New York State Department of Health AIDS Institute
Hepatitis C Elimination Annual Progress Report Virtual Meeting
May 6, 2026

The Cure Exists. We Must Remove the Barriers: Addressing Social Determinants of Health to Achieve Hepatitis C Elimination in New York State

Presented by:
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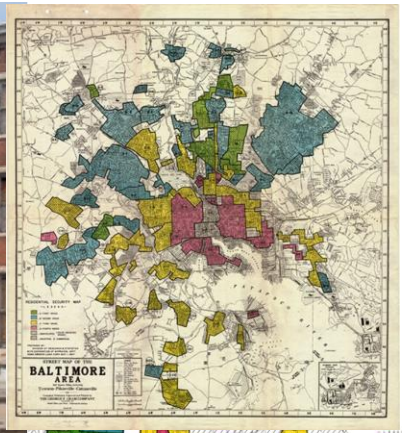
NYU Langone/Bellevue Hospital

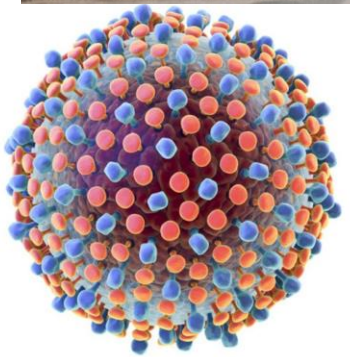
No Conflict Of Interest

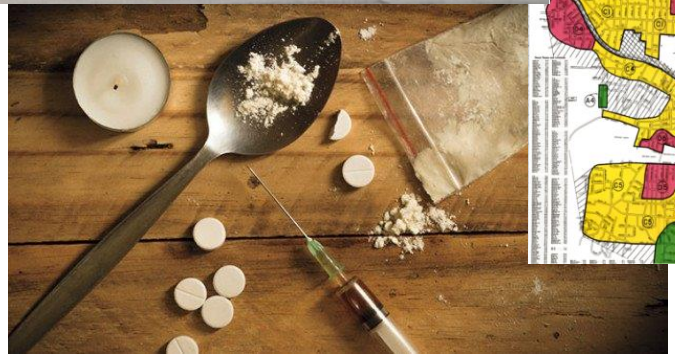
Objectives

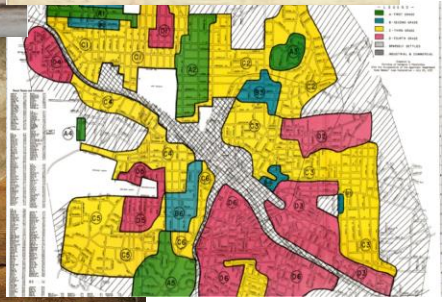
- **To Understand the Hepatitis C Epidemic and Care Cascade**
- **To Explore the Role of Social Determinants of Health in the Hepatitis C care cascade**
- **Recognize real-world barriers and facilitators to HCV care**
- **Discuss community-based, low-threshold, and implementation science–informed strategies to improve engagement and advance equitable HCV elimination**

