Exploring Resources and Different Treatment Models for Hepatitis C Virus and Opioid Use Disorder

Part 2: Combined Infectious Disease and Opioid Use Disorder Treatment with Special Populations

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October 29, 2019 @ 2:00 pm ET

NATIONAL NURSE-LED CARE CONSORTIUM
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National Nurse-Led Care Consortium

The **National Nurse-Led Care Consortium (NNCC)** is a membership organization that supports nurse-led care and nurses at the front lines of care.

NNCC provides expertise to support comprehensive, community-based primary care.

- Policy research and advocacy
- Technical assistance and support
- Direct, nurse-led healthcare services

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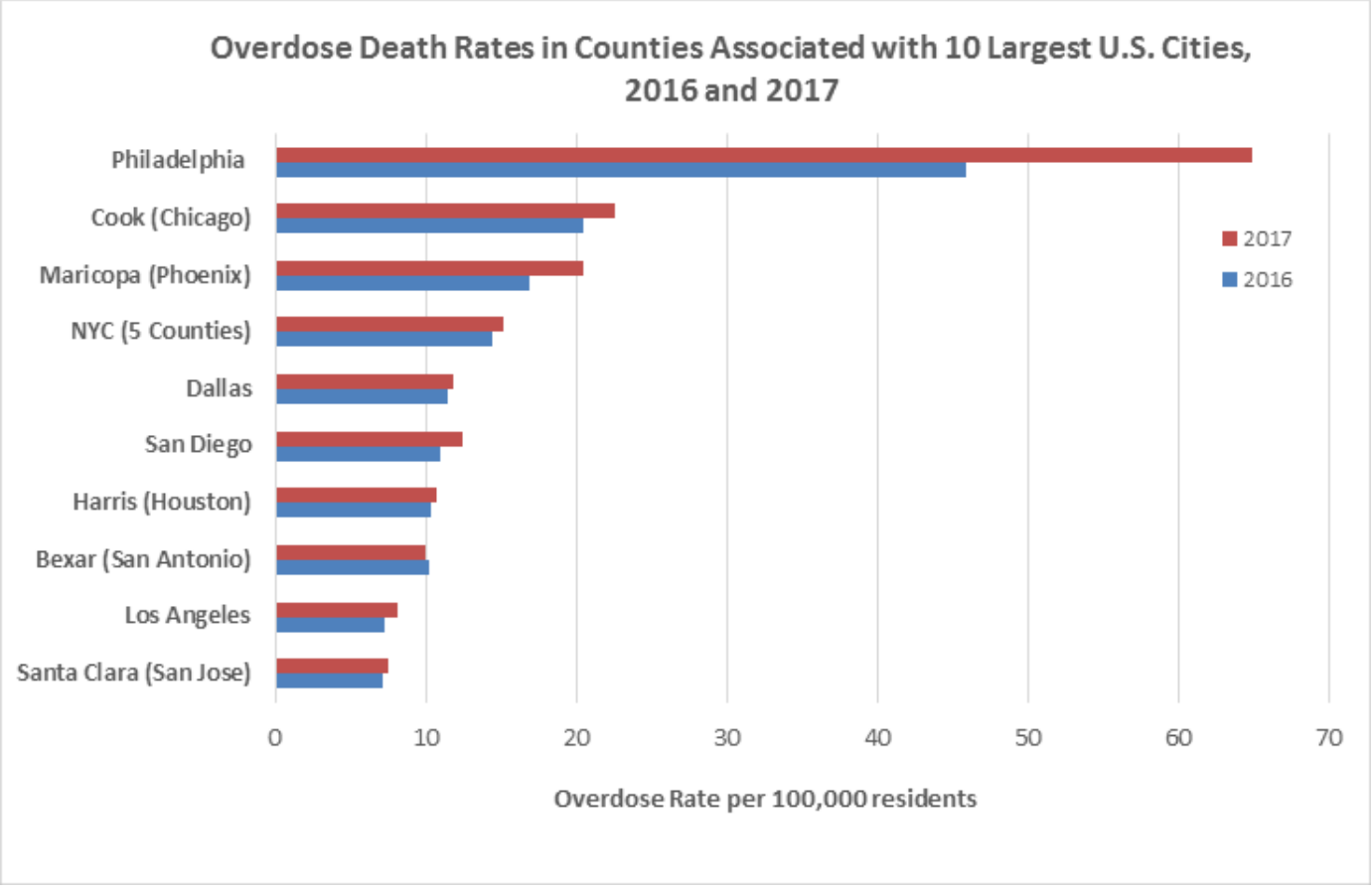
Question & Answer

During the presentation, you may ask questions. Click **Q&A** and type your questions into the open field.

The Moderator will either send a typed response or answer your questions live at the end of the presentations.

Philadelphia had the highest overdose death rate of the top 10 largest U.S. cities in 2016 and 2017



CDC WONDER, 2016, 2017

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Enhanced HCV Screening and Treatment Services at PHMC

- In 2012, Public Health Management Corporation health centers in Philadelphia instituted expanded HCV screening and treatment with support from NNCC Gilead FOCUS:
  - Universal opt-out HCV screening for 18 and older
  - Reflex to RNA screening for HCV Ab-positive patients
  - Care coordination and patient navigation
  - Integrated behavioral health consultations and substance use disorder counseling and treatment
  - In-house treatment for HCV

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HCV Positive Patient Data

- PHMC serves over 19,000 patients
- From 2012-2016: 15,000 patients tested
- 884 patients confirmed chronic HCV positive (~6% prevalence)
- **HCV positive patient data (based on testing data from October 2012-June2016):**
  - **53%** RNA Positive patients reported IDU (**19%** were missing documentation).
  - **90%** of the patients chronically infected were publically insured by Pennsylvania (Medicaid).
  - **63.7%** of RNA Positive patients had a history of mental health disease

HCV Testing in PWID

- Getting tested for HCV, reduces drug use in PWID
- One Opioid Substitution Therapy (OST) program showed reduced injection opioid use
  - 8.1% reduction in PWID if test positive
  - 6.7% reduction in PWID if test negative
- Benzo, cocaine and other nonRx drug use also reduced

H Farhang Zangneh, J Eibl, G Gauthier et al. The impact of hepatitis C diagnosis on substance-use behaviors in patients engaged in opioid substitution therapy. AASLD: The Liver Meeting. Washington, DC, October 20-24, 2017. Abstract 125.

Treatment in health center setting

- All patients receive primary care from primarily PAs/NPs with support from physicians
- Integrated care setting with Behavioral Health Consultants (BHCs,) case managers, as well as substance abuse support (medication assisted treatment program/peer recovery support)
- PCPs trained internally with experienced providers offering classes, mentorships and case study conversations
- Treatment Referral Coordinator works across network to assist with prior authorization process and medication adherence

