

# History of Viral Hepatitis

## 1942-1950

Experiments conducted confirming transmissibility of two distinct forms of viral hepatitis (Hepatitis A and B)

## 1963

Major Hepatitis B protein identified that allows for testing of the blood supply

## Mid 1970s

Discovery of Non-A, Non-B Hepatitis as cause for acute hepatitis after transfusion

## 1982 Hepatitis B vaccine becomes available, recommended for at-risk groups

### Current Guidelines for HBV vaccination

- Universal HBV vaccination starting within 24 hours of birth
- Vaccination of children < 19 years old who have not received vaccine prior
- People at risk by sexual exposure
  - Partners of individuals who are HBsAg positive, more than one sexual partner in six months, People seeking evaluation or treatment for STI, men who have sex with men
- People at risk by percutaneous or mucosal exposure
  - Current or recent IDU, household contacts of individuals who are HBsAg positive, residents/staff of facilities for mentally disabled People, health care and public safety personnel, hemodialysis patients, People 19-59 with diabetes
- People with HIV or Hepatitis C
- International travelers to areas with HBsAg prevalence  $\geq$  2%
- People with chronic liver disease
- Incarcerated People
- Anyone seeking protection from Hepatitis B

## 1984

Treatment trials using interferon-based therapies used to treat Non-A, Non-B Hepatitis

## 1989

Identification of Hepatitis C

## 1990

Routine screening of blood supply for HCV begins (more accurate screening implemented in 1992)

## 1991

- Interferon-based therapy for HBV and HCV approved by FDA
- Anti-HBV activity of Lamivudine discovered
- CDC recommends universal childhood vaccination against HBV

## 1995-1996 Approval of first vaccines against Hepatitis A, recommended for higher-risk individuals

### Current Guidelines for HAV vaccination

- All children starting at age 12 months
- International travelers or anticipated close contact with international adoptee
- Men who have sex with men
- People who use drugs
- Occupational risk for exposure
- People living with HIV (PLWH)
- People with chronic liver disease (including HBV and HCV)
- People experiencing homelessness
- Anyone requesting protection from HAV

# 1998

CDC recommends HCV screening for at-risk populations; Lamivudine is first nucleoside analogue approved for HBV treatment; anti-HBV activity of Entecavir discovered

## 1998 HCV screening recommendations for the following at-risk groups

- Injection Drug Use
- Blood/blood product recipients or organ transplantation prior to July 1992
- Non-sterile tattoos/piercings
- Hemodialysis patients
- HIV or HBV infection
- Children born to mothers with HCV
- Occupational exposure
- Persistently abnormal ALT levels
- Any person requesting HCV testing

# 2001

Twinrix vaccination approved for use

## Current guidelines for Twinrix vaccination

- Adults 18+ who have not received documented full series vaccine.
- Full series available at no cost through DPH in NC for any 18+ who have no documented series of hepatitis B vaccine.

