

# Hepatitis B Virus and the Opioid Crisis

Alice Asher, RN, Ph.D.

Epidemiology and Surveillance Branch

Division of Viral Hepatitis

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Centers for Disease Control and Prevention

## \*Disclaimer

*The findings and conclusions in this presentation are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention.*

# Background

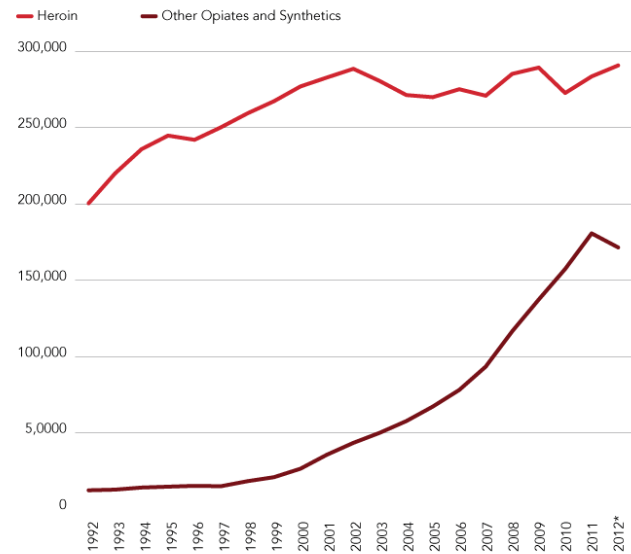
- PWID are at high risk of transmission of blood borne viruses, including hepatitis B virus (HBV)
- The opioid epidemic and increasing rates of injection drug use are propelling infections in certain populations
- PWID are often 'hard-to-reach' and difficult to follow to series completion; novel methods to engage this population are critical to success

# Rising trends in opiate misuse

## Painkillers And The Heroin Market

A growing number of people are using heroin in recent years, in part because it can be cheaper and easier to find than opioid painkillers purchased on the black market. Most heroin users were first hooked on prescription opioids, which generated \$11 billion in 2010 for the pharmaceutical industry.

Substance abuse treatment facilities admissions by primary drug



\*2012 data for Mississippi, Pennsylvania, and West Virginia are not available.

### 4 out of 5

new heroin users have abused painkillers.

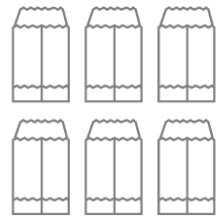


### A Cheaper High

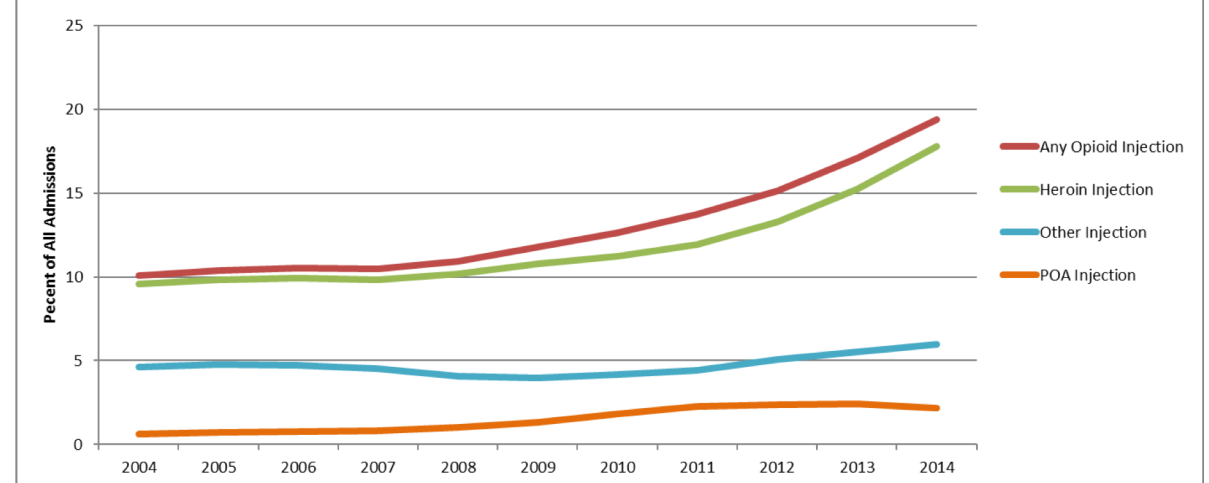
\$30 can buy one oxycodone pill on the street in New York...



or six hits of heroin.

