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Identifying Opportunities for Chlamydia Screening Among American Indian Women

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Abstract

Medical record review was used to identify missed opportunities for chlamydia screening among 103 American Indian/Alaska Native women. Of these, 69% had received a pregnancy test and 74% had received a urine test in the previous 12 months. Chlamydia screening may increase if linked to the other routine clinical testing.

Sexually transmitted diseases, including chlamydia, continue to impose a disparate health burden on American Indians and Alaska Native (AI/AN) people as compared with other racial and ethnicity groups in the United States. In 2008, among all races and ethnicities, AI/AN had the second highest rates of chlamydia—a rate that was 5 times higher than comparable rates for whites.¹ High rates of chlamydia in AI/AN communities mainly affect adolescents and young adults with higher rates occurring among women.² Reflecting national recommendations and growing concern for disparate chlamydia rates among young AI/AN women, an Indian Health Service (IHS) clinical performance measure for chlamydia screening was recently adopted.³

Clinical Reporting System (CRS) is the reporting tool used by the IHS Office of Planning and Evaluation to collect and report clinical performance results annually to the Department of Health and Human Services and to Congress. CRS is a Resource and Patient Management System software application designed to monitor clinical performance measures at IHS national, area, and local levels. Chlamydia screening among women was recently added as a

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CRS measure.³ Using CRS logic, we evaluated medical records to identify and describe missed opportunities for chlamydia screening among AI/AN women attending IHS outpatient clinics that use a common electronic health record.

From electronic records of a large urban IHS health facility with multiple outpatient clinics in the Southwest, we used standardized CRS logic to initially identify all records of patients who were eligible for chlamydia screening but for whom no test was recorded during the previous 12 months (April 28, 2009–April 29, 2010). We took a systematic random sample of all chart numbers that fit the CRS eligibility criteria, arranged from youngest to oldest, and audited records from the list at a fixed interval.

The CRS measure logic defines eligible patients as females ages 16 to 25 in the “active clinical” population, defined as at least 2 visits in the past 3 years. The CRS measure logic defines a chlamydia test by Current Procedural Terminology codes 86,631; 86,632; 87,110; 87,270; 87,320; 87,490–87,492; and 87,810.

Data were abstracted from the electronic health record, which provides a comprehensive record of all outpatient medical visits and inpatient and outpatient laboratory results. Demographic and clinical data including age, clinical evidence of sexual activity, and prior chlamydia testing results were recorded. History of chlamydia testing was obtained through review of the laboratory section of the electronic medical record. Frequency and occurrence of medical visits among candidates for chlamydia screening were obtained by reviewing each of the medical visit entries and quantifying the number and type of visits occurring in the 12-month study period plus those occurring in the 12 months preceding the study period (24 months). The window of opportunity to have received a chlamydia test was extended to 24 months (chart review period) in order to exclude patients who had received a recent chlamydia test that did not fall within the date-defined 12-month study period. From the randomly selected patients chosen for chart abstraction, women who were considered as missed candidates for chlamydia screening met the following criteria: (1) had documentation of sexual activity as defined by a prior visit that included one or more of the following: a pregnancy test, family planning/contraception, or diagnosis of, or testing for, a sexually transmitted disease; and (2) had not received a chlamydia test within the prior 24 months.

Data were compiled using Excel (Microsoft, Redmond, WA) and analyzed using SPSS (V11, Chicago, IL). Univariate correlates were calculated using chi square. Continuous variables were compared using Kruskal-Wallis test of medians.

The methods and findings of this study were reviewed and approved by the National and Phoenix Area Institutional Review Boards of the IHS.

A total of 4940 women were identified as eligible for chlamydia screening during the study period based on age (16–25 years) and attending at least 2 visits during the previous 3 years. Of these, 1857 (38%) were screened for chlamydia in the past 12 months. From the remaining 3083 unscreened patients, 214 were randomly selected for further analysis. Of the 214 records, 25 (12%) did not have a consultation that defined them as sexually active and were excluded from further analysis. Of the remaining 189 patients, 76 (40%) had been tested within the last 24 months; 49 (26%) had received a chlamydia test but not in the past

24 months (median, 33 months; range, 25–108 months since last test); and 64 sexually active women (34%) had never been tested for chlamydia. The median age of these women was 19 years as compared with a median age of 22 among women with a history of chlamydia testing ($P = 0.03$).

