

Hepatitis C Uncovered: From Transmission to Treatment

Sarah Weninger, HIV.STI.Hepatitis Prevention Coordinator

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NORTH
Dakota
Be Legendary.

Health & Human Services



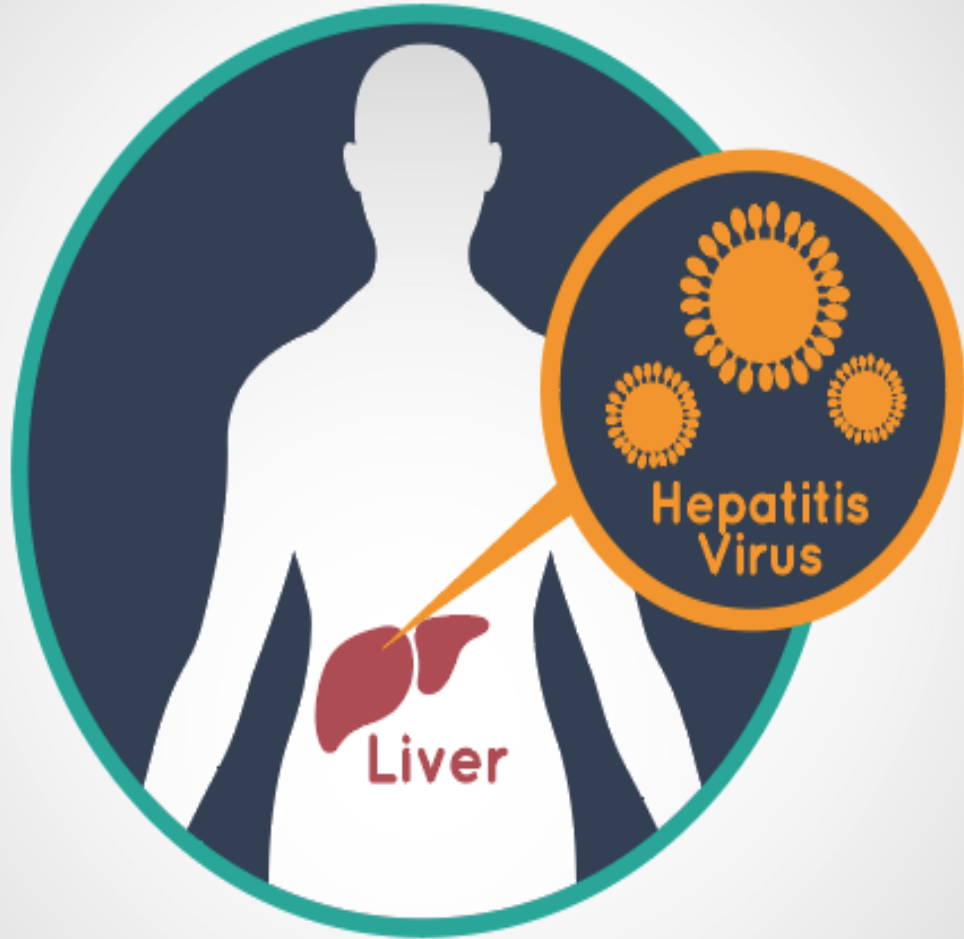
MAY

**HEPATITIS
AWARENESS MONTH**



**Millions of Americans
are living with
viral hepatitis.
Many don't know it.**

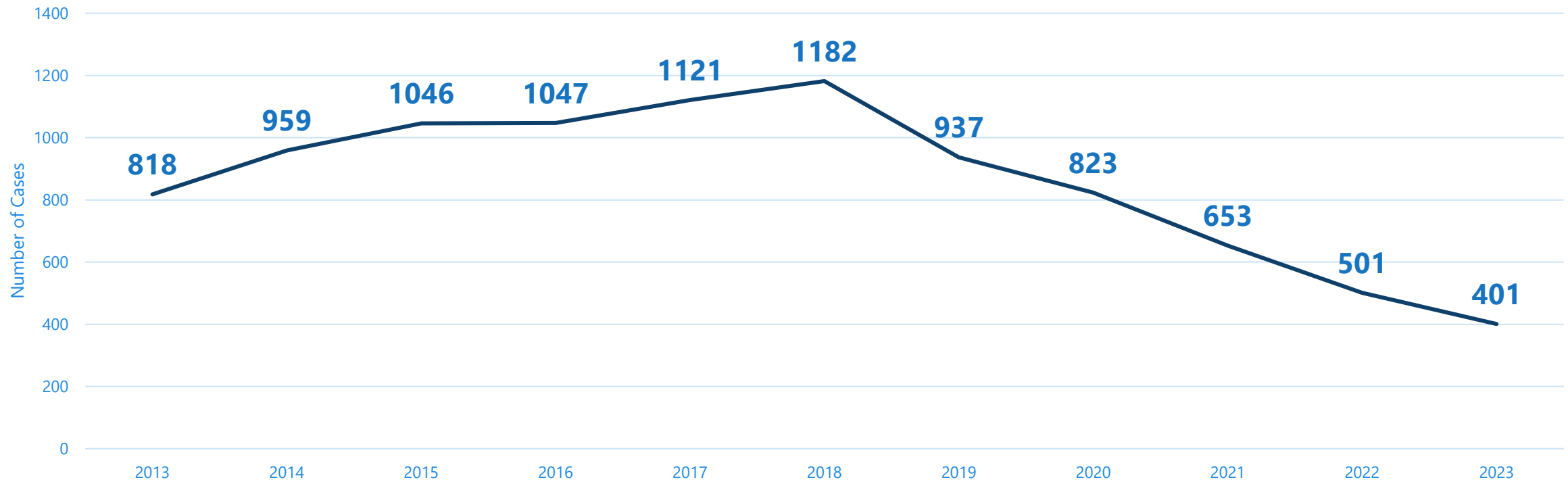
WHAT IS HEPATITIS?



