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# Hepatitis B Project ECHO

**January 28<sup>th</sup>, 2021**

**12pm Eastern Time**

*Reoccurring every 4<sup>th</sup> Thursday*

# Agenda

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**Introductions** (10 minutes)

**Project ECHO Defined and Session Format** (2 minutes) *Catherine Freeland*

**Purpose of HBV ECHO** (2 minutes) *Catherine Freeland*

**Didactic Presentation: Hepatitis B Epidemiology** (15 minutes) *Chari Cohen, DrPH, MPH*

- At the end of the session, participants will have an understanding of hepatitis B epidemiology (morbidity, mortality, globally and nationally), risk factors and prevention measures associated with hepatitis B infection.

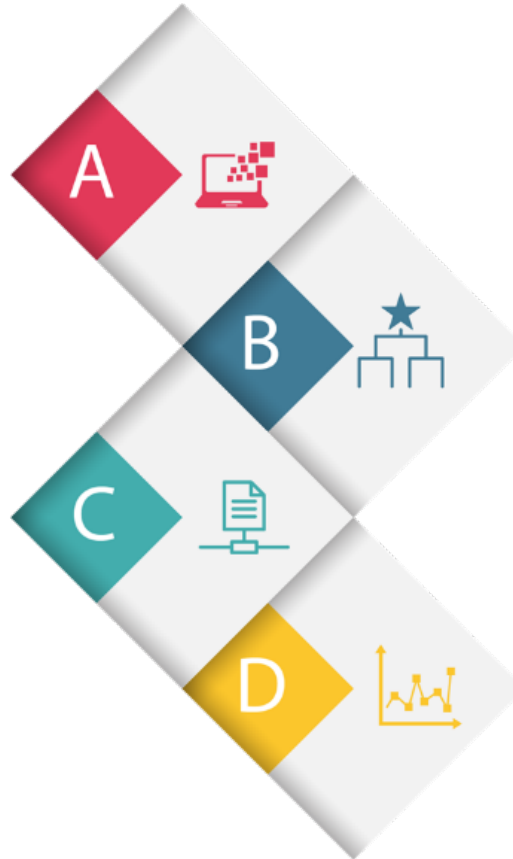
**Case Presentation** (5-10 minutes) *Katie Huynh, PA-C, MS, AAHIVM-S*

**Case Feedback and Recommendations** (15 minutes)

# The ECHO Model

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**A**mplification – Use **T**echnology  
to leverage scarce resources