Social Determinants Of Health and Hepatitis C









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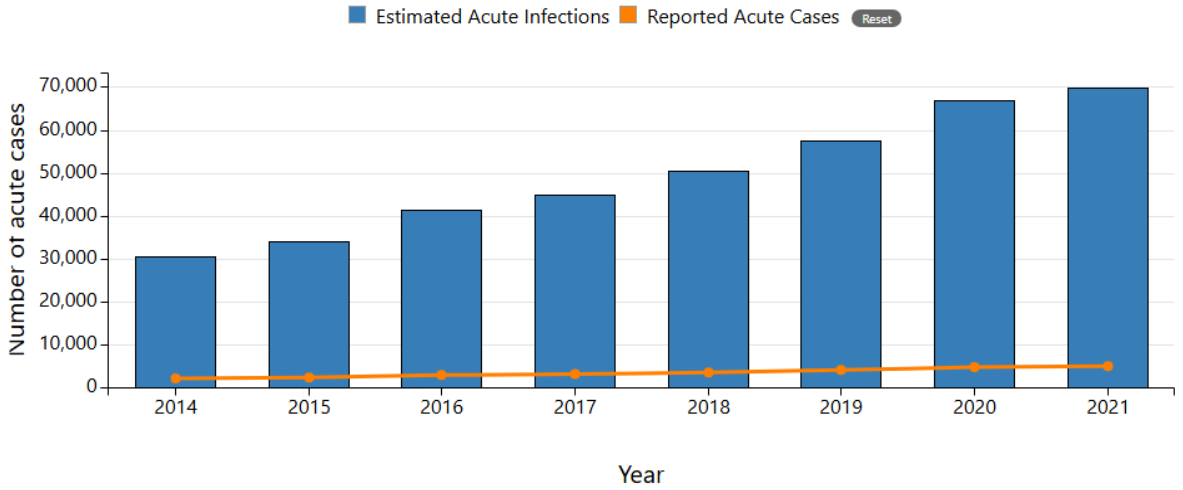
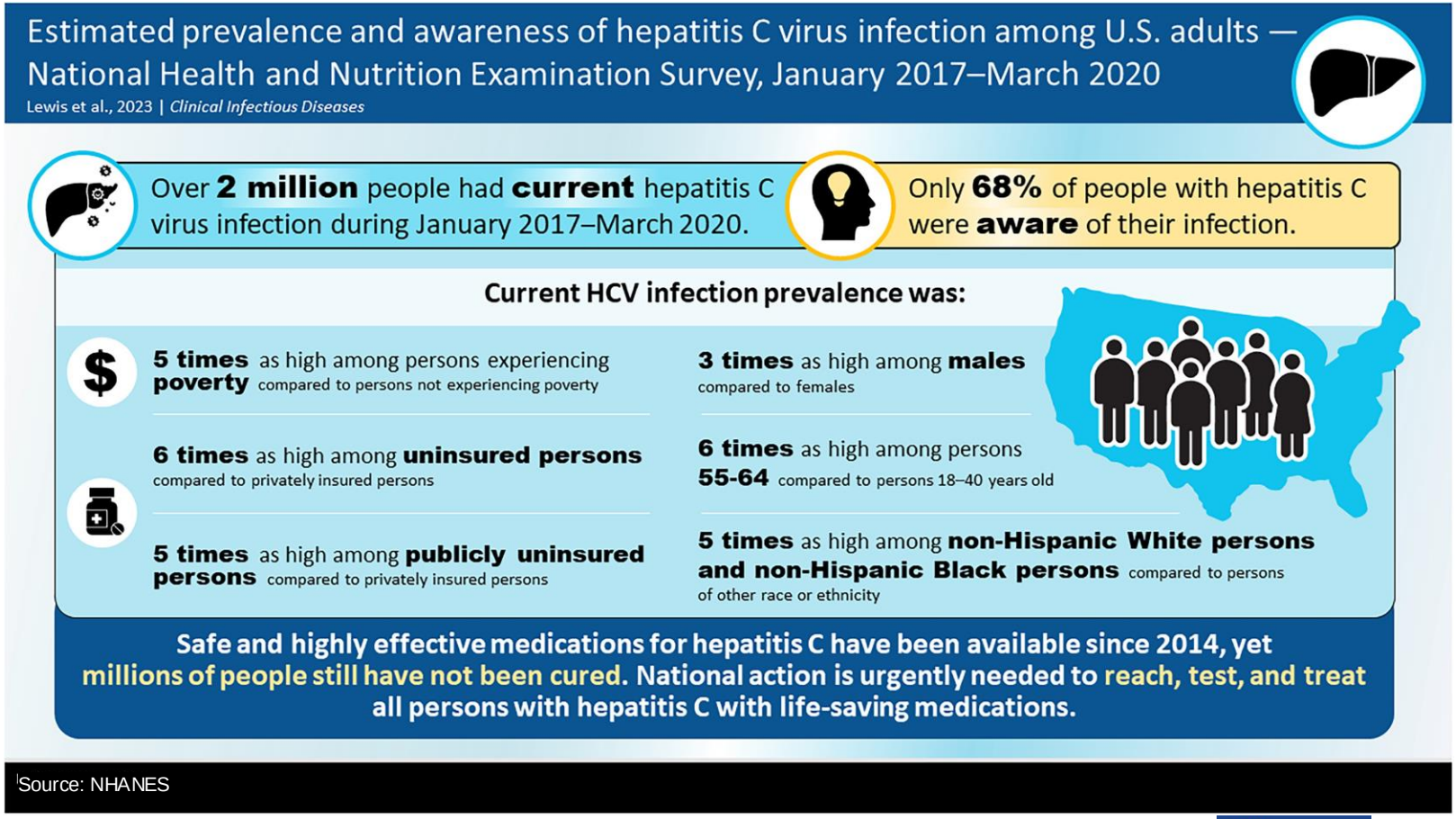


Acute Hepatitis C

	2014	2015	2016	2017	2018	2019	2020	2021
Reported Acute Cases	2,194	2,436	2,967	3,216	3,621	4,136	4,798	5,023
Estimated Acute Infections	30,500	33,900	41,200	44,700	50,300	57,500	66,700	69,800

