

# Background for the AETC National Curriculum Slides on the Epidemiology of (HIV, HCV,) HIV/HCV Co-infection

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- There is extensive information about the national epidemiology of HIV infection in the US.
- There is a modest amount of information about the national epidemiology of HCV infection in the US.
- The presenter, who worked on this AETC co-infection curriculum, found no published national studies of the epidemiology of HIV/HCV coinfection in the US.
- Therefore, the curriculum primarily presents information about each epidemic separately.

## Background for the AETC National Curriculum Slides on the Epidemiology of (HIV, HCV,) HIV/HCV Co-infection in the US

- This presentation reviews the national epidemiology of HCV infection and the limited available data on HIV/HCV co-infection
- Some helpful comparisons between the HCV epidemic and the HIV epidemic in the US include the following:
  - HCV infection is more common than HIV infection
  - Among people alive today, the incidence of HCV infection peaked earlier than that of HIV infection, so the HCV infected population is older
  - Fewer people with HCV infection know that they are infected
  - Injection drug use has played a much more prominent role in the transmission of HCV than in the transmission of HIV
  - HCV infection can be cured; HIV infection can only be suppressed

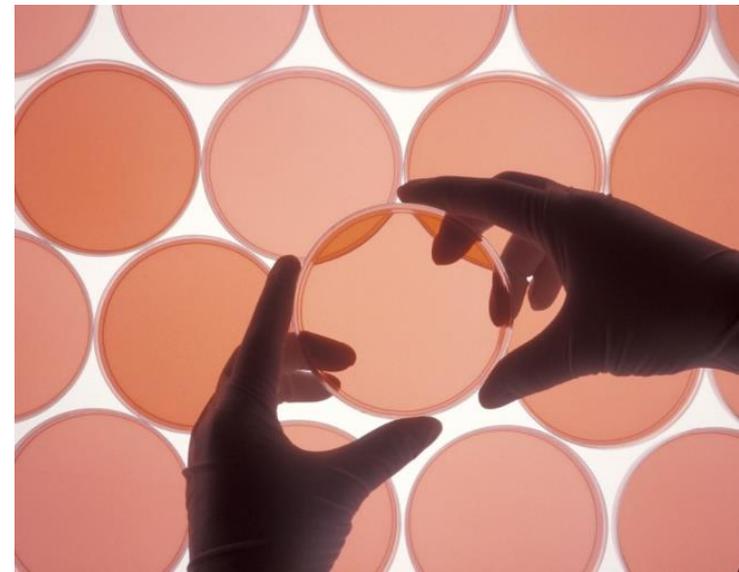


# HIV/HCV Co-infection: An AETC National Curriculum

Core Competency 1: Epidemiologic Background of  
HIV/HCV Co-infection in the United States

