
STOP HCC-HCV



HEPATITIS C: FROM THREAT TO A CURE

UT Health San Antonio
and
UT Southwestern Medical Center

HEPATITIS C VIRUS (HCV) OVERVIEW

What is
HCV?

Prevalence

Effects

Prevention

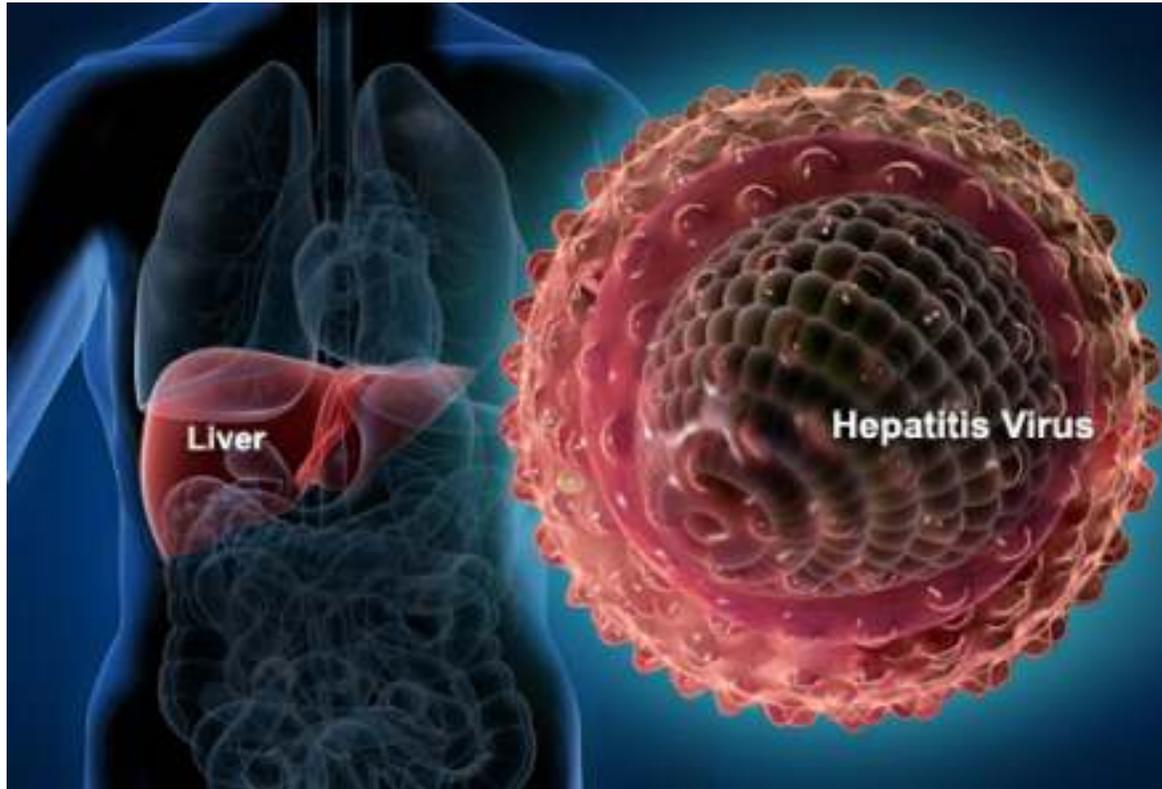
Diagnosis

Education

Treatment

Financial
Toxicity

HEPATITIS C VIRUS



- Flaviviridae group of virus (RNA)- along with Zika, Ebola, SARS, HIV
- Discovered in 1989
- Blood borne infection
- Acute infection: short term illness but in 60-85% can lead to
- Chronic infection: long-term, potentially deadly

HCV PREVALENCE AND INCIDENCE

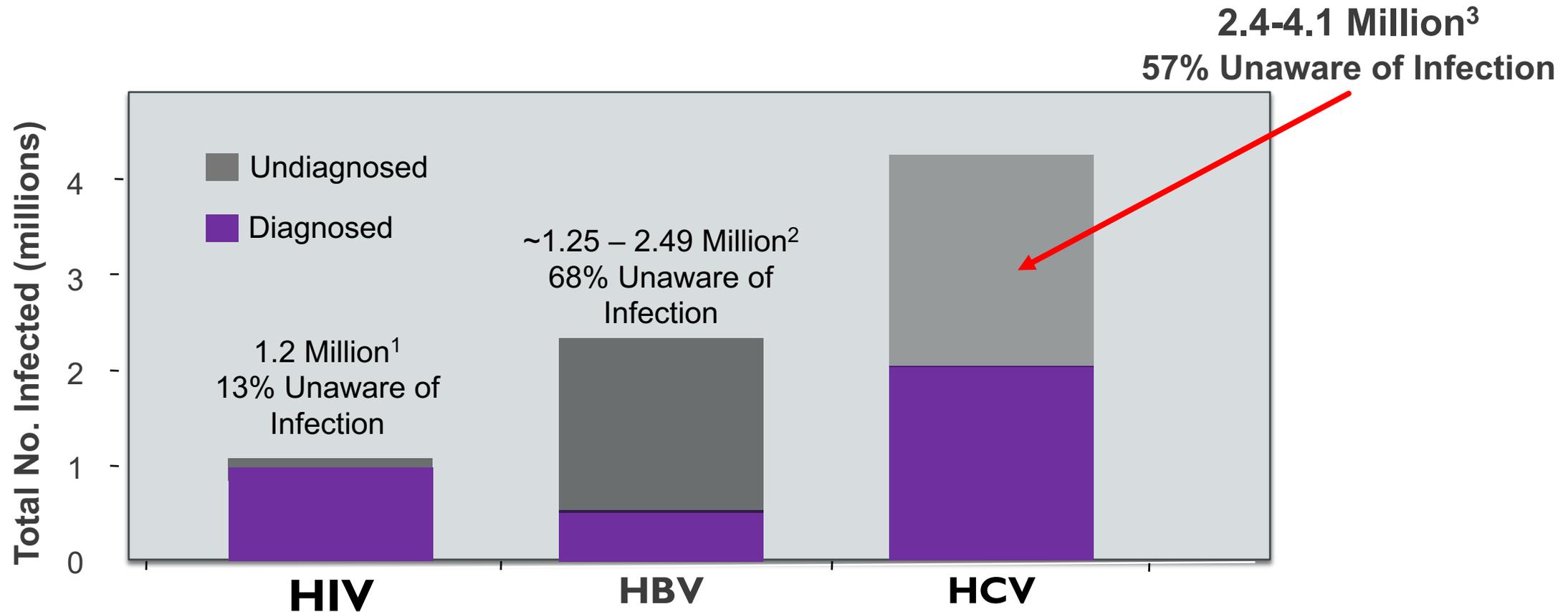
UNITED STATES AND TEXAS



HCV STATISTICS

- An estimated 4 million persons have HCV
- Nationally HCV is the most common blood borne infection
- Cirrhosis develops in 10% - 20% of persons with chronic HCV after 20 to 30 years

HCV IS NEARLY 4 TIMES MORE PREVALENT THAN HIV AND HBV

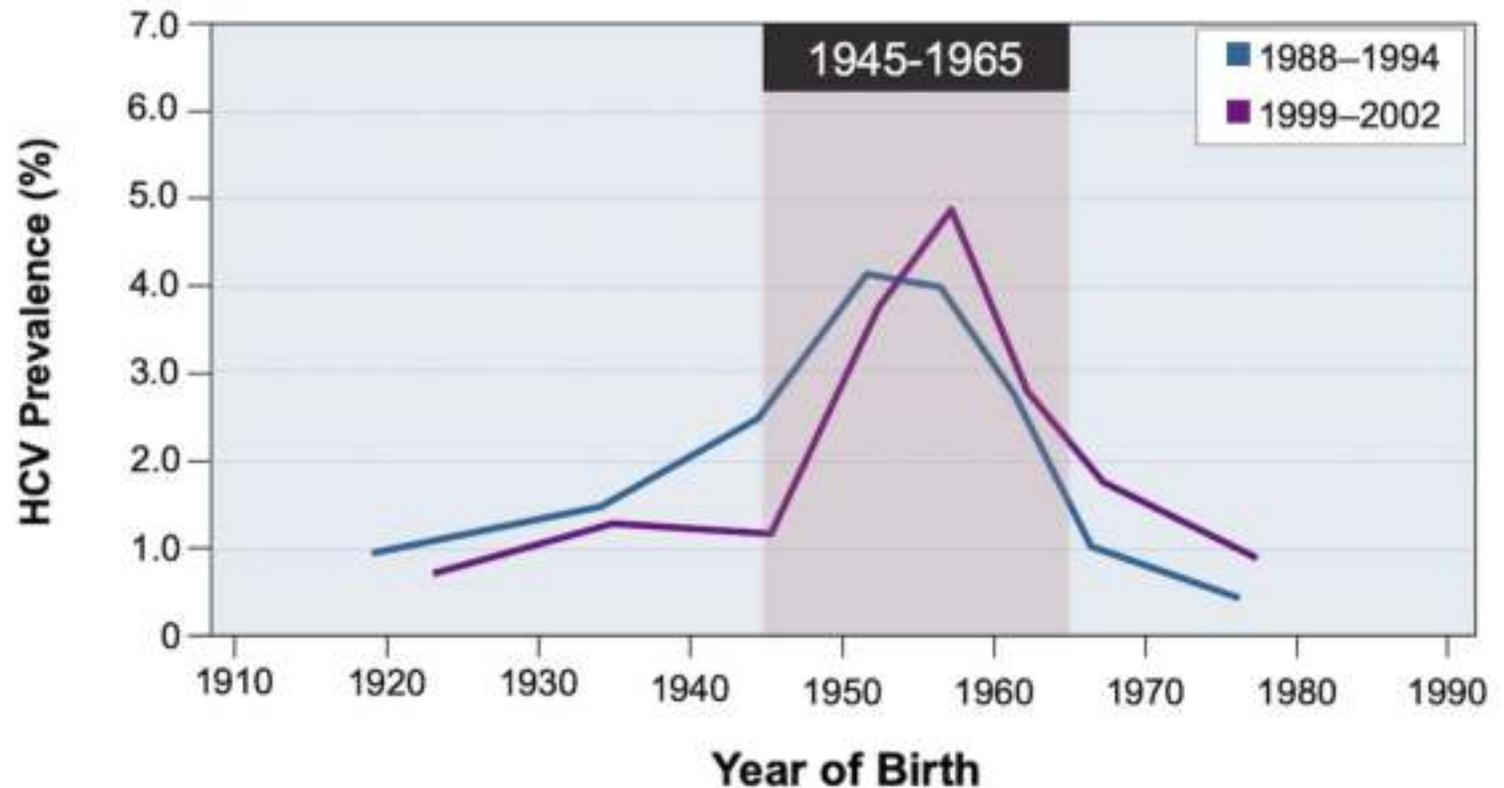


HBV=hepatitis B virus; HCV=hepatitis C virus; HIV= human immunodeficiency virus
1. HIV Surveillance Supplemental Report 2021;26(1).