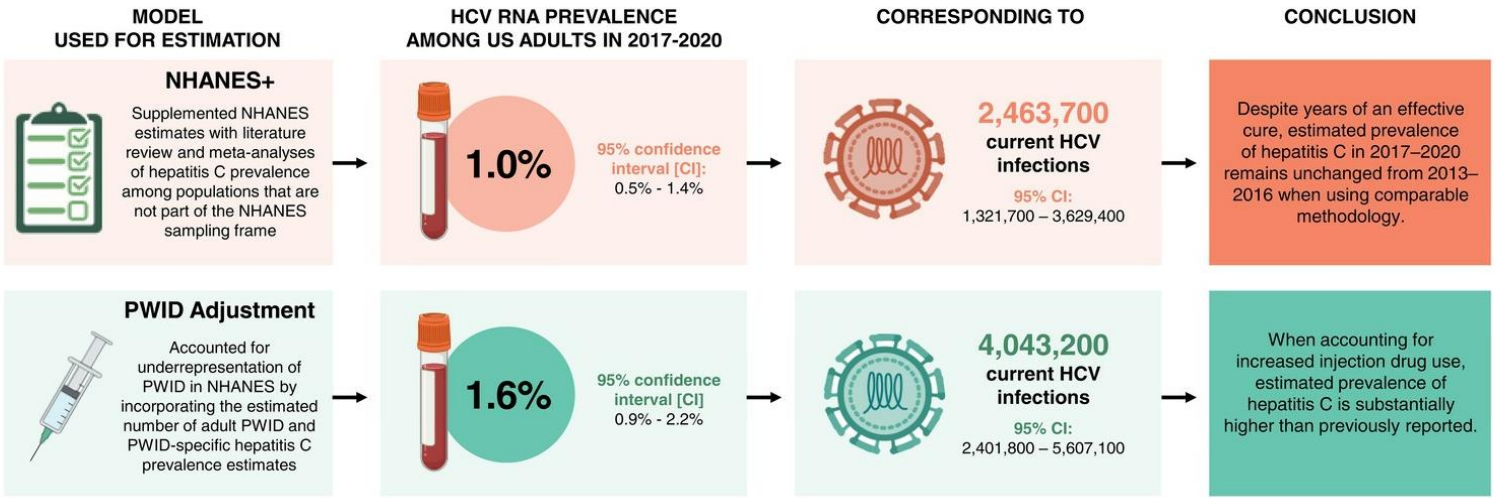
Source: CDC, National Notifiable Diseases Surveillance System.


Estimated prevalence and awareness of hepatitis C virus infection among U.S. adults — National Health and Nutrition Examination Survey, January 2017–March 2020
Lewis et al., 2023 | Clinical Infectious Diseases
Over 2 million people had current hepatitis C virus infection during January 2017–March 2020.
Only 68% of people with hepatitis C were aware of their infection.
Current HCV infection prevalence was:
5 times as high among persons experiencing poverty compared to persons not experiencing poverty
3 times as high among males compared to females
6 times as high among uninsured persons compared to privately insured persons
6 times as high among persons 55-64 compared to persons 18–40 years old
5 times as high among publicly uninsured persons compared to privately insured persons
5 times as high among non-Hispanic White persons and non-Hispanic Black persons compared to persons of other race or ethnicity
Safe and highly effective medications for hepatitis C have been available since 2014, yet millions of people still have not been cured. National action is urgently needed to reach, test, and treat all persons with hepatitis C with life-saving medications.
Source: NHANES

Estimating Hepatitis C Prevalence in the United States, 2017-2020

The National Health and Nutrition Examination Survey (NHANES) underestimates the true prevalence of hepatitis C virus (HCV) infection.

By accounting for populations inadequately represented in NHANES, we **created two models to estimate the national hepatitis C prevalence** among US adults during 2017–2020.



AASLD Hall, et al | HEPATOLOGY. 2024. HEPATOLOGY

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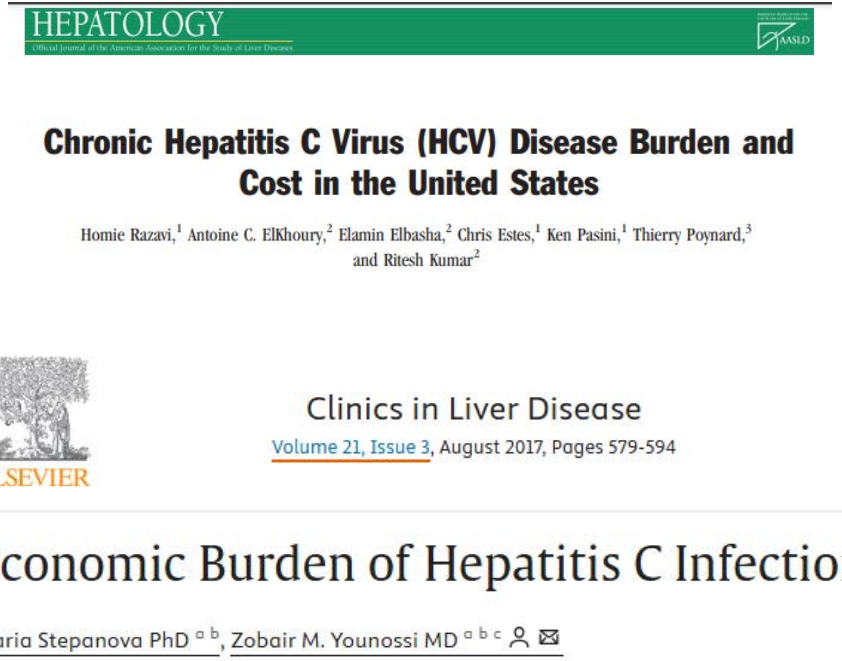
Disease and Cost Burdens of Hepatitis C