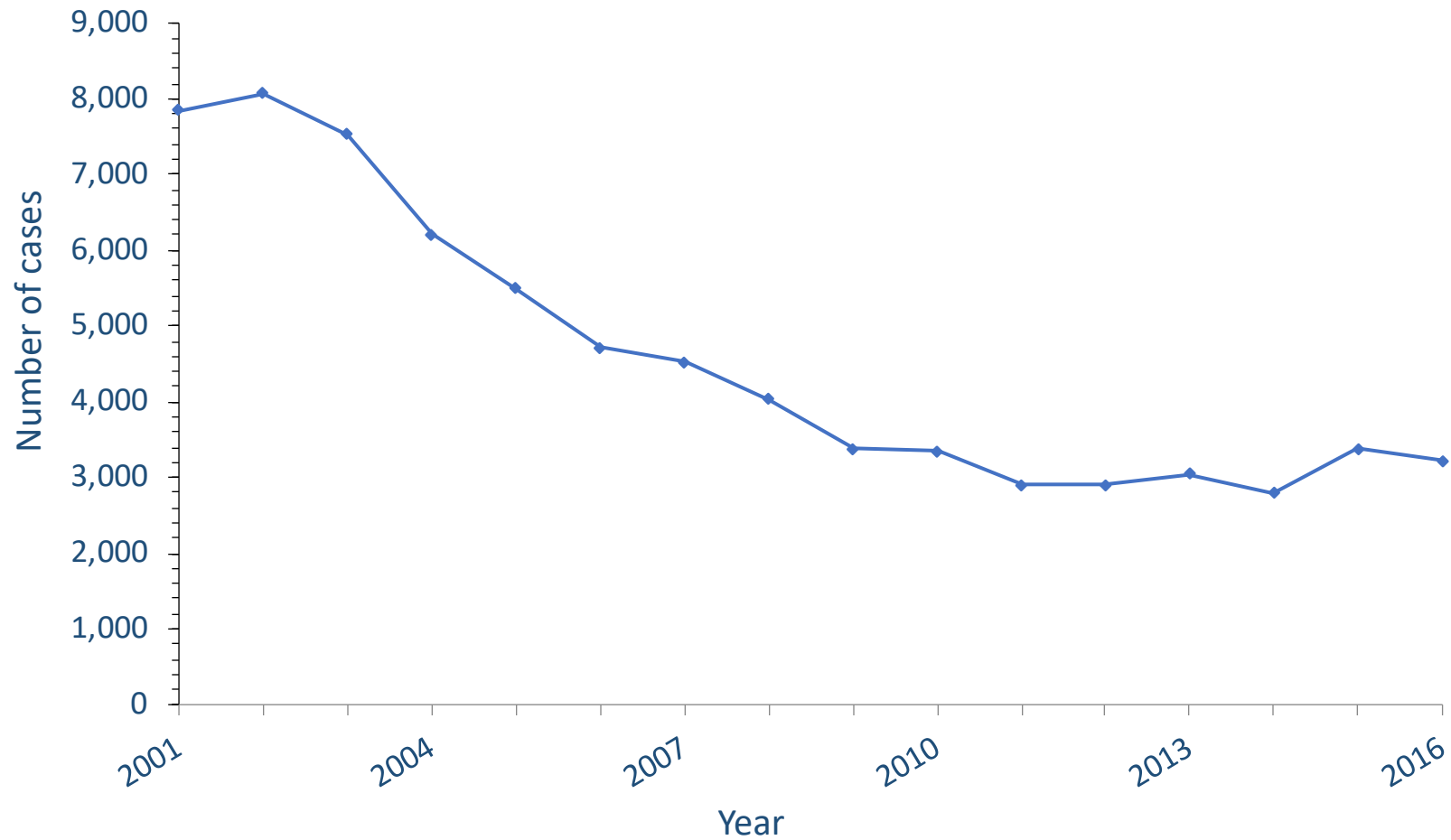


**FIGURE 2.** Percentage of all admissions to substance abuse treatment centers attributed to the injection of any opioid, prescription opioid analgesics, heroin, and all other drugs, by year—United States, 2004–2014