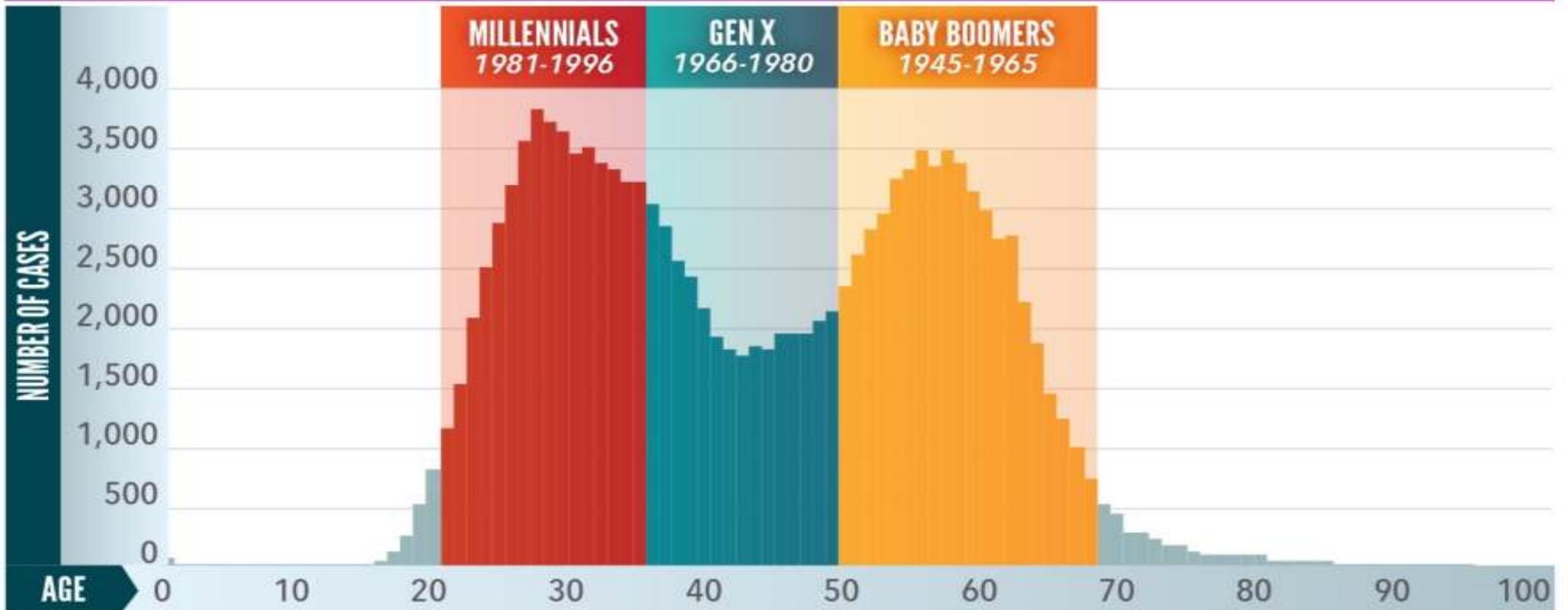
2. Lim, J., Nguyen, M., Kim, W., Gish, R., Perumalswami, P., & Jacobson, I. (2020). Prevalence of Chronic Hepatitis B Virus Infection in the United States. American Journal Of Gastroenterology, 115(12), 2033-2041.
3. Hofmeister, M., Rosenthal, E., Barker, L., Rosenberg, E., Barranco, M., & Hall, E. et al. (2018). Estimating Prevalence of Hepatitis C Virus Infection in the United States, 2013-2016. Hepatology, 69(3), 1033-1041.

80% OF AMERICANS WITH HCV BORN FROM 1945-1965 (BABY BOOMERS)

- Reflects high incidence in past
- 5x higher prevalence than other birth cohorts (3.4% vs. 0.5%)
- 73% of HCV mortality



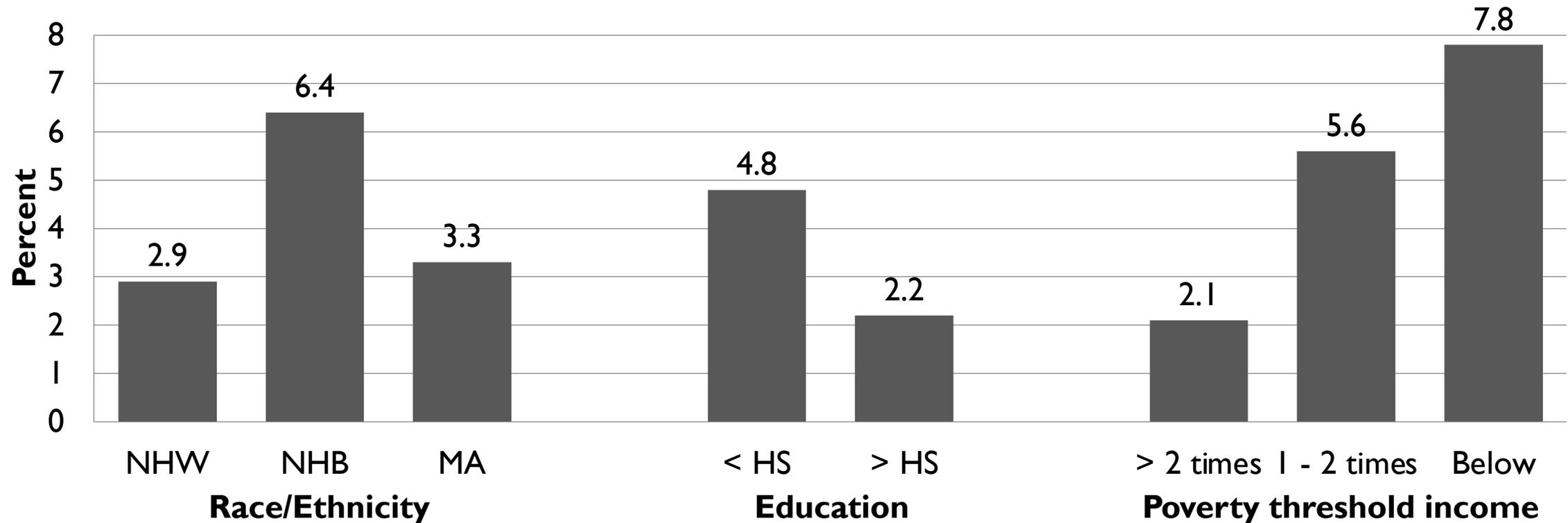
New Reports of Chronic Hepatitis C High in Multiple Generations