- **HCV Burden on Health:**
  - Leading cause of **cirrhosis**, **hepatocellular carcinoma**, and **liver transplantation**
    - Advanced liver disease prevalence expected to rise despite declining overall HCV prevalence.
- **Economic Impact:**
  - Up to **$10 billion** annually in the US
    - Direct medical expenses for hepatic and extrahepatic manifestations
    - Indirect costs in loss of productivity and quality of life



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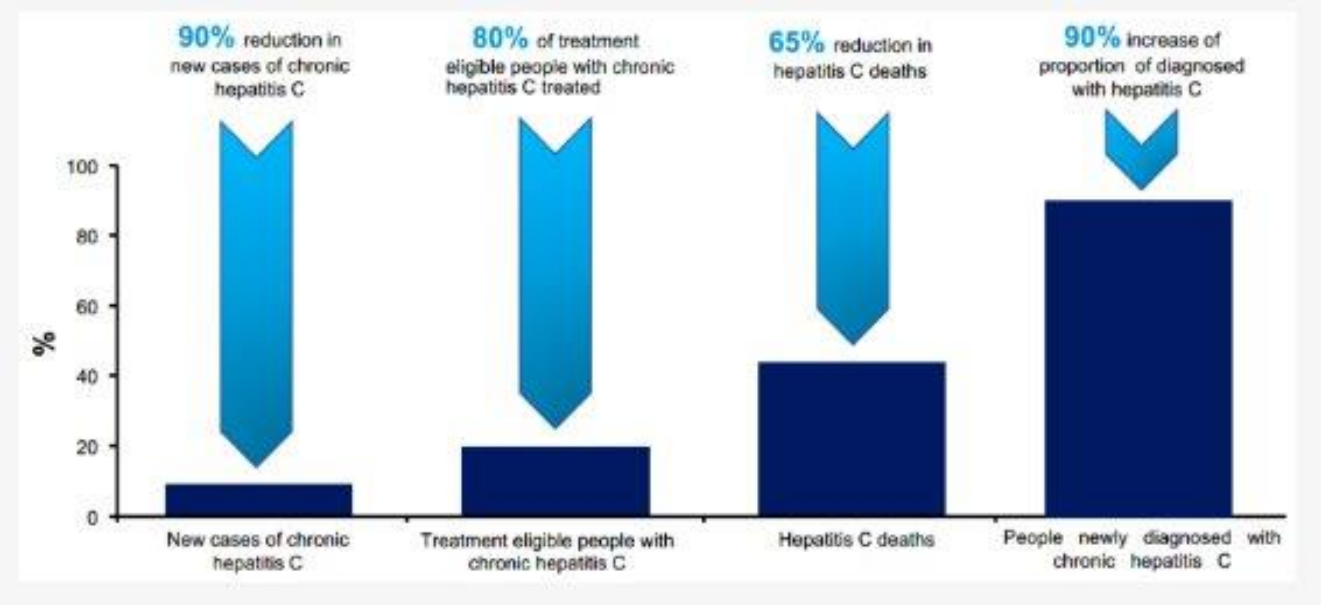
Hepatitis C Elimination Goals



World Health Organization

VIRAL HEPATITIS NATIONAL STRATEGIC PLAN
OVERARCHING GOAL:
Elimination by 2030

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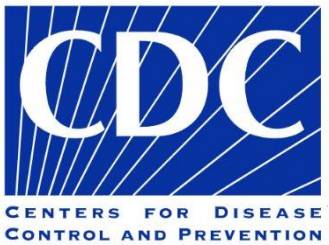
Social Determinants Of Health (SDoH)

- **CDC:** "life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care, whose distribution across populations effectively determines length and quality of life."

WHO: "The conditions in which people are born, grow, live, work and age […] these circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels."