Share **B**est Practices  
to reduce disparity

**C**ase Based Learning  
to master complexity

Web-based **D**atabase to  
**M**onitor **O**utcomes

# Introductions

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Name, Affiliation

# Hepatitis B Epidemiology

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Chari Cohen, DrPH, MPH

Hepatitis B Foundation



Global Prevalence

National Prevalence

Local Prevalence

Acute v. Chronic Infection

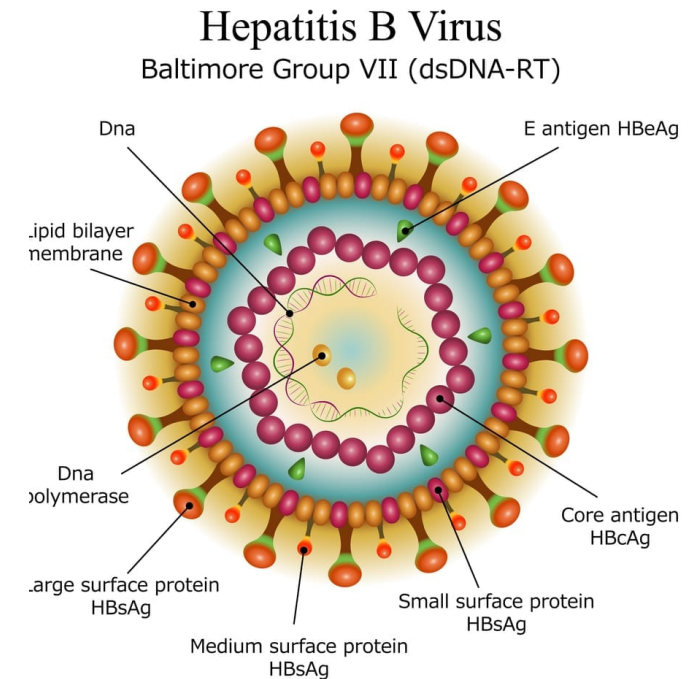
Health Disparities

# Overview



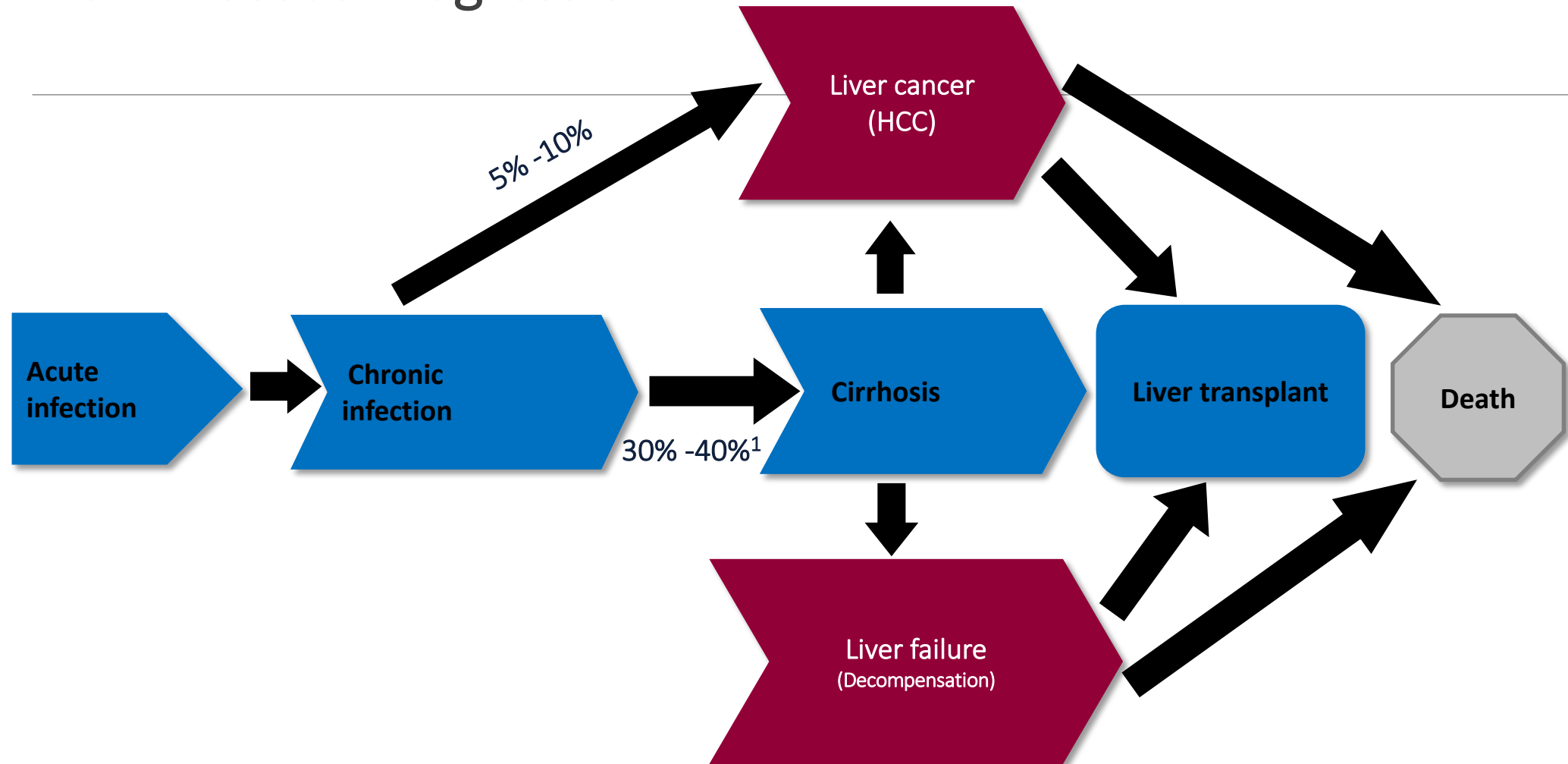
# Hepatitis B Virus

- One of the most common infections globally
- DNA virus that infects the liver, and damages and kills liver cells
- Can be found both in the liver and in the blood of an infected person
- 100x more infectious than HIV
- Can cause acute and chronic infection
- Second most common human carcinogen, after tobacco
  - Responsible for 50-60% of all primary liver cancer worldwide

