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BACKGROUND

Considering the recent surge in congenital syphilis, novel means of reaching vulnerable populations for testing and treatment are needed. The CDC recently suggested screening outside traditional prenatal care settings might be an effective strategy. As the primary source of healthcare for many communities with limited access to care, visits to the emergency department (ED) may represent a crucial opportunity for syphilis detection and congenital syphilis prevention. In 2019, a routine, opt-out, syphilis screening program for all ED patients under age 65 was implemented in a large, urban, tertiary care hospital in Chicago.

METHODS

- This study retrospectively reviewed all ED encounters among pregnant people for the two-year periods before and after implementation of the screening program.
- *Before intervention*, testing occurred at clinician discretion following the standard of care.
- *After intervention*, automated prompts in the electronic medical record were used to facilitate routine screening of all eligible patients.
- Syphilis cases were defined by a combination of positive serology, rapid plasma regain (RPR) titers, and clinical history derived from chart review.
- Descriptive statistics were used to evaluate changes in screening and diagnosis rates, as well as demographic and clinical trends.

A universal, opt-out **syphilis** screening program increased syphilis testing 8-fold among **pregnant women** in the emergency department, from 5.9% of encounters to 49.9%.

Syphilis diagnoses among pregnant women in the emergency department increased 750%.

None of the women diagnosed with syphilis through routine screening presented to the ED with STI symptoms (e.g. discharge or dysuria).

RESULTS

- 9,165 ED encounters involving pregnant patients were identified over 4 years

	Before Screening Intervention	After Screening Intervention
Total ED encounters among pregnant women	4,579	4,129
Screened for syphilis	272 (5.9%)	2,061 (49.9%)
Diagnosed with syphilis	2 (0.7%)	15 (0.7%)

Table 1. Syphilis screening and diagnosis among pregnant women in the ED before and after implementation of the screening intervention.

- Of women **diagnosed with syphilis** through the screening intervention
 - Only 5 (33.3%) were tested for other sexually transmitted infections (STIs)
 - 7 (46.7%) presented to the ED with abdominal or pelvic pain
 - None presented with other symptoms of an STI (e.g. vaginal discharge or dysuria)

ADDITIONAL KEY INFORMATION

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Table 2. Key demographic and clinical characteristics of pregnant patients screened for syphilis before and after the screening intervention.

	Before Screening Intervention	After Screening Intervention
Race/Ethnicity		
Non-Hispanic Black	255 (93.8%)	1,896 (92.0%)
Non-Hispanic White	4 (1.5%)	29 (1.4%)
Hispanic	9 (3.3%)	84 (4.1%)
Other/Unknown	4 (1.5%)	52 (2.5%)
Insurance type		
Medicaid	191 (70.2%)	1,452 (70.5%)
Medicare	6 (2.2%)	37 (1.8%)
Private	36 (13.2%)	338 (16.4%)
Self-pay/Unknown	39 (14.3%)	234 (11.4%)
Reason for ED visit		
STI Related	60 (22.1%)	185 (9.0%)
Opioid	0 (0.0%)	4 (0.2%)
Substance Abuse	5 (1.8%)	36 (1.7%)
Abdominal/Pelvic Pain	71 (26.1%)	566 (27.5%)
Rashes	0 (0.0%)	6 (0.3%)
ILI/Viral Syndrome	5 (1.8%)	10 (0.5%)
Altered Mental Status	2 (0.7%)	10 (0.5%)

CONCLUSIONS

This study found that a routine, non-targeted screening program dramatically increased syphilis screening and diagnosis rates among pregnant patients, the majority of whom did not present with STI symptoms. Implementing routine ED syphilis screening in high prevalence communities will be key to addressing the syphilis epidemic, eradicating congenital syphilis, and addressing major health care disparities.

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