing (as the single STD test done) occurring in what is deemed a true clinical emergency. These findings suggest that many uninsured individuals continue to use the ED as a primary source of healthcare, particularly in safety-net systems. Thus, they appear to be an important clinical setting for diagnosing and managing STIs in uninsured individuals who are not engaged in primary care.

Critically, in our sample, the vast majority of individuals tested for an STD test only received one test type. Having bacterial STDs increases the risk of acquiring HIV, even among heterosexual men and women.^{13,14,15} Co-infection with two or more STDs is well documented, with syphilis and HIV co-infection rates reaching 45% for men who have sex with men, 9% in men who have sex with women and about 4% in women in the US.¹ Yet only 16% of those tested for HIV in our sample were also tested for syphilis. Furthermore, less than 1% of our sample received all three STD tests at their visit. The prevalence of co-testing for chlamydia/gonorrhea and syphilis in our sample (less than 1%) was much lower than in an urban ED in California (31%).¹⁶ These results may be indicative of variation in the ED providers’ assessments of who is considered “at risk” for each STD. Ethnic minority females had a higher prevalence of being co-tested with HIV in our sample, in contrast to the aforementioned study where Spanish-speaking females were less likely to be co-tested for syphilis with gonorrhea/chlamydia. Notably, across test types, most of the STD testing in our EDs occurred among women. This is consistent with previous findings that women more frequently attended EDs than STD clinics for testing, whereas men most commonly attended STD clinics.¹⁷ This finding may also reflect the fact that guidelines encourage STD screening of pregnant women, and complications of pregnancy was a common presenting diagnosis in our sample. However, of the women who presented with complications of pregnancy to the ED and underwent testing for HIV, syphilis or GC/CT, syphilis constituted only 11% of those tests, which is low considering the high rates of congenital syphilis in the region.¹

Collectively, our findings highlight opportunities for optimizing care delivery for STD testing performed in EDs in the Dallas-Fort Worth region. Given existing evidence of rising rates of STDs and the high prevalence of co-infection with more than one STD in the region, ED providers could increase co-testing for STDs based on epidemiological trends in their region. This may involve more frequent updating of provider education and training about epidemic trends and corresponding CDC screening guidelines.

Our findings are limited by the restrictions intrinsic to claims-based data. Claims data can be less robust than direct laboratory evidence as it does not involve in depth chart reviews.¹⁸ However, CPT codes (for testing) were used to ensure validity and minimize information bias. Furthermore, the overall data quality for this data source is over 90% accurate. Unfortunately, the temporal relationships between the ICD-9 codes and the CPT codes could not be established as codes were bulked into quarterly periods, thus we were not able to estimate the incidence (or new diagnoses) of STDs. Additionally, chlamydia and gonorrhea testing patterns were analyzed together due to the combined nucleic acid amplification test used in most clinical settings. Due to the non-identifiable nature of the data collection and as certain variables are not collected or documented in discrete fields in claims data, we were also unable to separate testing patterns by certain key risk factors such as MSMs and “high risk sexual activity.” However, we were able to characterize testing in one key group: youths aged 18–24 years, who are considered high risk for STDs. We observed that co-testing remains low in this age group, with GC/CT being the most frequent STDs tested. Finally, we were not able to determine STD treatment, as our data source does not include pharmacy claims.

Our study encompasses an entire geographic population that is considered at high risk for STDs in the United States: a Southern population of nearly seven million with significant numbers of economically disadvantaged minorities per the US Census.¹⁹ As evidenced by a 2017 press release by the CDC on the unprecedented rise of STDs in the nation, there is an urgent call for an effective national response that includes standardizing and integrating STD testing and care into routine medical care, especially for pregnant women.³ Our findings indicate the need for interventions promoting broadening risk- and symptom-based STD testing in EDs in North Texas to improve early detection and connection to the full continuum of STI care services.