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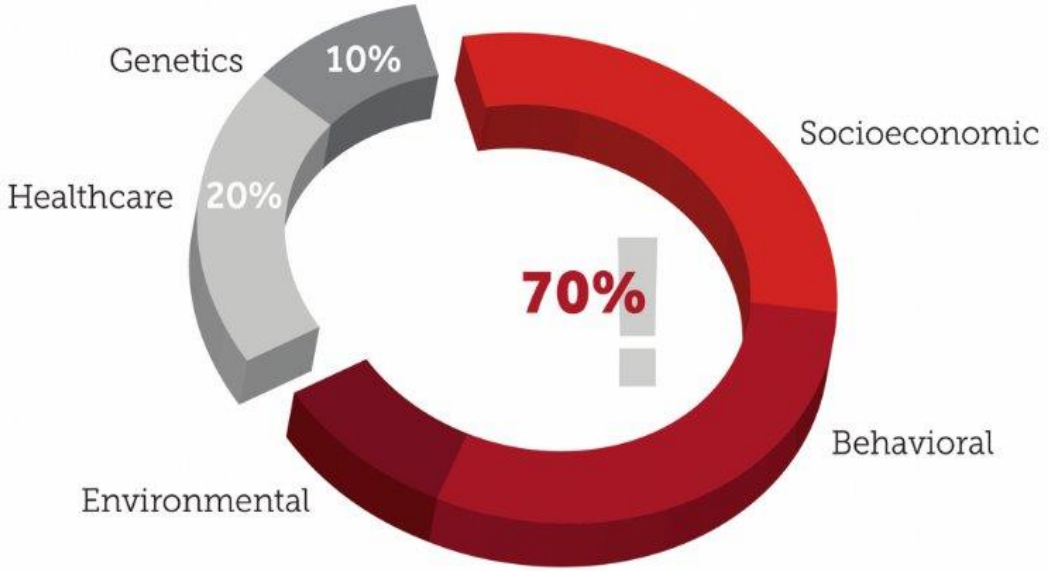
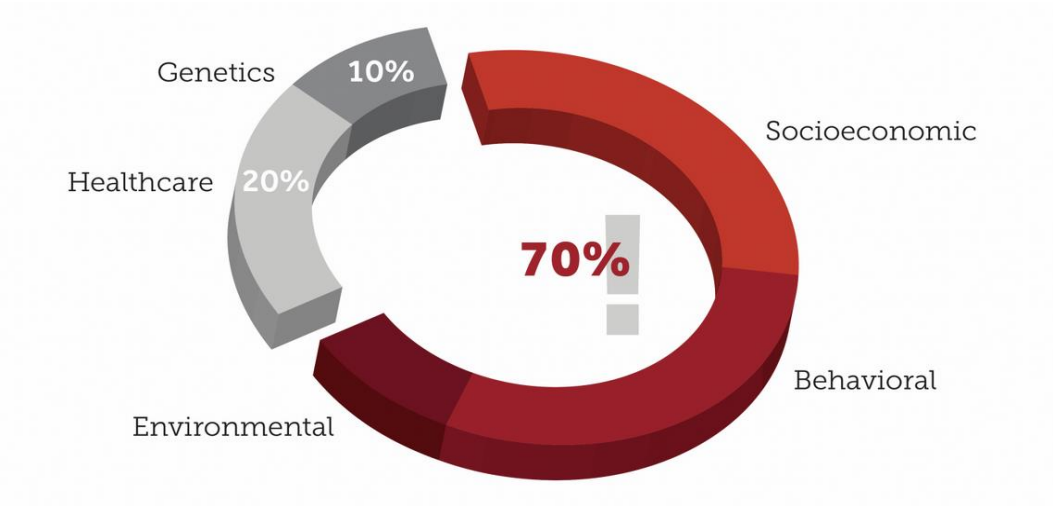
Drivers of Health Outcomes



Source: Hood et al, 2016

Drivers of Health Outcomes… are also

Drivers of Health Disparities



Social Determinants of health (SDOH) among PWID living with HCV

JOURNAL ARTICLE

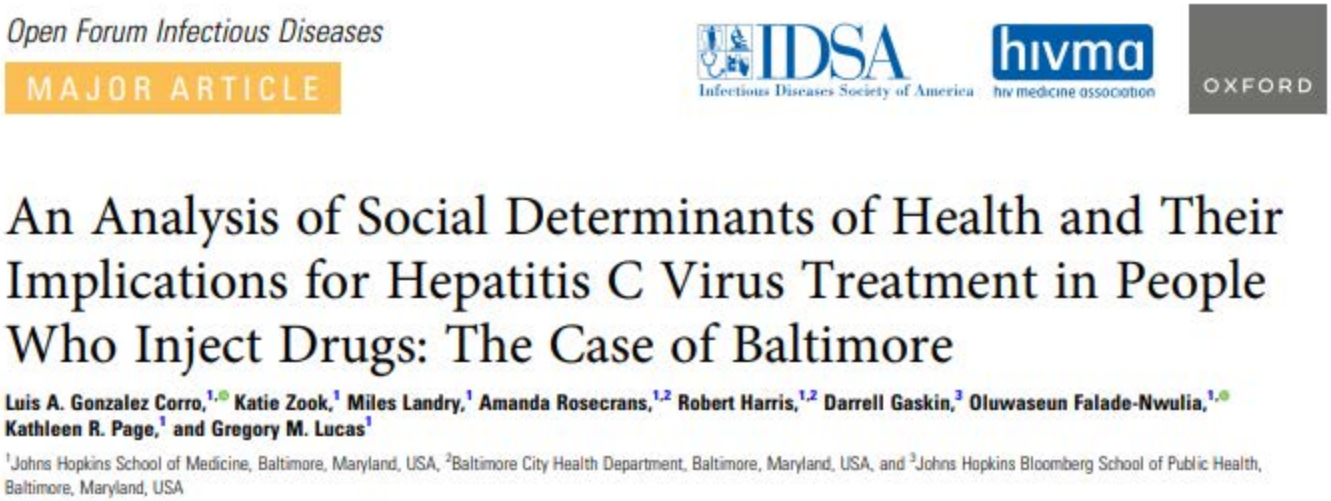
1071. Social Determinants of health (SDOH) among PWID living with HCV