## Lesson 1: Epidemiology

July 2017

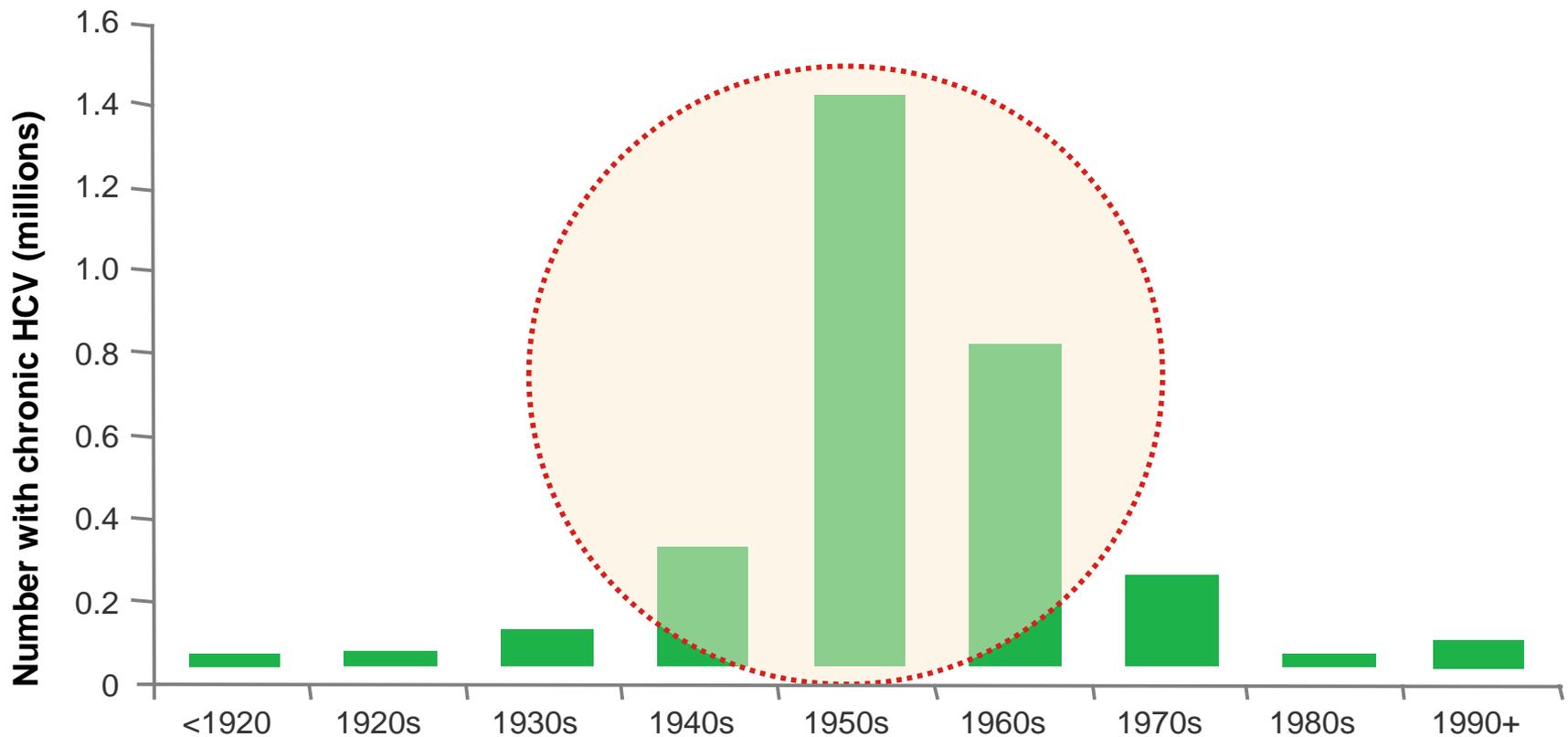


# Epidemiology of HCV in the United States<sup>1</sup>

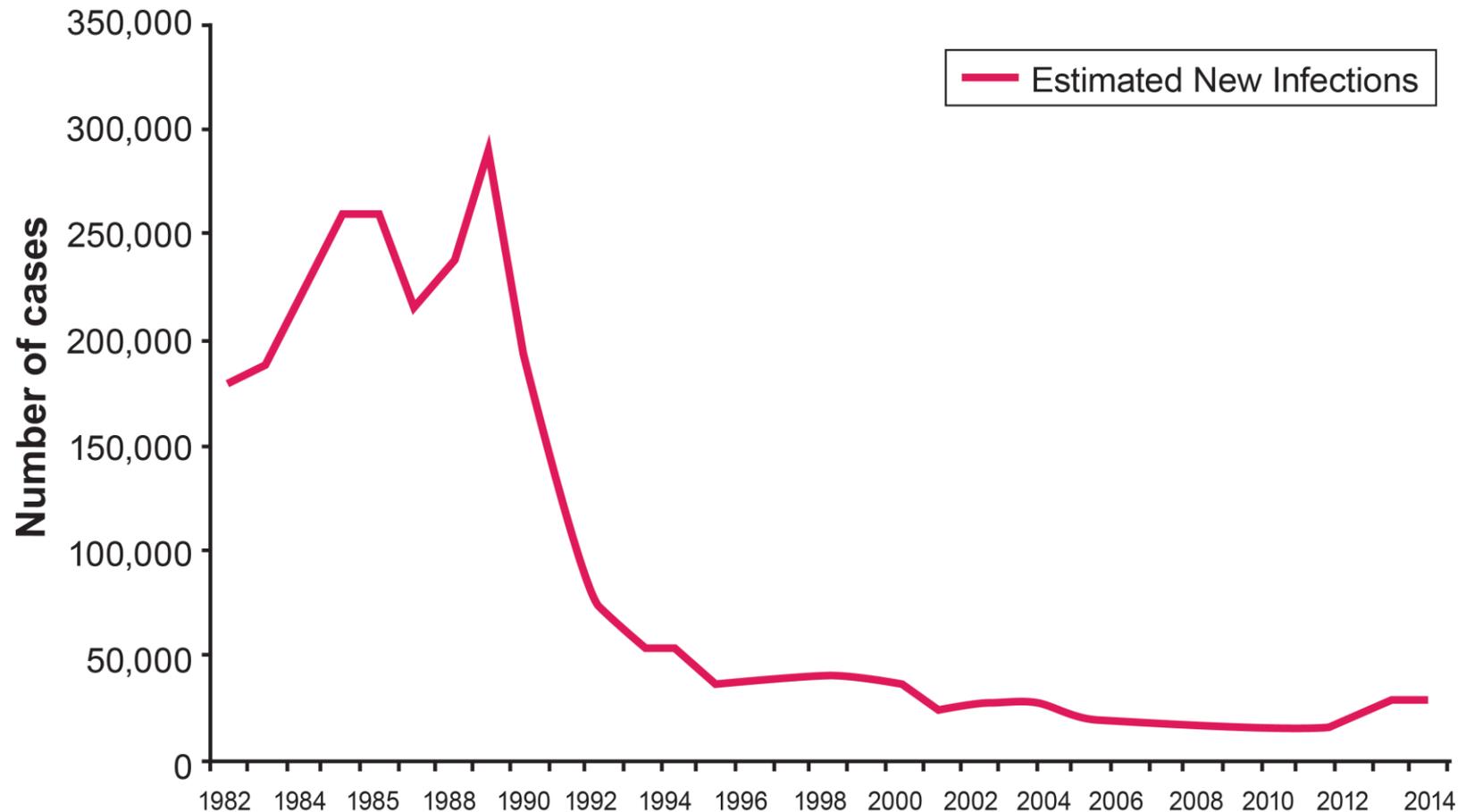
- HCV is the most common chronic blood borne infection<sup>2</sup>
- About 3.5 million people are chronically infected with HCV in the United States<sup>3</sup>
- About half are unaware that they are infected<sup>4</sup>
- The majority of HCV infections occur among individuals born between 1945 and 1965<sup>5</sup>

Haddad, 2015

# Estimated HCV Prevalence by Decade of Birth



# Estimated Incidence of HCV Infection over Time<sup>7</sup>



# PWID Are Most at Risk of HCV Infection<sup>1,8</sup>

- IDU
  - Most common means of HCV transmission in the United States
  - ~33% of PWID aged 18-30 are infected, but these rates are increasing
  - ~70-90% of older PWID are infected
- Intranasal drug use is also a risk factor



# Trends in IDU by Race<sup>9</sup>

- Between 2005 and 2015, the number of new PWID in the progressively increased among Whites and decreased among Blacks
- However, HIV/HCV co-infection remains much more prevalent among Blacks than among Whites, so racial disparities remain prominent among co-infected people

# People with HCV Infection and Incarceration<sup>8</sup>

- 33% of incarcerated persons in the United States are living with HCV
- Treatment in correctional settings would offer significant health benefits to inmates and the communities to which they will return



# Heterosexual Transmission of HCV

- HIV-uninfected men or women engaging in heterosexual activity with HCV-infected partners:
  - Transmission between monogamous heterosexual partners without other risk factors is rare<sup>10</sup>; a recent study estimated the risk as 1/190,000 sexual contacts<sup>11</sup>
  - Risk is increased by having multiple partners, having another STI, or exchanging blood during sex<sup>11</sup>

