Breaking Down The Silos:

The Case of Houston Health Department Perinatal Hepatitis B Prevention Program

Essi M. Havor, MSN, RN, APHN-BC
Chief Nurse
Immunization Program

2018 TX PHBPP SUMMIT
Upon completion of this presentation, participants should be able to:

- Describe challenges to the identification of HBsAg-positive women and their infants
- Discuss strategies to overcome the identified challenges
- Discuss promising practices to increase identification of HBsAg-positive women and their infants
Funded by CDC since 1991
  - City of Houston residents only
Funded by TX DSHS since 2011-2012
  - Harris County residents only
CDC Estimates:
  - 255 – 422 infants born to HBsAg-positive mothers in 2015
90% of the estimated births to HBsAg-positive pregnant mothers should be identified.
State of COH program

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>COH</td>
<td>37</td>
<td>115</td>
<td>143</td>
<td>150</td>
<td>172</td>
</tr>
<tr>
<td>Harris County</td>
<td>19</td>
<td>88</td>
<td>88</td>
<td>126</td>
<td>97</td>
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</table>
"Yeah, I know what you're thinking: 'How did this happen?'"
Problem: COH is not identifying number of infants estimated to be born to HBsAg-positive mothers

Method: Root Cause Analysis (RCA)

Tools: Five Whys Analysis & Fishbone Diagram
Figure 1. Challenges Identification Process & Findings
Overcoming The Challenges

Assess Program

Monitor Progress

Develop Innovative Solutions

Redesign & Implement

Identify Champion(s)

Figure 2. Strategies Identification Process
Step 1: Program Assessment

- Diagnostic tool:
  - Outcomes measurement
  - Areas of improvement
- Ongoing process
- Data-driven
- Very beneficial
- Roadmap
- Assist to develop program plan
  - It is a snapshot of program’s plans & priorities for upcoming year(s)
Step 2: Solutions Development

**COH Level**
- Collaborative efforts from different parts of the health departments
- Increase communication
- Identify new innovative strategies

**Program Level**
- Restructure
- Review Processes
- Identify Resources
- Identify collaboration opportunities

**Systems Level**
- Conduct Program evaluation
- Increase collaboration & Communication
- Request support
Step 3: Champion(s) Identification

„Change Leaders don’t create followers, but more Change Leaders“
Step 4: Redesign & Implementation

Projects Showcase
- Real-time investigation
- Females with HBsAg, HBeAg, DNA investigated
- Standardized procedures
- Quality assurance of cases
- Workflow development
2014 Perinatal Hepatitis B Cases in City of Houston
Collaboration Activities

- **Epidemiology**: Access to Surveillance System, MOU for acute cases investigation
- **Women, Infants and Children (WIC) program**: Identify lost to follow-up cases
- **COH Vital Statistics**: locate information on lost to follow-up cases
  - Referred to TX DSHS Vital Statistics
- **COH HIV/STD Bureau**: access to public data system
- **COH Health Centers**: Added program to access to Medicaid eligibility verification system
- **TX DSHS**: Access to state surveillance system
## Epidemiology & PHBPP Project (2)

### Workflows

<table>
<thead>
<tr>
<th>Workflow</th>
<th>Status</th>
<th>Note</th>
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<tr>
<td><strong>Perinatal Hep B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cases Pending or Blank Status (Perinatal Hep B Program)</td>
<td>452 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - All cases, open and closed</td>
<td>1995 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - Infants and household contacts due for 2nd Hep B Dose (2 months)</td>
<td>41 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - Infants and household contacts due for 3rd Hep B Dose (4 months)</td>
<td>80 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - Infants and household contacts due for 4th Hep B Dose (6 months)</td>
<td>122 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - Infants and household contacts due for PVST</td>
<td>612 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Perinatal Hep B Program - Infants and household contacts who need second vaccine series/PVST</td>
<td>6 (0)</td>
<td>Very High</td>
</tr>
<tr>
<td>Hep B Subsequent Condition</td>
<td>0 (0)</td>
<td>Medium</td>
</tr>
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New methodology designed to conduct hospital audits
Bi-annual audit
24 delivery hospitals
Reviewed of HBsAg-positive mothers & babies record
Face-to-face discussion of findings
Incentives
2014-2015 Infants Born to HBsAg Positive Mothers

- 2014: 184 cases
- 2015: 194 cases

Cases Not Reported: 71 in 2014, 82 in 2015
HBsAg Positive: 113 in 2014, 112 in 2015
Efforts to Increase Reporting of Hepatitis B Positive Mothers’ Pregnancy Status

University of Texas School of Public Health
Summer 2017 Capstone
Leah Halley, Sahar Memon, Sanjana Puri, Yvana Rivera
Great impact of previous audit

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Previous Methodology
Request of HBIG pharmacy log 2016-2017
where
do we go
from
here?

IF YOU WANT TO GO FAST, GO ALONE. IF YOU WANT TO GO FAR, GO TOGETHER.

AFRICAN PROVERB
An effective policy framework can prevent new infections, ensure people can access clinical care, and in doing so reduce the burden of infection at an individual, city, county, state, country level.

"Viral hepatitis is simply not a sufficient priority in the United States. Despite being the seventh leading cause of death in the world and killing more people every year than HIV, road traffic accidents, or diabetes – viral hepatitis accounts for less than 1% of the National Institutes of Health research budget."

Brian Strom, MD, Rutgers University

“viral hepatitis ranked as the seventh highest cause of mortality worldwide and responsible for 1·4 million deaths per year (roughly \textbf{687,000 deaths due to HBV} and 704,000 due to HCV). However, despite being similar in scale to the 1·29 million deaths annually due to HIV, 1·34 million annually due to tuberculosis, and 850,000 deaths annually due to malaria, viral hepatitis has been a relatively neglected area”.

Nayagam, et al. (2016)

Remaining Key Issues:
- Need for early identification
- Need to enhance linkage-to-care
- Need to increase access to treatment and preventive services
- Need to increase medical providers’ knowledge
- Perinatal hepatitis B elimination remains stagnant
- Data
What Can You Do?

- Gather evidence
- Advocate for change/revision:
  - HBV Clinical guidelines and recommendations:
    - Move from risk-based testing/screening to Universal HBV screening
    - Innovative systems to reach all individuals
  - State Laws on HBV screening and reporting
  - Preconception care for women
- Resources:
  - Funding
  - Efficient viral hepatitis surveillance system
How often do you conduct assessment of your program?

What does your data reveal?
  - Is it meaningful?

Can you use the information collected to communicate program successes and needs?
Acknowledgments

Internal Stakeholders

External Stakeholders

“Thank you”
Essi Havor, RN- Hepatitis B Coordinator
832-393-4649
Essi.havor@houstontx.gov

Bridget Turner, Hepatitis B Nurse Case Manager
832-393-4756
Bridget.Turner@houstontx.gov

Lucy Lara, Public Health Investigator
832-393-4236
Lucy.Lara@houstontx.gov

Michael Do, Public Health Investigator
832- 393-4660
Michael.Do@houstontx.gov