HCV Continuum in Philadelphia

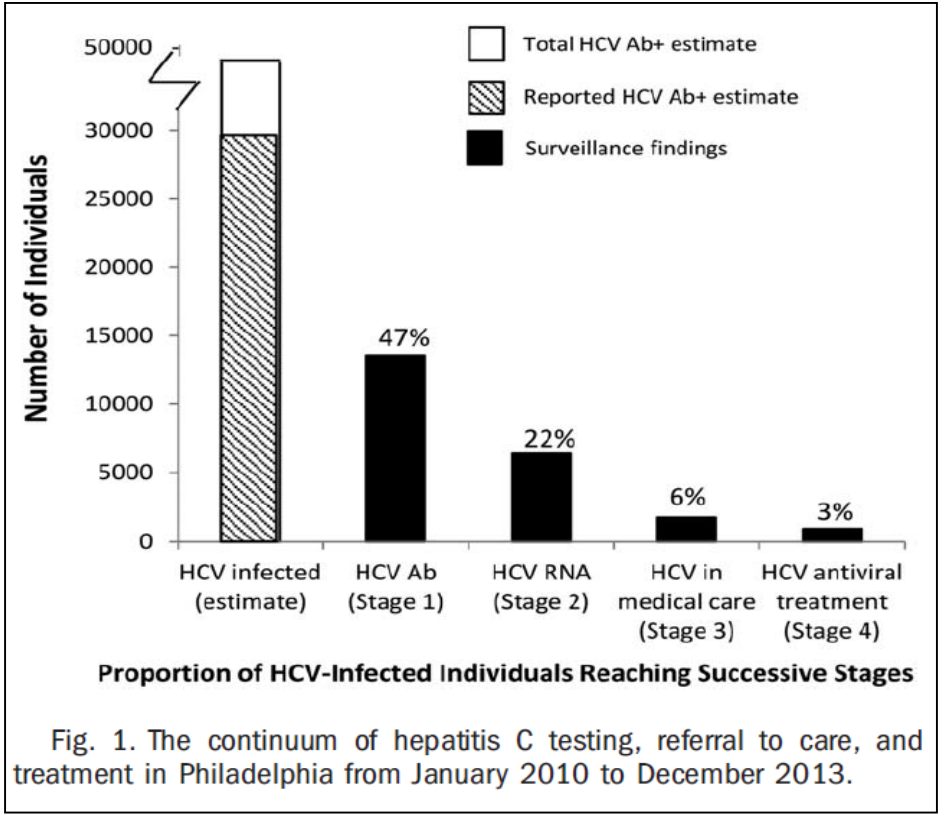

Fig. 1. The continuum of hepatitis C testing, referral to care, and treatment in Philadelphia from January 2010 to December 2013.

Viner et al. Hepatology, 2015. 61(3). 783-789.

HCV Care Continuum at PHMC Care Clinic

Measuring Impact: How the FOCUS Model Transformed Testing and Linkage to Care at a Philadelphia Health Center

Figure 2: HCV Treatment Continuum at PHMC Care Clinic (January 2015-March 2017)

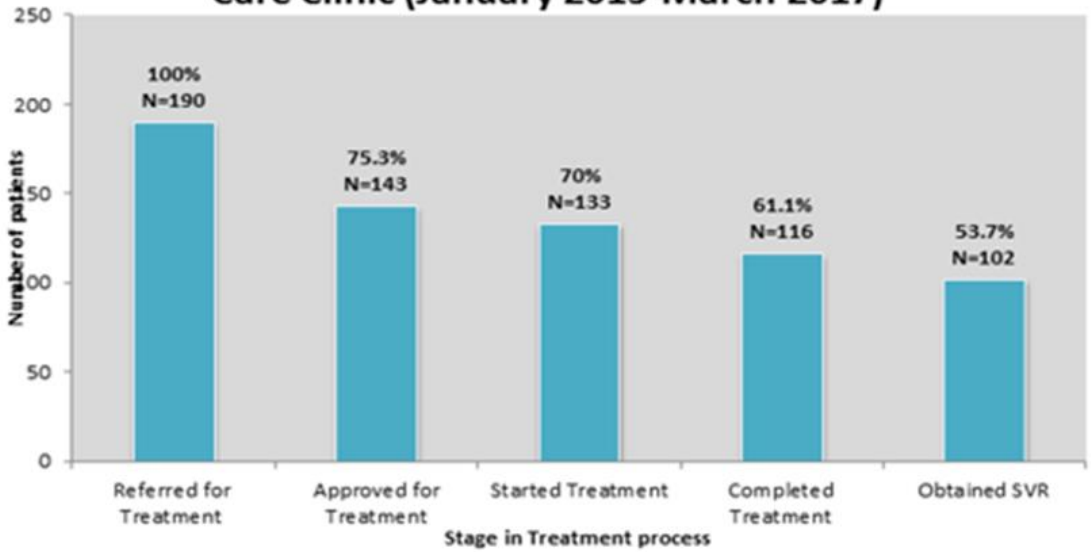

Figure 2 examines the treatment continuum for patients that received onsite HCV treatment at the PHMC Care Clinic.

Cos, T. A., Bartholomew, T. S., & Huynh, K. J. (2019). Role of behavioral health providers in treating hepatitis C. *Professional Psychology: Research and Practice, 50*(4), 246-254. http://dx.doi.org/10.1037/pro0000243

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Integration of HCV and SUDs treatment in a homeless health care setting

Marguerite Beiser, ANP-BC, AAHIVS

10/29/19

BOSTON HEALTH CARE *for the* HOMELESS PROGRAM

- I have no disclosures
- Maps and graphs have been shared with permission and cited
- Thank you to my patients and colleagues at Boston Health Care for the Homeless Program!

Outline

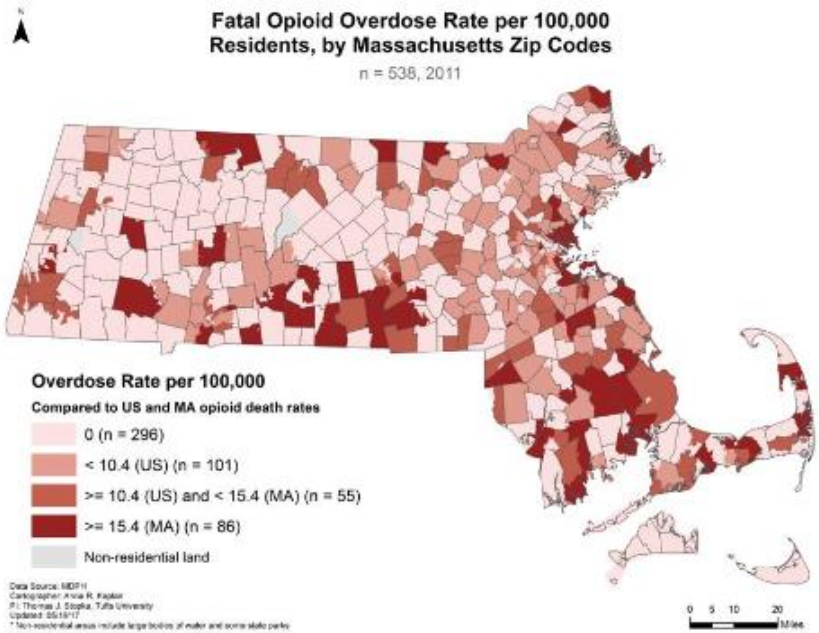
http://www.endhepcsf.org/

- Overview of syndemic* in Massachusetts
  - Substance use disorders (SUDs)
    - Opioid/Overdose crisis
  - Homelessness
  - Hepatitis C (HCV)
    - Review HCV treatment in community settings and among people with SUDs
  - Not specifically addressed today: HIV, poverty, structural violence/trauma, racism
- Boston Health Care for the Homeless Program (BHCHP)
  - Examples of programming specifically targeting HCV and SUDs
    - Successful integration
    - Areas in need of further growth and integration

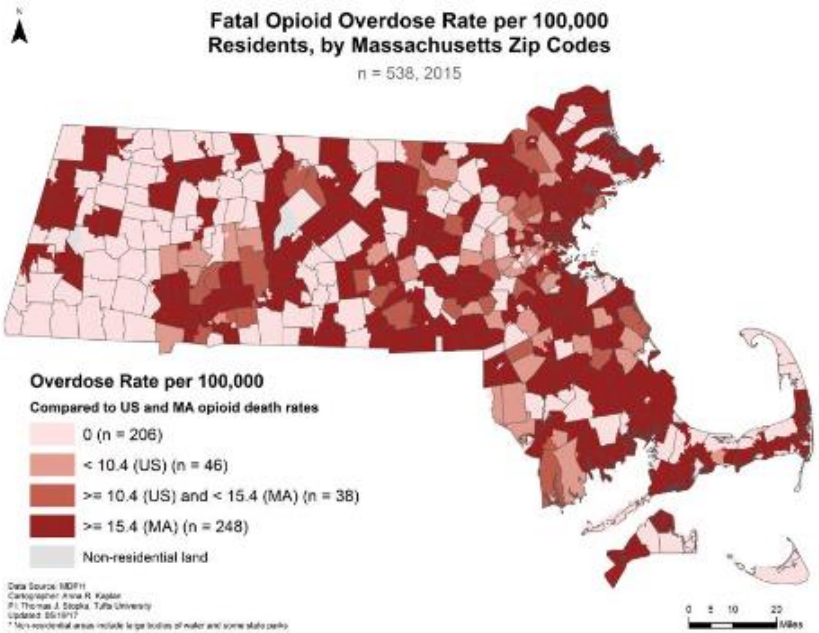
*** Syndemic- synergistic interaction of two or more coexistent diseases and resultant excess burden of disease**- Singer M, Clair S. Syndemics and public health: reconceptualizing disease in bio-social context. *Med Anthropol Q.* 2003;17(4):423-441.