SOURCE: National Notifiable Diseases Surveillance System, 2018

2020 CDC RECOMMENDATION: Screen at least once in a lifetime for all adults aged 18 years and older.

OTHER CHARACTERISTICS OF PERSONS WITH HCV INFECTION: NATIONAL DATA



NHW: Non-white Hispanic

NHB: Non-Hispanic Black

MA: Mexican American

HS: High School

OTHER CHARACTERISTICS OF PERSONS WITH HCV INFECTION: NATIONAL DATA

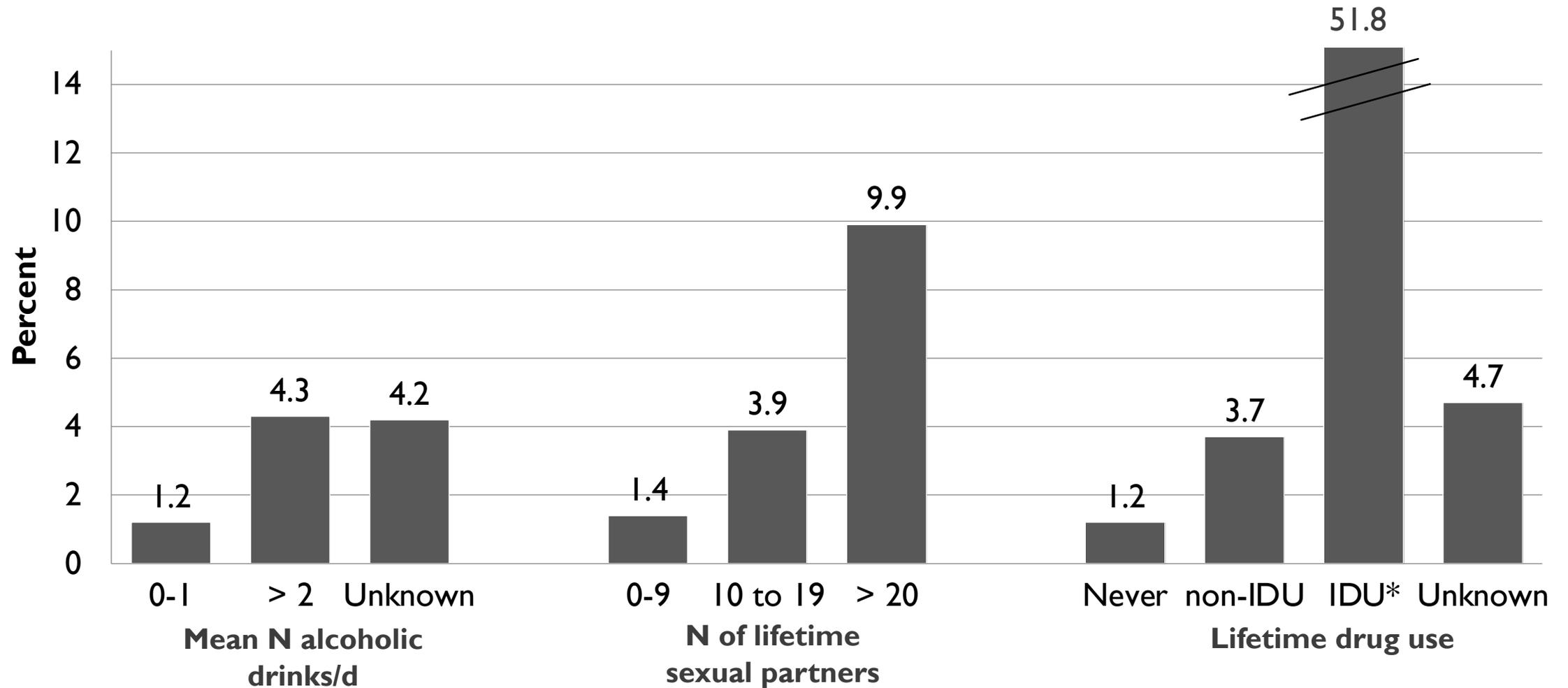
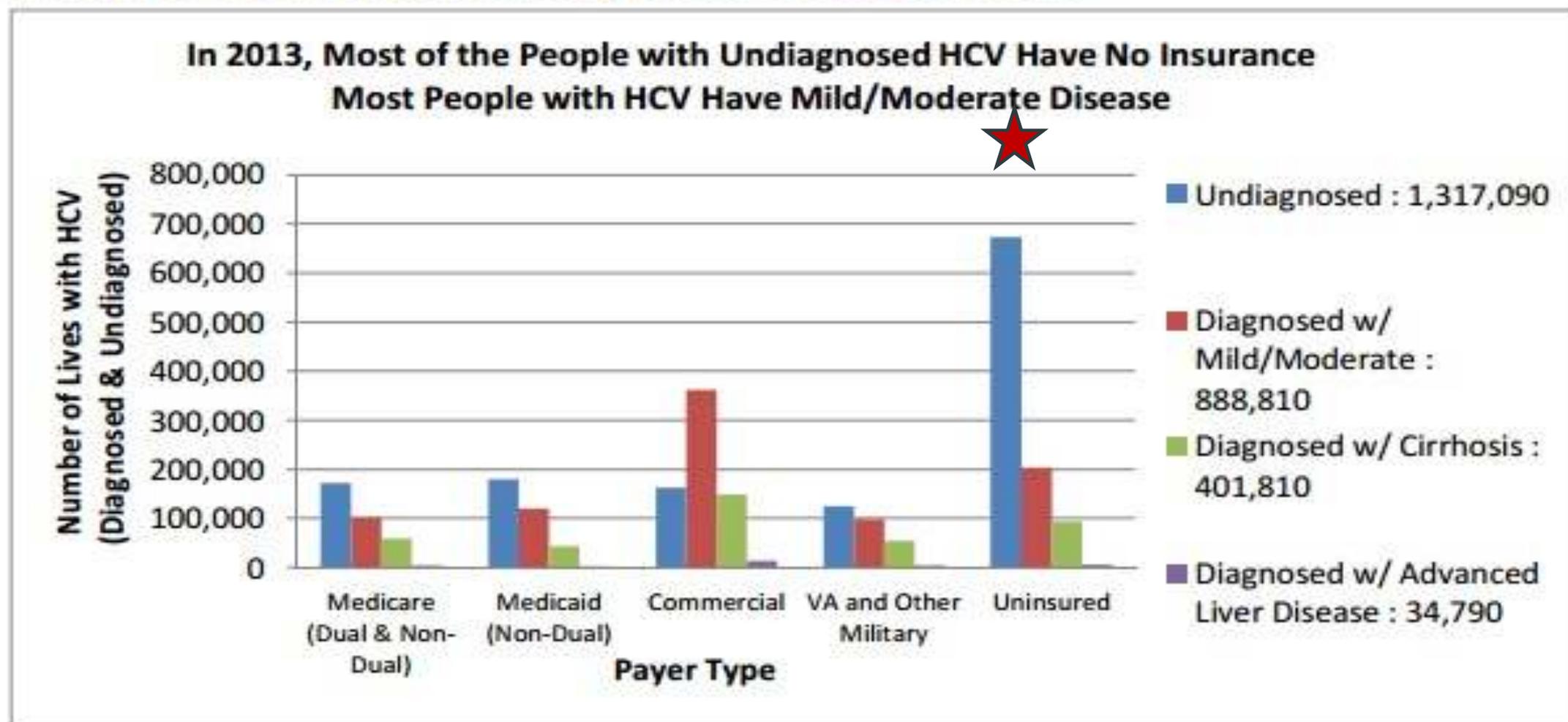


Figure 1: 2013 HCV Population by Disease State and Payer



Source: Authors' analysis of NHANES, MarketScan 2010, Medicare 5% Sample, and Medicaid Contributor data. Does not include prison population.

RISK FACTORS

Any injection drug use (even once many years ago)

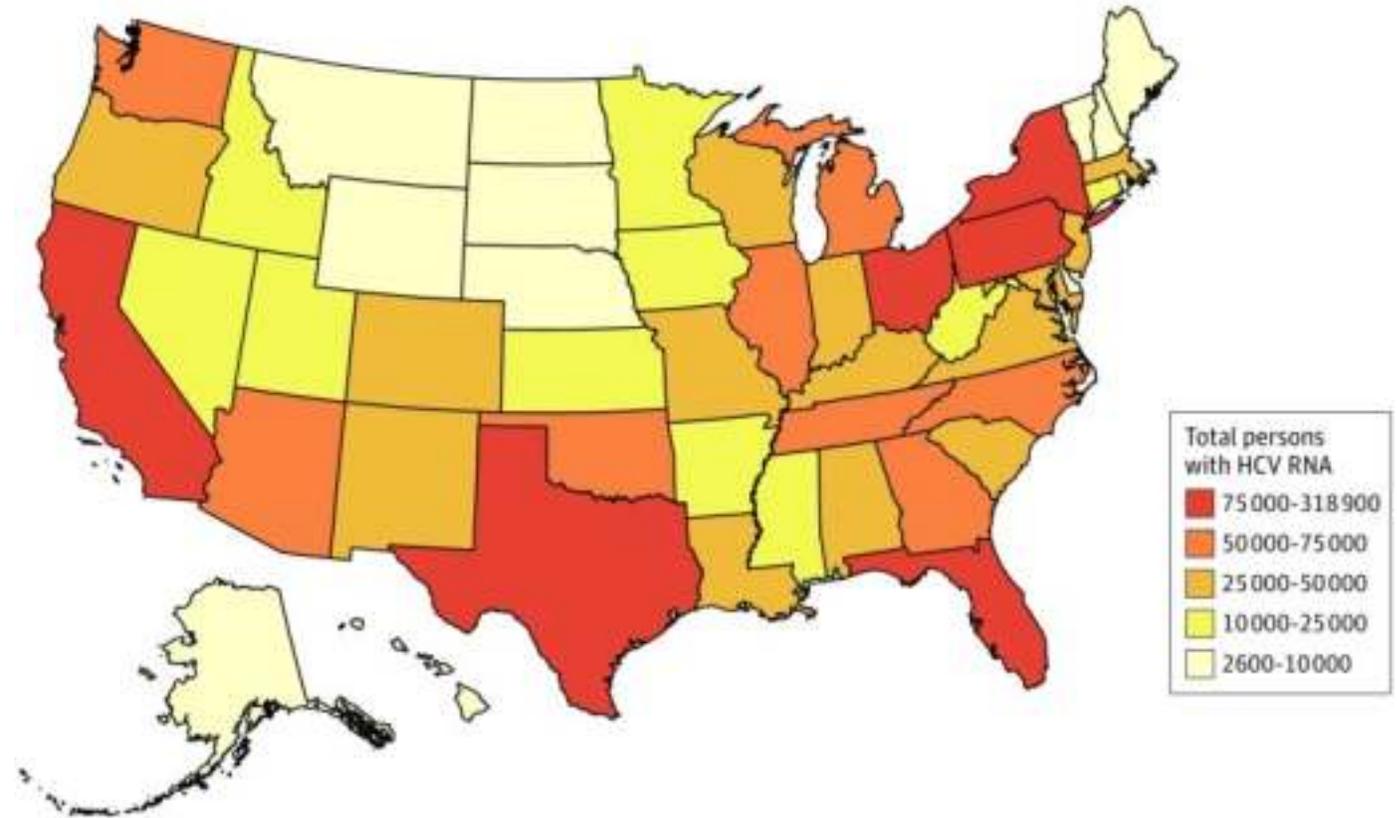
Certain medical conditions:

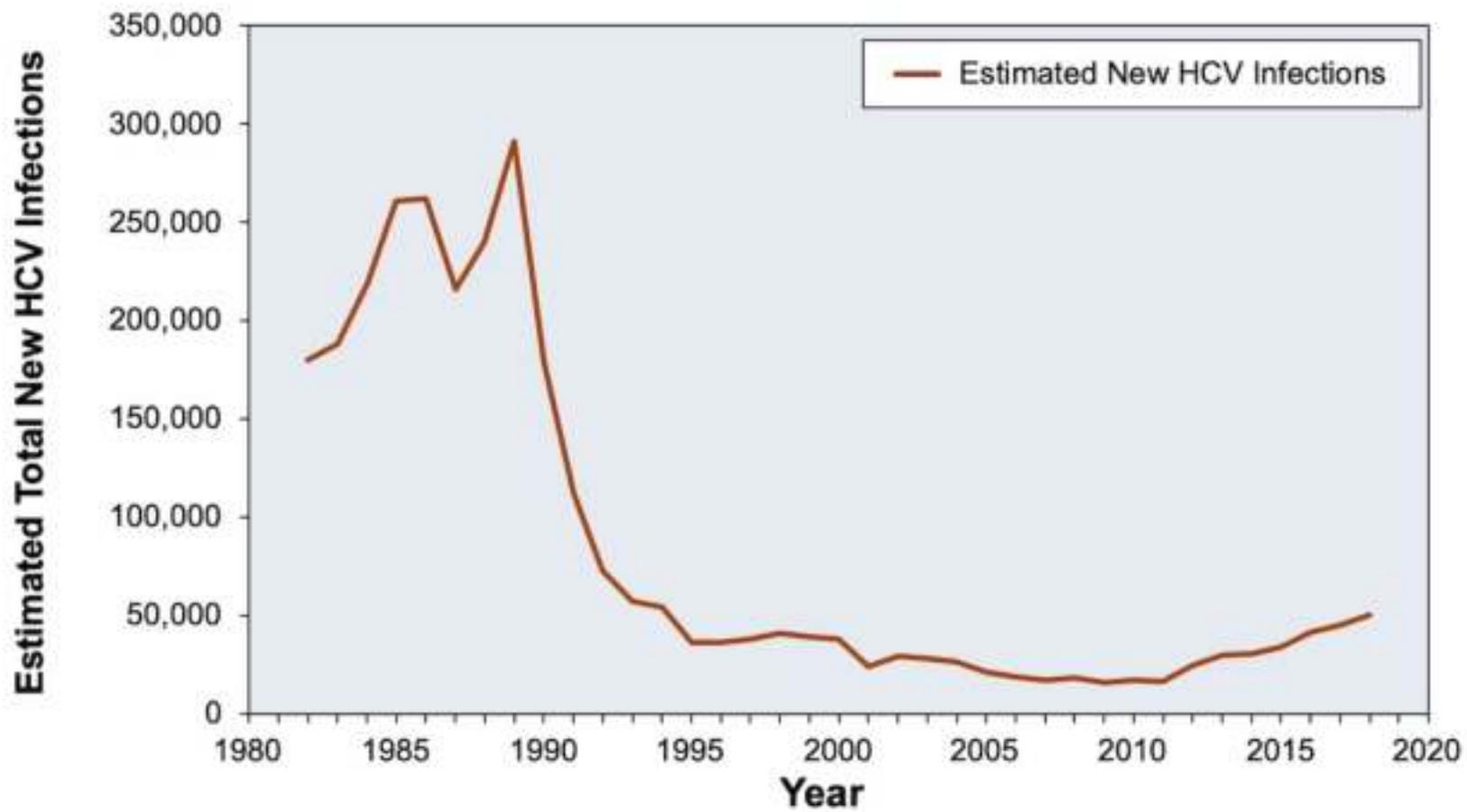
- Received clotting factor concentrates from before 1987
- Long-term hemodialysis
- Persistently abnormal alanine aminotransferase levels (ALT)
- HIV infection
- Transfusions or organ transplants before July 1992

Children born to HCV-positive women

CHRONIC HCV IN TEXAS

In 2018, nearly 202,500 Texans (1.3%) were estimated to be chronically HCV+



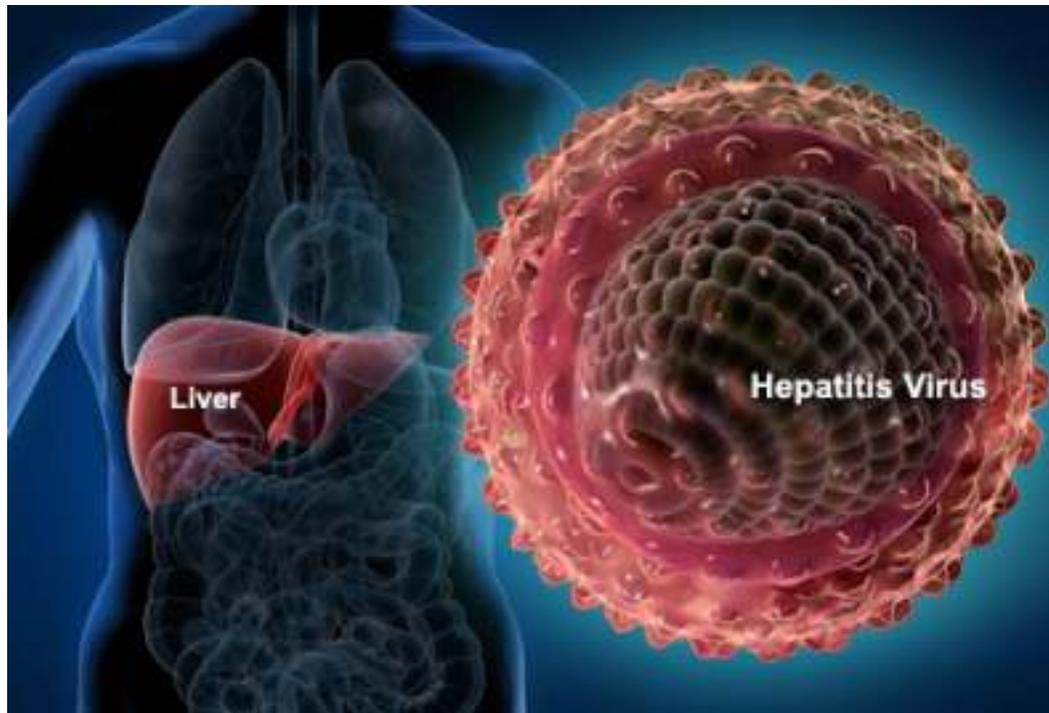




EFFECTS OF HEPATITIS C

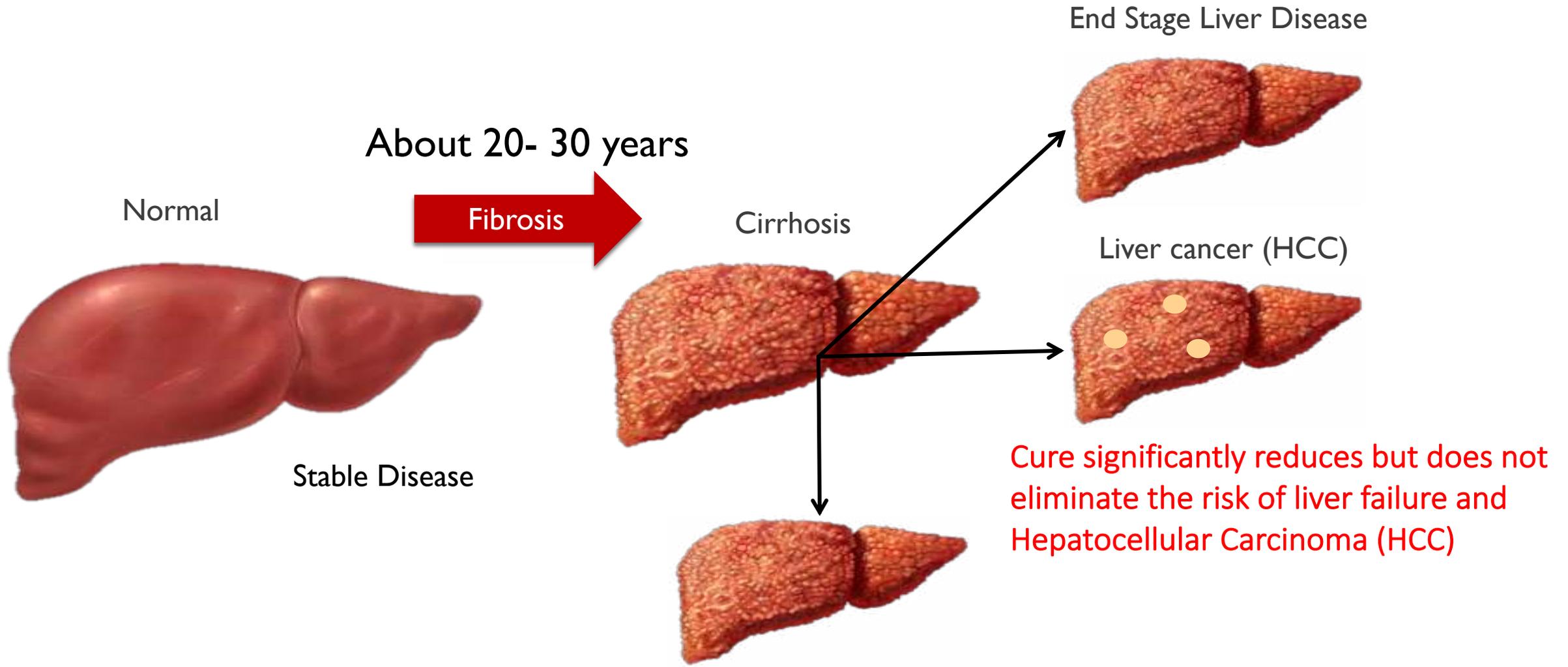


SILENT KILLER UNTIL TOO LATE



- There is NO vaccine for HCV infection
- Often few or no symptoms for years
- Chronic infection can lead to:
 - Fibrosis (scarring)
 - Cirrhosis (permanent scarring and liver failure)
 - Liver cancer (HCC)

TIME FROM HCV INFECTION UNTIL SERIOUS COMPLICATIONS



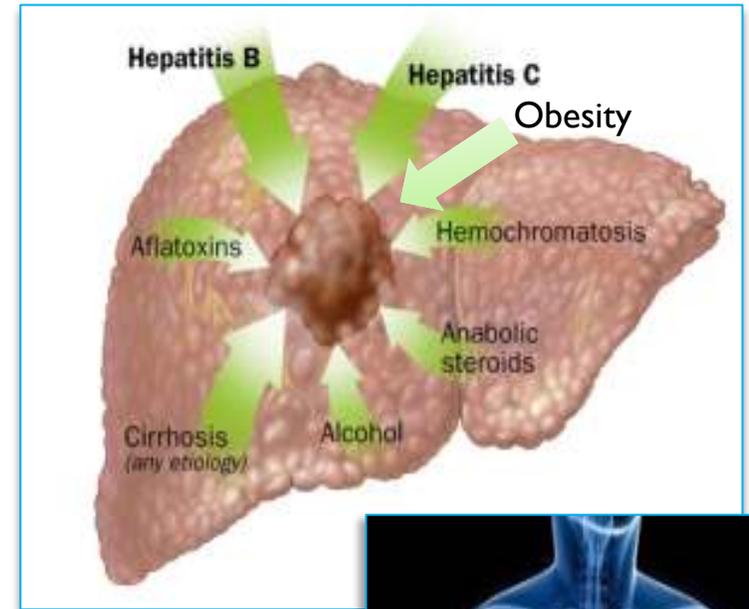
LIVER FAILURE

- Significant cause of morbidity and mortality – high demand for health care services
- About 50% of all U.S. liver transplantations result from liver damage from HCV infection at a cost of >\$100,000
- Although most persons with HCV not need a transplant, even a expensive