# Heterosexual Transmission of HCV among PLWH<sup>10</sup>

- PLWH (male and female) engaging in heterosexual activity with HCV-infected opposite sex partners are more likely to acquire HCV infection

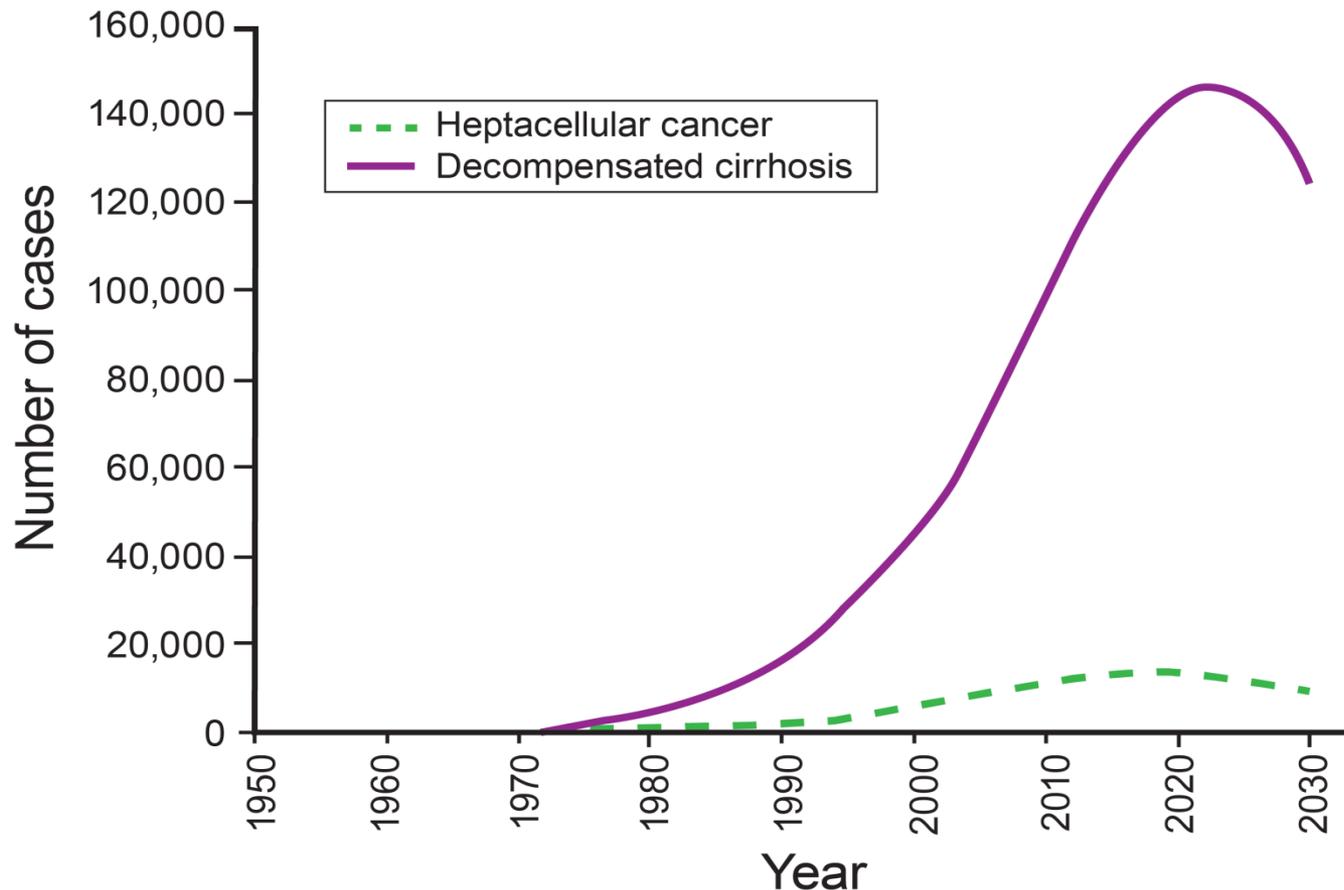
# Sexual Transmission of HCV among MSM<sup>1,10,12</sup>