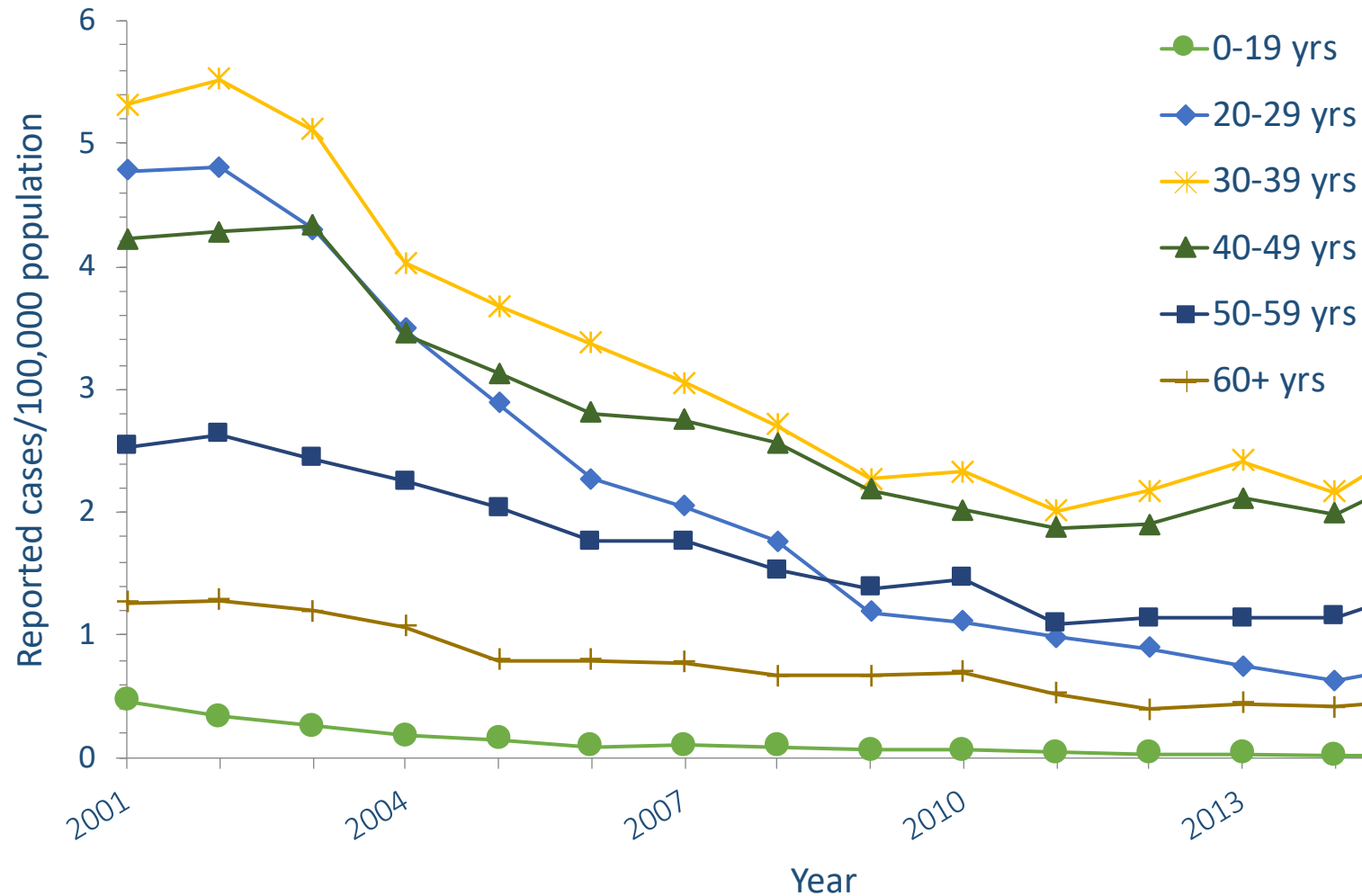
SAMHSA - Treatment Episode Data Set (TEDS-A)

