Leveraging Electronic Health Records and Specific Demographic Data to Screen for Hepatitis B in a Community Health Center

Eve Waltermaurer, PhD
Gena Wilson, MD

Presenter Disclosures

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:
No relationships to disclose

The Institute for Family Health

- 17 full-time Federally Qualified Health Centers (FQHC) in NYC and upstate NY
- 2 School based health programs
- 4 Dental centers
- 2 Mental health centers
- 2 Free clinics
- 8 Homeless healthcare sites
- 2 Family Medicine Residency Programs
- >300,000 patient visits
- 90,000 unique patients
- 14% uninsured, 44% publicly insured

Hepatitis B

- Approximately 800,000 – 1.4 million infected in US
- Vaccine preventable
- 2008: approximately 38,000 new infections
- 90% of those infected perinatally develop chronic Hepatitis B
- 1 in 4 of perinatally infected people will die of complications from Hep B
- Most who are infected perinatally are from Hep B endemic countries

DHHS Action Plan on Hepatitis 2011:

- an increase in the proportion of persons who are aware of their hepatitis B virus infection, from 35% to 60%*; an increase in the proportion of persons who are aware of their hepatitis C virus infection, from 45% to 60%*; a 2% reduction in the number of new cases of HCV infection; and
- elimination of mother-to-child transmission of HBV.

Statement of Problem:
Leveraging Electronic Health Records and Specific Demographic Data to Screen for Hepatitis B in a Community Health Center

But...

Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement
Institute of Medicine (IOM); August 2009

"A lack of standardization of categories for race, ethnicity, and language data has been suggested as one obstacle to achieving more widespread collection and utilization of these data. Many types of entities participate in initiatives to improve the quality of health care: health plans, hospitals, other providers, and health systems can and should obtain race, ethnicity, and language data so these data can be used to identify gaps and improve care for all individuals."

Institute of Medicine's Recommended Variables for Race, Ethnicity and Primary Language (2009)
Leveraging Electronic Health Records and Specific Demographic Data to Screen for Hepatitis B in a Community Health Center

**Results after 5 Months:**
- 32,515 Fires Occurred
- 3,962 were acknowledged
- 785 had test ordered directly from alert
- 10 previously unknown cases of Hepatitis B identified (1.3%) based on chart review

**Results after 7 months Testing:**
- Positive HepB patients among those from endemic Countries, before (red) and after (blue) BPA implementation
- While a larger proportion of HepB+ patients were identified prior to BPA, the wider BPA net resulted in the identification of 133% more cases.

**Results after One Year of Testing:**
- Proportion of Positive HepB by Race
- Note: Missing Race Excluded

**Results after 7 months Testing: BPA Resulted in an 146% increase in testing of Patients from Endemic Countries**

**Results after 7 months Testing: Chart records reviewed to confirm new diagnoses**

**Results after One Year of Testing: Proportion of Positive Hep B by Race**
Leveraging Electronic Health Records and Specific Demographic Data to Screen for Hepatitis B in a Community Health Center

One Year Relative risk of HepB among patients seen after BPA initiation

<table>
<thead>
<tr>
<th></th>
<th>HepB+</th>
<th>HepB-</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Endemic Country</td>
<td>49 (1.8%)</td>
<td>2676</td>
</tr>
<tr>
<td>Not from Endemic Country</td>
<td>30 (0.9%)</td>
<td>3230</td>
</tr>
</tbody>
</table>

Risk Ratio = 1.95 (1.24-3.07)
There is a 2-time increased likelihood of HepB among those from endemic countries compared with those who are not.

New Hep B BPA includes other immigrant screening tests

Future Directions:
- Initiatives to bring hepatitis training to IFH residency programs
- Continue provider education efforts on hepatitis
- Positive Hep B smartset to help manage chronic Hep B patients

Online Tools for Providers:
- [http://www.cdc.gov/hepatitis/Resources/Professional/training/Serology/training.htm](http://www.cdc.gov/hepatitis/Resources/Professional/training/Serology/training.htm)

Contact Info:
Gena Wilson, MD, ECRIP Fellow
gwilson@institute2000.org

Joseph Lurio, MD, Chief Medical Informatics Officer
jlurio@institute2000.org

Eve Waltermaurer, PhD Research Consultant, State University of New York, New Paltz
waltermaru@newpaltz.edu