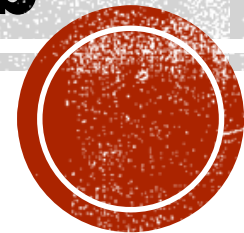


# **GAPS IN ADHERENCE TO PERINATAL HEPATITIS B DETECTION AND PREVENTION GUIDELINES IN FLORIDA AMONG HEALTHCARE PROFESSIONALS**



Enas Mohamed, MBBS, MPH

REI Program 2018- 2019



# HEPATITIS B VIRUS: ETIOLOGY

- Small, double- shelled virus belonging to the family Hepadnaviridae.
- Humans are the only reservoir for Hepatitis B.
- The virus can survive up to 7 days outside of the body.
- Incubation period range between 45- 180 days (average: 60- 90 days).
- Modes of transmission:
  - Blood, semen, bodily fluids, and vertically from mother to fetus

# **RISK OF HEPATITIS B INFECTION**

- Hepatitis B can cause chronic infection, leading to liver cirrhosis and liver cancer.

# RISK OF PERINATAL HEPATITIS B INFECTION

- The Centers for Disease Control and Prevention (CDC):
  - Between 450 and 750 hepatitis B surface antigen (HBsAg)-positive Florida women give birth each year
  - Without prophylaxis, 45 to 100 infants would become infected with HBV.
  - Ninety to 95% of these potential infections may be avoided through appropriate maternal screening and infant post-exposure prophylaxis.

# **PREVENTION OF PERINATAL HEPATITIS B INFECTION**

- Perinatal HBV transmission can be prevented by identifying HBV-infected (i.e., HBsAg-positive and/or DNA positive) pregnant women.
- Providing Hepatitis B immunoglobulin and Hepatitis B vaccine to infants within 12 hours of birth.
- Continue vaccination and Post vaccine serology testing (PVST).

**Identification  
of HBV-  
positive  
mother**

**- OBGYN/ PCP**

**Perinatal  
HBV  
Prevention**

**Continue  
vaccination +  
PVST**

**- Pediatricians**

**Administration of  
HBV vaccine +  
immunoglobulin**

**- Delivery  
hospitals**

# HBV VACCINE

- First introduced in the United States in 1981.
- Efficacy of 95% (range, 80%- 100%).
- Duration of immunity is 20 years or more.
- Schedule3 doses:
  - at birth
  - within 4 weeks after first dose
  - at 6 months of age

# HEPATITIS B POST EXPOSURE PROPHYLAXIS (PEP)

- Post-exposure prophylaxis (PEP) for HBV-exposed infants is initiated within 12 hours of birth, it prevents 95% of HBV infections via Mother-To-Child-Transmission.
- Maternal antiviral therapy to reduce perinatal transmission is suggested for HBsAg-positive pregnant women whose HBV DNA level is  $>200,000$  IU/mL.





# **FLORIDA ADMINISTRATIVE CODE (F.A.C) CHAPTER 64D-3.040 AND 64D- 3.042**

- Infants born to HBsAg-positive mothers shall receive Hepatitis B immune globulin and hepatitis B vaccine once physiologically stable, preferably within 12 hours of birth, and complete the Hepatitis B vaccine series according to the recommended vaccine schedule
- Testing infants for HBsAg and antibody to Hepatitis B surface antigen (anti-HBs) six (6) months after the completion of the Hepatitis B vaccine series is recommended to monitor the success or failure of therapy. (The Florida Department of Health, Perinatal Hepatitis B Prevention Program (PHBPP), recommends Post-Vaccination Serology testing 3 to 12 months after completion of at least 3 doses of the hepatitis B vaccine series, but no earlier than 9 months of age)