# Reported acute HBV cases – 2001-2016



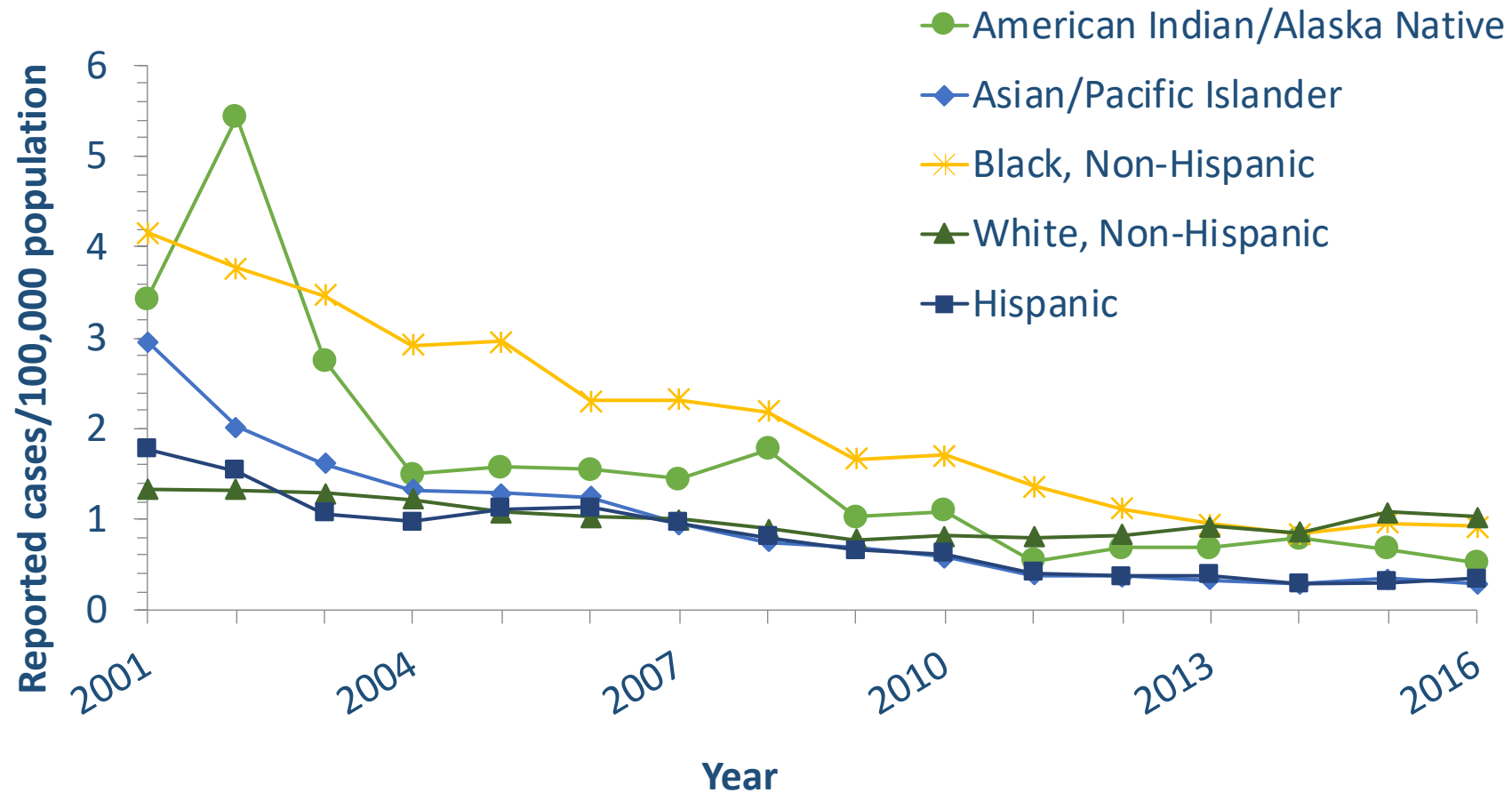
Source: National Notifiable Diseases Surveillance System (NNDSS)

# Incidence of acute HBV, by age group – 2001-2016



Source: National Notifiable Diseases Surveillance System (NNDSS)