# 2005

Entecavir approved for treatment of HBV

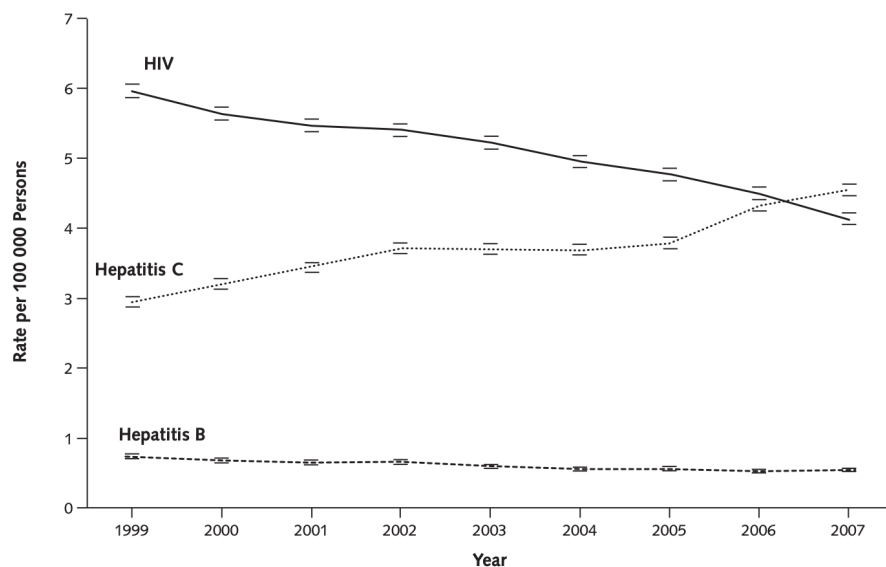
# 2006

CDC recommends expansion of Hepatitis A vaccination to all children

# 2007

Deaths due to HCV surpass HIV-related deaths in US

*Figure.* Annual age-adjusted mortality rates from hepatitis B and hepatitis C virus and HIV infections listed as causes of death in the United States between 1999 and 2007.



Because a decedent can have multiple causes of death, a record listing more than 1 type of infection was counted for each type of infection.

# History of Viral Hepatitis (continued)

**2008**

Tenofovir approved for treatment of HBV

**2012**

CDC recommends expanding Hepatitis C screening to baby boomer cohort (1945-1965)

**2013**

Beginning of Direct Acting Antiviral (DAA) era in HCV treatment

**2014**

First all-oral HCV DAA regimen approved

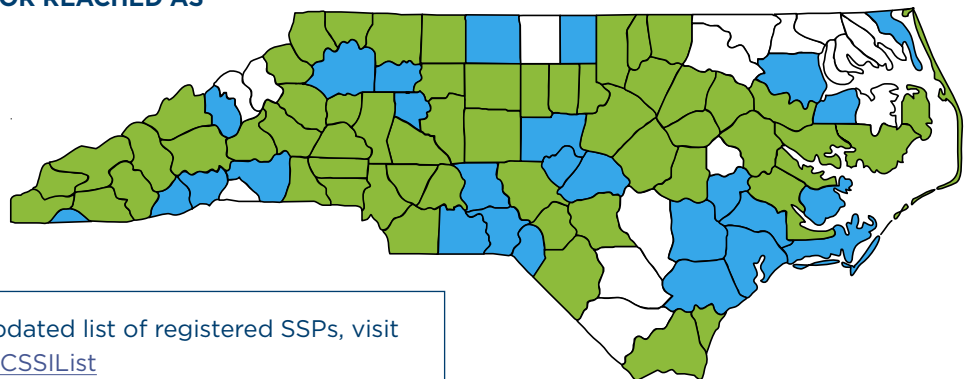
**2016**

First pan-genotypic regimens available for HCV treatment; syringe exchange programs made legal in North Carolina

- **NC State Laboratory of Public Health (SLPH)** HCV risk-based testing begins in NCALHD Regions 1, 2, 3, 8 following vulnerability index identifying counties at highest risk for HCV outbreak
- **SSPs in NC:** [www.ncdhhs.gov/divisions/public-health/north-carolina-safer-syringe-initiative/syringe-services-program-north](http://www.ncdhhs.gov/divisions/public-health/north-carolina-safer-syringe-initiative/syringe-services-program-north)

**NC COUNTIES SERVED OR REACHED AS OF JUNE 30, 2021**

- Directly served
- Additional counties reached



For a continuously updated list of registered SSPs, visit <https://tinyurl.com/NCSSIList>

**2017**

- North Carolina Medicaid removes fibrosis restriction for Hepatitis C treatment approval
- Initiation of the Carolina Hepatitis Academic Mentorship Program (CHAMP)
- Viral Hepatitis Bridge Counselor Program begins

