

## **2014 Survey of Oregon Local Public Health Coordinators for the Perinatal Hepatitis B Prevention Program (PHBPP)**

### ***Background***

Preventing perinatal transmission is a critical feature of hepatitis B case follow-up. Children who are exposed to the hepatitis B virus (HBV) perinatally or in the first year of life have up to a 90% chance of developing chronic HBV infection. Up to 25% of those chronic carriers will die as a result of liver disease prematurely.<sup>1,2</sup> These children are also capable of infecting others throughout their life. These risks have made it important to ensure infants born to women with HBV receive the appropriate treatment to protect them from HBV.

Due to this burden placed on infants and children, the Centers for Disease Control and Prevention (CDC) initiated the Perinatal Hepatitis B Prevention Program (PHBPP) in 1990, aimed at reducing vertical transmission from mothers to their infants. An analysis of the program in 2014, found it to be a cost-effective use of resources in increasing quality-adjusted life-years (QALYs), being associated with 2,351 fewer total infections (1,485 perinatal and 866 childhood).<sup>3</sup>

In Oregon, the county or district health departments are the Local Public Health Authorities (LPHAs), and therefore, responsible for completing case management of all mother-infant pairs enrolled in the PHBPP. In order to better understand the state of perinatal hepatitis B activities in Oregon and how the state PHBPP coordinator can best support the work of local coordinators, a survey was distributed to all LPHA PHBPP coordinators.

### ***Methods***

The questionnaire, developed using SurveyMonkey, asked coordinators questions regarding general program coordination, relationships with partners, needs identified in their community related to perinatal hepatitis B, and practices leading to successful case management of mom-baby pairs, and barriers faced. The survey link was emailed to coordinators with an original response window of two weeks. A reminder email was also sent.

### ***Findings***

#### ***Descriptives***

A total of 22 responses were received, representing 19 of the 34 LPHAs, for a 56% response rate. All 22 responses were included to ensure all opinions/responses were captured. Respondents:

- Were from 2 frontier, 9 (10 responses) rural, and 8 (10 responses) urban counties;
- Represented counties in which about 67% of the total population of Oregon lives;
- Represented counties which accounted for about 67% of all births in the state of Oregon in 2014; and
- Were responsible for 68% of infant cases managed in 2013.

#### ***Program coordination***

Sixty-four percent (14) of the respondents indicated interest in a listserv email address being established for communication with other local coordinators. In addition, 59% of respondents indicated interest in having regular conference calls for coordinators (1 quarterly, 7 semi-annually, 5 either).