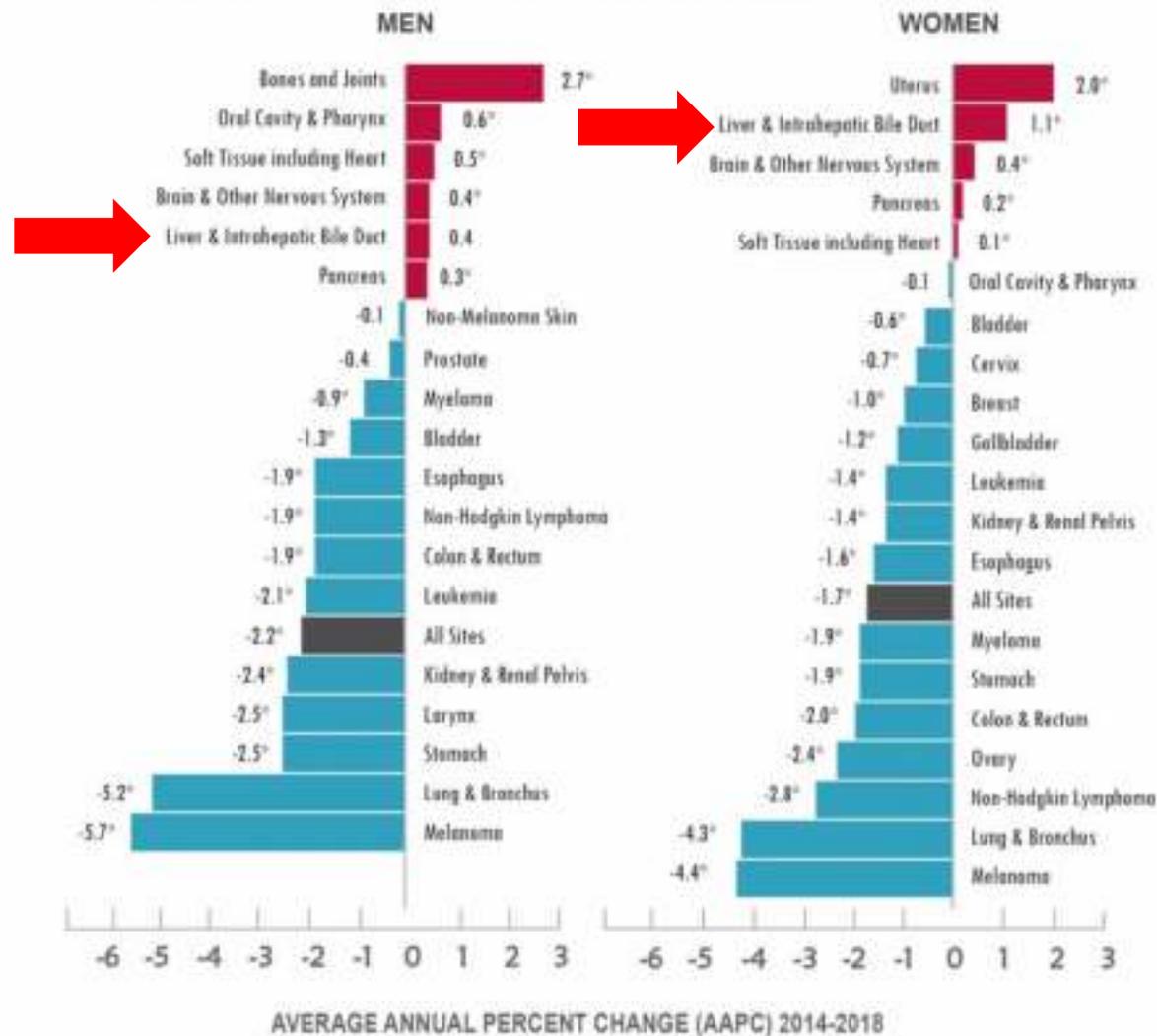
HEPATOCELLULAR CARCINOMA (HCC)

- Most common type of liver cancer
- Chronic HCV increases the risk
- Treated with surgery, medications or liver transplant
- But poor prognosis:
 - **Best option**: primary prevention