Luis Gonzalez Corro, MD, Nataly Rios Gutierrez, BA, Chinazo O Cunningham, MD, MPH, Alain H Litwin, MD, MPH, MS, Brianna L Norton, DO, MPH, Brianna L Norton, DO, MPH

Open Forum Infectious Diseases, Volume 7, Issue Supplement_1, October 2020, Pages S563–S564, https://doi.org/10.1093/ofid/ofaa439.1257
Published: 31 December 2020

- **Demographics (n=84):**
- 60% Hispanic, 35% Black, 77% male, average age: 51 years.
- 68% on Medicaid, 42% struggle to meet basic needs, 69% on food stamps, 23% homeless.
- 45% lack high school education, 57% previously incarcerated, 48% lack transportation, 25% distrust doctors.
- **HCV Treatment Initiation:**
- 57% initiated treatment.
- No SDOH factors were significantly associated with treatment uptake.

An Analysis of Social Determinants of Health and Their Implications for Hepatitis C Virus Treatment in People Who Inject Drugs: The Case of Baltimore



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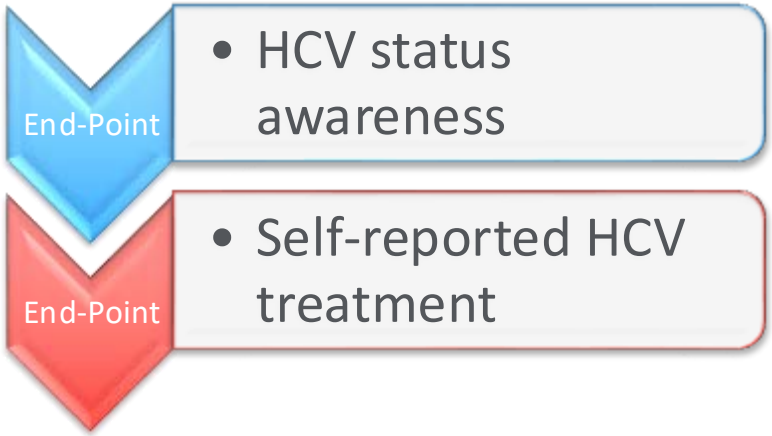
Methods

- **Recruitment:** 12 neighborhood sites in Baltimore City served by a mobile syringe service program.
  - Age ≥18 years.
  - Injection drug use on ≥4 days in the prior 30 days or needle/syringe sharing in the prior 6 months.
  - Enrollment target: 60 participants per site.

- **Data Collection:**
  - Interviewer-administered survey.
  - Blood and urine samples for biomarker testing (e.g., HCV antibody and RNA).

- **Survey Domains:**
  - Socio-demographics, substance use, alcohol use (AUDIT-C), injection practices, overdose history.
  - Sexual risk behaviors, depression, quality of life (SF-12), social support.
  - Utilization of healthcare and social services.

Methods



•**HCV Awareness:** Affirmative response to "Have you ever tested positive for hepatitis C or been told you were infected with hepatitis C?"

•**HCV Treatment:** Affirmative response to "Have you ever received treatment for your hepatitis C?"

Inclusion/Exclusion Criteria:

- Excluded:
  - HCV seronegative individuals (n = 289).
  - HCV seropositive individuals who likely cleared infection spontaneously (n = 89).
- Included:
  - Chronic HCV (HCV RNA >15 IU/L).
  - Treated HCV (HCV antibody-positive, RNA <15 IU/L, self-reported treatment).

Methods

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Results

Study Population (n=342):

- Predominantly Black/African American and male.
- HCV Seropositive: 67.6%
- HIV Seropositive: 17.3%

Substance Use:

- Daily Injection Drug Use: 52.7%
- 34.0% injected ≥5 times daily.
- Needle Sharing (Last 6 Months): 67.0%

Substances Used:

- Heroin: 98.9%
- Cocaine: 82.2%
- Speedball: 74.0%

Comparison with Excluded Participants:

- Higher HIV prevalence (17.3% vs 6.1%).
- Increased needle sharing (67.0% vs 49.0%).
    - Greater engagement in: MOUD programs (41.9% vs 31.3%) and syringe exchange programs (78.7% vs 64.5%).

