

# Completing the circle: follow-up screening of STD patients in three clinics of the United States Indian Health Service

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**Summary:** We reviewed charts of newly diagnosed STD patients in three health facilities to determine the proportion who received follow-up STD screening. In a 12-month period, the three facilities had 140 STD cases. STD screening was not indicated for 50 (36%) patients. Among the 90 remaining STD patients, 29 (32%) were screened and 61 (68%) not screened. Among non-screened patients, 36% (22/61) were tested, but outside the time parameters allowed by the audit. The remaining 64% (39/61) received no screening at all, and represented clinical missed opportunities; in this group, nearly all (95%) had chlamydia but were not screened for HIV or syphilis. Linking chlamydia patients with a screen for HIV and syphilis using a clinical reminder in the facilities' electronic health record (EHR) or other tool, would eliminate 95% of the missed opportunities in this sample.

**Keywords:** guidelines, chlamydia, gonorrhoea, HIV/AIDS, syphilis, sexually transmitted diseases, American Indian, Alaska native, screening, audit

## INTRODUCTION

Patients who are diagnosed with sexually transmitted diseases (STDs) are at high risk for other STDs and should be offered screening for infections such as chlamydia, gonorrhoea, HIV and syphilis.<sup>1</sup> However, follow-up screening for HIV and other STDs often remains incomplete.<sup>2-4</sup>

The United States Indian Health Service (IHS), an agency within the USA Department of Health and Human Services, is responsible for providing federal health services to eligible American Indians/Alaska Natives (AI/AN). The IHS provides a comprehensive health service delivery system for approximately 1.9 million AI/AN in 562 federally recognized tribes in 35 states through a system of over 600 facilities.

Chlamydia is the most frequently diagnosed STD in the USA, with 1.2 million chlamydial infections diagnosed in 2008. Chlamydia rates among AI/AN are more than double the national rate, at 808/100,000 population. Rates of HIV, syphilis and gonorrhoea are well above the rates for whites, but below the rates for Hispanics and African Americans.<sup>5</sup> Survival rates for AI/AN after a diagnosis of AIDS are among the lowest of all racial/ethnic groups, underscoring the importance of early detection and treatment of HIV/AIDS.<sup>6</sup>

## METHODS

IHS uses a standardized electronic health record (EHR) on a health information technology (HIT) platform that allows national and local monitoring of over 300 clinical performance measures. One such measure is STD screening, defined as patients with a diagnosis of chlamydia, gonorrhoea, syphilis or HIV who received screening for the other three STDs within 60 days.

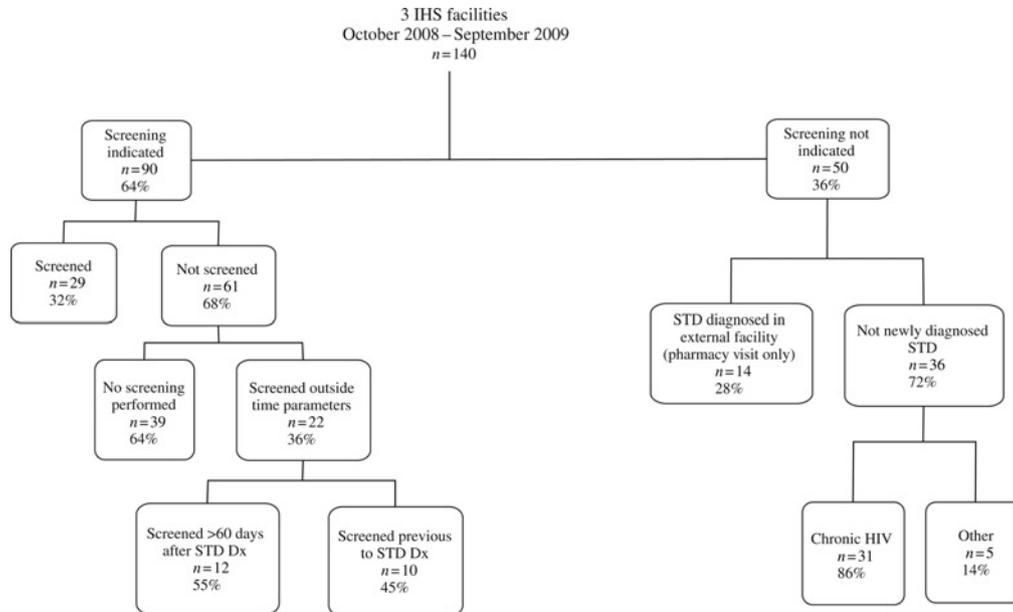
In order to audit local data uploaded to national aggregate measures, all charts with a diagnosis of an STD from October 2008 to September 2009 in three sister clinics were reviewed for STD diagnoses, STD screening, and age and sex. The sites were chosen because they provided a cross-section of IHS facilities (one larger clinic in an urban setting and two smaller community clinics). While all patients were AI/AN, not all AI/AN use IHS clinics, but often choose to do so out of considerations such as cost and location. It is not possible to say in this setting what proportion of AI/AN patients with STDs chose to use local IHS clinics versus those who sought care elsewhere. Data were entered and analysed using Excel (Microsoft, Redmond, WA, USA) and associations checked using EpiInfo 2000 Statcalc (Centers for Disease Control and Prevention, Atlanta, GA, USA).