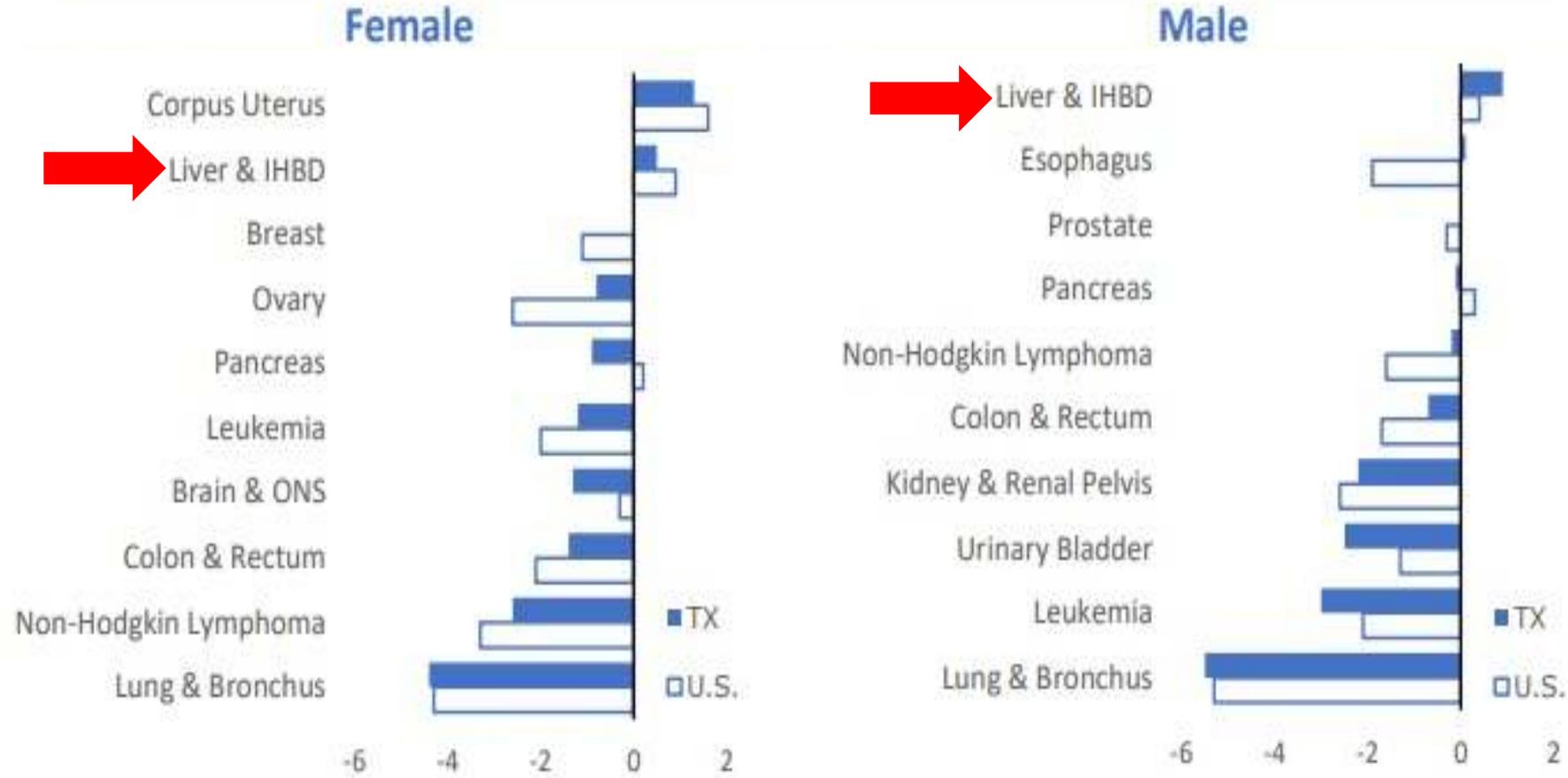


INCREASING LIVER CANCER (HCC) DEATHS IN US

NATIONAL TRENDS IN CANCER DEATH RATES

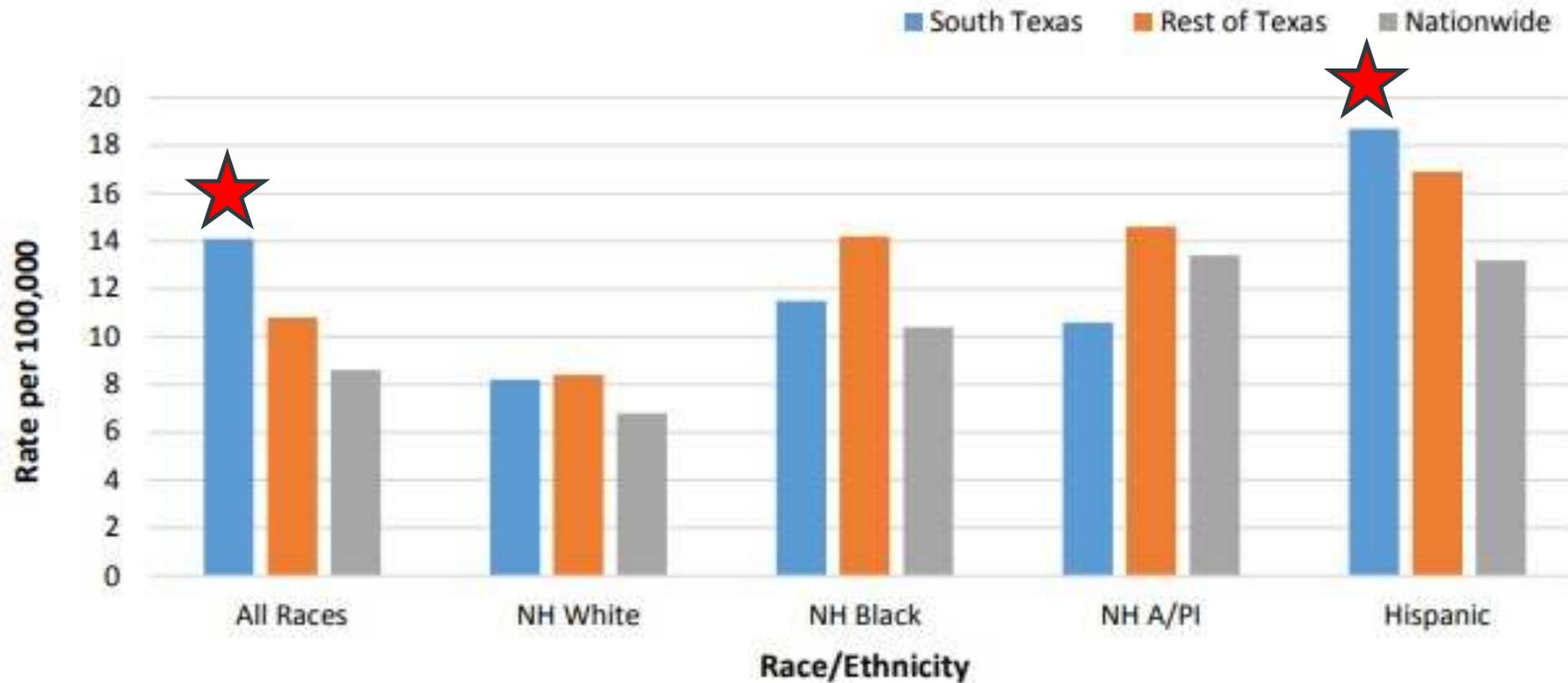


INCREASING LIVER CANCER (HCC) DEATHS IN TEXAS



Mortality Rate AAPC for Leading Cancer Sites, Texas and U.S., 2014 - 2018

RACIAL-ETHNIC INCIDENCE FOR HCC IN U.S. AND LATINOS IN SOUTH TEXAS



Hepatocellular carcinoma related to HCV is the fastest rising cause of U.S. cancer-related deaths.

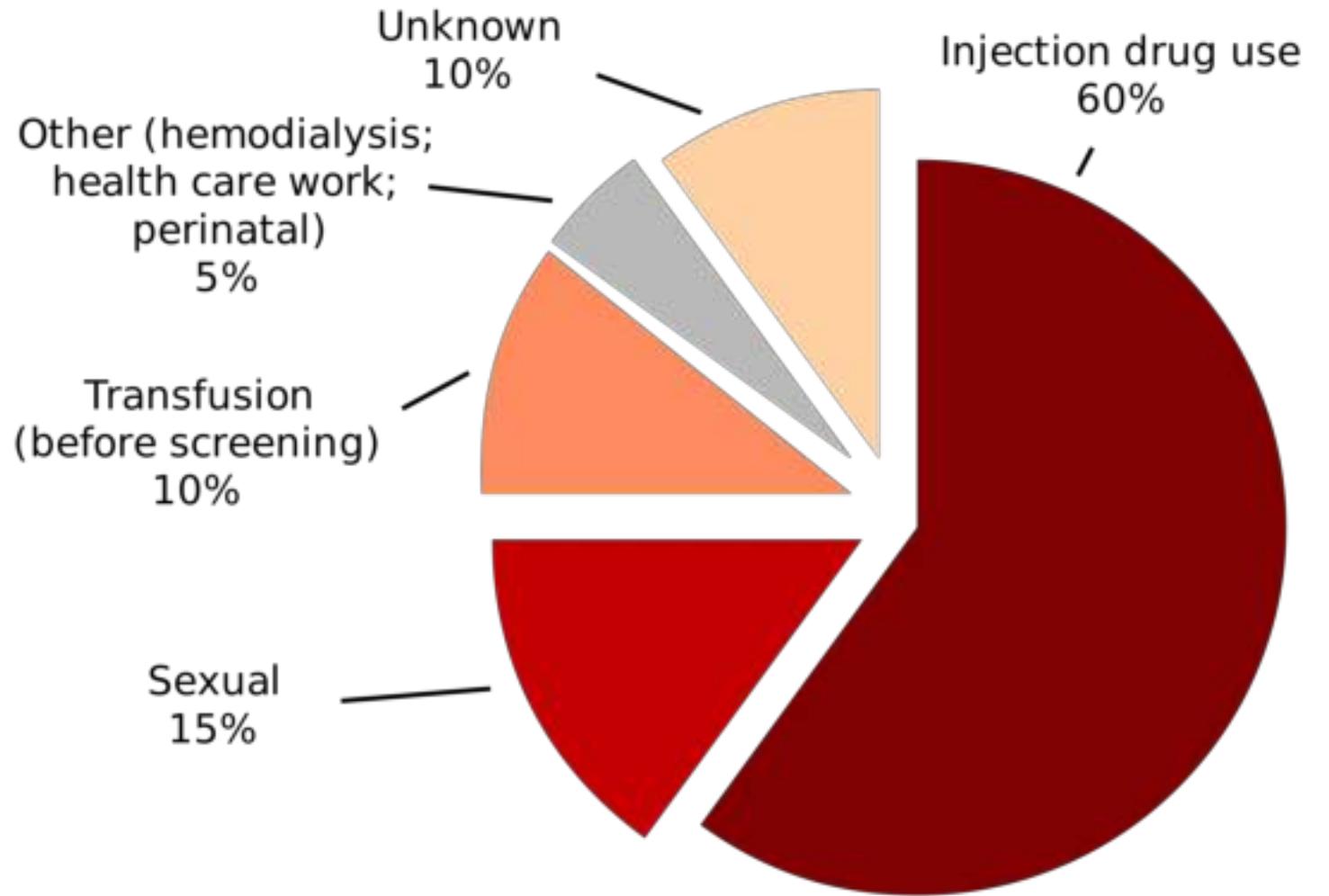


HCV PREVENTION

USPSTF RECOMMENDATIONS



HOW IS HCV SPREAD??



PROBLEM...

HIGH RISK PATIENTS NOT BEING SCREENED FOR HCV INFECTION



Reasons:

- Too complicated
- 70-80% of people with HCV had no symptoms so no prompt to screen
- No viable treatment option before 2012

CDC SCREENING RECOMMENDATIONS

WHO SHOULD GET TESTED FOR HEPATITIS C?

EVERY ADULT



At least once

EVERY PREGNANT WOMAN



Every pregnancy

EVERYONE WITH RISK FACTORS



Regularly

US PREVENTIVE SERVICES TASK FORCE (USPSTF) GUIDELINES - 2020



What does the USPSTF recommend?



For adults aged 18 to 79 year:

Screen all adults one-time for HCV infection.



To whom does this recommendation apply?

Asymptomatic adults aged 18-79 years (including pregnant persons) without known liver disease.



What's new?

This recommendation expands the population that should be screened. Previously, it recommended screening to adults born between 1945 and 1965 and other at high risk.

DRAMATIC INCREASES IN HEPATITIS C

4 in 10

About 4 in 10 people with hepatitis C do not know they are infected.

4x

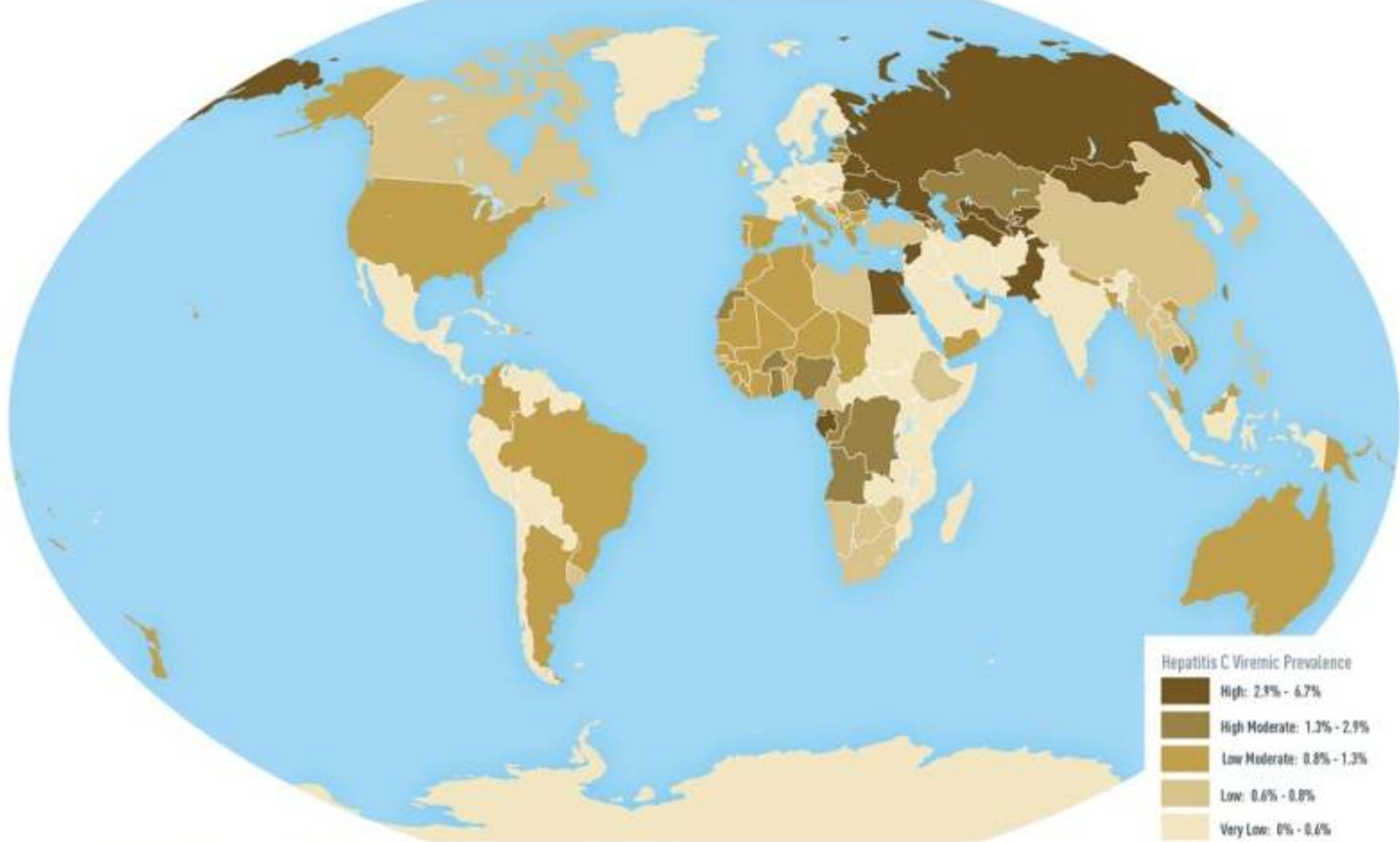
New hepatitis C cases are 4 times as high as they were 10 years ago.