There is also a public health cost implication. While co-testing may slightly increase direct costs in an ED setting, the cost savings of detecting STDs before they progress or evolve into complications like pelvic inflammatory disease or epididymitis are substantial.²⁰ There is a greater initiative at present to redirect non-emergent care to non-ED settings, especially for conditions like STDs that can be easily managed in the outpatient clinics. Given that 36% of the visits in our sample were deemed non emergent and the most frequent symptom associated with STD testing in the ED included genitourinary symptoms, referring patients to non-ED settings could result in substantial cost savings, as an ER visit for that condition costs \$2598 dollars on average,²¹ compared to average of \$156 dollars for the same condition at an urgent care clinic.²² For the many patients with unknown insurance in our sample, most of whom paid out of pocket (data not shown), an ED visit for genitourinary symptoms could result in a substantial financial burden. Additionally, early detection is

critical to preventing transmission of a pathogen in a community/network. Finally, our study highlights the need for other regional data networks like public health departments to evaluate co-testing as an important indicator in surveillance reports.

In conclusion, we found a low prevalence of risk- and symptom-based testing for multiple types of STDs at a single ED visit in a large, urban metroplex in the Southern United States. This was especially true for co-testing with HIV despite the increased risk for acquisition of HIV in the context of other prevalent STDs. Our findings reveal an opportunity to optimize STD testing and services in EDs.

Acknowledgments

Funding:

Ms. Betts is supported by a pre-doctoral fellowship, University of Texas Health Science Center at Houston, School of Public Health Cancer Education and Career Development Program (National Cancer Institute/NIH Grant R25 CA57712, T32CA057712).

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Table 1:

Demographic characteristics, hospital system, and primary diagnosis for patients' first emergency department (ED) visit resulting in testing for sexually transmitted diseases (STDs) in four North Texas counties (N=65,702), 2014–2015

Characteristic	N (%)
<i>Age</i>	
0–17	3,662 (6)
18–24	17,149 (26)
25–44	30,236 (46)
45–64	12,525 (19)
65–74	1,452 (2)
75+	678 (1)
<i>Gender (female)</i>	47,181 (72)
<i>Race/Ethnicity</i>	
Non-Hispanic White	15,423 (24)
Non-Hispanic Black	26,275 (40)
Hispanic	21,376 (33)
Other	2,534 (4)
<i>Insurance</i>	
Private	10,236 (16)
Medicaid	12,346 (19)
Medicare	2,977 (5)
Other	1,022 (2)
Unknown (Self-pay, charity)	39,121 (59)
<i>Patient's county of residence</i>	
Dallas	44,618 (68)
Denton	2,645 (4)
Tarrant	18,439 (28)
<i>Hospital county</i>	
Dallas	43,284 (66)
Denton	2,349 (4)
Tarrant	18,424 (28)
Collin	829 (1)
Other	816 (1)
<i>Hospital system</i>	
Not-for-profit	10,669 (16)
Dallas County safety-net	27,976 (42)
Tarrant County safety-net	6,068 (9)
Faith-based not-for-profit #1	12,032 (18)
Faith-based not-for profit #2	777 (1)
For-profit	2,991 (5)
Other	5,189 (8)

Characteristic	N (%)
<i>Acuity of visit</i>	
Emergent	23,925 (36)
Indeterminate	18,540 (28)
Non-emergent	8,221 (13)
Mental health	2,071 (3)
Other	2,045 (3)
Unclassified	10,900 (17)
<i>Primary diagnosis for ED visit</i>	
Infectious and parasitic diseases	2,828 (4)
Syphilis	39
Chlamydia and gonorrhea	316
Contact with or exposure to communicable diseases	1,030
Mental disorders	2,114 (3)
Psychoses	1,326
Mental disorder	415
Respiratory system and symptoms	5,279 (8)
Genitourinary system and symptoms	20,577 (31)
Urinary problems	6,083
Genital problems	11,854
Complications of pregnancy, childbirth, and the puerperium	9,645 (15)
Other symptoms	10,873 (17)
Abdomen and pelvis	6,751
Head and neck	1,044
General symptoms	1,493
Dorsopathies/rheumatism	1,284 (2)
Other ^a	12,427 (19)