We audited the charts to identify cases that represented opportunities for quality improvement, which we defined as not receiving full STD screening following a new diagnosis of chlamydia, gonorrhoea, syphilis or HIV.

## RESULTS

The clinics recorded 140 STD diagnoses among 111 unique patients over the study period. The majority of STD diagnoses were chlamydia (101, 72%), HIV (32, 23%), gonorrhoea (6, 5%) and syphilis (1, 0.7%). The majority of patients were women (98/140, 70%), and the most common diagnosis among women was chlamydia (90/98, 92%). The most common diagnosis among men was HIV (30/42, 71%). The HIV diagnoses were mainly recorded at repeat visits by a small group of chronic patients.

Of the 140 cases, screening was not indicated for 50 cases; 36 were not newly diagnosed STDs and 14 were patients diagnosed at an external facility who obtained their STD medications at the IHS facility pharmacy. Of the 90 remaining cases, 29 (32%) were screened and 61 (68%) were not screened.



We focused further review on the 61 unscreened cases that were newly diagnosed within an IHS facility (see Figure 1).

Of the 61 newly diagnosed STDs cases diagnosed within the clinic, 22 (36%) received STD screening, but not within the chronological parameters needed to meet requirements: in 12 cases the patients were screened more than 60 days after the STD diagnosis. In 10 cases, the patients were screened in the medical visit prior to the STD diagnosis (all patients were women in prenatal care, and received HIV/syphilis tests in a medical visit prior to a visit with a positive chlamydia test).

We further examined the 39 cases that were diagnosed within the clinics but did not receive any follow-up STD screening at all. Nearly all were chlamydia cases (95%) not screened for syphilis (92%) or HIV (95%). Two records indicated that the patient was lost to follow-up.

Prenatal patients were much more likely to be screened for STDs (16/32, 50%) than those who were not in prenatal care (10/64, 16%) (odds ratio [OR] 4.80, 95% confidence interval [CI] 1.68–13.98). Among non-screened prenatal STD patients, a majority (14/16, 88%) received STD screening, but outside allowable time parameters.

## CONCLUSIONS

A small subset of this sample represented missed opportunities for STD screening. Nearly all missed opportunities for STD screening resulted from not following up a chlamydia diagnosis with a test for HIV and syphilis. All patients with chlamydia diagnoses were screened for gonorrhoea because the clinics use a combined chlamydia/gonorrhoea urine-based test.

The medical staff is using these results to consider clinical reminders such as linking a chlamydia diagnosis or a prescription of 1 g of azithromycin to an STD screening prompt in the EHR. These reminders have the goal of making screening the routine 'default' option for STD patients. Another emerging strategy is bundling of lab tests, whereby the EHR menu

'bundles' all three tests together such that a single click is the only entry required to order all three. Modifications to the screening measure and effective clinical reminders can be quickly shared and implemented in other IHS sites nationwide on the shared HIT platform.

Finally, the review showed challenges in electronic case definitions for specifying new cases of STDs diagnosed within the IHS system. IHS is examining the inclusion of additional laboratory outcome data to supplement the existing case definitions.

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