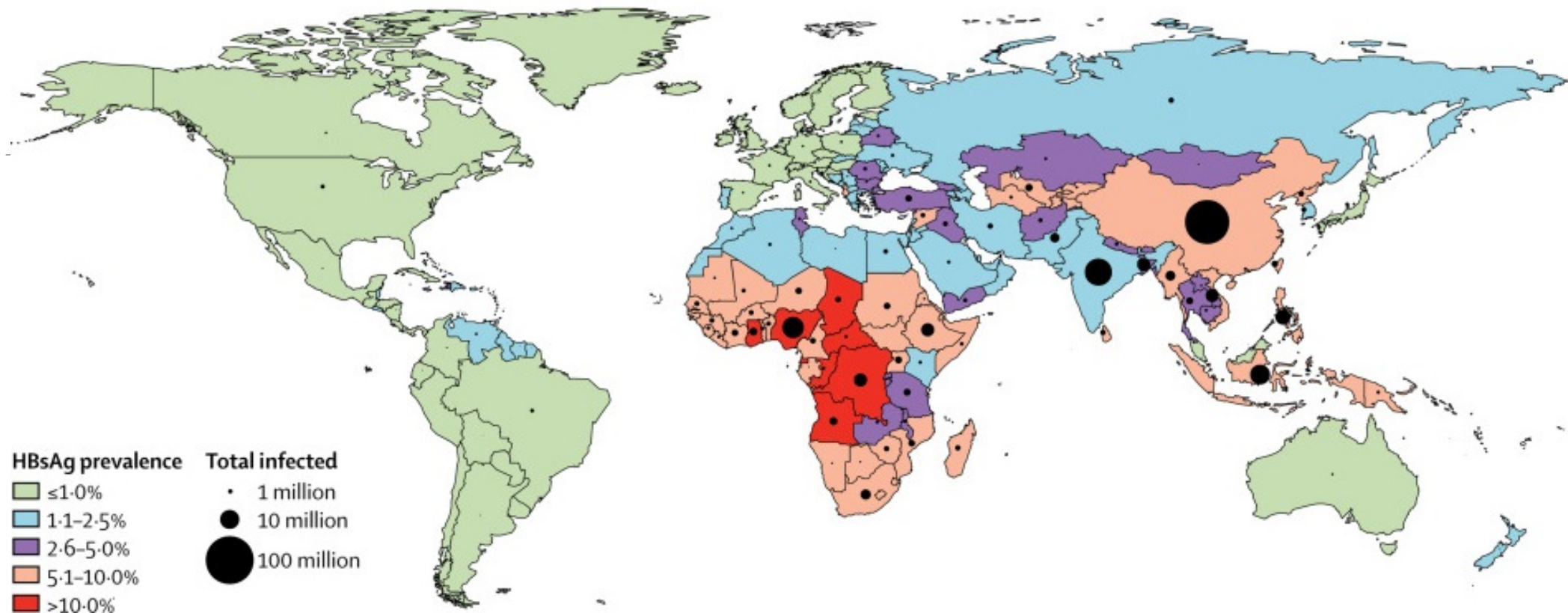




# Hepatitis B Disease Progression







## Global hepatitis B prevalence



# Global HBV-Related Mortality

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- 1 in 4 people with unmanaged chronic infection will die prematurely from cirrhosis, liver failure, or liver cancer (HCC)
- HCC is the 3<sup>rd</sup> deadliest cancer worldwide, with a 5-year survival rate of 18%
- Hepatitis B is the #1 cause of liver cancer globally
- Deaths from chronic hepatitis B infection are increasing, with a concerning rising incidence of HCC in Africa and the Western Pacific
- HCC is the only cancer that continues to rise each year in the U.S., in both men and women, in both incidence and mortality
- In 2016, chronic hepatitis B resulted in 884,000 deaths global (66% of viral hepatitis deaths)

• Beasley RP, Hwang LY, Lee GC, et al. Prevention of perinatally transmitted hepatitis B virus infections with hepatitis B immune globulin and hepatitis B vaccine. *Lancet*. 1983;2(8359):1099–11026.

• Cooke, G. S. et al. Accelerating the elimination of viral hepatitis: a Lancet Gastroenterology & Hepatology Commission. *Lancet Gastroenterol. Hepatol.* 4, 135–184 (2019).

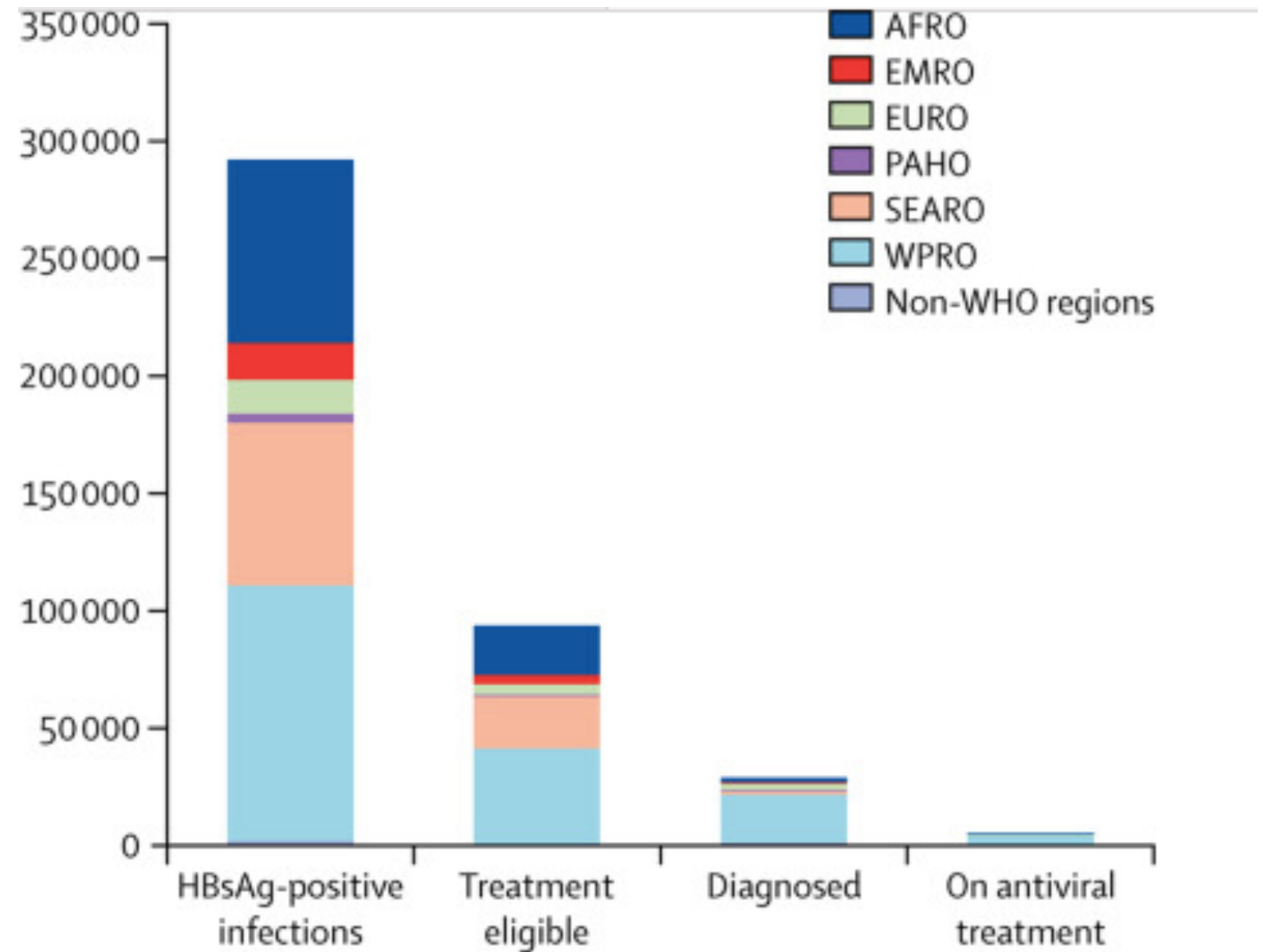
• Global Hepatitis Report 2017. Geneva: World Health Organization; 2017. License: CC BY-NC-SA 3.0 IGO.