^a10 other disease and injury indexes including neoplasms, diseases of the nervous system, circulatory system, digestive system, and skin

Table 2:

Patterns of testing for single and multiple STDs (co-testing) per patient at first emergency department visit among patients in four North Texas counties (N=65,702), 2014–2015

Testing Pattern	N (%)
<i>One test</i>	60,310 (92)
HIV	24,431 (40)
Syphilis	2,687 (5)
Chlamydia and Gonorrhea	33,192 (55)
<i>Two tests</i>	5,227 (8)
HIV and Syphilis	4,583 (88)
HIV and Chlamydia/Gonorrhea	351 (7)
Syphilis and Chlamydia/Gonorrhea	293 (6)
<i>Three tests</i>	
HIV and Syphilis and Chlamydia/Gonorrhea	120 (0)

Table 3

Co-testing patterns across age groups for patients' first emergency department (ED) visit resulting in testing for sexually transmitted diseases (STDs) in North Texas counties (N=65,702), 2014–2015

	Single test (n=60,310)		HIV only (n=24,431)		Syphilis only (n=2,687)		GC/CT only (N=33,192)		Co-tested with HIV (n=5,054)		HIV +syphilis (n=4,583)		HIV +GC/CT (n=351)		HIV +GC/CT+Syphilis (n=120)	
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Age																
0–17	3,270 (6)	483 (2)	240 (9)	2,547 (8)	249 (5)	176 (4)	33 (9)	40 (33)								
18–24	15,617 (26)	2,765 (11)	560 (21)	12,292 (37)	1,465 (29)	1305 (29)	129 (37)	31 (26)								
25–44	27,428 (45)	10,024 (41)	1212 (45)	16,192 (49)	2,724 (54)	2520 (55)	159 (45)	45 (38)								
45–64	11,929 (20)	9451 (39)	463 (17)	2015 (6)	557 (11)	524 (11)	30 (9)	*(3)								
65–74	1,409 (2)	1181 (5)	113 (4)	115 (0)	40 (3)	39 (1)	*(0)	*(1)								
75+	657 (1)	527 (2)	99 (4)	31 (0)	19 (0)	19 (0)	*(0)	*(0)								
Gender																
Female	43,213 (72)	13277 (54)	1834 (68)	27102 (85)	3,738 (74)	3442 (75)	202 (58)	94 (78)								
Male	17,096 (28)	11153 (46)	853 (32)	5090 (15)	1,316 (26)	1141 (25)	149 (43)	26 (22)								
Race/Ethnicity																
Non-Hispanic White	14,718 (24)	4560 (19)	740 (28)	9418 (28)	623 (12)	537 (12)	70 (20)	16 (13)								
Non-Hispanic Black	24,241 (40)	7762 (32)	866 (32)	15613 (47)	1,893 (37)	1689 (37)	156 (44)	48 (40)								
Hispanic	18,875 (31)	11163 (46)	960 (36)	6452 (20)	2,403 (48)	2243 (49)	108 (31)	52 (43)								
Other	2,385 (4)	897 (4)	113 (4)	1375 (4)	133 (3)	112 (2)	17 (5)	*(3)								
Insurance																
Private	9,899 (16)	1421 (6)	666 (25)	7812 (24)	275 (5)	230 (5)	28 (8)	17 (14)								
Medicaid	10,842 (18)	2735 (11)	662 (25)	7445 (22)	1389 (27)	1257 (27)	75 (21)	57 (48)								
Medicare	2,823 (5)	1959 (8)	19 (7)	671 (2)	141 (3)	136 (3)	*(1)	*(1)								
Other	976 (2)	588 (2)	30 (1)	358 (1)	37 (1)	14 (0)	20 (6)	*(3)								
Unknown	35,770 (59)	17728 (73)	1136 (42)	16906 (51)	3,212 (64)	2946 (64)	224 (64)	42 (35)								
Hospital County																
Dallas	38,552 (64)	22427 (92)	1945 (74)	14180 (43)	4,509 (89)	4422 (97)	45 (13)	42 (35)								
Denton	2,332 (4)	73 (0)	64 (2)	2195 (7)	11 (0)	*(0)	*(2)	*(3)								