Shifting incidence of fatal opioid overdoses in MA

Increasing and Spreading Opioid-Related Overdose Death Rates in Massachusetts from 2011 to 2015[2]



2011

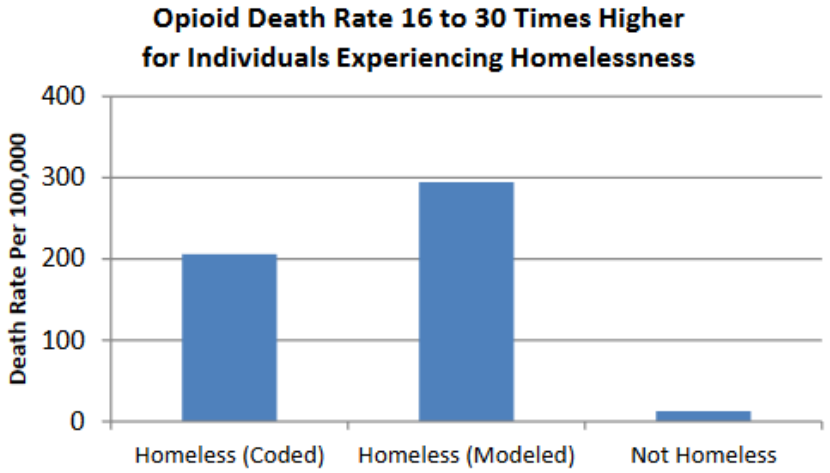


2015

Legislative Report: Chapter 55 Opioid Overdose Study - August 2017 https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf

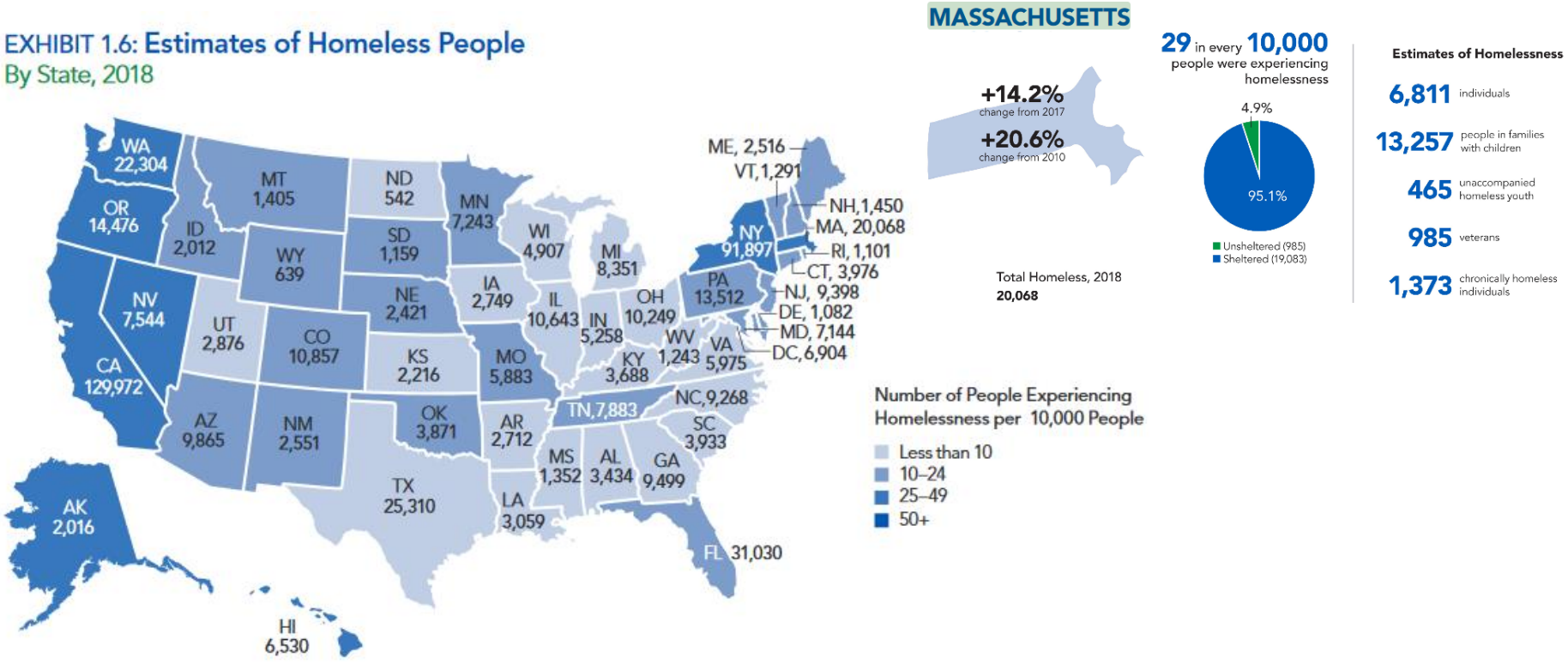
Opioid-involved overdoses among homeless individuals in MA

- The opioid overdose death rate is between 16 and 30 times higher for the homeless individuals compared to the rest of the adult population.[53]



https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf

National and MA homeless incidence, 2018



The 2018 Annual Homeless Assessment Report (AHAR) to Congress https://files.hudexchange.info/resources/documents/2018-AHAR-Part-1.pdf

Boston homeless incidence, 2019

- **6,203** total homeless individuals and families
  - 2,348 individuals
    - 121 people on the streets*
  - 1,221 homeless families
    - 3,855 family members

* Lowest street count in more than 30 years

City of Boston 39th Annual Homeless Census https://www.boston.gov/sites/default/files/document-file-05-2019/2019_homeless_census_5-15-19_190515.pdf

Housing status matters:

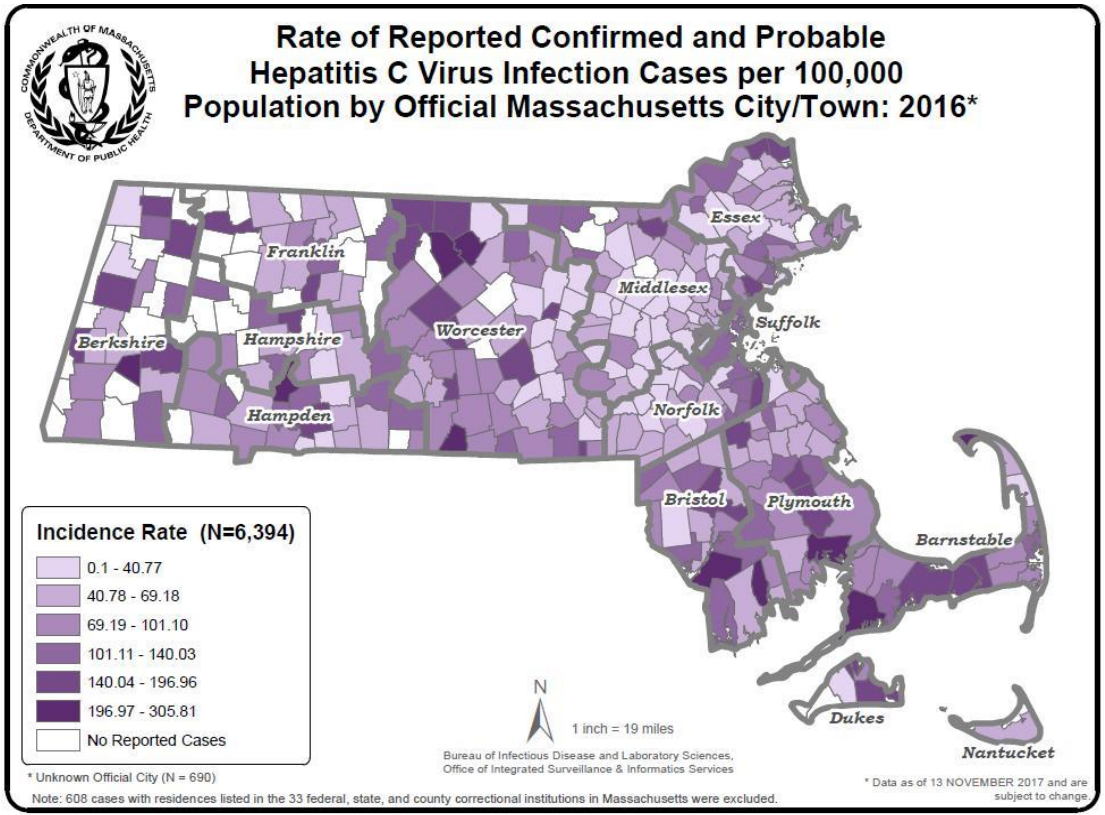
Stark disparities in prevalence of HCV and HIV between housed and homeless