#### ***Current relationships (partners)***

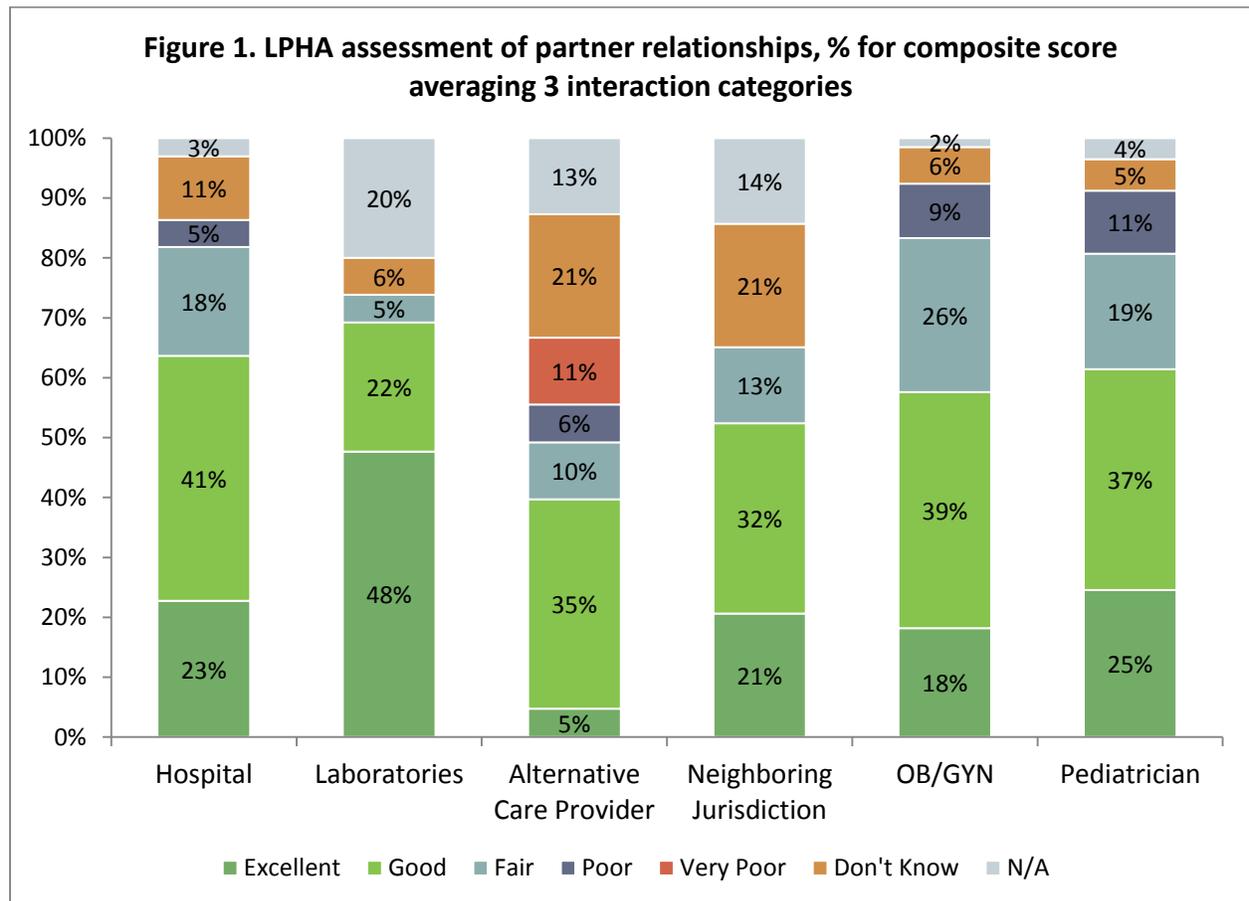
LPHA coordinators were asked to rank their relationship with six different partner groups [hospitals, laboratories, alternative care providers, neighboring jurisdictions, obstetricians, and pediatricians] on a

5-point scale [very poor to excellent] regarding three different categories of interaction [information sharing, reporting, and coordinating case management]. For ease of reporting, a composite score, averaging the number of responses for each interaction for each partner group, was developed.

In general, LPHA coordinators feel they have an excellent or good relationship with their partners, with laboratories having the highest positive response rate (Figure 1). Sixty-four percent (14) of respondents indicated excellent relationships with laboratories regarding information sharing and reporting. In addition, 59% (13) indicated that coordinating case management with laboratories was not applicable, hinting that labs do not play an important role in that part of perinatal hepatitis B work.