20–39

Younger adults 20–39 years old have the highest rates of new hepatitis C cases.

HIGH RISK GROUPS TO SCREEN

- All adults 18 years and older (once)
- High risk behaviors
 - Injection-drug use (even once) or intranasal drug abuse
 - Tattoo in an unregulated setting
- High-Risk Settings
 - Incarceration
 - Healthcare/public safety workers exposed to HCV+ blood
 - Born in a high-risk country



MAP 4-5. **Prevalence of hepatitis C virus infection¹**
 Boundary representation is not necessarily authoritative.

¹ Disease data source: Gower et al. Global epidemiology and genotype distribution of the hepatitis C virus infection. *J Hepatol*. 2014 Nov;61(1 Suppl):S45-57. doi: 10.1016/j.jhep.2014.07.027. Epub 2014 Jul 30.



DIAGNOSING HCV

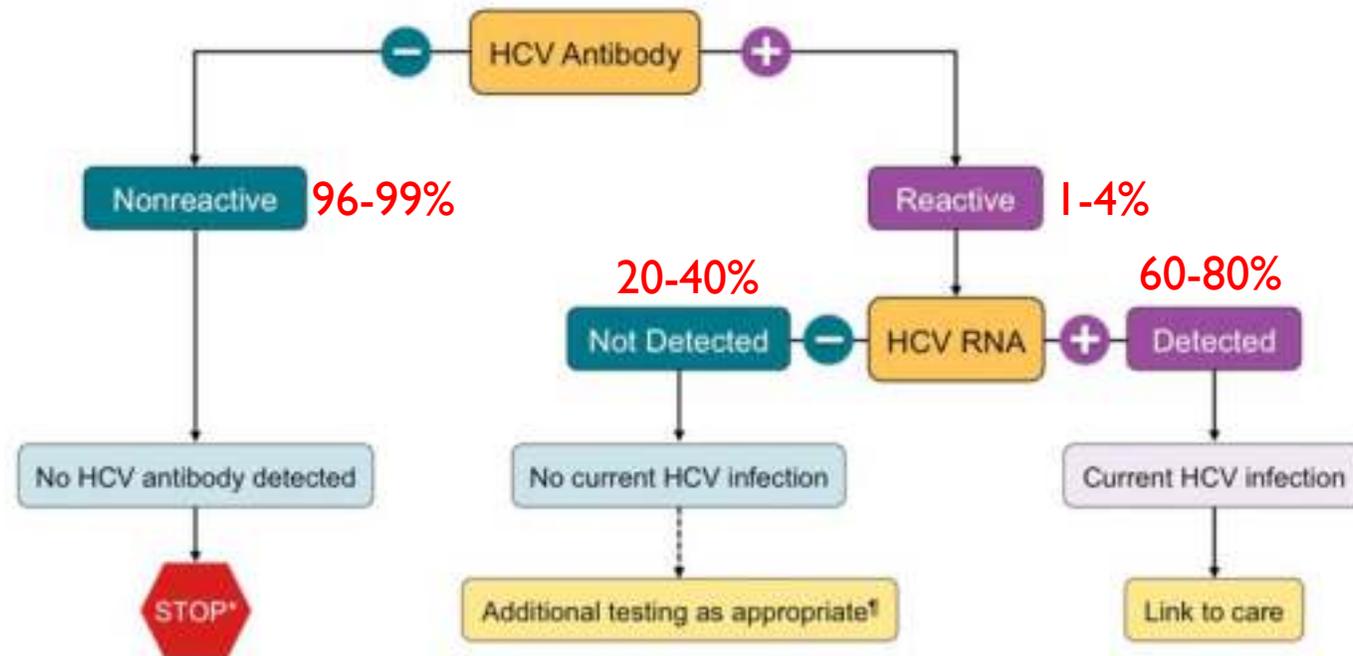
LAB TESTS AND RISK MEASURES

LABORATORY TESTS FOR HCV

- HCV antibody (anti-HCV)
 - Negative
 - Not infected
 - Except if exposure to HCV within the past 6 months in a patient suspected of having liver disease, then **retest**
 - Positive
 - Patient infected at some point with HCV
- HCV RNA to determine if still infected
 - Test for HCV RNA if patient is immunocompromised (may not have anti-HCV)

SCREENING TESTS FOR HCV INFECTION

Recommended Testing Sequence for Identifying Current HCV Infection



* For persons who might have been exposed to HCV within the past 6 months, testing for HCV RNA or follow-up testing for HCV antibody is recommended. For persons who are immunocompromised, testing for HCV RNA can be considered.

†To differentiate past, resolved HCV infection from biologic false positivity for HCV antibody, testing with another HCV antibody assay can be considered. Repeat HCV RNA testing if the person tested is suspected to have had HCV exposure within the past 6 months or has clinical evidence of HCV disease, or if there is concern regarding the handling or storage of the test specimen.

BASELINE LABS FOR EVALUATION WITH +PCR

- Basic: CMP, CBC, and PT-INR
- Genotype*
- Screen for Hepatitis A and B
 - Hepatitis A Ab
 - Hepatitis B Surface Ab
 - Hepatitis B Surface Ag
 - Hepatitis B Core Ab
 - Need vaccination if not immune to Hepatitis A & B
- HIV screen

PATIENT EDUCATION

PATIENTS DIAGNOSED WITH
CHRONIC HCV



KEY POINTS FOR PATIENT COUNSELING

- Reduce risk of transmission to family and other contacts
 - Exposure to blood, rough sex, sharing needles
- Strategies to reduce liver toxicity
 - NO alcohol, herbal meds, avoid high doses of prescription drugs metabolized in liver (e.g., Tylenol)
- Offer hope and minimize stigma
 - Highly effective treatment options
- Offer support
 - Insurance coverage, access to costly drugs, dealing with substance use

PATIENT EDUCATION EXAMPLE

 UT Health San Antonio



What is Hepatitis C?

Hepatitis C virus (HCV) is a liver infection. HCV infection causes few symptoms for many years.

Most people with HCV have no idea that they have it.



It is important to know, because it can seriously hurt your liver.

There is a cure for HCV and most people can be cured.

[Back](#) [Next](#)

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A few questions for you, to help you protect your liver:

How often do you have a drink containing alcohol?

[Never](#)

[Monthly or less](#)

[2-4 times a month](#)

[2-3 times a week](#)

[4 or more times a week](#)

[Back](#)

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QUICK QUESTION

What part of your body can Hepatitis hurt?

[Stomach](#) [Bones](#)

[Liver](#) [Eyes](#)

[Back](#)