## Sex with HCV-infected persons

- HIV-uninfected MSM
  - Sexual transmission occurs but is infrequent
- HIV-infected MSM
  - Are at increased risk of sexual transmission of HCV
  - This appears more likely to occur in the context of risk factors such as stimulant use, unsafe sex practices, and genital ulcerations

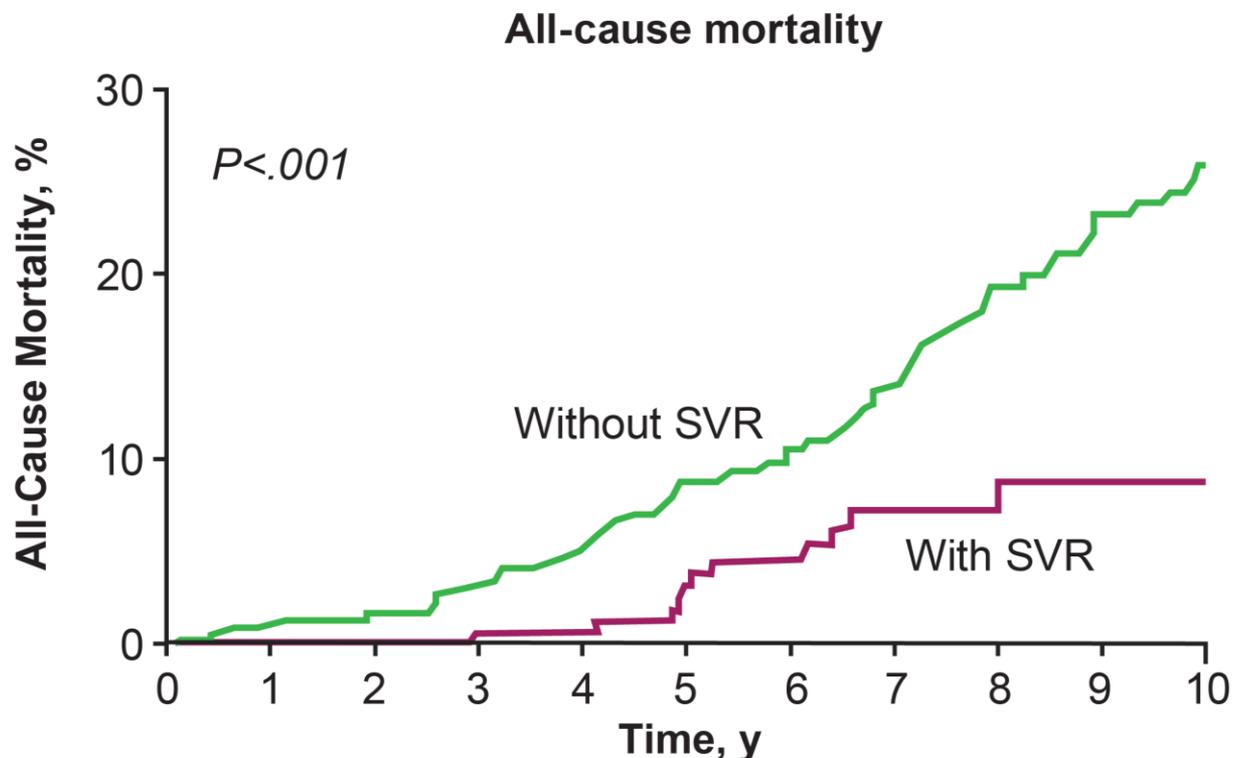
Haddad, 2015

# HCV Morbidity and Mortality without Treatment<sup>13</sup>



Davis, 2010

