



Accuracy of Birth Certificate Data Regarding Hepatitis B Testing During Pregnancy

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December 7, 2005

Hepatitis B in Colorado

In 2002:

- 703 new cases of chronic hepatitis B identified by Colorado Department of Public Health and Environment (CDPHE)
 - 265 cases in women of child-bearing age
 - 133 infected pregnant women identified for follow up
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Recommendations of Testing Pregnant Women for Hepatitis B

- American College of Obstetrics and Gynecology (ACOG), American Academy of Family Practice (AAFP) and the US Preventive Services Task Force all recommend to test all pregnant women for Hepatitis B
 - 22 states have mandates
 - From 1998 to 2003, 5%-10% of women in Colorado did not get tested for HBsAg
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U. S. Standard Certificate of Live Birth

- Current birth certificate
 - Date of prenatal labs
 - Were the following test preformed?
 - Syphilis
 - HIV
 - Hepatitis B
 - Additional changes to Birth Certificate coming in 2006
 - Database
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Objective of This Study

- Determine accuracy of the birth certificate data on reporting if hepatitis B testing was done in women who gave birth in 2002
 - Hypothesis: Birth certificate data represents over reporting for hepatitis B testing in pregnant women
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Methods

Population and Sample:

- In 2002: 68,587 births with 95.1% (65,162) tested for hepatitis B surface antigen (HBsAg) according to the birth certificate data
 - 53% of total births (36,656) occurred in ten large birthing hospitals
 - In those ten hospitals:
 - 35,300 (96%) were tested for HBsAg
 - 1,311 (3.7%) were not tested
 - 45 did not report testing (excluded)
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Methods

Sample:

- A random sample from the 36,611 births in 2002 at the ten largest birthing hospitals
 - 1,300 records were requested for review with good distribution from all ten hospitals
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Methods

Once the sample was chosen:

- we requested the mother's name, DOB, delivery date to locate record at the birthing hospital and;
 - reviewed hospital records to look for HBsAg testing and compared with testing in the birth certificate data base
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Methods

Calculated

- agreement, sensitivity, specificity, and positive and negative predictive values for all ten hospitals combined
 - Ranges were calculated for individual hospitals
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Results: 1,255 Records Reviewed

HBsAg Test?	Yes (per BC)	No (per BC)
Yes (per MR)	1,170	43
No (per MR)	41	1

Results

For all ten hospitals combined

- 93% overall agreement
 - Sensitivity 96.5% (CI 95.3%-97.4%)
 - Specificity 2.4% (CI 0.42% -12.3%)
 - Positive predictive value 96.6% (CI 95.4% - 97.5%)
 - Negative predictive value 2.3% (CI 0.12% - 13.5%)
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Results

Characteristics for individual hospitals:

- Reported screening rates for individual hospitals ranged from 82.3% to 100%
 - Agreement for the ten hospitals ranged from 83.6% to 97.4%
 - Sensitivity ranged from 85.1% to 100%
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Discussion

HBsAg	No BC
Yes MR	<u>43</u>

43 patients tested but not reported tested in the birth certificate database

Discussion

HBsAg	Yes BC
No MR	<u>41</u>

- 41 patients not tested but reported tested in the birth certificate database (3% of total)
- Apply to total birth cohort

Discussion

- The Perinatal Hepatitis B Unit identified 133 infected pregnant women for follow up in 2002
 - According to CDC, we should have identified 166 to 255 women for follow up
 - Why did we miss these women?
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Discussion

- The birth certificate is helpful in identifying women who were tested for hepatitis B surface antigen during pregnancy
 - But not helpful in identifying women not tested
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Strategies to Improve Testing and Reporting

- Training OB and Family Practice Providers
 - Training birth registrars and other hospital staff
 - Changes to the birth certificate
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Limitations

- No original labs
 - 45 records left blank?
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Questions?

- Thanks to:

Dennis Lezotte, PhD, UCHSC

Ned Calonge, MD, CDPHE

Bill Letson, MD, CDPHE

Amy Warner, MPH, CDPHE

Mary Chase, MSPH, CDPHE