- Inflammation of the Liver
 - Liver: processes nutrients, filters the blood, and fights infections.
 - Due to alcohol, toxins, some medications, etc.
- Most Common Viral Hepatitis In U.S.: A, B & C

There has Been A Sharp Decline in Reported HCV Infections since 2020

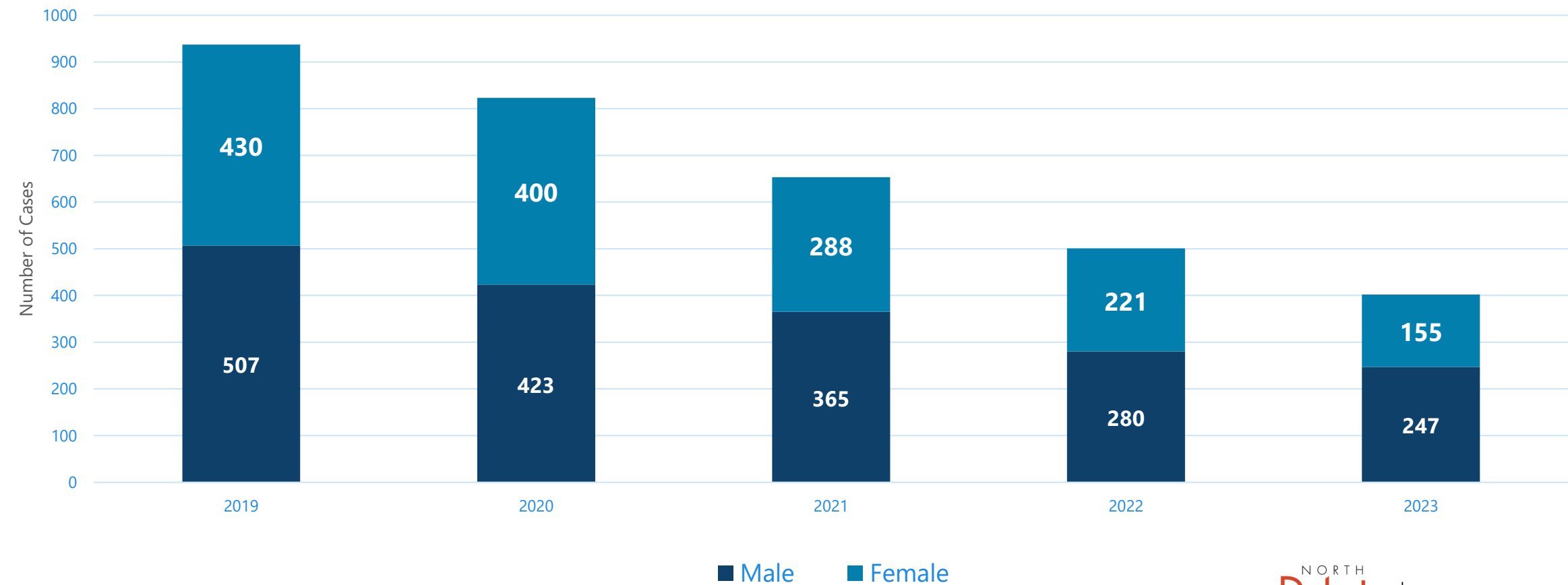
Hepatitis C Chronic, North Dakota
2013-2023



Source: NDHHS Sexually Transmitted and Bloodborne Diseases Unit

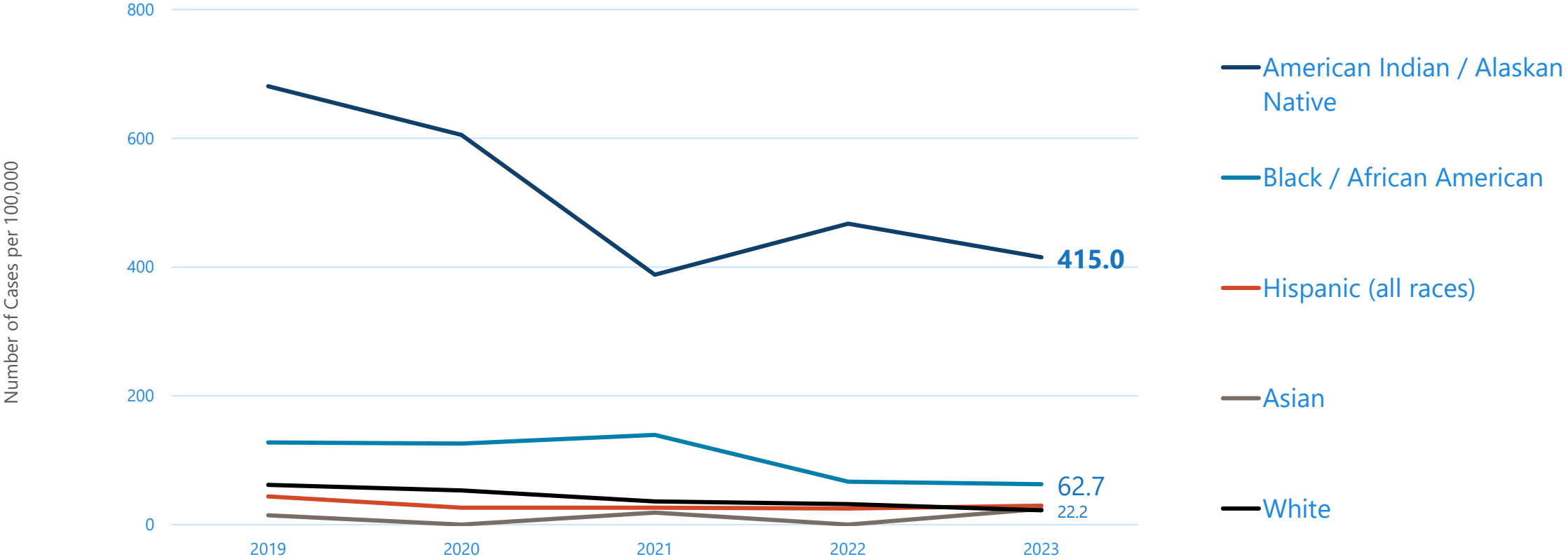
About 60% of HCV Cases in 2023 Were Reported Among Males

