Prenatal HIV Testing Coverage of Medicaid-insured Women — United States, 2009–2010

Christine E. Ross, Guoyu Tao, Monica E. Patton, Karen W. Hoover

Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, GA, U.S.A.

Background

- CDC recommends universal testing of all pregnant women for syphilis, hepatitis B, and HIV
- Inclusion of HIV in routine prenatal testing using an opt-out method is recommended
- Prenatal testing for maternal HIV infection is a critical step in the prevention of perinatal transmission of HIV
- Perinatal transmission of HIV continues to occur in the U.S primarily among women who lack prenatal care or who were not offered HIV testing in pregnancy

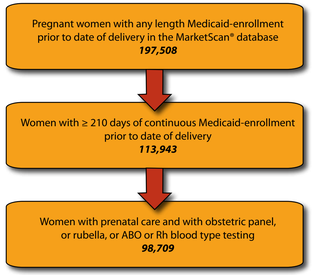
Objective

- To estimate prenatal testing coverage for syphilis, hepatitis B, and HIV among a large population of U.S. Medicaid-insured women with a live birth in 2010

Methods

- Conducted retrospective cohort study of women with a live birth in 2010
- Analyzed administrative claims data for 2009 and 2010 from Medicaid MarketScan® database
  - Medicaid data collected from 12 states
  - States not identified to CDC researchers
- Utilized combination of CPT and ICD-9 billing codes to:
  - Identify study population
  - Estimate date of delivery
  - Identify prenatal laboratory testing
- Study population: pregnant women aged 15–44 years (Figure 1)
  - Continuously enrolled in Medicaid ≥210 days prior to date of delivery
  - With at least one prenatal care visit
  - With either an obstetric panel[1], rubella test[2], ABO or Rh blood typing[3]
- Definition of prenatal testing
  - Laboratory tests completed ≤293 days prior to and including date of delivery
  - Used multiple CPT codes to identify various tests for syphilis, hepatitis B, and HIV

Figure 1. Study Population Selection



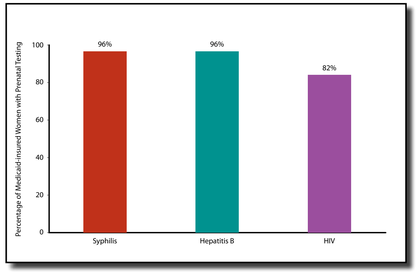
1. Obstetric panel includes: CBC, antibody screen, RBC with reflex to ID and titer, ABO/Rh blood typing, RPR reflex to titer and confirmation, hepatitis B surface antigen and confirmation, rubella IgG antibody.
2. Rubella antibody screening is done routinely for all women if immunity is not documented.
3. ABO and Rh blood group typing is done routinely on every pregnancy.

Results

Table 1. Characteristics of Medicaid-insured Women with a Live Birth in 2010, MarketScan®, 2009–2010

Characteristic	n	(%)
Total	98,709	
Age		
15-19	15,595	(15.8)
20-24	39,826	(40.4)
25-29	25,784	(26.1)
30-34	11,951	(12.1)
≥35	5,553	(5.6)
Race or Ethnicity		
White	53,724	(54.4)
Black	34,372	(34.8)
Hispanic	3,036	(3.1)
Other	7,577	(7.7)

Figure 2. Proportion of Medicaid-insured Women[1] with Prenatal Testing for Syphilis, Hepatitis B, and HIV, MarketScan®, 2009–2010



1. Among women with a live birth in 2010 and either an obstetric panel, rubella test, ABO or Rh blood typing.

Table 2. Number and Proportion of Women[1] with Prenatal Testing for Syphilis, Hepatitis B, and HIV by Demographic Characteristic, MarketScan,® 2009–2010

Characteristic	Syphilis n, (%)	Hepatitis B n, (%)	HIV n, (%)
Overall	95,064 (96.3)	95,082 (96.3)	81,339 (82.4)
Age			
15-19	14,998 (96.2)	15,047 (96.5)	13,182 (84.5)
20-24	38,412 (96.4)	38,459 (96.6)	32,983 (82.8)
25-29	24,838 (96.3)	24,800 (96.2)	21,120 (81.9)
30-34	11,489 (96.1)	11,462 (95.9)	9,648 (80.7)
≥35	5,327 (95.9)	5,314 (95.7)	4,406 (79.3)
Race			
White	51,696 (96.2)	51,775 (96.4)	44,574 (82.9)
Black	33,281 (96.8)	33,387 (97.1)	27,816 (80.9)
Hispanic	2,902 (95.6)	2,888 (95.1)	2,663 (87.7)
Other	7,185 (94.8)	7,032 (92.8)	6,286 (82.9)

Summary of Findings

- Syphilis and hepatitis B testing coverage was nearly universal among women who had prenatal blood work
- HIV testing coverage was lower than syphilis and hepatitis B testing coverage
- Syphilis and hepatitis B testing coverage was similar in all age groups
- HIV testing coverage was higher for the younger age groups
- Syphilis and hepatitis B testing coverage was similar by race and ethnicity
- HIV testing coverage was similar in the white, black, and other race groups

Discussion

- Obstetric panels (or prenatal panels) include syphilis, hepatitis B, rubella, ABO and Rh blood type tests
  - Bundling these labs has facilitated near universal testing coverage for syphilis and hepatitis B in women with prenatal blood work
- HIV tests must typically be ordered separately by providers
- Separate informed consent and counseling may be required prior to HIV testing

Limitations

- Findings not generalizable
  - Convenience sample of Medicaid financed births from 12 unidentified states
- Comparison of testing coverage between racial/ethnic groups must be interpreted with caution
  - Hispanic women underrepresented in study population
- Administrative claims data do not capture all services provided to patients
- Women in the study may have utilized other payor sources for prenatal testing in addition to Medicaid

Conclusions

- Prenatal testing coverage for HIV was suboptimal
- Interventions are needed to facilitate the routinization of prenatal HIV testing
- Structural interventions to include an HIV test in obstetric panels will likely increase testing coverage
- Continued education of providers on benefits of opt-out screening and stream-lined consent processes could also help increase HIV testing coverage

Contact Information

Christine Ross, MD, MPH & TM
1600 Clifton Road, MS-E80
Atlanta, GA 30333
wiz6@cdc.gov
(404) 639-6026

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention

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