HCV	
Population studied	**Prevalence**
Household phone survey[1]	1%
Homeless at 7 HCH sites[2]	31%
Homeless @BHCHP[3]	23%

HIV	
Population studied	**Prevalence**
National estimate[4]	0.3%
Homeless meta-analysis world-wide[5]	0.3%-21%
Homeless in the US estimate[6]	3.4%
Homeless @BHCHP[7]	2.7%

1. Hofmeister MG, Rosenthal EM, Barker LK, et al. Estimating Prevalence of Hepatitis C Virus Infection in the United States, 2013-2016. *Hepatology.* 2019;69(3):1020-1031.
2. Strehlow AJ, Robertson MJ, Zerger S, et al. Hepatitis C among clients of health care for the homeless primary care clinics. *J Health Care Poor Underserved.* 2012;23(2):811-833.
3. Bharel M, Lin WC, Zhang J, O'Connell E, Taube R, Clark RE. Health care utilization patterns of homeless individuals in Boston: preparing for Medicaid expansion under the Affordable Care Act. *Am J Public Health.* 2013;103 Suppl 2:S311-317.
4. Burnett JC, Broz D, Spiller MW, Wejnert C, Paz-Bailey G. HIV Infection and HIV-Associated Behaviors Among Persons Who Inject Drugs - 20 Cities, United States, 2015. *MMWR Morb Mortal Wkly Rep.* 2018;67(1):23-28.
5. Beijer U, Wolf A, Fazel S. Prevalence of tuberculosis, hepatitis C virus, and HIV in homeless people: a systematic review and meta-analysis. *Lancet Infect Dis.* 2012;12(11):859-870.
6. HIV/AIDS and Homelessness. 2009.
7. Internal data

Hepatitis C incidence and prevalence in MA



The Massachusetts example

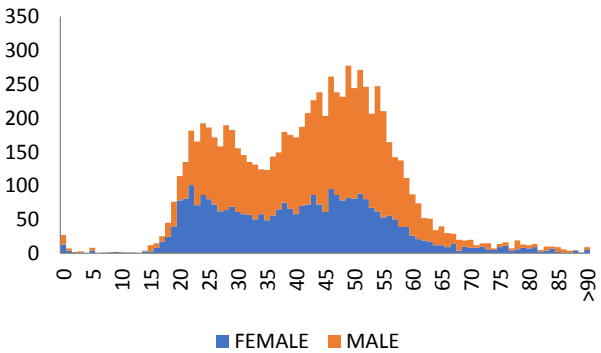
- How many cases does a jurisdiction have evidence for? 120,781
  - What proportion of cases are estimated to have been diagnosed? 45% (HHS Action Plan)
  - How many cases have spontaneously cleared the virus? 15-25%
  - How many cases have been treated successfully (cured)? 5%
  - How many cases have died? 9%

MA DPH; slides used with permission from Dan Church, MPH

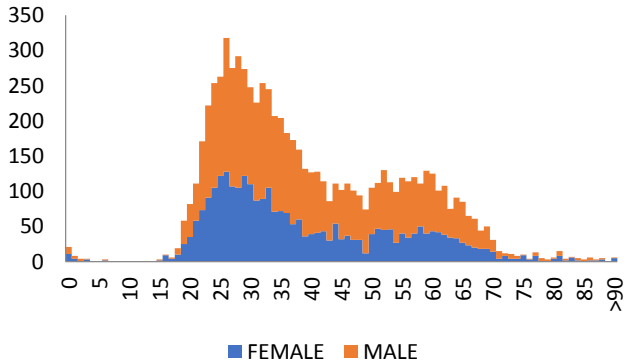
Age distribution of new HCV infections in Massachusetts 2007 → 2016

The age distribution of HCV infection has shifted in the last decade, now reflecting a population predominantly under the age of 40

Age distribution of HCV in Massachusetts, 2007
N=8,241 (875 missing age or gender excluded)



Age distribution of HCV in Massachusetts, 2016
N=7,612 (217 missing age or gender excluded)



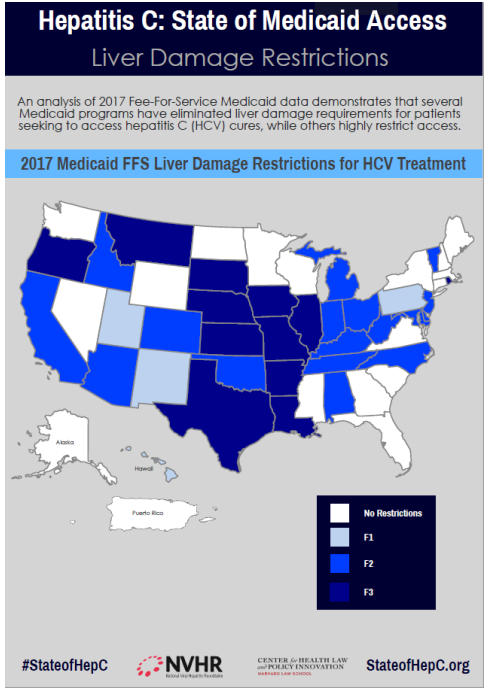
Conservative estimates by MA DPH suggest that HCV prevalence in people under 30 is 24x what is predicted by the CDC

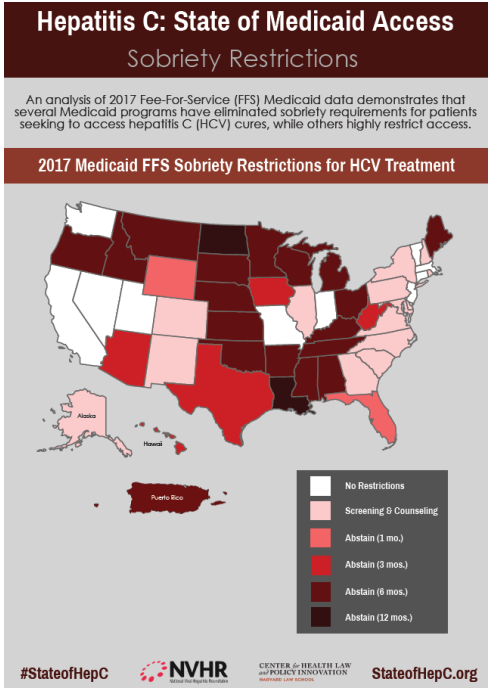
Data source: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences.