	Single test (n=60,310)	HIV only (n=24,431)	Syphilis only (n=2,687)	GC/CT only (N=33,192)	Co-tested with HIV (n=5,054)	HIV +syphilis (n=4,583)	HIV +GC/CT (n=351)	HIV +GC/CT+Syphilis (n=120)
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Tarrant	17,807 (30)	1901 (8)	349 (13)	15557 (47)	521 (10)	152 (3)	300 (85)	69 (58)
Other	1,619 (3)	30 (0)	329 (12)	1260 (4)	13 (0)	*(0)	*(0)	*(5)
<i>Hospital System</i>								
Not-for-profit	10,634 (18)	176 (1)	73 (3)	10385 (32)	19 (0)	*(0)	15 (4)	*(0)
Dallas County safety-net	23,545 (39)	22061 (90)	1470 (55)	14 (0)	4,389 (87)	4359 (95)	12 (3)	18 (15)
Tarrant County safety-net	5,583 (9)	1797 (7)	73 (3)	3713 (11)	468 (9)	133 (3)	294 (84)	51 (34)
Faith-based not-for-profit #1	11,943 (20)	*(0)	528 (20)	11406 (34)	*(0)	*(0)	*(0)	*(0)
Faith-based not-for-profit #2	775 (1)	88 (0)	187 (7)	500 (2)	*(0)	*(0)	*(0)	*(0)
For-profit	2,875 (5)	212 (1)	195 (7)	2468 (14)	104 (2)	58 (1)	25 (7)	21 (18)
Other	4,955 (9)	88 (0)	161 (6)	4706 (14)	73 (1)	29 (1)	*(1)	40 (33)
<i>Acuity of visit</i>								
Emergent	22,561 (37)	11784 (48)	618 (23)	10159 (31)	1,279 (25)	1154 (25)	94 (27)	31 (26)
Indeterminate	17,185 (29)	4492 (18)	342 (13)	12351 (37)	1,282 (25)	1157 (25)	98 (28)	27 (23)
Non-emergent	7,392 (12)	2027 (8)	459 (17)	4906 (15)	773 (15)	678 (15)	73 (21)	22 (18)
Mental health	1,965 (3)	1619 (7)	269 (10)	77 (0)	101 (2)	96 (2)	*(1)	*(1)
Other	1,942 (3)	1456 (6)	174 (3)	404 (1)	82 (2)	71 (2)	*(1)	*(1)
Unclassified	9,265 (15)	3053 (13)	917 (34)	5295 (16)	1,537 (30)	1427 (31)	72 (21)	38 (32)
<i>Primary Diagnosis</i>								
Infectious and parasitic diseases	2,993 (5)	413 (3)	145 (7)	2435 (8)	472 (9)	411 (11)	50 (18)	11 (11)
Mental disorders	2,017 (4)	1666 (1)	266 (13)	85 (0)	92 (2)	87 (2)	*(2)	*(1)
Respiratory system and symptoms	5,174 (9)	4622 (28)	58 (3)	494 (2)	97 (2)	80 (2)	14 (5)	*(3)
Genitourinary system and symptoms	19,116 (32)	1745 (11)	275 (13)	17096 (56)	1,339 (27)	1183 (31)	132 (48)	24 (24)
Complications of pregnancy, childbirth	7,848 (13)	140 (1)	856 (42)	6852 (22)	1,779 (35)	1691 (45)	41 (15)	47 (48)
Other symptoms	10,510 (17)	6809 (42)	394 (19)	3307 (11)	333 (7)	293 (8)	29 (11)	11 (11)
Dorsopathies /rheumatism	1,232 (2)	927 (72)	54 (3)	251 (1)	51 (1)	45 (1)	*(2)	*(2)
Other ⁺	11,420 (19)				891 (17)			

⁺10 other disease and injury indexes including neoplasms, diseases of the nervous system, circulatory system, digestive system, and skin;

less than 10 patients³⁶

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