• Ryerson AB, Ehemann CR, Altekruse SF, et al. (2016). Annual Report to the Nation on the Status of Cancer, 1975-2012, featuring the increasing incidence of liver cancer. *Cancer*;122:1312-1337.



# Global Cascade of Care in 2016

- Global prevalence – 3%
  - 292M people
- 10% diagnosed
- 4.8M treated (5% of those eligible)

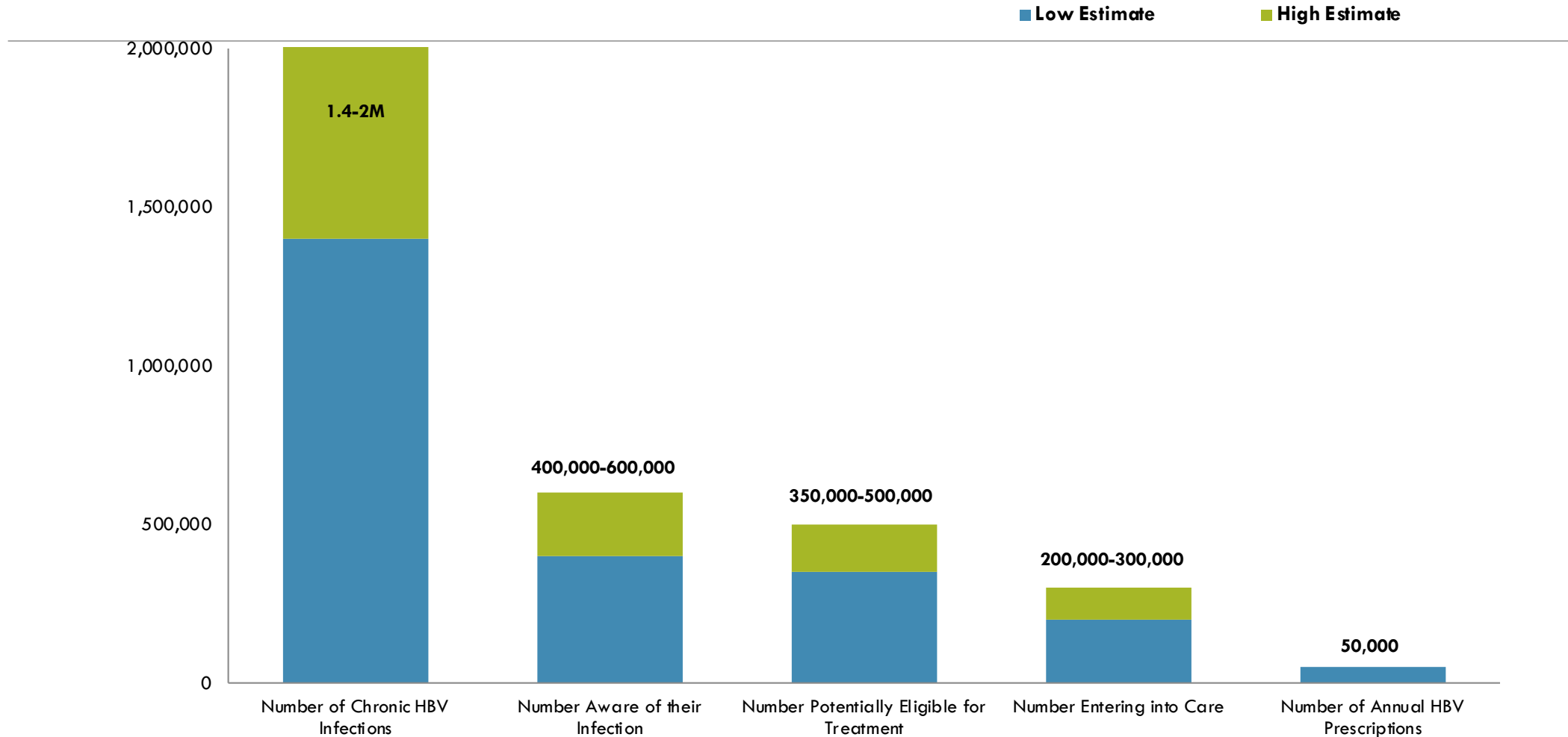


Source: Polaris Observatory Collaborators D, Gamkrelidze I, Nguyen MH, et al. Global prevalence, treatment, and prevention of hepatitis B virus infection in 2016: a modelling study. *Lancet Gastroenterol Hepatol*. 2018;3(6):383-403.