Chronic HCV Case Count by Gender,
North Dakota 2019-2023



Source: NDHHS Sexually Transmitted and Bloodborne Diseases Unit

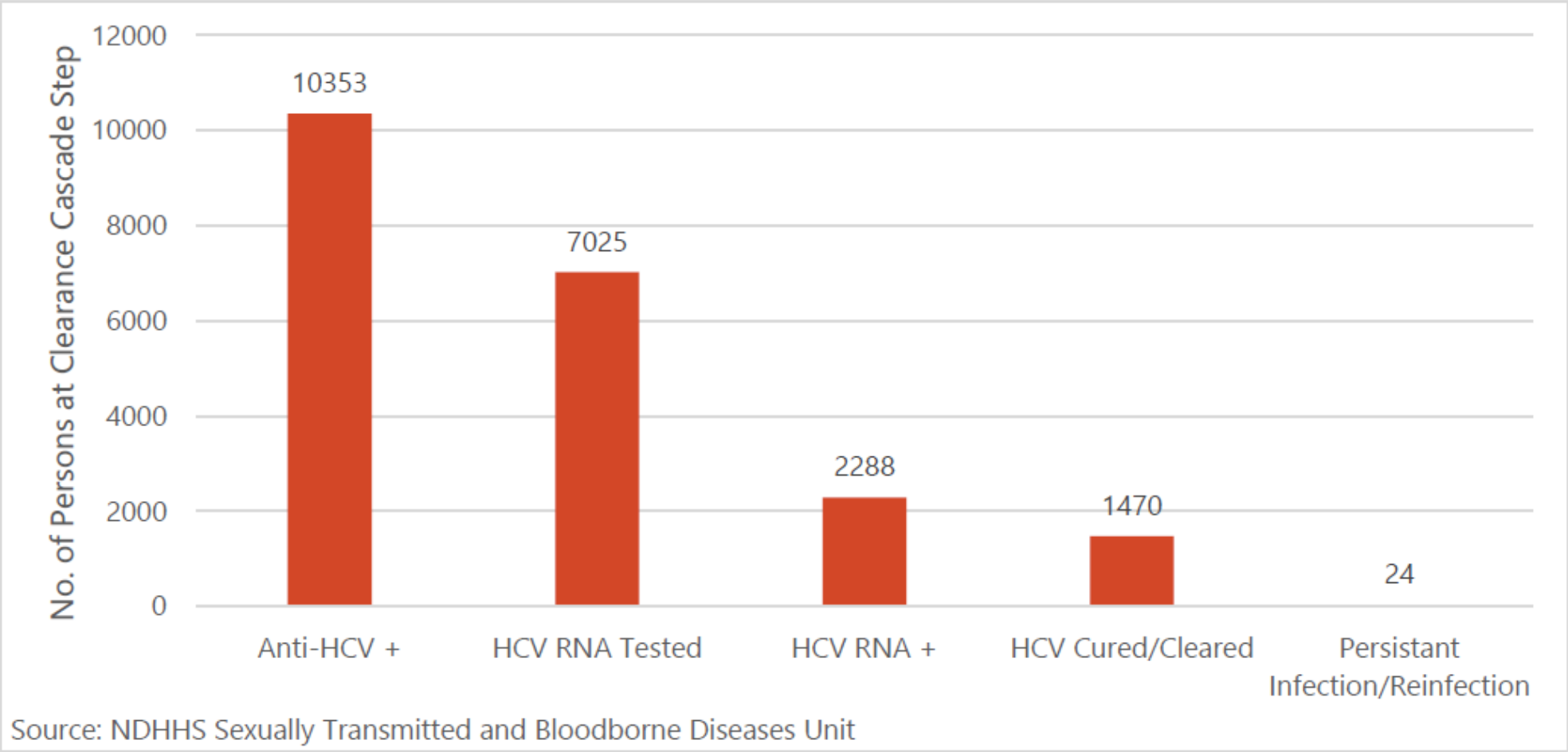
There Has Been a 40% Decrease in the HCV Infection Rate Among American Indians from 2019 - 2023



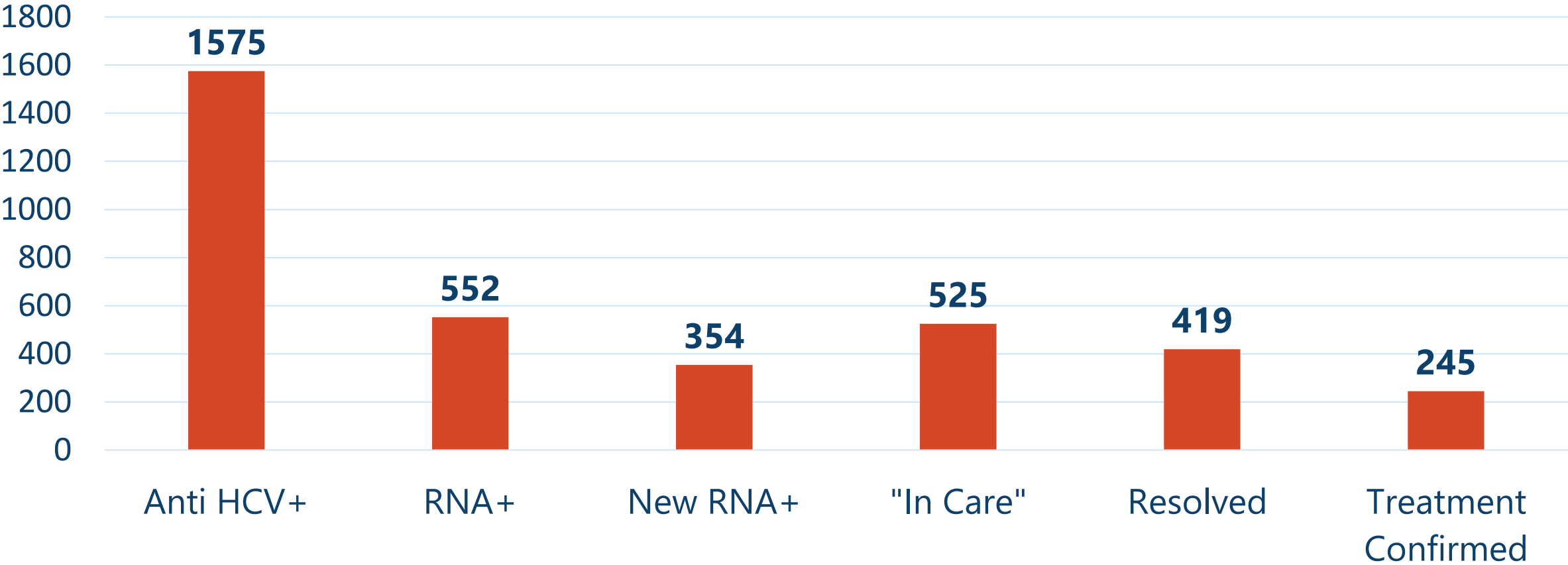
Source: NDHHS Sexually Transmitted and Bloodborne Diseases Unit