Previously tested women generally received testing for chlamydia concurrently when they had one or more medical visits related to prenatal care ($N = 39$, 31%), PAP smear ($N = 63$, 50%), family planning/contraception ($N = 38$, 30%), or symptoms of sexually transmitted infection ($N = 37$, 30%). Only 6% ($N = 7$) of women with a history of chlamydia testing were tested independently of these 4 types of visits.

There were 103 sexually active patients who had never been tested ($N = 60$) or had not been tested in the previous 24 months ($N = 43$) and had medical visits during the study period. Among these 103 patients, there were a total of 664 clinical visits and a median of 5 visits per patient (range, 1–22) that represented opportunities for chlamydia screening or referral in the prior 24 months. Eleven patients (11%) attended 1 visit, 10 (10%) attended 2 visits; 32 (31%) attended 3 to 5 visits; 32 (31%) attended 6 to 10 visits; and 18 (17%) attended 11 or more visits. Of these women, 69% received a pregnancy test (median, 1 test/candidate; range, 0–10 tests) and 74% received a urine test (median, 1 test/candidate; range, 0–10 tests). The most common types of medical visits attended were immunization (40%) followed by dental (36%), ophthalmology/optometry (19%), and contraception (9%) (Table 1).

Numerous opportunities for chlamydia screening among young AI/AN women seen in outpatient settings at an IHS facility were identified and included medical and nonmedical visits. In addition, the majority of women who had not been screened had a pregnancy test or other urine test in the past 24 months. Clinical reminders based on age, gender, and history of chlamydia screening have the potential to greatly assist providers in identifying and screening eligible patients. A clinical reminder linked to a urine test would have referred the majority (74%) of eligible women for chlamydia screening in this sample. Many of the women who had received chlamydia screening were tested as part of a prenatal visit, gynecological examination, or family planning visit, suggesting that the use of chlamydia screening protocols and automated clinical reminders linked to this type of visit may improve screening.

There are several limitations to this study. First, it was not possible to determine whether women were receiving additional medical care outside the IHS system. Second, a comparison sample of women who had received appropriate screening was not obtained, thus correlates of successful screening were not described. Third, some providers may order a urine pregnancy test on the basis of their suspicion of sexual activity without questioning the patient, thus we may have included some women who were not sexually active and hence not eligible for screening. Finally, this project is based on one urban IHS facility and does not reflect screening practices in other clinical settings or locations.

Due to the national recommendation for annual chlamydia screening among sexually active women aged under 26 years,⁴ health systems are seeking ways to efficiently incorporate this

service into standard clinical care using clinic protocols, standing orders, and electronic provider prompts. The use of nucleic acid amplification testing for chlamydia screening allows testing to be performed on urine samples and/or self-collected vaginal swabs, making protocol-driven screening systems within IHS feasible.^{5,6} In this population, where the majority of screening candidates had undergone a urine test during the chart review period, a chlamydia test could be performed without an additional specimen collection.

The use of common electronic medical records make possible the incorporation of clinical screen prompts for counseling or referral based on demographic variables and/or diagnosis codes.^{7–10} Based on the results of this study, the IHS clinical system will examine the feasibility of a clinical provider prompt for chlamydia screening using age, gender, and timing of previous test as selection criteria. Providers in medical and nonmedical clinics such as dental, ophthalmology, and psychiatry would then have the opportunity to refer women for chlamydia screening through general medical clinics, urgent care, or public health nursing. In addition, a clinical prompt linked to pregnancy or other urine testing is being evaluated. Other clinical care systems may take into consideration these results as they seek ways to improve chlamydia screening.

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TABLE 1.

Opportunities for Chlamydia Screening Within Medical Visits Attended by Eligible Candidates (Categories Not Mutually Exclusive) (N = 103)

Total Patients With This Visit (%)	
Immunization	41 (40)
Dental	37 (36)
Ophthalmology	20(19)
Contraception	9(9)
Pregnancy	7(7)
Dermatology	7(7)
Diabetes/obesity	5(5)
UTI [*] /STI symptoms	5(5)
Psychiatry	4(4)
Alcohol/drug abuse	3(3)
Pap smear	3(3)

^{*} Urinary tract infection.