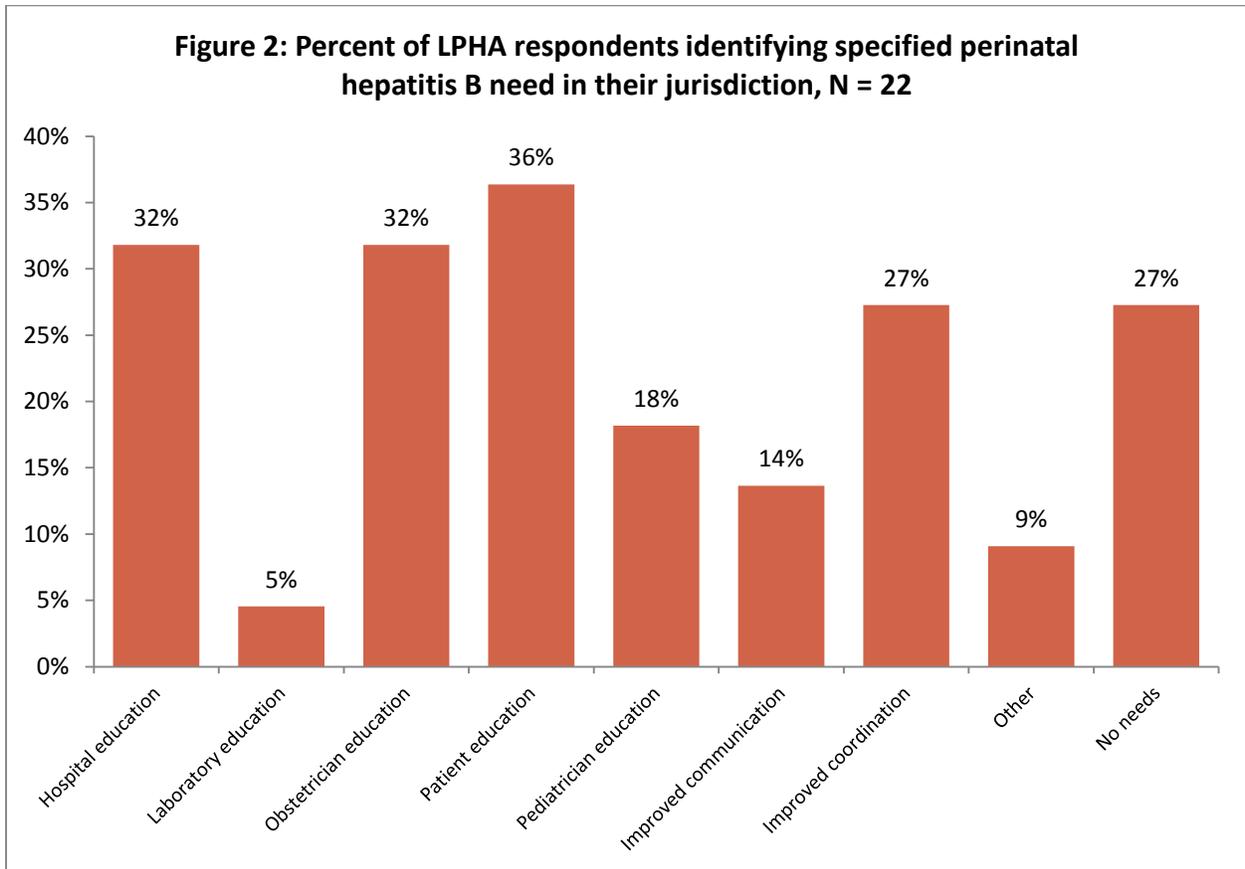
When looking at specific types of interactions, LPHA respondents tended to rate partners more positively with regards to information sharing than other interactions. Twelve respondents (55%) indicated a good relationship with hospitals regarding information sharing.

Of note, the only group identified as having a 'very poor' relationship with a county was Alternative Care Providers.