Of Those with HCV from 2019 – 2023, 64% are Cured

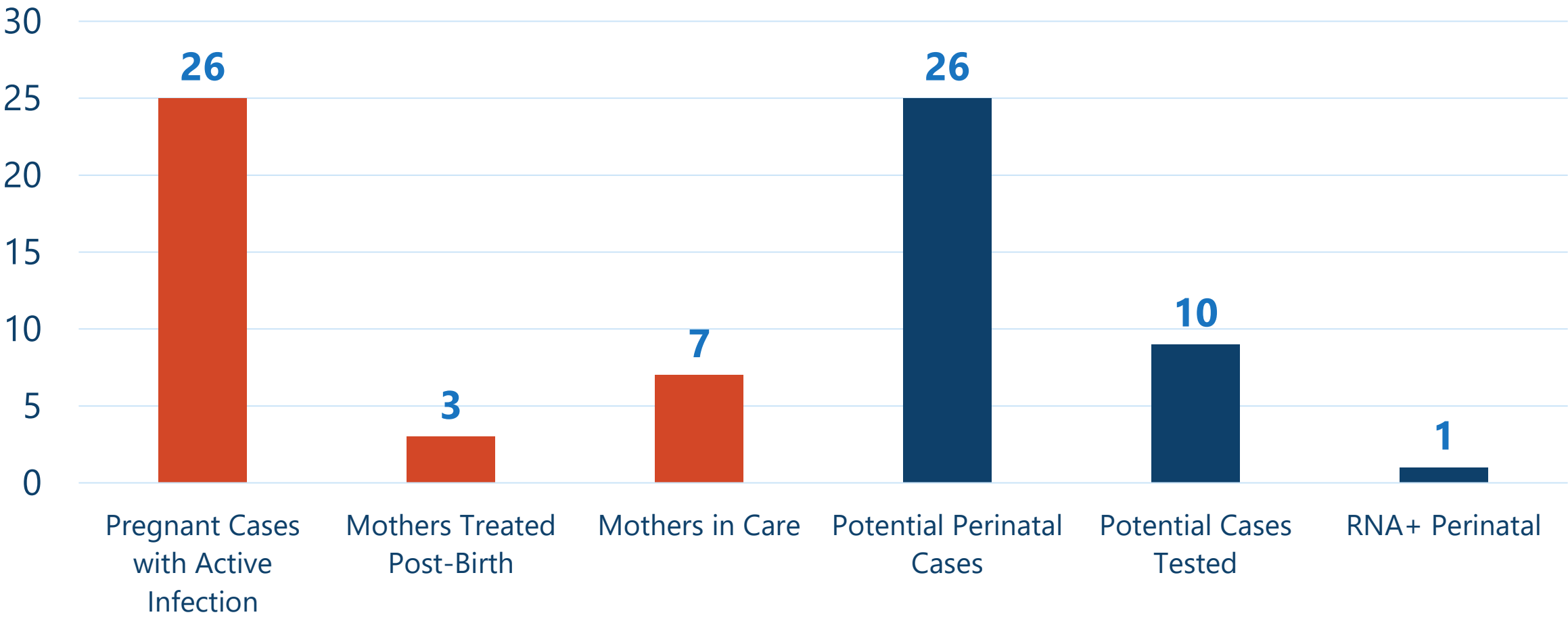
Figure 42. Chronic HCV clearance cascade in North Dakota 2019-2023



2024 Hepatitis C Care Continuum



Perinatal 2024 Continuum



Hepatitis C

- Nearly 3% of worldwide population has chronic HCV infection
- Most common blood-borne infection in United States
- Up to 75% unaware of their HCV infection
- 3.2 million people in the U.S. infected with Hepatitis C

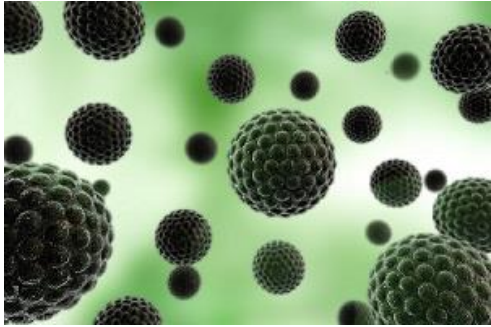


Hepatitis C is often a Chronic Disease.

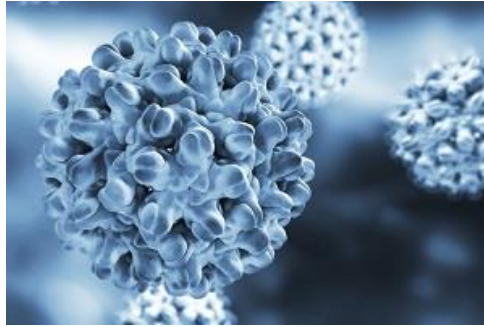
- Leading Indication for Liver Transplant in the U.S.
- 80% of people are asymptomatic
- Chronic & Acute illness
 - Chronic: 55-85% of Infected People



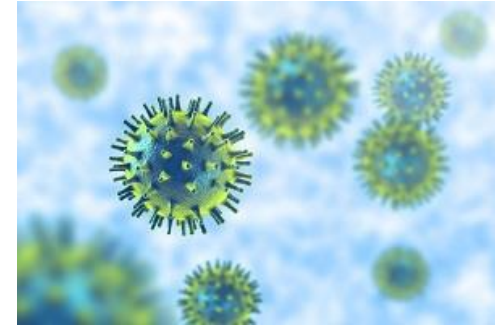
Acute vs. Chronic Hepatitis



Hepatitis A
Only Acute



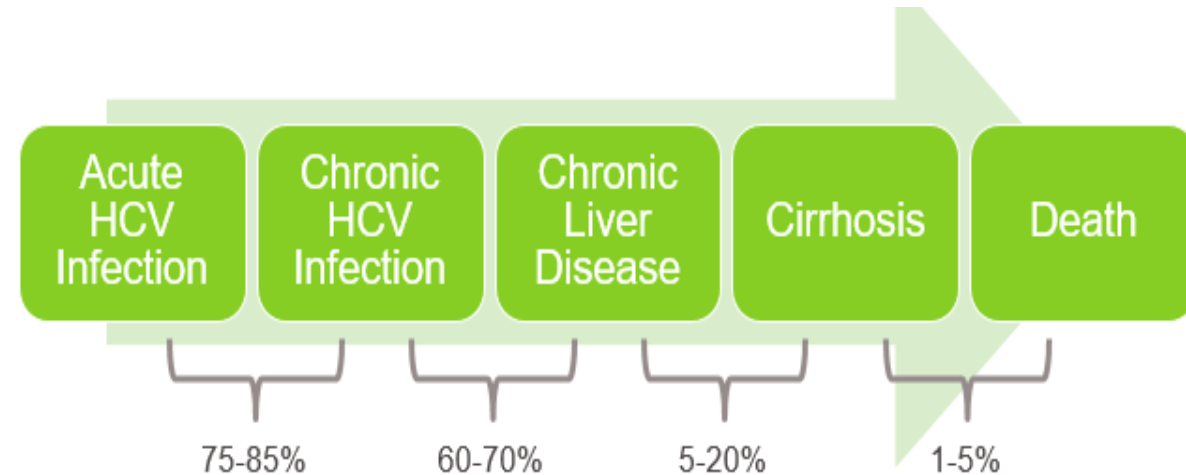
Hepatitis B
**90% Infants Infected
Become Chronic**
**5% of Adults Infected
Become Chronic**