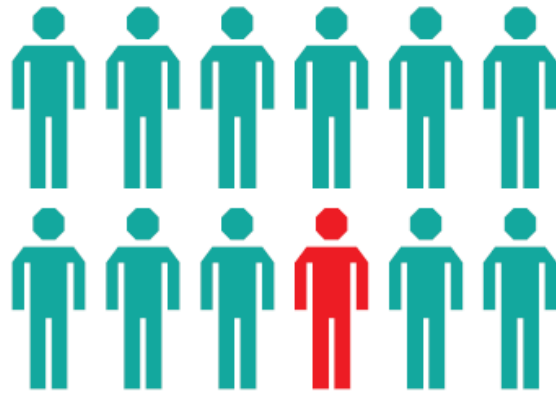
Only 30-35% of infected Americans are diagnosed  
Less than 10% of all infected Americans are treated

## U.S. Cascade of Care





# Hepatitis B Health Disparities

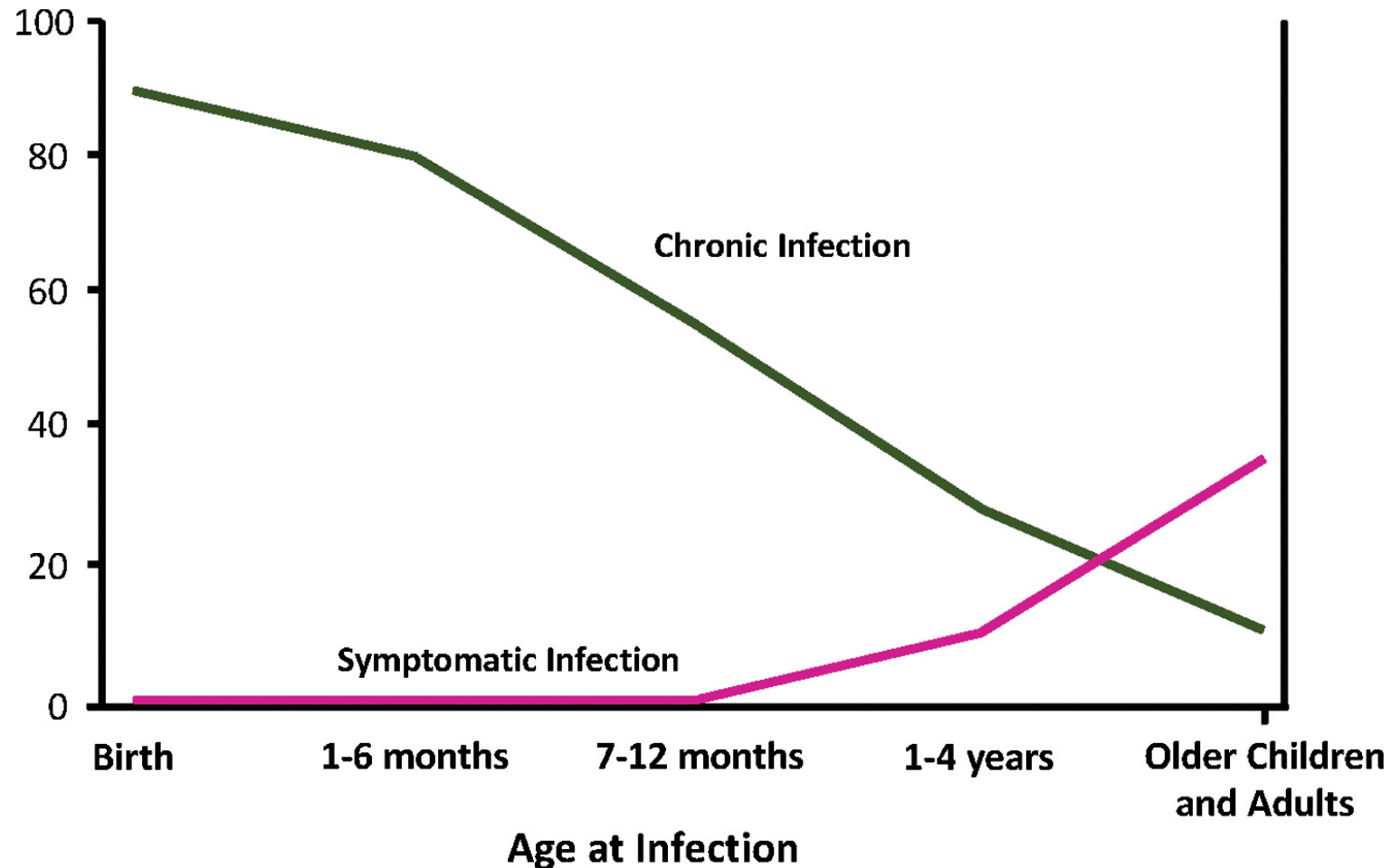


Did you know that  
**1 in 12 Asian  
Americans have  
Hepatitis B?**

- Asian Americans & Pacific Islanders carry 50% of chronic hepatitis burden in the U.S.
- Among AAPI and foreign-born African community studies, we see infection rates of 4% - 15%
- AAPI and African communities also face HBV-mortality rates that are six times higher compared to others
- § In the U.S., HCC rates are 6-13x higher among AAPIs
  - § 13x higher in Vietnamese men
  - § 8x higher in Korean men
  - § 6x higher in Chinese men
- These same communities also face many health care access and utilization challenges, including economic and social marginalization, under-insurance and cultural/linguistic barriers