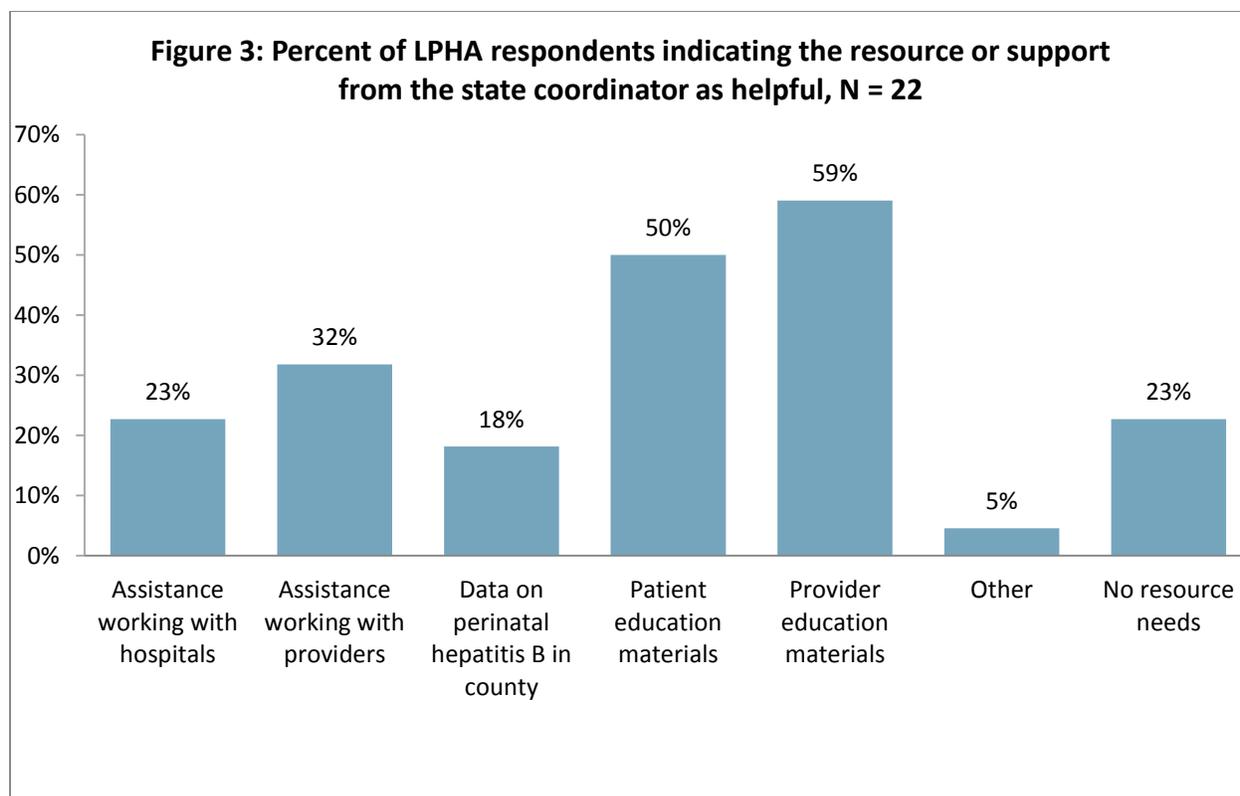


*Identified needs and requested resources related to perinatal hepatitis B*

LPHA respondents were asked to identify what, if any, needs they perceived in their jurisdiction related to perinatal hepatitis B (Figure 2). Respondents could select all that applied. Thirty-six percent (8) of respondents indicated a need for patient education. In addition, 32% (7) indicated a need for hospital education and a need for Obstetrician education. Only 5% of respondents indicated a need for laboratory education and over a quarter (27%) of respondents indicated that there were no needs in their community.



In addition to identifying areas of need, respondents were also asked to identify the resources or support from the state coordinator that would be most useful in their perinatal hepatitis B work. These results are displayed in Figure 3. Reflective of the needs identified in Figure 2, respondents were most likely to identify provider educational materials (59%) and patient educational materials (50%) as useful resources.



### *Case management*

While case managing infants, LPHAs may use several sources to track down the necessary medical information. Respondents were asked to rank in order three potential sources for vaccination information and three potential sources for post-vaccination serologic testing (PVST) results. Respondents were most likely to identify the ALERT Immunization Information System (IIS) as their primary source for vaccine information (n=17, 77%). Providers were most likely to be identified as the secondary source (n=13, 59%), and the infant's mother as the tertiary source (n=12, 55%).