Hepatitis C
**Most develop
into Chronic
Infections**

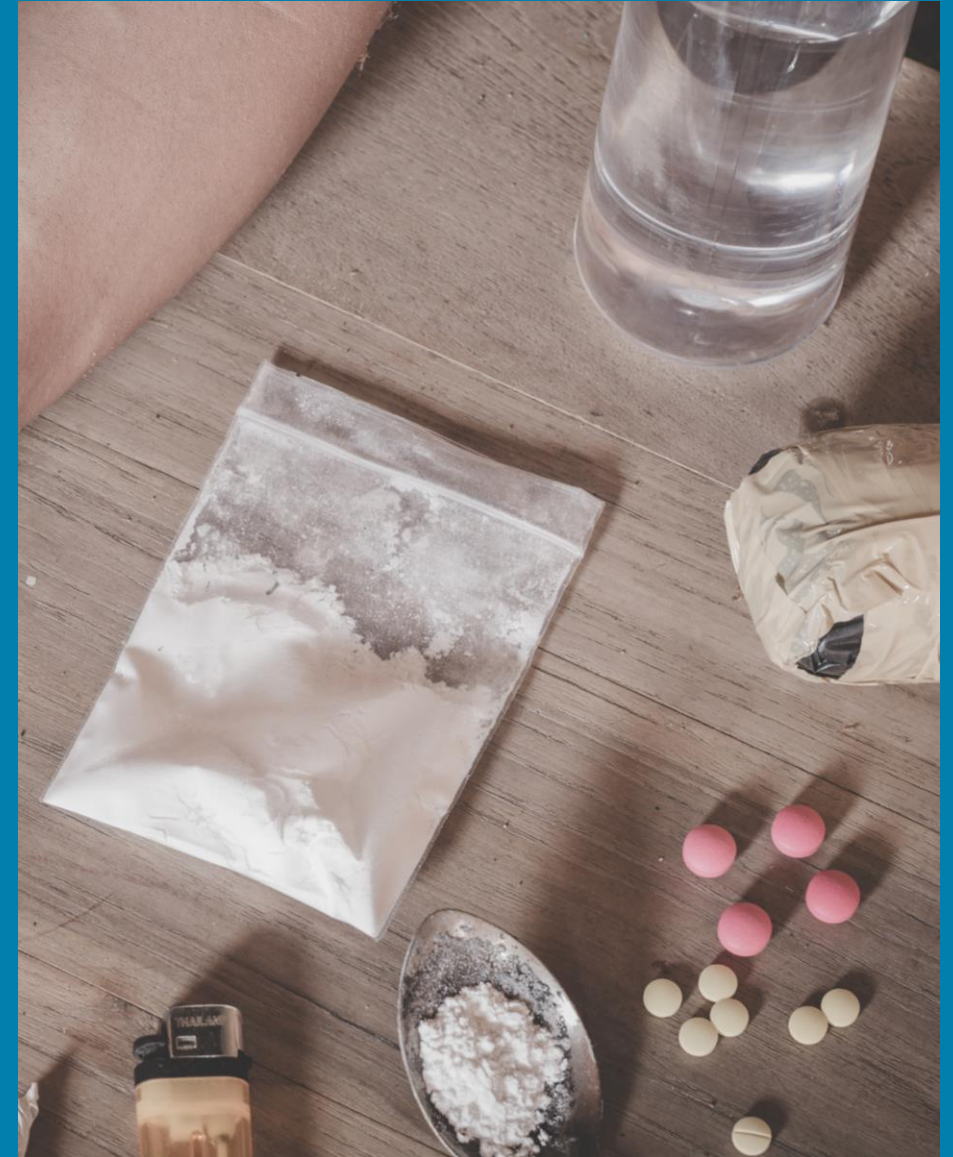
Hepatitis C Can Progress to Liver Cancer

- Acute HCV: 15 % to 25% - spontaneous resolution of infection
- Of every 100 people infected with HCV, approximately:
 - 75-85 will go on to develop chronic infection; 10-20 will go on to develop cirrhosis over a period of 20-30 yrs.
- Among patients with cirrhosis, there is:
 - 1-5% annual risk of hepatocellular carcinoma
 - 3-6% annual risk of hepatic decompensation, for which the risk of death in the following year is 15-20%
 - Rates of progression to cirrhosis are increased in the presence of a variety of factors: males > females, age >50 years, alcohol, nonalcoholic fatty liver disease, HBV or HIV coinfection, immunosuppressive therapy

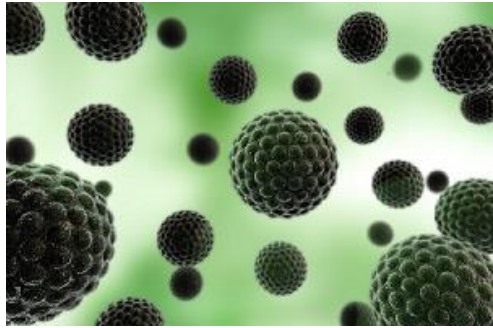


Hepatitis C is Most Often Transmitted Through Sharing Needles.

- Persons who inject drugs
- Recipients of clotting factors made before 1987
- Hemodialysis patients
- Recipients of blood and/or solid organs donated before 1992
- People with undiagnosed liver problems
- Infants born to HCV-infected mothers (after 15-18 months of age)
- Men who have sex with men
- Persons with HIV infection.



Varying Routes of Transmission



Hepatitis A

Fecal-Oral

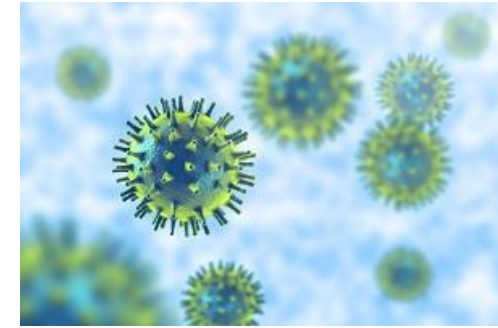
- Close person-to-person contact with an infected person
- Sexual Contact with an infected person
- Ingestion of contaminated food or water



Hepatitis B

Percutaneous, mucosal, or nonintact skin exposure to infectious blood, semen and/or other body fluids

- Birth to infected pregnant person
- Sexual contact with infectious person
- Sharing needles, syringes and other equipment to inject drugs



Hepatitis C

Direct percutaneous exposure to infectious blood

- Sharing needles, syringes and other equipment to inject drugs

Baby Boomers Should Be Tested For Hepatitis C

Age Based Screening Recommendation:

- All persons born between 1945 & 1965 should be screened for Hepatitis C without an assessment of risk.
- Approximately 75% of Hepatitis C Cases in the U.S. are Baby Boomers



Updated HCV Screening Recommendations in 2020

Universal HCV Screening – New Recommendations:

- Hepatitis C screening at least once in a lifetime for all adults aged ≥ 18 years
- Hepatitis C screening for all pregnant women during each pregnancy



Hepatitis B & C Have Universal Screening Recommendations.