# Incidence of acute HBV, by race/ethnicity – 2001-2016



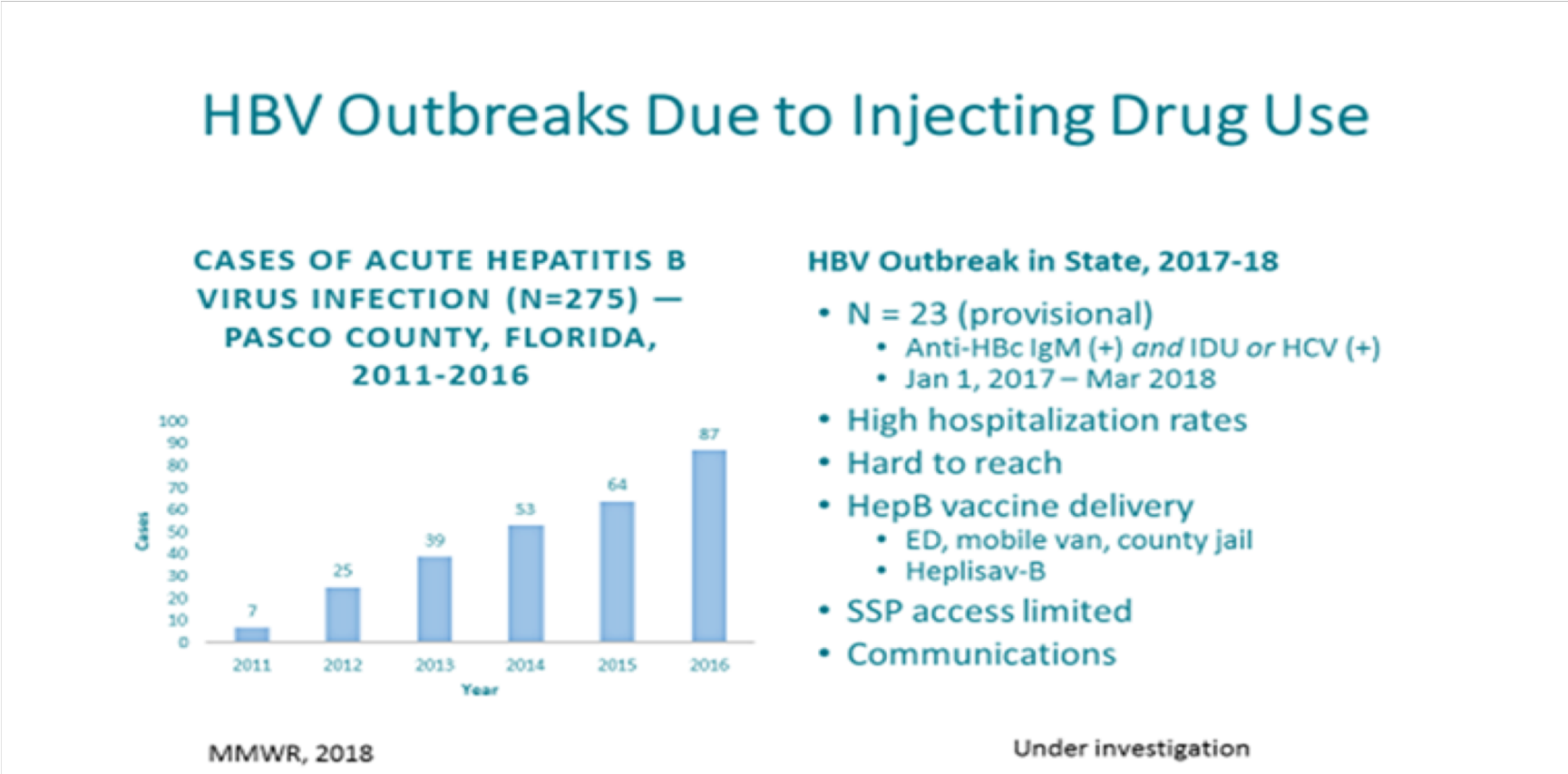
Source: National Notifiable Diseases Surveillance System (NNDSS)

# Injection drug use and acute HBV - 2016

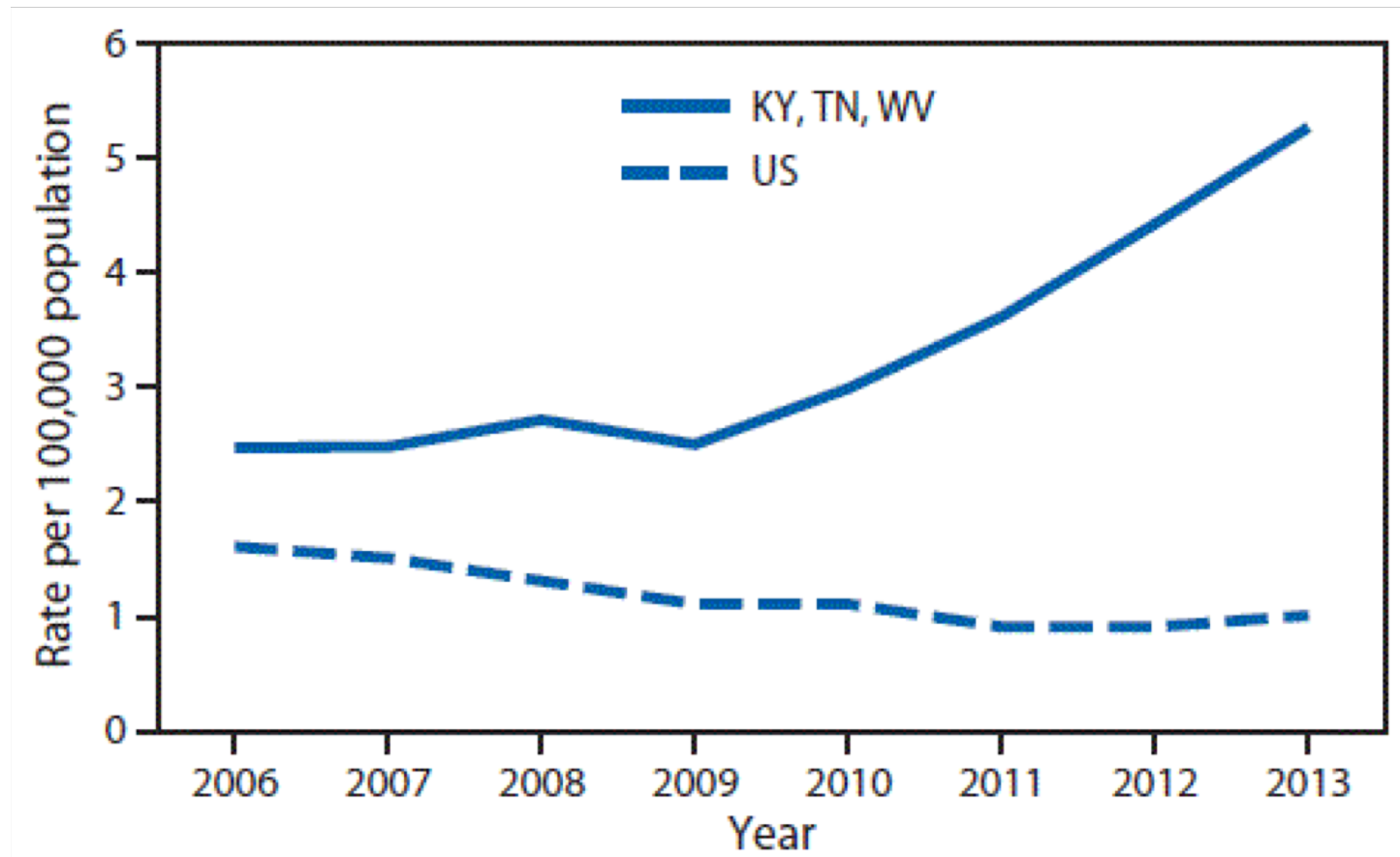
- 48% of reported cases provide any risk data
- 22% with any information on risk have risk factors identified
- Of those, 53% report a history of injection drug use
  - In 2015, 43% of identified risk factors were associated