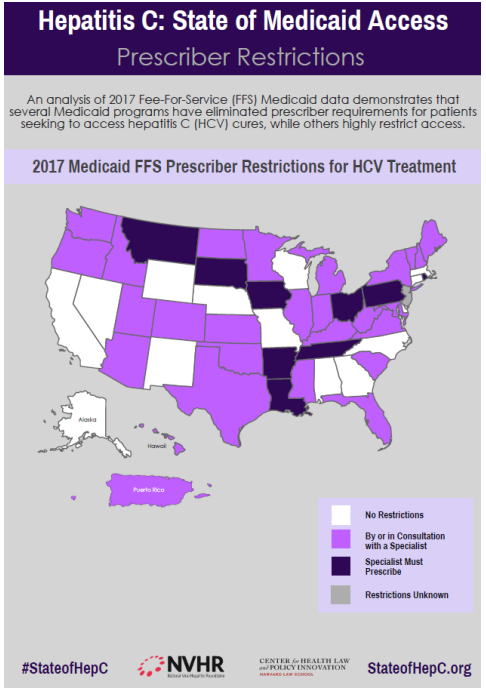
HCV Treatment in a Nutshell

- Combination targeted therapy- Direct-Acting Antiviral (DAA) Therapy
- Broadly adopted clinical guidelines: IDSA/AASLD **www.hcvguidelines.org**
- In 2019 HCV treatment is near universally:
  - **8-12 weeks duration**
  - **Pangenotypic**
  - **>95% cure rate (Sustained Virologic Response, SVR)**
  - **Well-tolerated**
- Special considerations for patients with decompensated cirrhosis, ESRD
- Drug-drug interaction review is critical

Ongoing barriers to HCV treatment



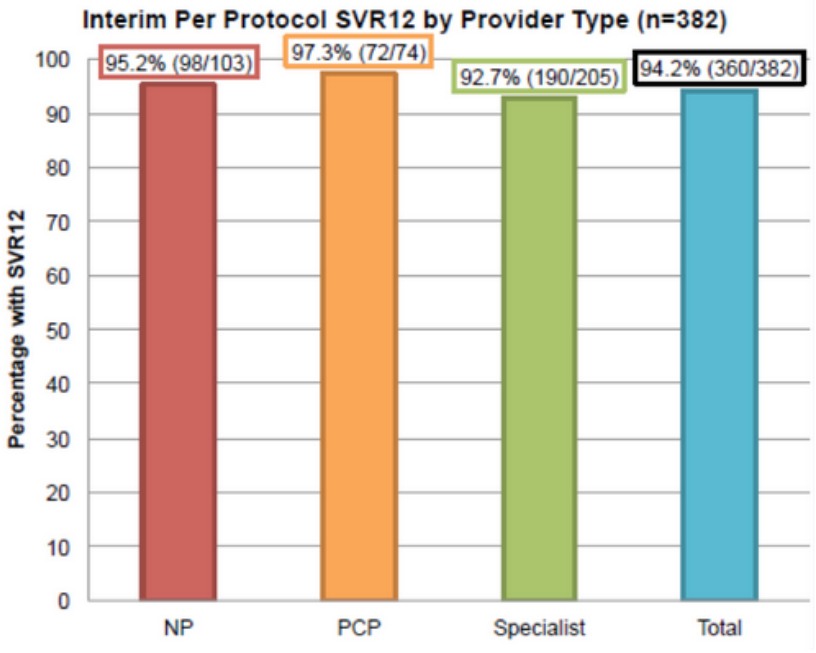




Also… stigma, competing priorities, time/administrative burden, lack of funding, etc

https://stateofhepc.org/resources/

HCV Treatment by non-specialist MDs and NPs



Conclusion:

"In a real-world cohort of patients at urban FQHCs, HCV treatment administered by nonspecialist providers was as safe and effective as that provided by specialists. Nurse practitioners and PCPs with compact didactic training could substantially expand the availability of community-based providers to escalate HCV therapy, bridging existing gaps in the continuum of care for patients with HCV infection."

Kattakuzhy S, Gross C, Emmanuel B, et al. Expansion of Treatment for Hepatitis C Virus Infection by Task Shifting to Community-Based Nonspecialist Providers: A Nonrandomized Clinical Trial. *Ann Intern Med.* 2017;167(5):311-318.

AASLD/IDSA recommendations for HCV treatment

Goal of Treatment	
RECOMMENDED	RATING ⓘ
The goal of treatment of HCV-infected persons is to reduce all-cause mortality and liver-related health adverse consequences, including end-stage liver disease and hepatocellular carcinoma, by the achievement of virologic cure as evidenced by a sustained virologic response.	I, A

Recommendation for When and in Whom to Initiate Treatment	
RECOMMENDED	RATING ⓘ
Treatment is recommended for all patients with chronic HCV infection, except those with a short life expectancy that cannot be remediated by HCV therapy, liver transplantation, or another directed therapy. Patients with a short life expectancy owing to liver disease should be managed in consultation with an expert.	I, A

- Per AASLD/IDSA
  - Ideally, treatment should occur in multi-disciplinary setting that offers addiction treatment, but the absence of this type of setting is not a contraindication for treating PWIDs
  - There is strong evidence of high adherence, sustained virologic response, and low rates of reinfection among PWIDs
  - Treating HCV among people are actively using drugs can reduce transmission to others
  - Treating at lower fibrosis stages has a greater mortality benefit and improved regression
  - Treating women of child-bearing age prevents vertical transmission

AASLD/IDSA HCV guidelines HCV Guidance: Recommendations for Testing, Managing, and Treating Hepatitis C; https://www.hcvguidelines.org/evaluate/when-whom ; https://www.hcvguidelines.org/unique-populations/pwid

HCV treatment among people who inject drugs

- **2018 meta-analysis: PWID achieve HCV cure at high rates**
  - **~87% SVR among recent and ongoing PWID**
  - **~90% SVR among individuals on opioid substitution tx**

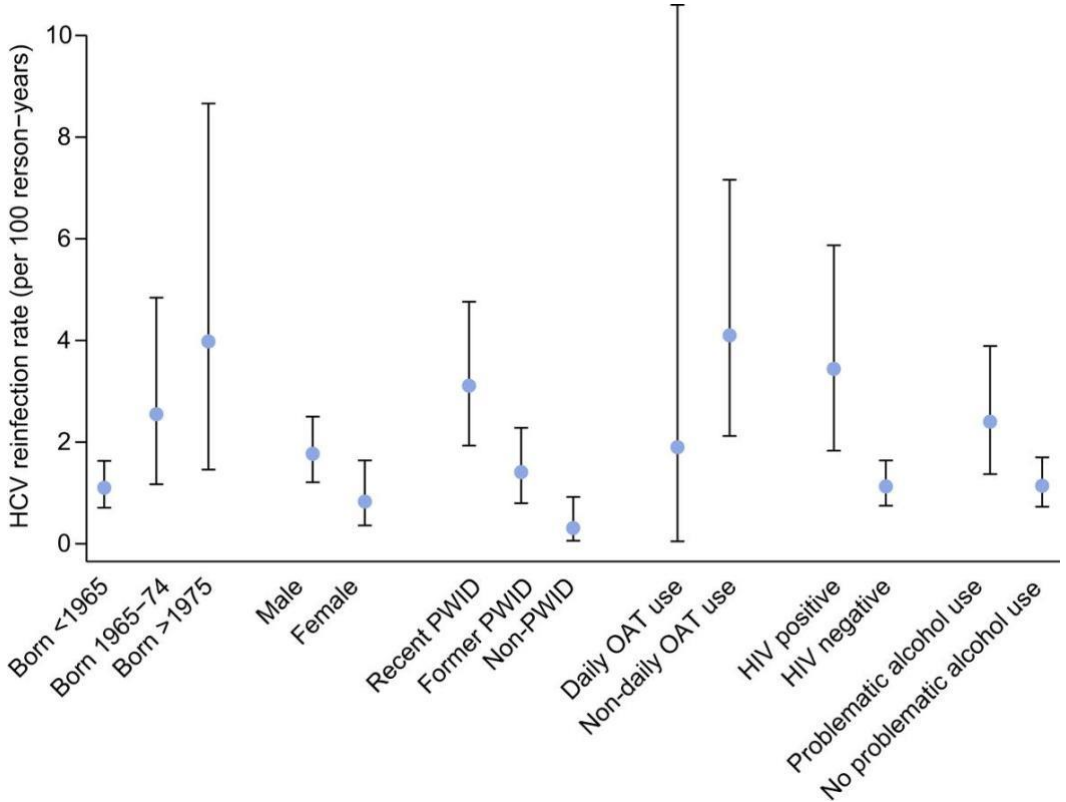
	Number of studies or substudies	Number of participants	Treatment completion (95% CI)	I^2	ITT SVR (95% CI)	I^2	mITT SVR (95% CI)	I^2	Loss to follow-up (95% CI)	I^2
Exclusive study population/subpopulation										
Recent IDU, with or without OST	8	670	96·9% (95·6–98·2)	0·0%	87·4% (82·0–92·8)	80·8%	91·7% (87·9–95·4)	66·1%	2·8% (0·5–5·2)	74·8%
OST, with or without recent IDU/non-IDU	25	2331	97·5% (96·5–98·5)	49·9%	92·6% (90·2–94·9)	79·5%	95·3% (93·6–97·0)	72·5%	3·0% (1·7–4·3)	65·5%
Other	10	633	96·5% (94·5–98·5)	45·7%	86·7% (80·2–93·2)	87·0%	93·8% (90·3–97·2)	76·3%	7·3% (2·6–11·9)	88·1%
Study design										
Observational	28	2483	96·9% (95·9–98·0)	51·6%	88·8% (85·8–91·9)	87·1%	93·4% (91·3–95·5)	80·2%	4·6% (2·9–6·3)	84·1%
Clinical trial	10	1151	98·2% (97·4–99·0)	0·0%	93·9% (92·5–95·3)	7·2%	96·2% (94·6–97·8)	52·4%	2·5% (1·2–3·8)	51·1%