# 2018 SLPH risk-based HBV and HCV testing available to all 85 local health departments in NC;

## Hepatitis B virus testing:

- People and their sexual partners who currently use drugs not as prescribed
- People with a history of drug use
- People who are HIV positive
- Men who have sex with men
- People who have Hepatitis C

## Hepatitis C virus Testing:

- People and their sexual partners who currently use drugs not as prescribed
- People with a history of drug use
- People who are HIV positive
- People with a history of incarceration
- People born between the years of 1945 and 1965

## Hepatitis A outbreak prevention response begins

### Hepatitis A Outbreak Related Vaccine Eligibility

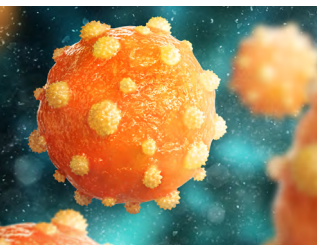
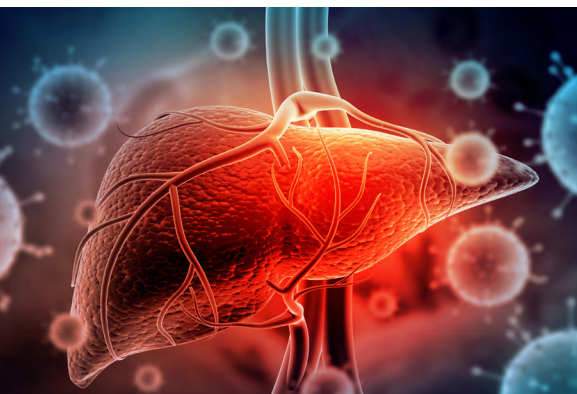
- Individuals in the below at-risk groups may receive one no cost dose of HAV at any North Carolina Immunizations Branch provider site
  - Men who have sex with men (MSM)
  - People who inject drugs (PWID)
- People experiencing homelessness or housing instability

## 2019

- First DAA regimens approved for children and adolescents
- HCV linkage program begins for incarcerated individuals
- Drug User Health Resource Guide created
- First State Viral Task Force begins

## 2020

North Carolina Medicaid lifts substance use restrictions for HCV treatment approval



# History of Viral Hepatitis (continued)

**2020** CDC recommends expanding HCV screening to all adults 18 and older and to pregnant women during each pregnancy



## Universal hepatitis C screening:

- Hepatitis C screening at least once in a lifetime for all adults aged 18 years and older, except in settings where the prevalence of HCV infection (HCV RNA positivity) is less than 0.1%\*
- Hepatitis C screening for all pregnant women during each pregnancy, except in settings where the prevalence of HCV infection (HCV RNA positivity) is less than 0.1%\*

## Hepatitis C testing regardless of age or setting among people with recognized conditions or exposures:

- People living with HIV (PLWH)
- People who ever injected drugs and shared needles, syringes, or other drug preparation equipment
- People with selected medical conditions, including:
  - people who ever received maintenance hemodialysis
  - people with persistently abnormal ALT levels
- Prior recipients of transfusions or organ transplants, including:
  - people who received clotting factor concentrates produced before 1987
  - people who received a transfusion of blood or blood components before July 1992
  - people who received an organ transplant before July 1992
  - people who were notified that they received blood from a donor who later tested positive for HCV infection
- [Healthcare, emergency medical, and public safety personnel after needle sticks, sharps, or mucosal exposures to HCV positive blood \(pdf\)](#)
- Children born to mothers with HCV infection

## Routine periodic testing for people with ongoing risk factors, while risk factors persist:

- People who currently inject drugs and share needles, syringes, or other drug preparation equipment
- People with selected medical conditions, including:
  - people who ever received maintenance hemodialysis

**Any person who requests hepatitis C testing should receive it, regardless of disclosure of risk, because many People may be reluctant to disclose stigmatizing risks**

**2021**

- HCV testing adopted in NC SLPH perinatal panels; Perinatal HCV linkage project kickoff
- Quantitative HCV screening