Results

Table 1. Factors associated with awareness of HCV infection and prior treatment of HCV

	Aware of HCV infection		Treated for HCV infection	
Baseline characteristics	**Unadjusted OR (95% CI)**	**Adjusted OR (95% CI)**	**Unadjusted OR (95% CI)**	**Adjusted OR (95% CI)**
Age (years), per 5-year increase	1.04 (0.93, 1.16)	1.02 (0.99, 1.05)	1.49 (1.29, 1.75)	1.03 (0.98, 1.07)
Males (vs. females)	0.42 (0.24, 0.72)	0.41 (0.22, 0.74)	2.93 (1.66, 5.29)	2.64 (1.37, 5.24)
White (vs. Black/African American)	0.8 (0.48, 1.36)	0.90 (0.45, 1.79)	0.17 (0.07, 3.35)	0.37 (0.13, 0.97)
HIV positive (vs. negative)	3.14 (1.46, 7.83)	2.73 (1.19, 7.15)	3.15 (1.69, 5.94)	2.33 (1.15, 4.84)
Less than daily drug injection (vs. daily)	---	---	1.72 (1.02, 2.92)	1.10 (0.59, 2.04)
Social Determinants of Health				
Financial				
Employed (vs. unemployed)	0.37 (0.18, 0.76)	0.34 (0.15, 0.76)	---	---
Support systems				
Below median (3) number of friends/relatives (vs. median or greater)	---	---	0.46 (0.26, 0.79)	0.76 (0.39, 1.46)
Health care usage				
Having health insurance (vs. not)	---	---	4.52 (1.25, 28.97)	1.61 (0.32, 12.02)
Having a primary care provider (vs. not)	1.72 (1.04, 2.85)	1.97 (1.10, 3.58)	5.43 (2.59, 12.89)	2.32 (0.99, 5.91)
Housing				
Stably Housed	---	---	1	1
Unstably housed	---	---	0.73 (0.42, 1.26)	0.88 (0.486, 1.68)
Undomiciled	---	---	0.12 (0.02, 0.42)	0.49 (0.07, 2.26)
Current residence for 6 months or longer (vs. < 6 months)	0.48 (0.25, 0.87)	0.35 (0.17, 0.67)	---	---

- **Women were more likely to be aware of status (83.5% vs. 67.9%) but less likely to be treated than males (20.8% vs 43.4%)**
  - Women as a group were also younger than males (47 vs. 51)
- **Black/African American were more likely to be treated than white**
  - No racial difference in HCV awareness
  - Black/African American cohort was also older (52 vs. 37)

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Results

Increased treatment status:

- Greater than median (vs less) numbers of friends (41.1% vs 24%)
- Linkage to primary care (42.4% vs 12%)
- Stable housing status (40.8%) vs unstable (33.4%) and undomiciled (7.5%)

Increased awareness of HCV status:

- Unemployed vs employed (75.7% vs 53%)
- Linkage to primary care (76.7% vs 65.7%)
- Having been told of someone else's status (77.3% vs 65.5%)
- Less stable housing vs more stable housing (83.4% vs 72.2%)

No relationship between MOUD program engagement and awareness or treatment

Conclusion

Social determinants of health (SDoH) significantly impact outcomes for PWID

MOUD program participation did not correlate with increased HCV treatment, highlighting a gap in care integration.

Opportunities:

- Comprehensive care models integrating housing support, primary care, infectious disease services, and harm reduction programs.
- Interventions to address gender disparities in HCV treatment access.
- Leverage social support as a tool to enhance treatment uptake.

Future Directions:

- Investigate gender and racial disparities in treatment access further.
- Strengthen programs to address foundational SDoH for PWID.

Community Hepatitis C Access to Treatment Interviews (CHATI)

"Barriers and Facilitators to Hepatitis C Treatment Engagement Among People with Substance Use Disorders: A Qualitative Study in Community-Based Settings"

CHATI: Overview

- In-depth interviews to better understand the lived experience of people living with HCV
- Structurally and culturally competent models delivery of health care and HCV treatment
- Inform the next steps of my project regarding peer-support navigation.

General Objectives:

- Understand various domains
- HCV treatment delivery
- Support systems
- Best setting to deliver HCV care
- Barriers or motivations for the acceptance or refusal of treatment

Inclusion Criteria:

- Aged 18 years of age or older
- Use of heroin, other opioids or illicit drugs in the past month
- Self-reported Hepatitis C infection or completed treatment

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CHATI: Overview

- 15 In-Depth interviews
  - Living with HCV
  - Previously treated for HCV
- Self-report of HCV status and/or prior treatment
- Gender and age representation
- Verbal consent
- Compensated

CHATI: Barriers & Facilitators to HCV Treatment (PWUD)

Barrier / Facilitator Domain	Key Insight	Patient Voice (Direct Quotes)
Competing priorities (active use)	HCV is deprioritized during active addiction	*"Addiction is number one. It takes everything. HCV is way down the list…"*
Housing instability	No safe storage or routine → poor engagement	*"I don't have anywhere to keep medicine… Where am I going to put it?"*
Low perceived severity	Asymptomatic → low urgency	*"No symptoms, no fear. You feel fine, you think you're fine."*
Interferon-era fears	Persistent misinformation delays care	*"I heard… interferon… it made you feel like you're dying."*
Stigma & mistrust	Negative healthcare experiences deter care	*"They look at you like you're dirty… That's why people don't go back."*
Non-judgmental care (facilitator)	Trust enables engagement	*"She never made me feel bad… She just focused on getting me healthy."*
Integrated care (facilitator)	Co-located services improve completion	*"Everything was right there… I didn't have to run around the city."*
Mobile/community care (facilitator)	Bringing care to patients reduces barriers	*"The van came… I just showed up… They did my blood work, gave me my pills."*