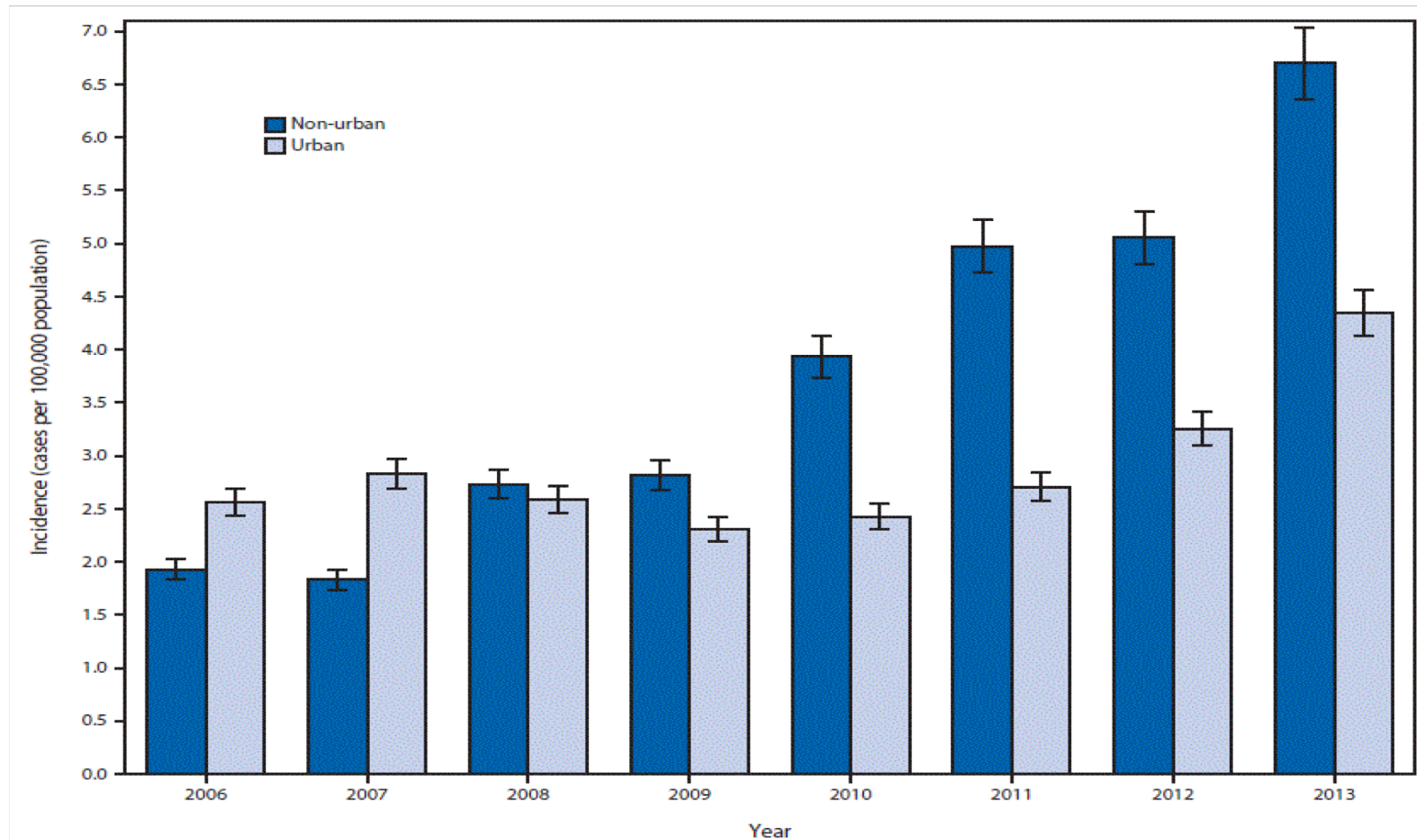
# Characteristics of persons with acute hepatitis B virus infection (N = 298), Florida, 2011–2018