Providers were most likely to be identified as the primary source for PVST results (n=15, 68%), the laboratory as the secondary source (n=10, 45%), and the infant's mother as the tertiary source (n=12, 55%).

### Successes and barriers to case management

Using open-ended questions, respondents were asked to identify factors contributing to successful case management and barriers that prevent completion of case management. Comments were reviewed for general themes and grouped accordingly. Eight respondents provided no response to the successes question, and seven provided no response to the barriers question.

The most commonly identified factor contributing to successful case management was provider cooperation/diligence, as indicated by 5 respondents. In addition, three respondents identified their own persistence and three respondents identified the knowledge/interest/compliance of the parents as factors contributing to their success. See Table 1 for a list of all factors contributing to successful case management. One respondent wrote that they were successful at case management because of

“Parent's understanding of PH [Public Health's] involvement and attitude that it may be helpful. I try to educate about program's purpose in protecting infant and family. Usually this works well.”

<b>Table 1. LPHA-identified factors contributing to successful case management</b>	
<b>Response</b>	<b>N</b>
Provider cooperation/diligence	5
Parental knowledge/interest/compliance	3
Persistence (from LPHA)	3
Existing follow-up processes	2
Cases not moving away	1
Early notification	1
Electronic Medical Record access	1
LHD maternity case management	1
Maintain connection with pediatrician's nurse	1
Reports sent (source not identified)	1
State support	1
No response	8

Issues with parental resistance to the recommendations or not attending well child checks (WCCs), was the most frequently identified barrier (n=5). Maintaining contact with families who were mobile or had no phone also proved to be a barrier (n=4). One respondent wrote that the barriers they faced were “Mobile families that move out of jurisdiction, [or] parents with multiple socio-economic issues that don't adhere to plan of follow up for a variety of reasons.” See Table 2 for a list of all barriers identified.

<b>Table 2. LPHA-identified barriers to successful case management</b>	
<b>Response</b>	<b>N</b>
Issues with parent resistance, not going to WCC	5
Difficulty tracking/maintaining contact with families (mobile, no phone)	4
Family lacks resources (SES issues, no medical home)	2
Language/culture	2
Providers not involved/resistant	2
Incomplete report from hospital	1
Lack educational materials	1
Mother's prenatal drug use	1
Provider not reporting timely to ALERT IIS	1
Using Orpheus to track throughout case management	1
No response	7
No barriers	1

### ***Conclusions and Next steps***

Oregon's LPHA perinatal hepatitis B coordinators are a hard-working group of individuals, dedicated to protecting and improving the health of their communities. In general, they have strong relationships with their partners when working on activities related to perinatal hepatitis B. Even with the hard work and great relationships, many coordinators still identified a need for increased education on perinatal hepatitis B in their jurisdiction, for parents, providers or the hospital.

While LPHA coordinators have many factors aiding their successful case management of mom-baby pairs for perinatal hepatitis B, they still face many barriers. This is where the state coordinator can step in and provide assistance.

The next steps for the PHBPP at the state level in Oregon will be to:

- Disseminate results;
- Establish a listserv, with the option to opt in;
- Begin scheduling semi-annual conference calls; and
- Use these results to inform future educational materials and activities to better improve practices related to and understanding of perinatal hepatitis B transmission and case management.

## References

1. American Academy of Pediatrics. Hepatitis B. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2015 Report of the Committee on Infectious Diseases*. Elk Grove Village, IL: American Academy of Pediatrics; 2015: 400-23.
2. Centers for Disease Control and Prevention. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP); Part 1: Immunization of Infants, Children, and Adolescents. *MMWR* 2005;54(No. RR-16).  
<http://www.immunize.org/catg.d/p2130.pdf>
3. Barbosa C, et al. 2014. Cost-effectiveness Analysis of the National Perinatal Hepatitis B Prevention Program. *Pediatrics*, 133(2), 243-253.