- Hepatitis A Screening – Based on Symptoms & Risk History
- **Hepatitis B :New Recommendation in March 2023**
 - Screen all adults aged 18 years and older at least once in their lifetime using a triple panel test
- Hepatitis C – New Recommendation in April 2020
 - Hepatitis C screening at least once in a lifetime for all adults aged ≥ 18 years

Hepatitis C Testing

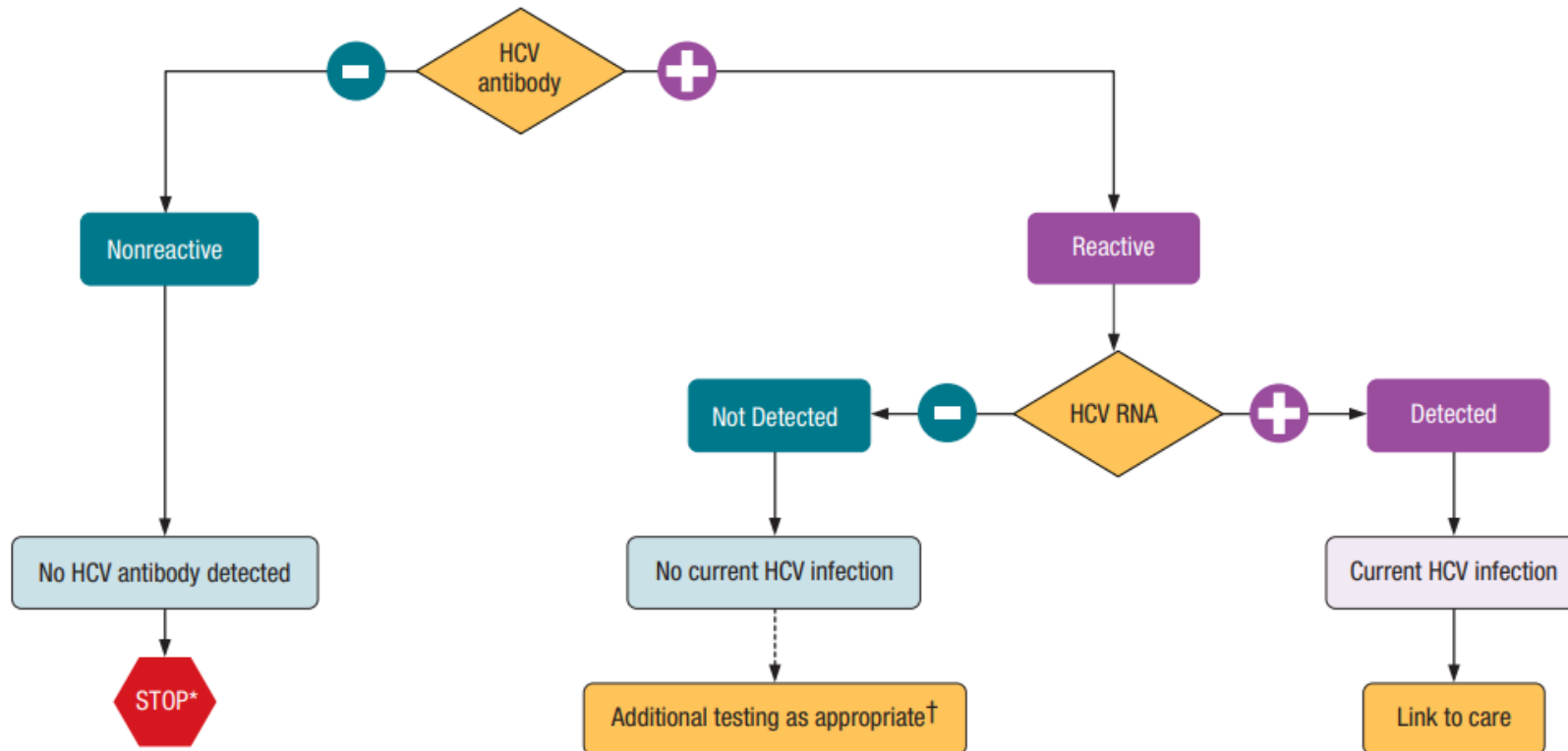
- **Hepatitis C Antibody (Anti-HCV):** This antibody is produced in response to hepatitis C virus. The HCV antibody generally is positive for life after exposure. This test alone cannot distinguish between acute, chronic and resolved hepatitis C infections.
- **Hepatitis C RNA:** This test is a marker of viremia and is detected with a nucleic acid test. RNA testing can be qualitative and quantitative.
- **Hepatitis C Genotype:** Genotype generally has not been found in epidemiological studies to play a large role in liver disease progression due to HCV. Rather, genotype is of clinical importance principally as a factor in response to HCV treatments.

Following Hepatitis C Screening Algorithm

Recommended Testing Sequence for Identifying Current Hepatitis C Virus (HCV) Infection



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention



Hepatitis C Test Interpretation.

TEST OUTCOME	INTERPRETATION	FURTHER ACTIONS
HCV antibody nonreactive	No HCV antibody detected	Sample can be reported as nonreactive for HCV antibody. No further action required. If recent exposure in person tested is suspected, test for HCV RNA.*
HCV antibody reactive	Presumptive HCV infection	A repeatedly reactive result is consistent with current HCV infection, or past HCV infection that has resolved, or biologic false positivity for HCV antibody. Test for HCV RNA to identify current infection.
HCV antibody reactive, HCV RNA detected	Current HCV infection	Provide person tested with appropriate counseling and link person tested to care and treatment. [†]
HCV antibody reactive, HCV RNA not detected	No current HCV infection	No further action required in most cases. If distinction between true positivity and biologic false positivity for HCV antibody is desired, and if sample is repeatedly reactive in the initial test, test with another HCV antibody assay. In certain situations, [§] follow up with HCV RNA testing and appropriate counseling.