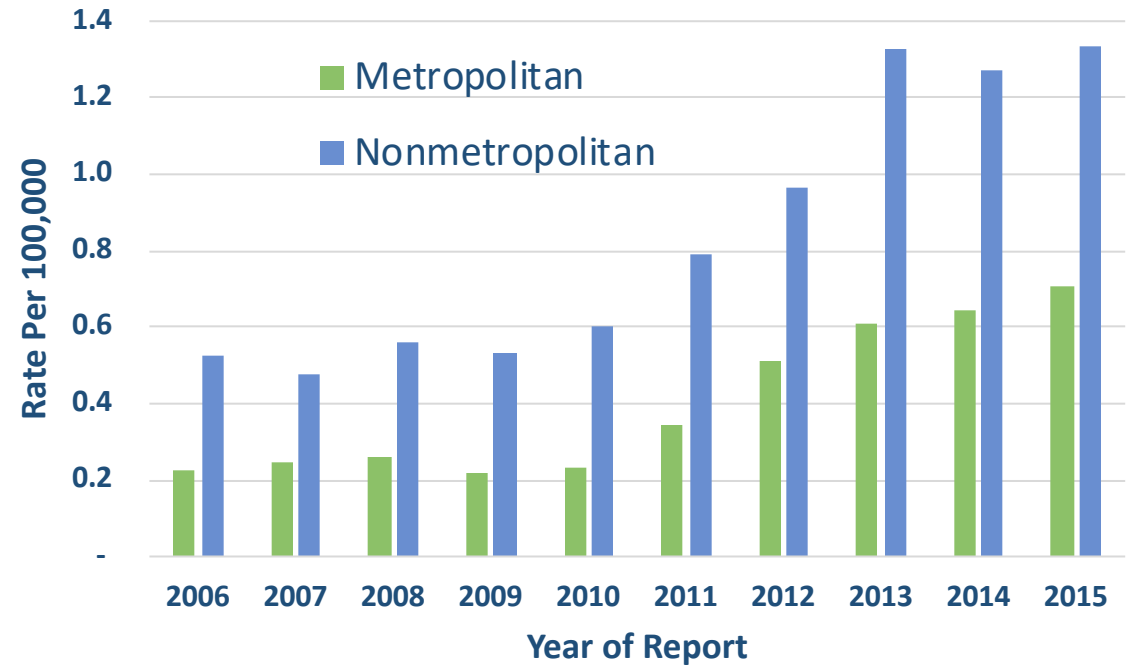
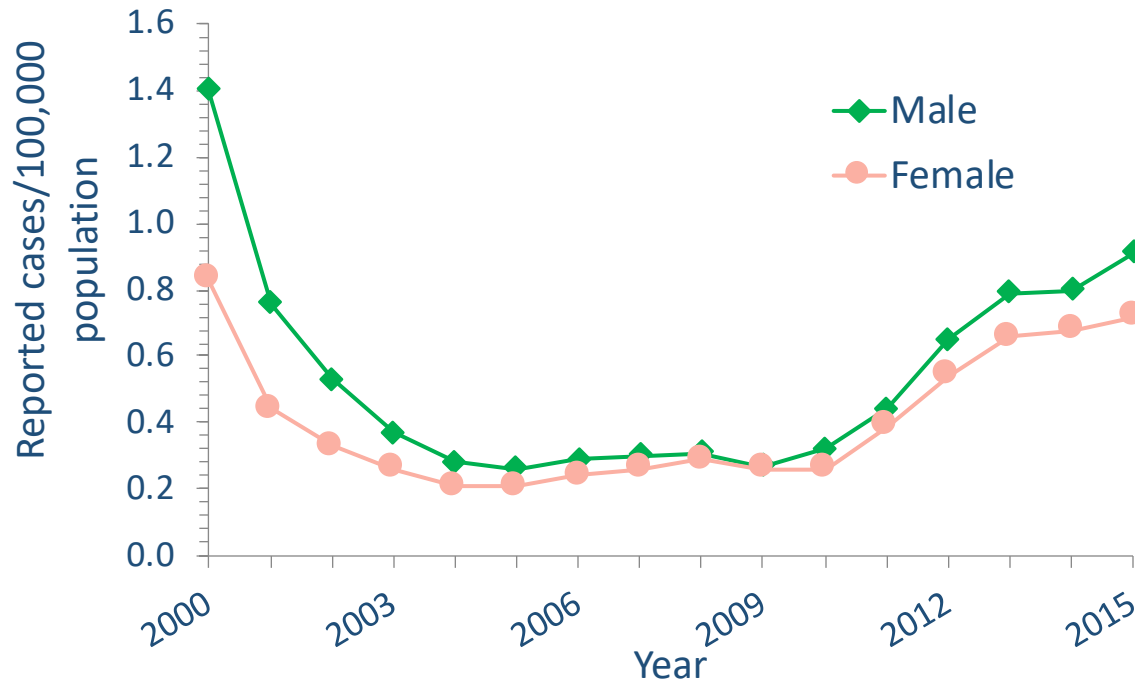
# Increases in HBV infection among PWID: Kentucky, West Virginia, Tennessee