IDU=injecting drug use. ITT=intention to treat. mITT=modified intention to treat. non-IDU=non-injecting drug use. OST=opioid substitution therapy. SVR=sustained virological response.

Table 3: Pooled estimates of treatment completion, SVR and loss to follow-up, by study population and study design

Hajarizadeh B, Cunningham EB, Reid H, Law M, Dore GJ, Grebely J. Direct-acting antiviral treatment for hepatitis C among people who use or inject drugs: a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol.* 2018;3(11):754-767.

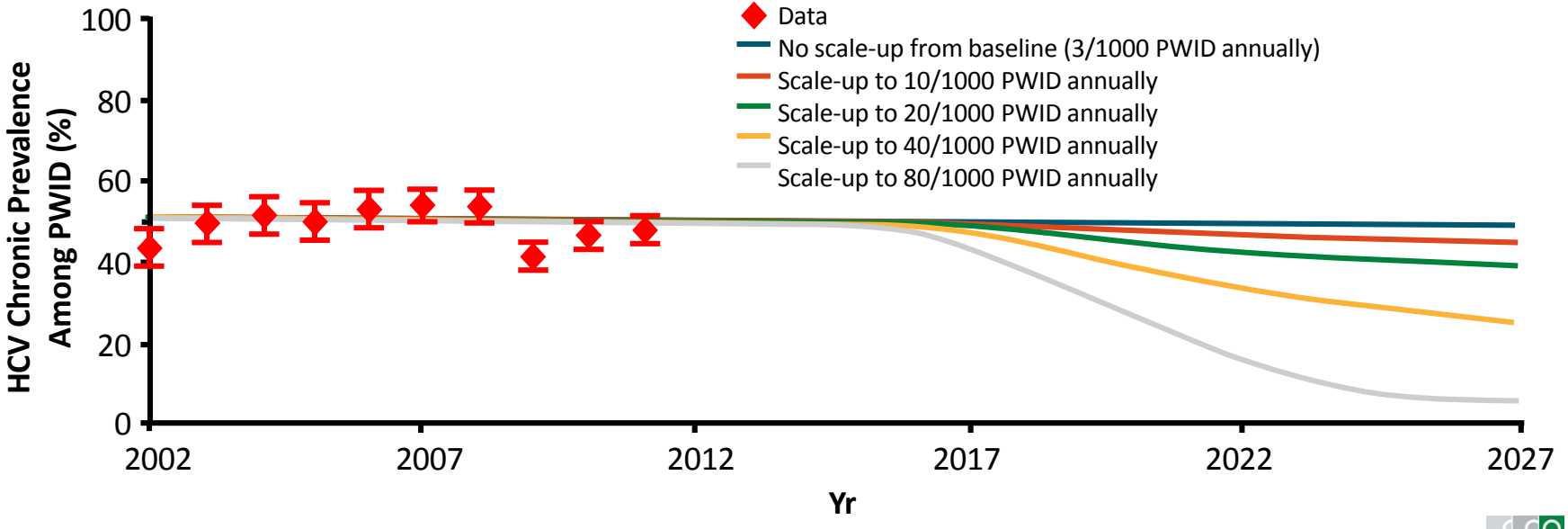
Reinfection among British Columbia Hepatitis Testers Cohort (n=4,114)



Rossi C, Butt ZA, Wong S, et al. Hepatitis C virus reinfection after successful treatment with direct-acting antiviral therapy in a large population-based cohort. *J Hepatol.* 2018;69(5):1007-1014.

HCV Treatment Scale-up in High-Risk Populations Can Prevent Onward Transmission

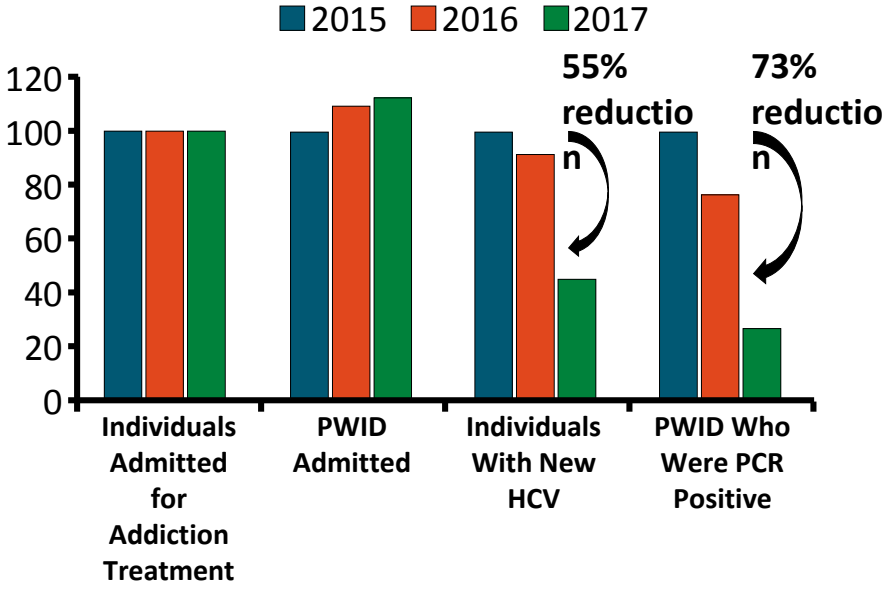
- Observed and modeled HCV chronic prevalence among PWID in Melbourne, Australia

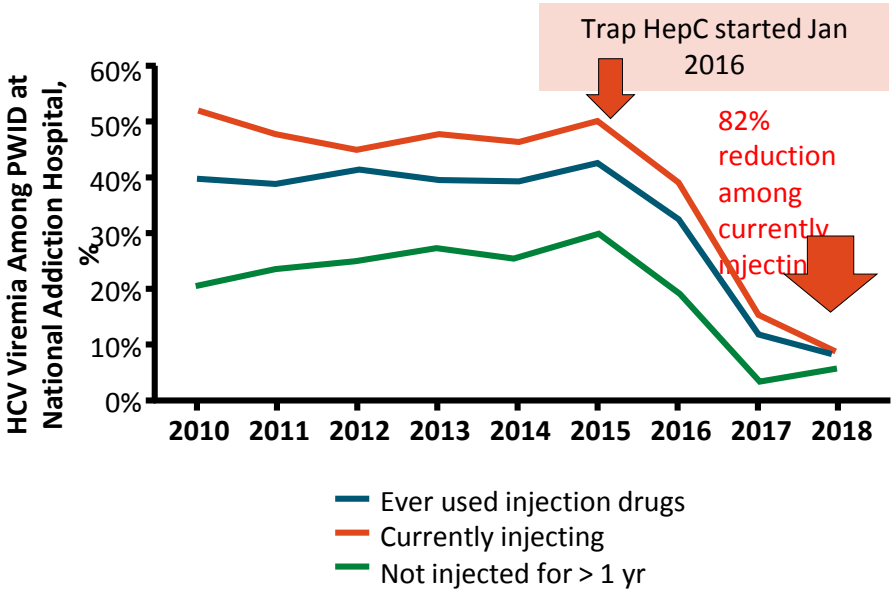


Martin. Hepatology. 2013;58:1598.