# Acute vs. Chronic Hepatitis B Virus Infection



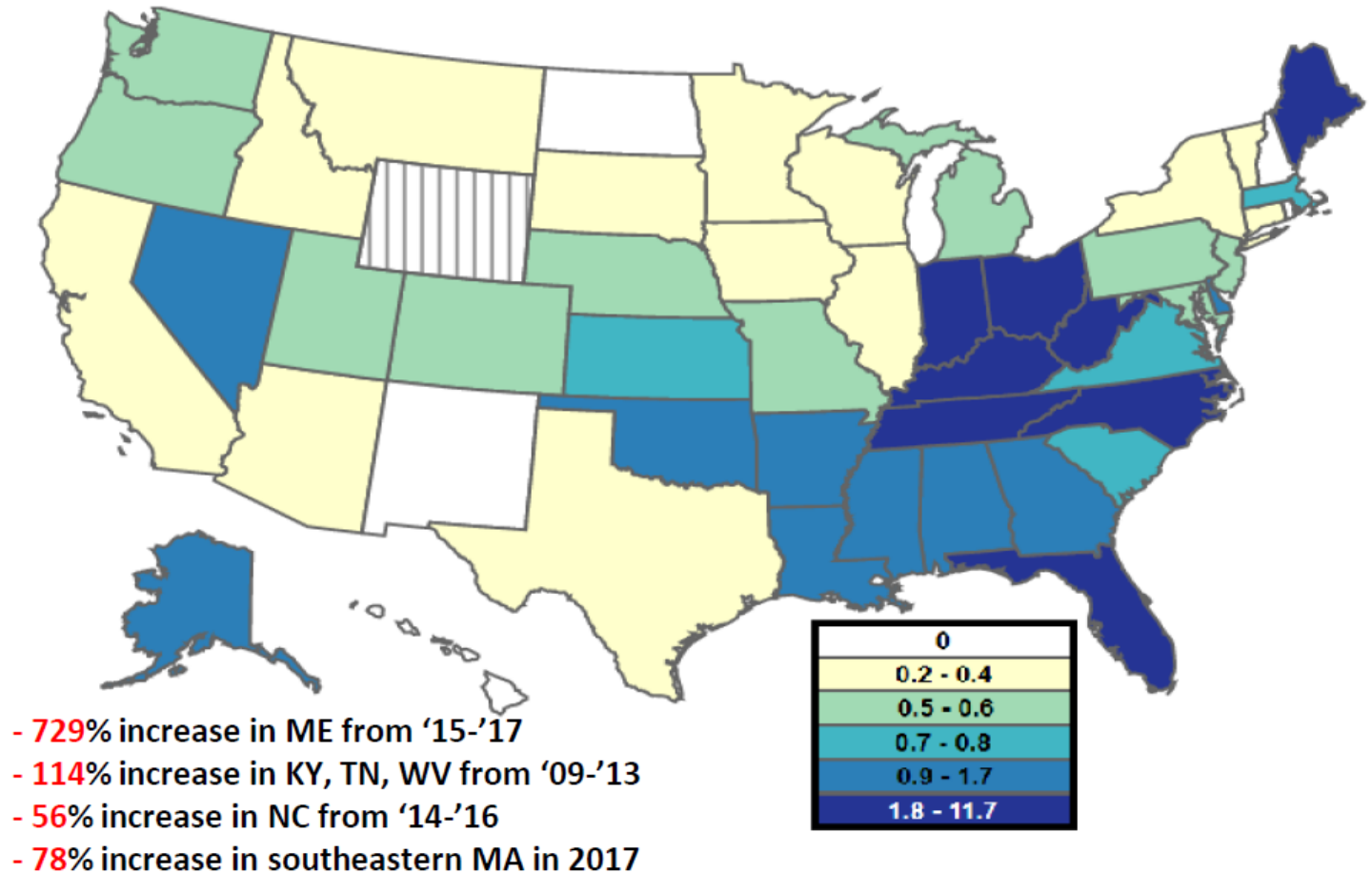
- Transmitted through percutaneous or mucosal exposures to infected blood or body fluids
- Aprx 90% of exposed infants, but less than 5% of adults, develop chronic infection
- In endemic settings, transmission is primarily perinatal, whereas sexual transmission (and now IV drug use in the U.S.) is the main route in low prevalence areas



# Acute Hepatitis B in the U.S.

- From 2006 to 2018: Reports of acute HBV infection increased 56% to 457% in states most impacted by the opioid crisis