# Increases in HBV infection among PWID: Kentucky, West Virginia, Tennessee



# Increases in HCV Incidence - United States



# Injection drug use and HBV

Highly efficient. Can be spread through drug paraphernalia, not just needles and syringes

Long survival period on inanimate objects

One drop of blood with HBV, HCV and HIV

30% chance of getting HBV

1.8% chance of getting HCV

.03% chance of getting HIV

# Adults Recommended to Receive HBV Vaccination

- **Persons at risk for infection by sexual exposure**
  - Sex partners of hepatitis B virus (HBV)-infected persons
  - Sexually active persons not in a long-term, mutually monogamous relationship
  - Persons seeking evaluation or treatment for a sexually transmitted disease
  - Men who have sex with men
- **Persons at risk for infection by percutaneous/mucosal exposure to blood**
  - Current or recent injection-drug users
  - Household contacts of HBV-infected persons
  - Residents and staff of facilities for developmentally disabled persons
  - Healthcare and public safety workers
  - Persons with end-stage renal disease
  - Persons with diabetes
- **Others**
  - International travelers to regions with high/intermediate HBV infection
  - Persons with chronic liver disease
  - Persons with HIV infection
  - All other

# Settings in which HBV Vaccination is Recommended for All Adults

- Sexually transmitted disease treatment facilities
- HIV testing and treatment facilities
- Facilities providing drug-abuse treatment and prevention services
- Health-care settings targeting services to injection-drug users
- Correctional facilities
- Health-care settings targeting services to men who have sex with men
- Chronic hemodialysis facilities and end-stage renal disease programs
- Institutions

# Missed Opportunities for Adult Hepatitis B Vaccination

Of all persons with reported acute hepatitis B:

37% reported prior treatment for an STD

29% reported prior incarceration

56% had been treated for an STD and/or incarcerated in a prison or jail prior to their illness



# Successful series completion

- Engagement with social services/ability to rely on outreach workers
- Longer injecting career
- History of HIV and HCV testing
- Utilization of syringe service programs
- Financial incentives

# Hepatitis B Vaccine

HBV vaccine administered intramuscularly produces a protective antibody response in approximately **30%-55%** of healthy adults aged <40 years after the first dose

75% after the second dose, and >90% after the third dose.

Even if compliance with vaccination series not perfect, one dose better than none, 2 better than 1 .....

Concerns about series completion is not a reason not to initiate first dose

**INITIATE VACCINE AT EARLIEST CONTACT**

# Accelerated vaccination schedule

- WHO guidelines suggest utilizing Twinrix<sup>®</sup> accelerated schedule to improve series completion for PWID

	Standard schedule	Accelerated schedule
<b>Dose</b>	<b>Day</b>	<b>Day</b>
#1	0	0
#2	30	7
#3	6 months	21-28

# Conclusions

- HBV related to IDU is increasing
  - Younger age, mostly white population, similar to that affected by increasing HCV infection
- Despite being a highly mobile, hard-to-reach population that often is reluctant to access medical care, ***PWID can successfully complete a 3-dose series for HBV vaccination***
- Targeted outreach campaigns, utilizing registries and leveraging other organizations improves series completion is important
- These methods offer a successful recruiting and retention framework for PWID involvement in other health care initiatives and for community based organizations working with this population.

Thank you!

Questions

Asher – [AAsher@cdc.gov](mailto:AAsher@cdc.gov)