Slide credit: clinicaloptions.com

TraP Hep C: HCV Treatment as Prevention Program in Iceland Reduced Incidence in 2 Yrs





- Major scale up with reasonable cure rates
  - Overall SVR: 89%; SVR for patients who completed treatment: 95%
- Dramatic reduction in community viral load and HCV incidence

Runarsdottir. AASLD/EASL HCV Special Conference 2019.

Slide credit: clinicaloptions.com

Boston Health Care for the Homeless Program

BOSTON HEALTH CARE *for the* HOMELESS PROGRAM

PROGRAM STATS

10,600+ unique patients in 2017

130,000 visits in 2017

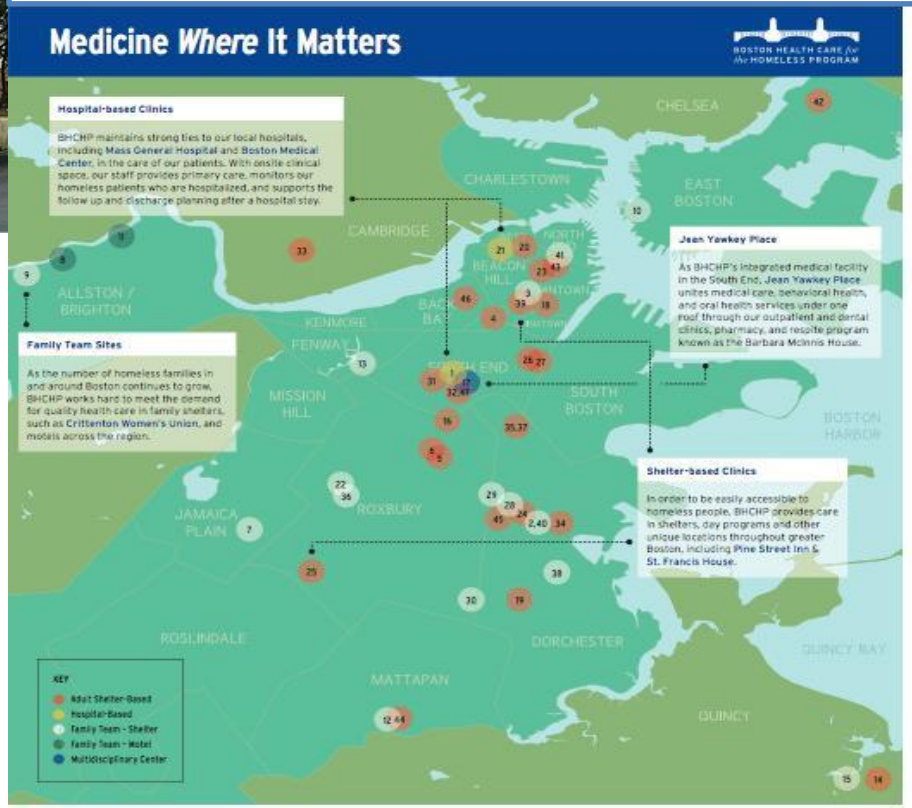
380+ employees

$55M budget, FY18

33 years in operation

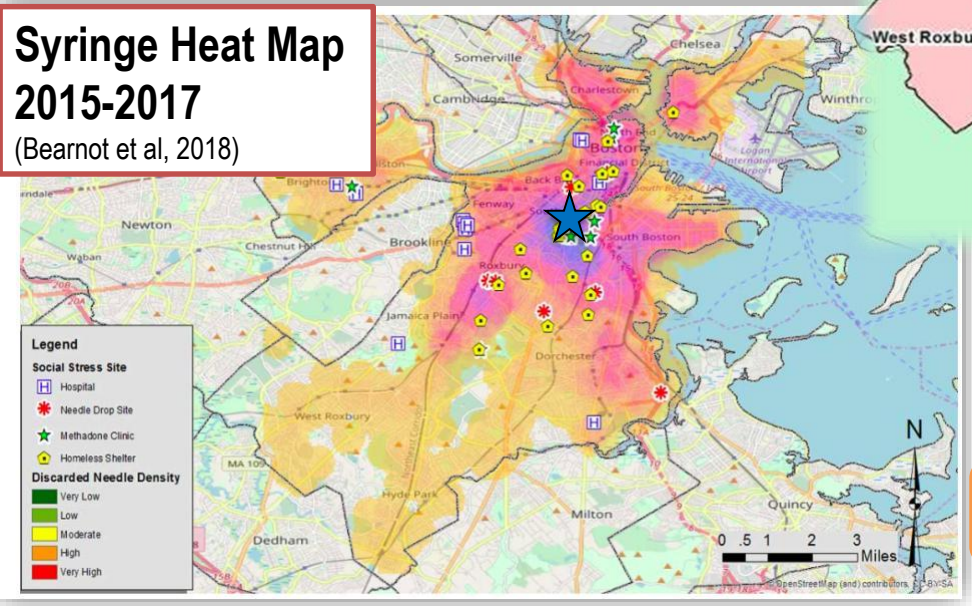
40+ clinical sites

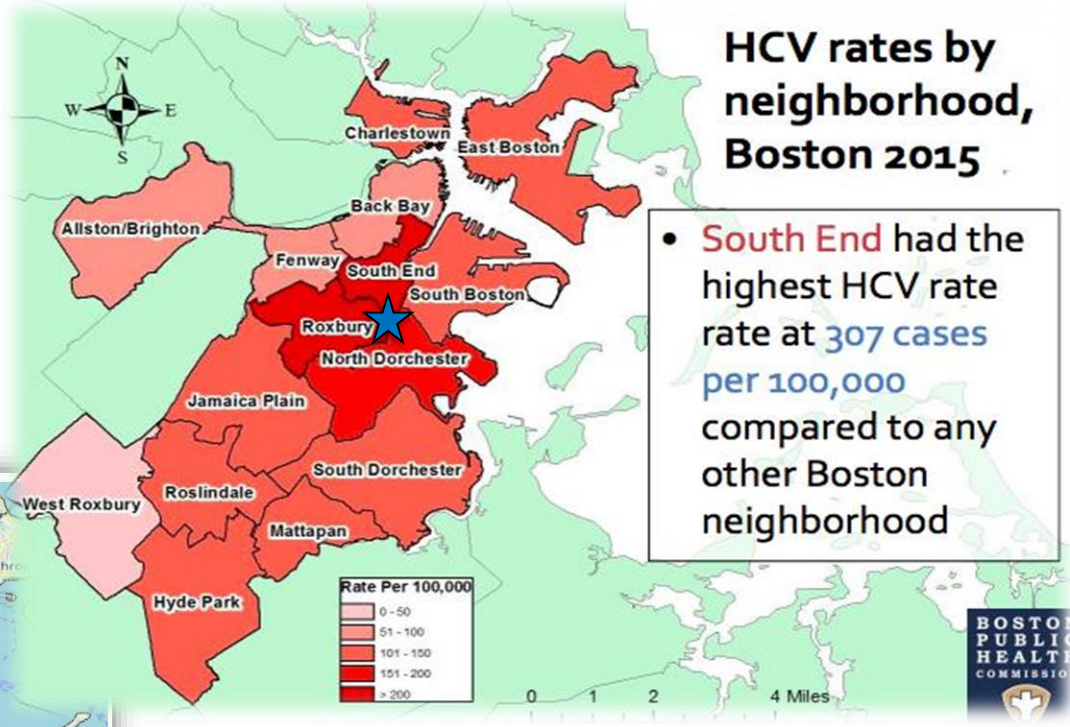
60% patients with SUD



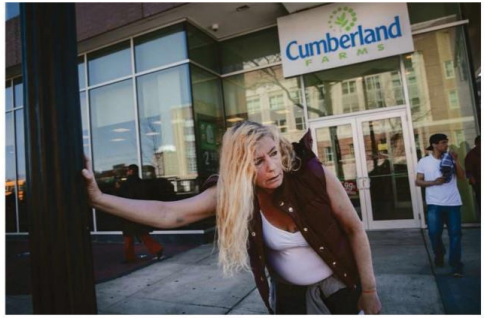
Quick Check In

BHCHP Geographical Context





★ BHCHP



■ Chris (far left) shot heroin behind a house in Boston as his friend Shaun watched; they had just spent the night in a homeless shelter.