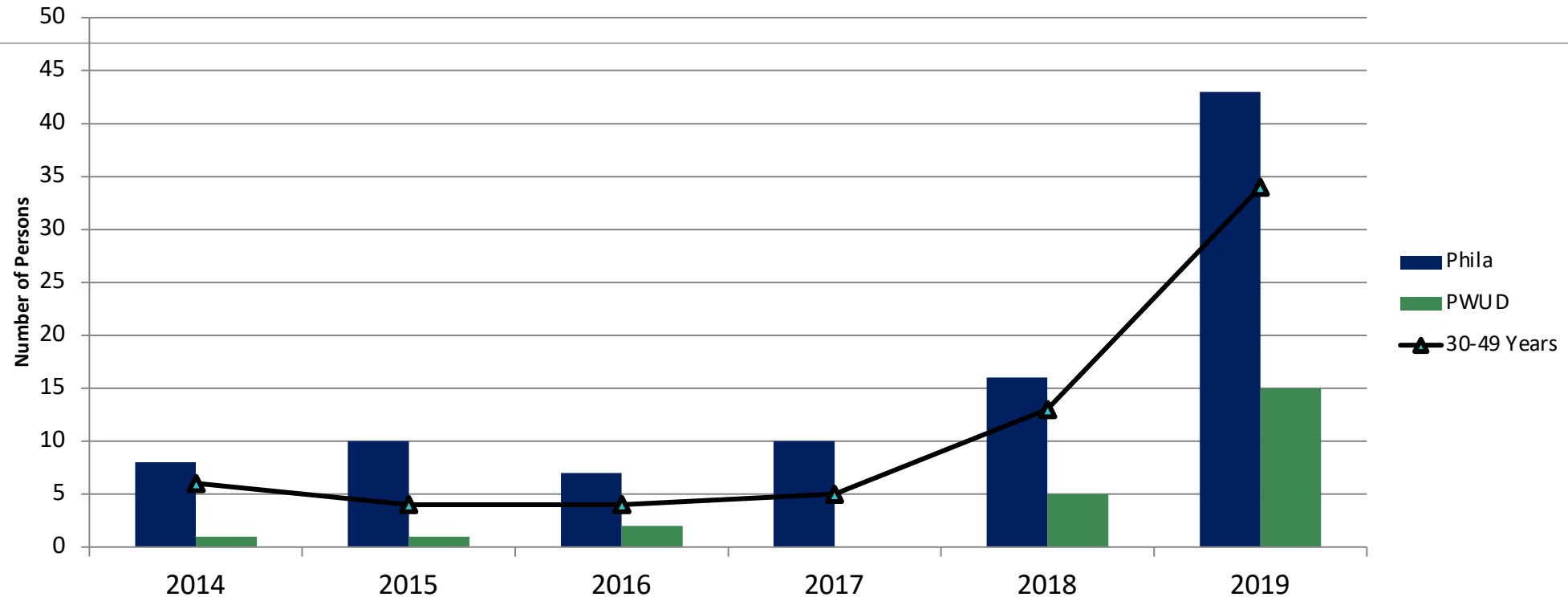
Acute HBV Rate by State - 2017



Centers for Disease Control and Prevention



# Reported Acute Hepatitis B: Philadelphia 2014-2019

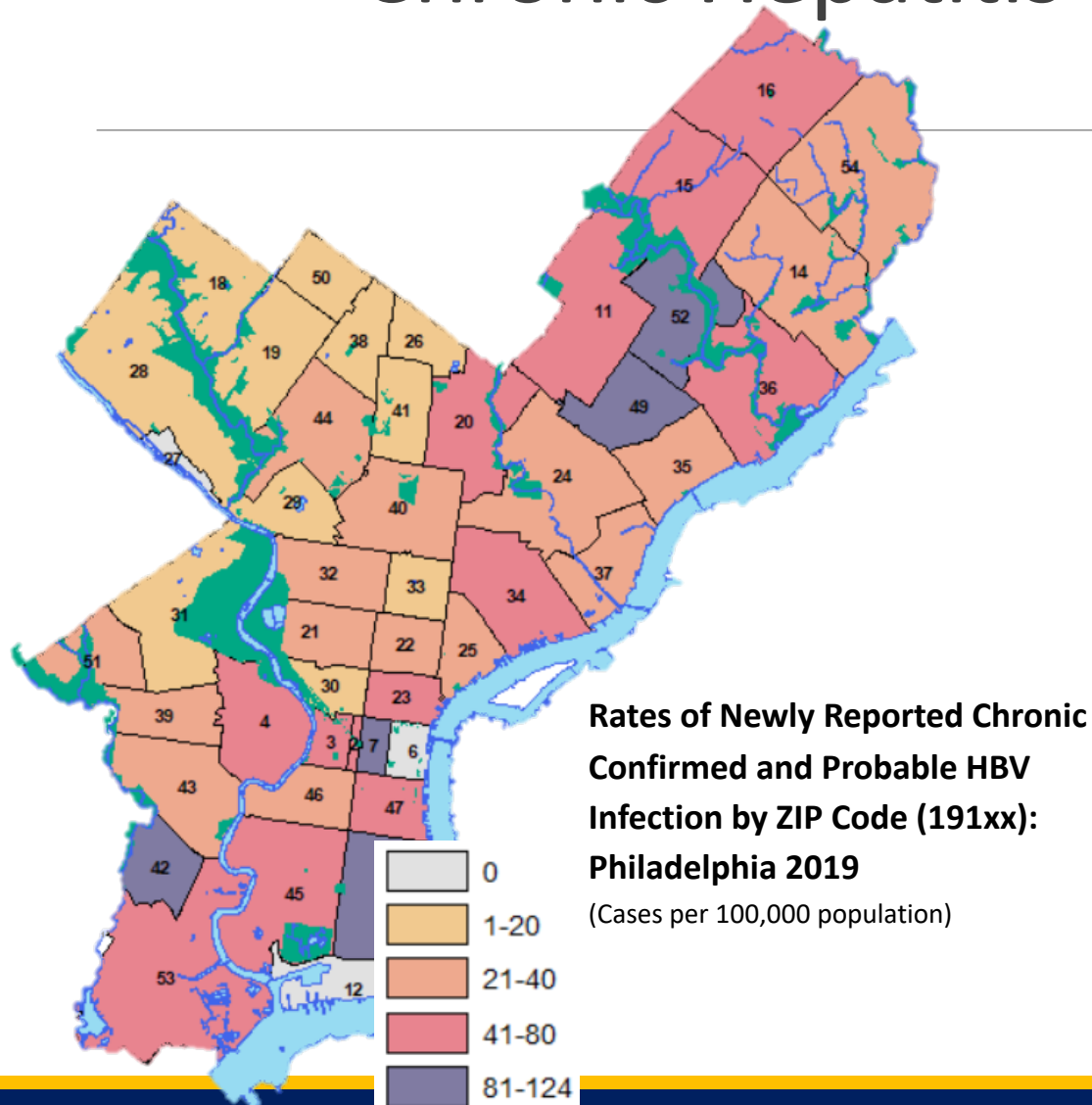


- CDC estimates – for every acute case report, there are 6.6 unreported cases\*
- 175% increase in confirmed acute hepatitis B cases from 2017-2019
- Current increases driven by people who use drugs (PWUD) and persons 30 to 39 years of age
- Challenges to identifying cases → symptoms often not present





# Chronic Hepatitis B in Philadelphia



- >25,000 individuals living with chronic hepatitis B infection
- 66% of persons living with chronic infection are currently out of care
- Areas most impacted: communities from Africa, Asia, and Eastern Europe



# Hepatitis B in Philadelphia

Surveillance-based HBV Data, Philadelphia						
		2014	2015	2016	2017	2018
Acute Cases		8	8	7	10	12
PHBPP mother-infant pairs		164	155	174	141	144
New Chronic Cases						
Total		884	789	809	730	782
Sex	Male	480	471	470	432	459
	Female	401	317	336	295	316

- PA has the 4<sup>th</sup> highest newly reported chronic cases in the nation
- Philadelphia accounts for 74% (n=865) of Pennsylvania 1,164 cases
- PDPH is aware of 25,132 (1.6%) residents of Philadelphia living with HBV\*\*

\*2016 CDC Viral Hepatitis report

\*\*Data provided by the Philadelphia Department of Public Health



## Philadelphia Community-Based Testing

**Table:** Descriptive characteristics and HBV prevalence of sample population in Philadelphia, PA from 2008-2019

	HBsAg +		HBsAg -		Total		p
	N	%	N	%	N	%	
Region of Birth							
Americas	0	0.00%	166	6.0%	166	6.0%	<.0001