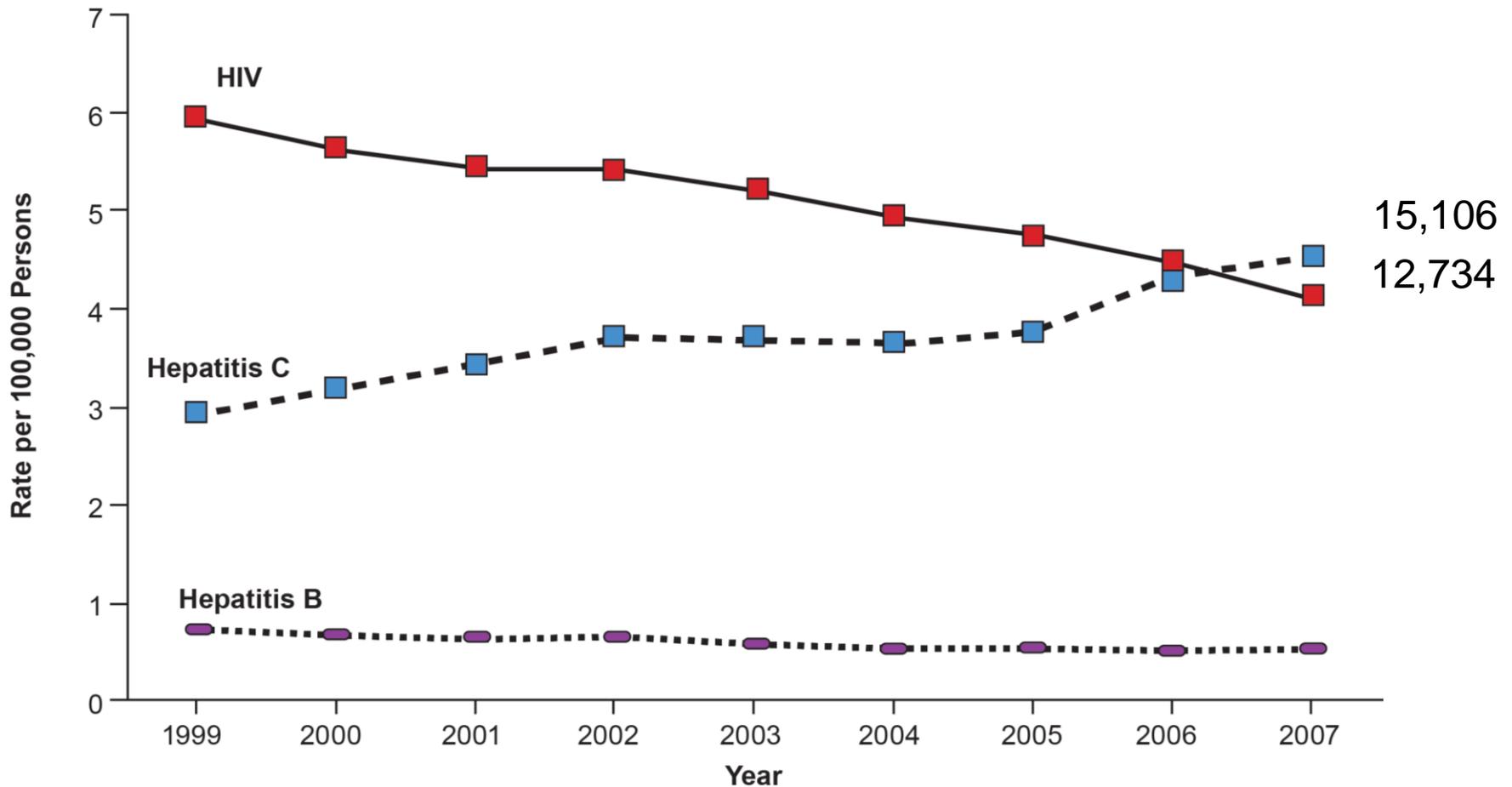
# Effective Treatment Will Significantly Reduce Mortality from HCV Infection<sup>14</sup>



No. at risk

Without SVR	405	393	392	363	344	317	295	250	207	164	135
With SVR	192	181	168	162	155	144	125	88	56	40	28

# HCV Deaths Surpassed HIV Deaths in 2006-7<sup>15</sup>



# About 25% of PLWH in the United States also Have HCV Infection<sup>17,21</sup>