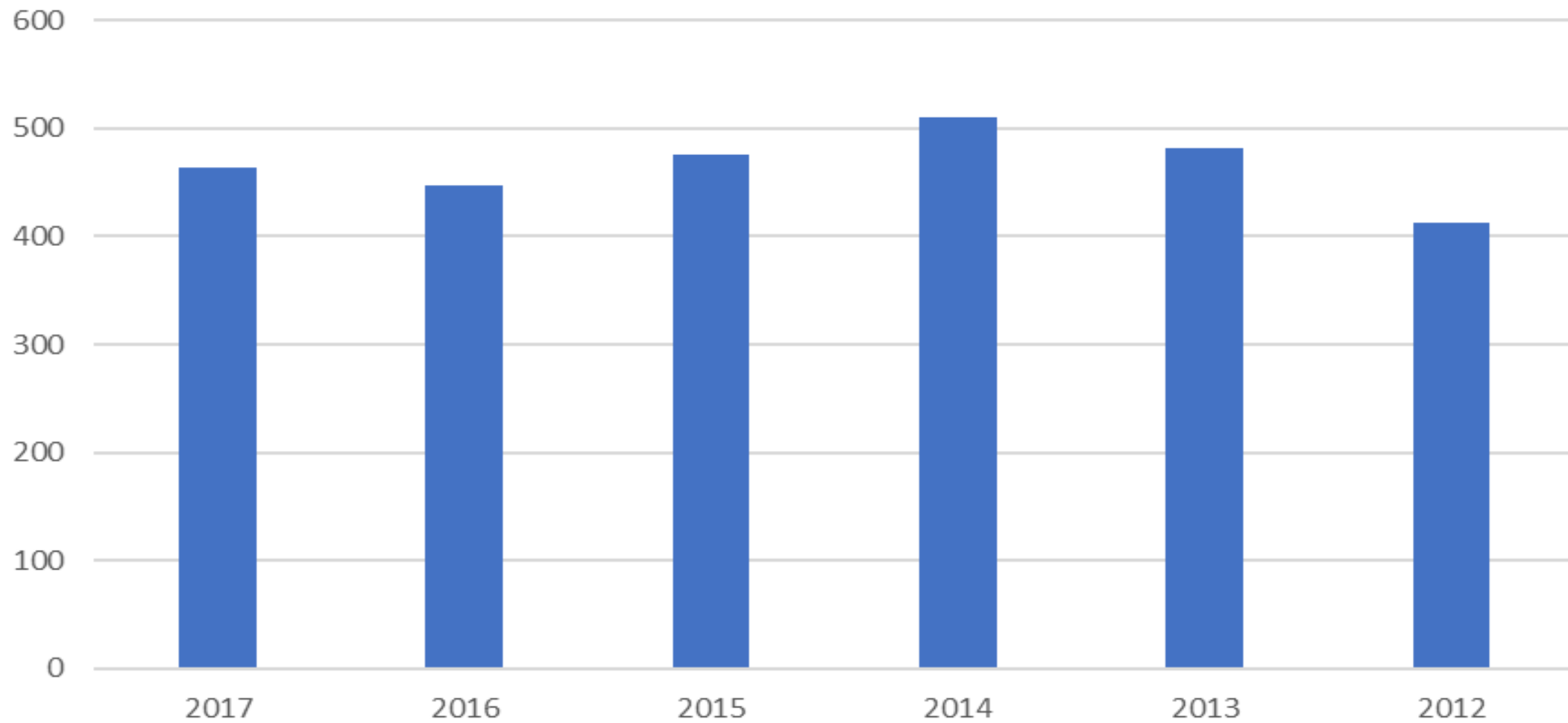


# **FLORIDA ADMINISTRATIVE CODE (F.A.C) CHAPTER 64D-3.040 AND 64D- 3.042**

- Practitioners attending a woman for prenatal care shall cause the woman to be tested for Hepatitis B at initial examination related to her current pregnancy; and again at 28 to 32 weeks gestation.
- Women who appear at delivery or within 30 days postpartum with: (a) No record of prenatal care; or (b) Prenatal care with no record of testing; or (c) Prenatal care with no record of testing after the 27th week of gestation, shall be considered at a high risk for sexually transmissible diseases and shall be tested for hepatitis B surface antigen (HBsAg), HIV and syphilis prior to discharge.



## Hepatitis B Pregnant women in Florida



## Hepatitis B, Perinatal

	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
<b>County</b>	<b>Count</b>	<b>Count</b>	<b>Count</b>	<b>Count</b>	<b>Count</b>	<b>Count</b>
<b>Florida</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>
Broward	0	0	0	1	0	0
Miami-Dade	1	0	0	0	0	0
Lake	0	0	0	0	0	0
Leon	0	0	0	0	1	0
Orange	0	0	0	0	1	0
Polk	0	0	0	0	0	1



# METHODOLOGY

- Descriptive data analysis of deidentified data from the Communicable Disease Reporting System (Merlin).
- **Sample selection:** The target population includes all Hepatitis B surface antigen (HbsAg) and / or Hepatitis B DNA positive women in the reproductive age group (15- 44 years) in the State of Florida between the years 2012 to 2017.
- Children born to Hepatitis B surface antigen (HbsAg) and/ or Hepatitis B DNA positive mothers in the State of Florida between the years 2012- 2017.
- **Data Collection:** Data will be collected and reviewed from the Florida Department of Health Communicable Disease Reporting System (Merlin) data and Florida Shots System (FL Shots).



# MEASURES

- (1) Perinatal testing of pregnant women for Hepatitis B at initial examination related to current pregnancy and again at 28 to 32 weeks gestation.
- (2) Administration of PEP (immunoglobulin + vaccine) for infants born to HBsAg positive mothers at the delivery hospital.
- (3) Administration of Hepatitis B vaccine to infants born to HBsAg positive women.
- (4) Post Vaccine Serology Testing of infants born to HBsAg positive mothers.

# CHALLENGES

- IRB approval/ Merlin Data agreement form
- Data availability
  - HBsAg Vs. DNA testing
  - Negative + Positive labs
  - Positive results Vs. pregnancy status
  - Merlin Lab- case linkage
- Change research plan

# REFERENCE

- Perinatal hepatitis B, Disease and conditions, Florida department of Health  
<http://www.floridahealth.gov/diseases-and-conditions/perinatal-hepatitis-b/>
- Hepatitis B, Perinatal, FLHealthCHARTS Data Viewer  
<http://www.flhealthcharts.com/charts/OtherIndicators/NonVitalIndNoGrpCountsTenYrRpt.aspx?q=O1pd1Ap41ErOeFEoJGzuHxU1JczDOkIE2EvaucCdlGfAbY7XupvmOLOd4m3dlUBY>
- Florida Administrative Code & Florida Administrative Register. (n.d.). Retrieved from <https://www.flrules.org/gateway/RuleNo.asp?ID=64D-3.042>
- Florida Perinatal Hepatitis B Prevention Program (PHBPP) annual reports 2010-2014.(n.d.). Retrieved from <http://www.floridahealth.gov/diseases-and-conditions/perinatal-hepatitis-b>
- Willis, B. C., Wortley, P., Wang, S. A., Jacques-Carroll, L., & Zhang, F. (2010, April). Gaps in hospital policies and practices to prevent perinatal transmission of hepatitis B virus. *Pediatrics* ;125(4):704-11. doi: 10.1542/peds.2009-1831





# CONTACT INFORMATION

Enas Mohamed

FDOH- Broward County

Phone: (954) 0467-4700 Ext. 5574

Email: [Enas.Mohamed@flhealth.gov](mailto:Enas.Mohamed@flhealth.gov)