Which Person Has Hepatitis C Infection?

Patient 1

- Hepatitis C Ab Positive
- Hepatitis C RNA Negative

Patient 2

- Rapid Hepatitis C Positive
- Hepatitis C Ab Negative

Which Person Has Hepatitis C Infection?

Patient 3

- Rapid Hepatitis C Positive
- Hepatitis C Ab Positive
- Hepatitis C RNA Positive

Patient 4

- Rapid Hepatitis C Positive
- Hepatitis C RNA Negative

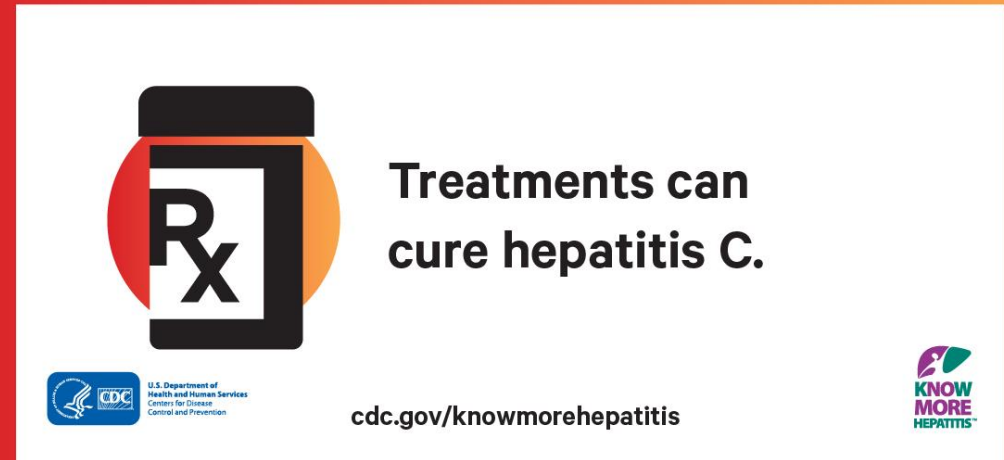
VIRAL HEPATITIS & PREGNANCY

- **Hepatitis A**
 - Unlikely to have vertical transmission
- **Hepatitis B**
 - 40% infants become HBV- infected if proper post-exposure immunoprophylaxis is not provided.
- **Hepatitis C**
 - 4% - 8% risk of mother to child transmission
 - Breastfeeding does not spread hepatitis C



Hepatitis C Treatment Has Cure Rates Almost at 100%.

- Treatment Goal: To achieve a **sustained virologic response (SVR)** and delay or stop progress to more serious liver damage
- Treatment is expensive and may come with provisions of being alcohol/drug free for a certain length of time before treatment
- Treatment can now be as short as 8 weeks
- Support Healthy Liver: Nutrition, Exercise, Healthy Lifestyle



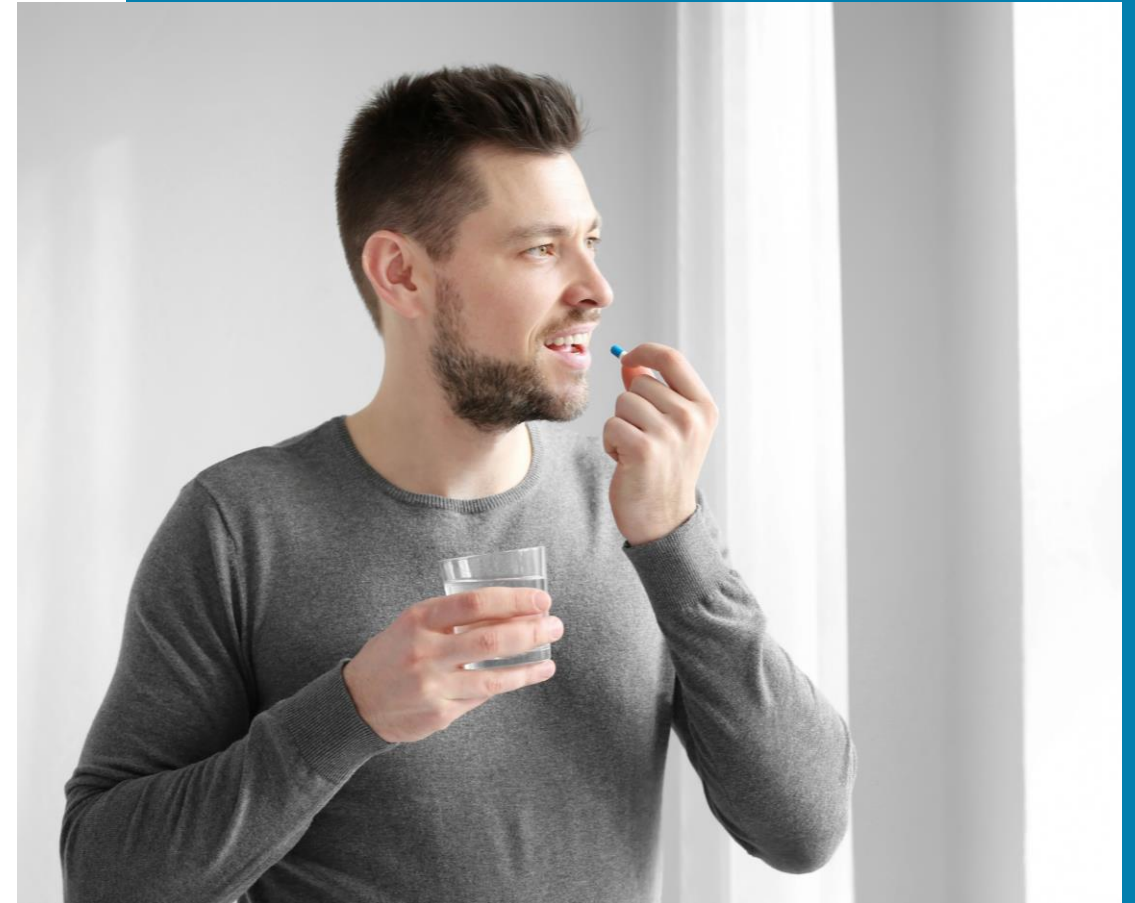
Facts About Hepatitis C Treatment

- **Reduce liver fibrosis**/disease progression (and the need for liver transplantation), can even see reduction in the degree of fibrosis
- **Reduce complications** such as decompensated cirrhosis and hepatocellular carcinoma
- Prior to Treatment Initiation:
 - Liver Staging in HCV: APRI, FIB4 for cirrhosis/advanced fibrosis determination
 - Abdominal ultrasound (US), Elastography
 - Liver biopsy: Invasive