FACTORS THAT CAN ACCELERATE HCV-RELATED LIVER DAMAGE

Alcohol
consumption

HIV

Co-infection with
hepatitis A or B

Older age (>40
years) at infection

Metabolic factors
such as high
cholesterol,
obesity, diabetes

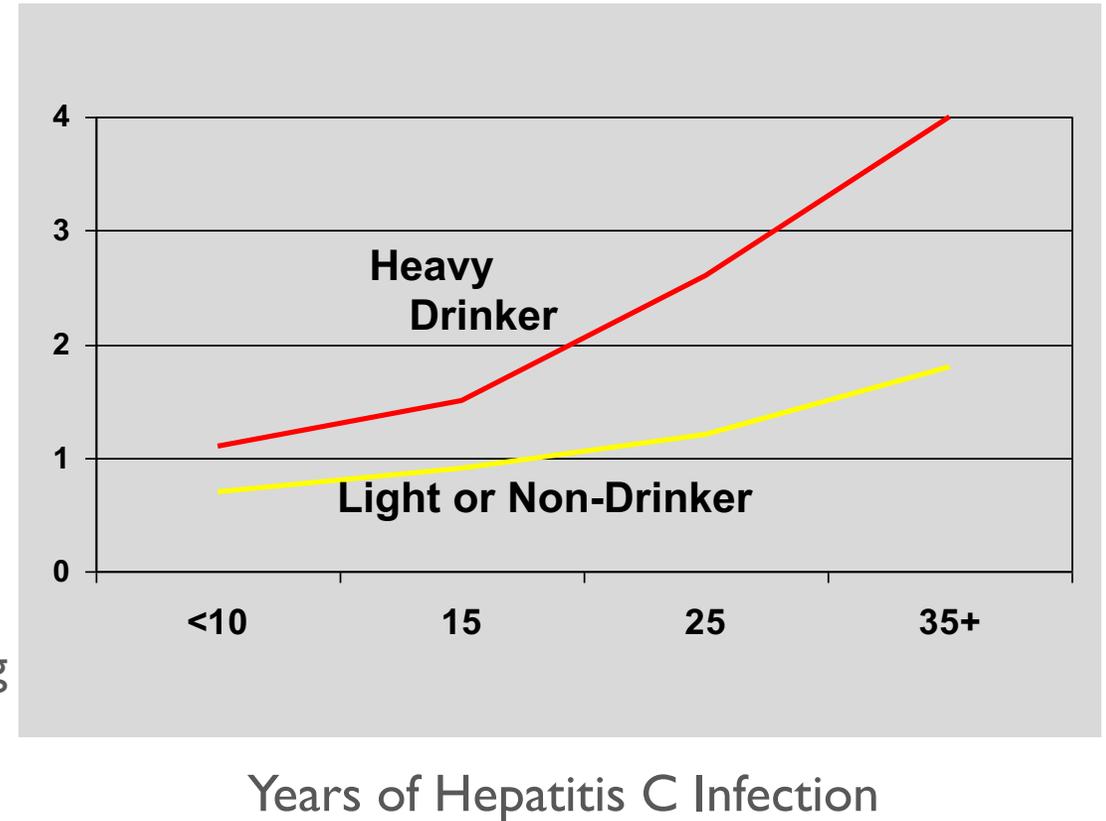
Certain genetic
risks

CO-FACTORS THAT WORSEEN LIVER DISEASE IN PERSON WITH CHRONIC HCV INFECTION

- ▶ Alcohol adds fuel to the



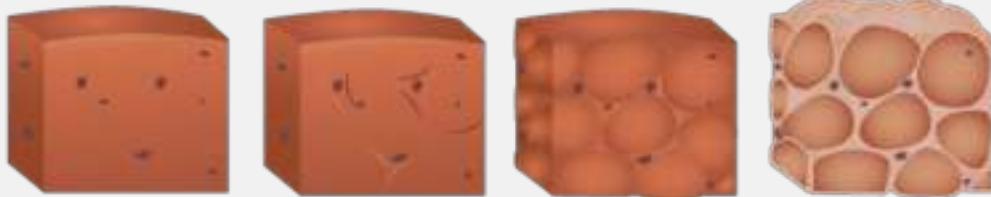
Cirrhosis
↑
No Scarring



CO-INFECTION TIMELINE

HIV

HIV-HCV co-infected patient 6.9 YEARS



Normal Cells

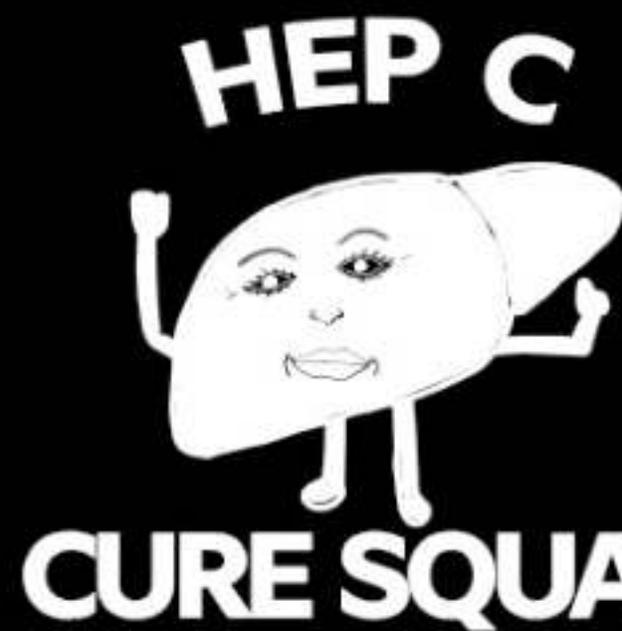
Cirrhosis

HCV infected patient 23.2 YEARS

HCV/HIV CO-
INFECTION
SPEEDS UP
DEVELOPMENT
OF CIRRHOSIS

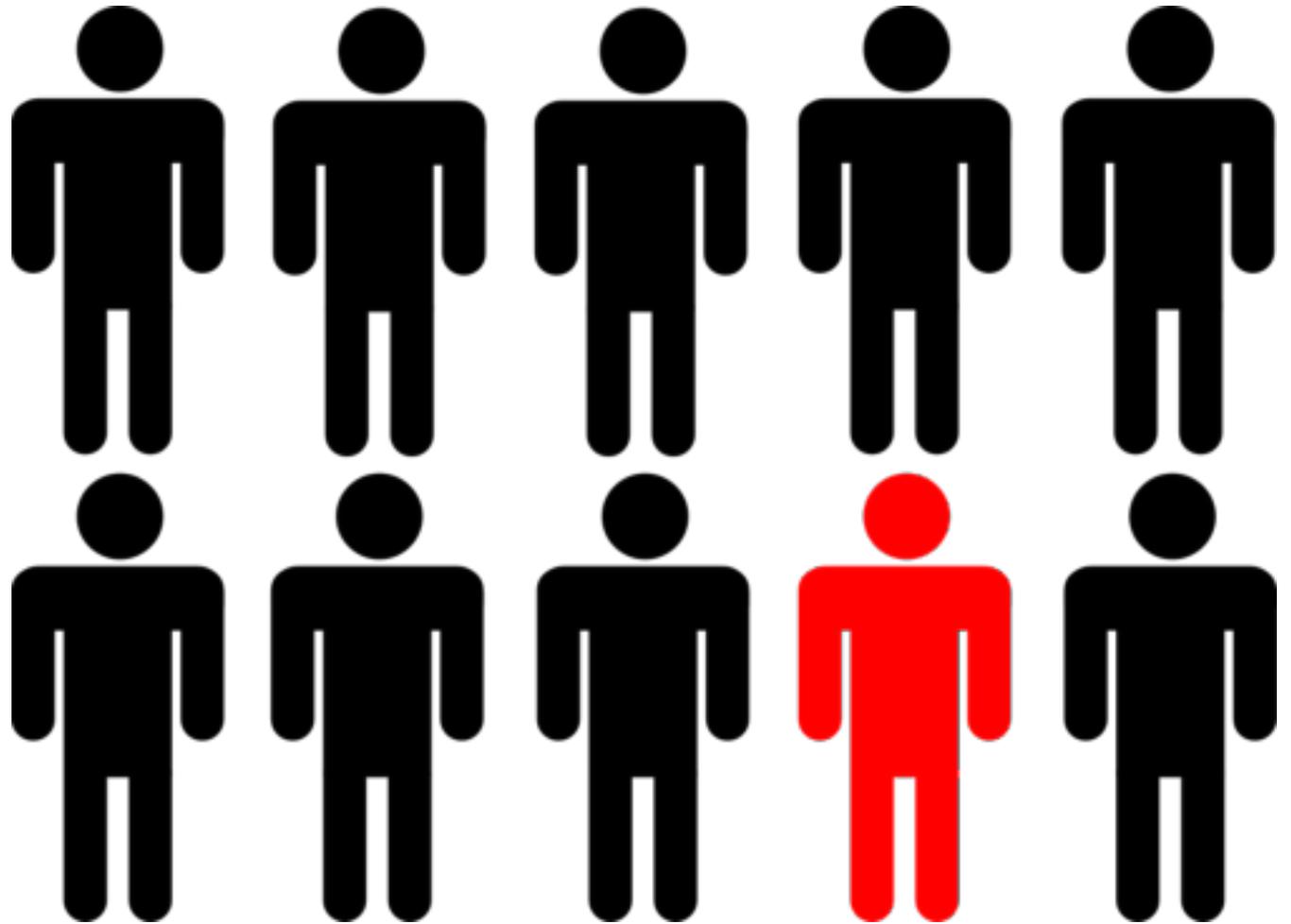


GOAL OF
TREATMENT



HCV REGIMENS

- Cure rates >90% even in patients with more advanced fibrosis or cirrhosis
- Most regimens 8 weeks with few side effects
- Follow-up while patients are on treatment is ideal



THREATS TO ACHIEVING A CURE

Alcohol or substance abuse

Risk of poor adherence to therapy

Evidence of nonadherence to drugs for other diseases
(e.g., diabetes)

Poor social support

Pregnancy risk

Unstable mental health, but depression no longer a
contraindication as for interferon

HCV CURE: SUSTAINED VIROLOGIC RESPONSE (SVR)

- Check HCV RNA at end of treatment (8 weeks) and at 12 weeks post treatment
- A patient is considered cured if they are undetectable 12 weeks after the finish treatment.





FINANCIAL TOXICITY

INSURING ACCESS TO TREATMENT
AND CARE

COST OF DRUGS FOR TREATMENT

Individual HCV Drugs				
Drug Name	Regimen Length	Dosage	WAC	Cost Per Pill
Ribavirin	12 Weeks	200mg pill (Dosage based on patient weight)	\$550~\$850	\$6.55~\$10.12
Sovaldi	12 Weeks	400mg	\$84,000	\$1,000
Olysio	12 Weeks	150mg	\$66,360	\$790
Harvoni	12 Weeks	90mg/400mg	\$94,500	\$1,125
Viekira Pak	12 Weeks	12.5mg/75mg/50mg/250mg	\$83,319	(Multi-Pill)
Daklinza	12 Weeks	60mg	\$63,000	\$750
Technivie	12 Weeks	12.5mg/75mg/50mg	\$76,653	\$912
Zepatier	12 Weeks	50mg/100mg	\$54,600	\$650
Epclusa	12 Weeks	400mg/100mg	\$74,760	\$890
Viekira XR	12 Weeks	200mg/8.33mg/50mg/33.33mg	\$83,319	\$992
Vosevi	12 Weeks	400mg/100mg/100mg	\$74,760	\$890
Mavyret	8 Weeks	100mg/40mg	\$26,400	\$471
	12 Weeks	100mg/40mg	\$39,600	\$471

ACCESS



- Insurance
 - Medicaid as of Sept. 2021 covers HCV medication w/o advance illness, specialty provider, or drug screening
- Patient Assistance Program
 - For persons who meet low-income requirements
 - Can be prescribed by primary care providers
- Hepatologist support may be accessed through Project ECHO® programs, or our specialty-office based consult hours

More and more primary care providers are treating and curing HCV successfully!

HCV TELEMENTORING MODALITIES

Project ECHO®

Hepatitis C Virus ECHO

UT Health San Antonio

What is Hepatitis C Virus?

Hepatitis C virus (HCV) is the most common blood-borne infection and a leading cause of liver damage, failure, and cancer. 2.6 million people in the US are estimated to be living with the infection, but many don't know it. Fortunately, most people can be cured with 8-12 weeks of treatment.

What is ECHO?

ECHO® (Extension for Community Healthcare Outcomes) uses videoconferencing to connect health professionals to a multi-disciplinary team of experts to share knowledge and build capacity for delivering best-practice care.

Why join the UT Health San Antonio HCV ECHO?

- Free Continuing Medical Education (CME)
- Free Maintenance of Certification (MOC II)
- No cost to participate
- Networking and ongoing learning
- Deliver high-quality care onsite

Register at: wp.uthscsa.edu/echo/events/

Learn more at: uthscsa.edu/ECHO

UT Health San Antonio

ECHO

Specialist Teleconsultation Model



SUMMARY

- Screen Baby boomer, (1945-1965) adults aged 18-56, and other risk groups (especially IV drug users) for HCV infection
 - We are here to help make that straightforward
- Diagnose chronic HCV infection and counsel patients with chronic infection
- Evaluate disease stage
- We help you partner with hepatologists to treat patients with chronic HCV

ACKNOWLEDGEMENT

Grant Funders:



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS



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INSTITUTE**

THANK YOU!



www.stophepatitisc.com