Africa	25	10.5%	282	10.2%	307	11.1%	
European	0	0.0%	4	0.1%	4	0.1%	
Eastern Mediterranean	0	0.0%	6	0.2%	6	0.2%	
South East Asia	7	2.9%	296	10.7%	305	11.0%	
Western Pacific	204	85.4%	1981	71.4%	2186	78.7%	
Missing	3	1.3%	42	1.5%	45	1.6%	

- Sample of 3,019 high-risk individuals in Philadelphia
- Overall infection was 7.9% (N=229)
- 59% (N=1,704) had protective antibodies (immunity)
- Infected individuals were more likely to be male, have a family history of HBV, less likely to be insured (74.1%) and more likely to report having limited access to healthcare (69.9%)

# Resources for your practice

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**CDC Know Hepatitis B Campaign:** <https://www.cdc.gov/knowhepatitisb/materials.htm>.

*Provides vaccine cards, multi-lingual fact sheets (Korean, Chinese, Vietnamese, Burmese, Hmong, Khmer, Lao, Amharic, Arabic, French, Somali, Swahili)*

Hepatitis B Foundation: [www.hepb.org](http://www.hepb.org)

**Newly diagnosed patients**, can call the Hepatitis B Foundation's consultation phone line (215)489-4900, or email: [info@hepb.org](mailto:info@hepb.org)

**Algorithm for PCP:** [hepatitisb.uw.edu/page/primary-care-workgroup/guidance](http://hepatitisb.uw.edu/page/primary-care-workgroup/guidance)

# Hepatitis B Case Presentation

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Katie Huynh, PA-C, MS, AAHIVM-S

**Call for cases:**

Please email [Catherine.Freeland@hepb.org](mailto:Catherine.Freeland@hepb.org) if you would like to submit a case for presentation.

**CME Credit:**

Post-Test: <https://www.surveymonkey.com/r/6V2XHVJ>

**Next Session: Feb. 25<sup>th</sup> @12PM ET**