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What Actually Works — Designing Around Barriers

- **Integrate HCV care into addiction services** (MOUD clinics, treatment programs)
- **Deploy peer support with lived experience of addiction**
- **Bring care to patients** (mobile vans, community-based delivery)
-
- **Create one-stop-shop models** (medical + social services co-located)
- **Ensure non-judgmental, proactive provider engagement**
- **Address structural barriers directly** (housing, insurance, incarceration continuity)

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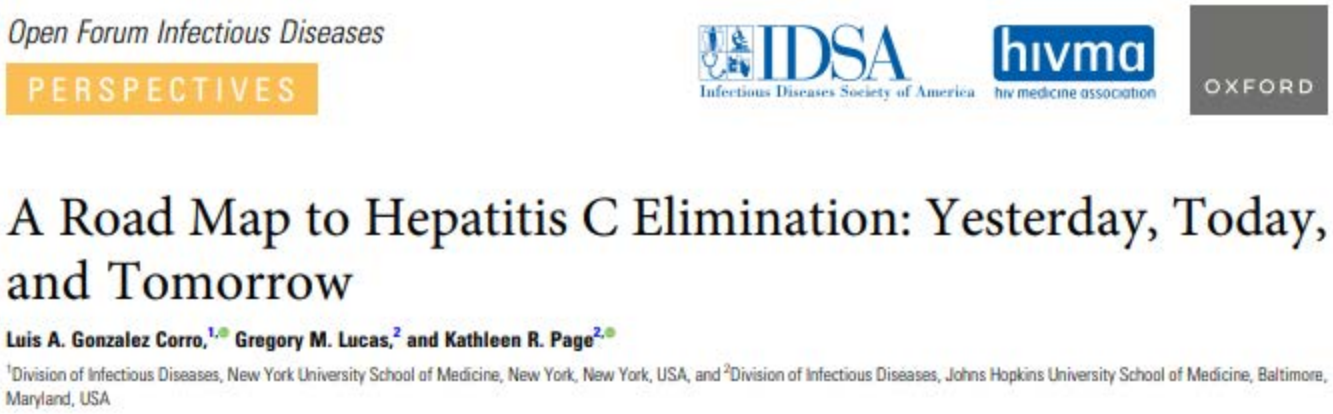
A Road Map to Hepatitis C Elimination: Yesterday, Today, and Tomorrow



Mobile Interventions and Telemedicine for Hepatitis C Elimination

Invited Commentary | Substance Use and Addiction

Mobile Interventions and Telemedicine for Hepatitis C Elimination

Matthew J. Akiyama, MD, MSc; Luis A. Gonzalez Corro, MD; Andrew Seaman, MD

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Implementation Sciences and Hepatitis C Care

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The Spot

Contents lists available at ScienceDirect

Journal of Substance Use and Addiction Treatment

journal homepage: www.journals.elsevier.com/journal-of-substance-use-and-addiction-treatment

Redefining low-threshold buprenorphine access in an integrated mobile clinic program: Factors associated with treatment retention

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BALTIMORE CITY HEALTH DEPARTMENT

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Enhancing Hepatitis C Care for Criminal Legal System-Involved Individuals through Point-of-Care Testing and Community-Based Support

- Adapt and implement the successful MOSAIC study for Hepatitis C Virus (HCV) testing and linkage to care targeting criminal legal system-involved (CLS-I) populations.
- **Frameworks:**
  - **ADAPT-ITT**: Guides culturally relevant, feasible, and sustainable intervention adaptation.

Aims

- **Adaptation**
- **Implementation & Evaluation**: .
- **Scalability**:

Features:

- **Community Engagement**: Partnership with The Fortune Society and PWLE ensures intervention relevance and acceptability.
- **Innovative Approach**: Focus on onsite PoC testing and education in decentralized reentry settings.
- **Goal**: Provide scalable, sustainable solutions to address high HCV prevalence among CLS-I populations.

Conclusion

- Hepatitis C is curable, but not yet equitably treated
- Social determinants of health drive gaps across the HCV care cascade
- Barriers are structural and systemic, not patient failure
- Patient-centered, low-threshold models work
- Integrated care
- Mobile/community-based delivery
- Peer support
- Implementation, not innovation is the missing link
- Elimination requires redesigning systems around patients' realities

"We have the tools, both biomedical and social. The end of hepatitis C depends on our willingness to make use of them"

Op-Ed

THANK YOU

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Thank You Team!

I would like to sincerely thank to all the people that have made my work possible:

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Dr. Briana Norton

Mt. Sinai
Dr. Perlman

NYU Langone
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