Treatment for Hepatitis C is Effective

- **SVR12 rates with guideline-based HCV DAA regimens are $\geq 95\%$** in the majority of cases (when adhered to)
 - Lower in decompensated cirrhosis, previous treatment failures, and in cases of non-adherence to entirety of regimen
- **Once per day oral regimen** given as combination therapy (more than one DAA)
 - All regimens approved after 2015 are manufactured in combination tablet(s)
- **Length of therapy is 8-12 weeks** for most patients, some scenarios require 16-24 weeks
- **Very well tolerated** with mild to moderate fatigue and headache as main side effects, occurs in minority of patients
- On Treatment Monitoring: Clinic visits and telephone contact recommended by guidelines

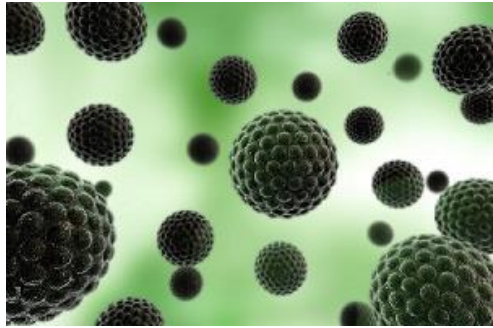


Coverage Options for Hepatitis C Treatment

- ND Medicaid
 - Harm Reduction Education
 - Not Acute
- Patient Assistance Programs
- Commercial Insurance



Only HCV Can Be Cured with Medication.



Hepatitis A

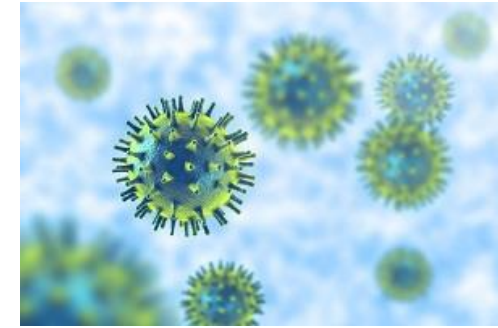
Only Supportive
Therapy



Hepatitis B

Antiviral Drugs
for Chronic
Infections

- 15% - 25% of people with chronic infection develop chronic liver disease, cirrhosis, liver failure or liver cancer



Hepatitis C

More Than 95% of
People Can be
Cured with 8 to 12
Weeks of Oral
Therapy

- 1% - 5% Annual Risk of Hepatocellular carcinoma

Hepatitis C Can Be Prevented.

- New syringe, cooker, cotton etc. every time for injection
- Use barriers and lubricants
- Cover open cuts/wounds
- Use universal precautions
- Don't share personal items that may contain blood (toothbrush/razor)
- Ensure instruments used for tattooing, piercing, acupuncture are new or sterilized



Users of SSPs were three times more likely to stop injecting drugs.

SYRINGE SERVICE PROGRAMS

Scientists, including those at the Centers for Disease Control and Prevention (CDC), have studied SSPs for more than 30 years and found that comprehensive SSPs benefit communities.



SSPs save lives by lowering the likelihood of deaths from overdoses.



Providing testing, counseling, and sterile injection supplies helps prevent outbreaks of other diseases. For example, SSPs are associated with a 50% decline in the risk of HIV transmission.



Users of SSPs were three times more likely to stop injecting drugs.



Law enforcement benefits from reduced risk of needlesticks, no increase in crime, and the ability to save lives by preventing overdoses.



When two similar cities were compared, the one with an SSP had 86% fewer syringes in places like parks and sidewalks.

Important Facts About Hepatitis C

- Can be transmitted without the presence of symptoms.
- It is sometimes not clear to patients which form of hepatitis that they have or had.
- Hepatitis C has curative therapies.
- Hepatitis C is not vaccine preventable.
- Hepatitis C has universal screening recommendations.
- Hepatitis C active infection confirmed with RNA test.

Hepatitis C Continuing Education

- <https://www.hepatitisc.uw.edu/>
- Earn CME, CNE, CE

The screenshot shows the homepage of the Hepatitis C Online website. At the top, there is a navigation bar with the following links: QUICK REFERENCE, SELF STUDY, HCV MEDICATIONS, TOOLS & CALCULATORS, CLINICAL CHALLENGES, MINI-LECTURES, CLINICAL CONSULTATION, HCV BIOLOGY, and a search icon. A 'SIGN IN / REGISTER' button is located in the top right corner. The main content area is divided into two sections. On the left, there is a large teal box with the title 'Hepatitis C Online' and the subtitle 'A free educational website from the University of Washington Infectious Diseases Education & Assessment (IDEA) Program'. Below this, there are two buttons: 'ABOUT' and 'CONTRIBUTORS'. Further down, it states 'Funded by Centers for Disease Control and Prevention (CDC) Cooperative Agreement (CDC-RFA-PS21-2105)'. On the right, there is a grid of 12 icons representing various aspects of hepatitis C: a virus particle, a liver, a blood test tube, a pill, a hand, a liver, a syringe, a liver, a person's back, a pill, two syringes, and a virus particle.

ND HHS Hepatitis C Advisory Council & Consultant

ND Viral Hepatitis Elimination Goals



GOAL 1

Prevent New
Hepatitis C
Infections



GOAL 2

Improve
Hepatitis C -
Related Health
Outcomes of
People with
Hepatitis C



GOAL 3

Reduce
Hepatitis C -
Related
Disparities
and Health
Inequities



GOAL 4

Improve Viral
Hepatitis
Surveillance
and Data
Usage



GOAL 5

Achieve
Integrated,
Coordinated
Efforts That
Address the
Viral Hepatitis
Epidemics
Among All
Partners

- Established ND Hepatitis C Elimination Plan
 - <https://www.hhs.nd.gov/viral-hepatitis/elimination>
- Amber Slevin, PharmD
 - hepatitis@nd.gov
 - Provides hepatitis C education and case consultation

Sexually Transmitted & Bloodborne Diseases Division

VIRAL HEPATITIS NATIONAL STRATEGIC PLAN

OVERARCHING GOAL:

**Elimination
by 2030**

“The United States will be a place where new viral hepatitis infections are prevented, every person knows their status, and every person with viral hepatitis has high-quality health care and treatment and lives free from stigma and discrimination. This vision includes all people, regardless of age, sex, gender identity, sexual orientation, race, ethnicity, religion, disability, geographic location, or socioeconomic circumstance.”

- **Sarah Weninger**
 - HIV.STI.Hepatitis Prevention Coordinator
 - 701.328.2366
 - sweninger@nd.gov