■ Sherry (above), a homeless woman who said she has been on and off drugs, leaned against a street sign outside the Cumberland Farms store at the corner of Mass. Ave. and Albany Street.

■ At left, Leonardo, wearing a Batman mask, walked along Mass. Ave. "I want to be able to work here," he said. "I'm not asking for a free check . . . I'm asking for a job and a place to live and to be part of society here."

LIFE AND LOSS ON METHADONE MILE

▶METHADONE MILE
Continued from Page A1

many clinics and services have try to steel themselves against the streets outside. On the mornings when she must brave the chaos, Alyssa Bowman swallows her 80 milligrams of methadone and walks to work quickly, eyes on the ground and earphones stuffed in her ears.

Like many of the others who populate this place, Bowman, 35, is passing through on her way to somewhere else: A life with her children, a return to her career as a dental assistant.

Clean at 23 thanks to daily methadone treatments, she relapsed about a year ago with a seven-month binge of alcohol and benzodiazepines, a type of tranquilizer, that destroyed her life and her liver. By March, she was living in a nearby halfway house where the other women called her "mom," and brought her their broken necklaces and eyeglasses to fix. She collects heads-up pennies for luck and gives them to women having rough days on the road to recovery. Now, she lives in her own apartment; she walks through Methadone Mile some days on her way to her job doing merchandising and marketing for a retail service company.

The sing-song offers of pills and dope make her stomach turn.

"That road," she said, "leads to nothing."

But those streets were paved with suffering long before today's dying epidemic earned much notice. And in the wake of the closing of the Long Island Shelter, the chronically homeless mingle with a new generation caught in addiction's grip, parading this most confounding of problems out before an audience at a busy Boston intersection.

Even as a rising death toll stokes compassion and newfound resolve, gaping holes remain in the systems set up to combat the crisis — nowhere more visible than here. As more and more people stumble along the sidewalks of Methadone Mile each morning, those holes seem harder than ever to patch.

Recovery and relapse jockey for space in the same few blocks. A constellation of services for those suffering from homelessness, mental illness, and drug and alcohol addictions line the streets near Boston Medical Center, compressed into one of the only corners of the city where such facilities can exist without uproar from nervous neighbors.

The Woods-Mullen and Southampton Street shelters, for women and men respectively, house hundreds every night, a few blocks apart. The headquarters of Boston Health Care for the Homeless, a 30-year-old program dedicated to the city's most vulnerable patients, occupies part of the building next to Woods-Mullen. The same building is home to several Boston Public Health programs — among them one that distributes clean needles and another, PAATHS, that helps overdose survivors navigate services for people making their way through a thicket of acute, residential, and outpatient care for drug addiction. In the middle of it all is Boston Medical Center.

In the battle against substance abuse, these are the front lines. For some, access to so many services in such close quarters is a boon. People who live in one of the shelters can make it to therapy groups, see their primary care doctors at BMC, and visit a recovery center without commuting all over the city. And service providers here, many say, show their patients a respect they rarely find elsewhere.

Jennifer Tracey, head of the city's Office of Recovery Services, says there is "probably nowhere else in New England if not the country where you find . . . the level of services that you're finding here."

But the challenges of the area are obvious. Despite a heavy police presence, low-level dealers work the streets, harassing and baiting those clinging to sobriety, and selling to those who have lost their grip.

By dawn, people are already beating a path toward the methadone clinics. Dozens make their way down Southampton to the clinic on Topeka Street, a shabby one-block roadway flanked by industrial businesses and a fenced, inactive construction site that signs warn is an environmental hazard. People sleep there anyway, bedding down behind a concrete structure that's either half-built or half-demolished.

Couples walk by holding hands. Women push strollers. Yesterday's panhandling signs sit discarded along the chain-link fence. A billboard rises over the run-down gas station on the corner, where Michael McCarthy and Rachelle Bond, charged in the killing last summer of Bond's daughter Bella, used to sit in the dirt. The billboard faces the other way; the side overlooking Topeka Street is blank.

Some drive to the two methadone clinics here and duck inside for a few minutes to take their dose before driving away. Others walk in and out quickly, dressed in the uniforms they'll wear at the jobs they're bound for. But many — those with nowhere else to be — linger outside, crouching on the dusty roadside.

Methadone, an opioid that wards off withdrawal symptoms while blocking the chemical craving associated with heroin, is one of the most effective treatments against opioid addiction, along with suboxone, a similar drug that can be taken at home. That's why this area's derisive nickname infuriates many who have spent years working in the treatment programs here: It stigmatizes the people whose pain and suffering is very public and mocks their efforts to get clean. They wish it were known instead as Recovery Road.

But methadone itself can be extremely addictive, and some take it indefinitely for years, trading one addiction for another that allows them to go to work and lead less fractured lives. Others, still active drug users, take it to ward off withdrawal symptoms for the days or hours until they cobble together enough money to buy heroin from one of the dealers on Massachusetts Avenue.

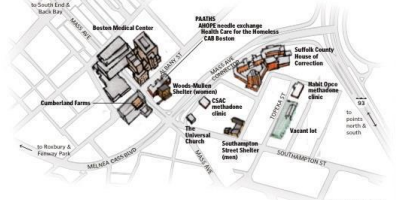
Even the combination of pills the dealers sell in their logo-ing cadence — a specially tailored mix of seemingly random medications called "the cocktail" — is designed to intensify heroin's potency or amplify the pain-relieving effects of methadone into a powerful high.

Users swallow a benzodiazepine like Klonopin or Xanax, the blood pressure medication Clonidine, and the seizure medication Neurontin or Gabapentin. An antinausea drug, Phenergan, completes the blend.

Then they drift away. The people piling the pills on top of their methadone doses are easy to spot: Some, overcome, stoop so low that their hair and hands scrape the sidewalk.

One woman, a regular on the sidewalks and under the bridges here who studied toward a master's degree in health education before her life fell apart, likened the layering of pills atop an opioid to Maslow's hierarchy of needs, the theory in psychology that basic physical needs must first be met before a person can seek safety, love, or esteem.

In the cocktail — and for many on the Mile — opioids come first.



DAVID RUTLER/GLOBE STAFF

Shaun stands shivering in front of the Cumberland Farms store on Mass. Ave. and does the math: A week, maybe more, before he can get on suboxone after being kicked out of his methadone clinic. Two hours before he'll be dopesick.

Less than $20 needed to buy a quarter-gram of heroin.

His stomach is cramping. He is nauseated, and he is anxious: Soon, the diarrhea and vomiting will start, and pain so complete he'll be able to feel it in his hair.

The tall and skinny 45-year-old from Lynn has been clean for several months, he says, and so has his wife, Donna. Among his prison tattoos, he has her name inked across his chest and her initials on his wrist. They always promised each other: We'll quit this together. For years, they said, they have lived in shelters, rooming houses, and on the streets; using, detoxing, relapsing, getting arrested — always together.

Now, in early May, Donna is living in a halfway house, looking for a job. He is staying in a homeless shelter, and wakes up at night reaching for her. He walks her down Southampton Street every morning so she can get her methadone without succumbing to the temptation of the dealers she passes on the way.

He's too old to go through withdrawal, he says. He doesn't have it in him anymore. He decides: He'll use heroin, just for a week. Then, suboxone.

Shaun, who goes by the nickname "Bon2" (pronounced Bone-nee), panhandles $17, and vanishes into the stir of people in front of Cumberland Farms, looking for his dealer. He emerges moments later, smiling.

"It's as easy as that," he says.

Like many others here, Shaun's addiction predates the current opioid crisis. For him, heroin serves as a refuge from a lifetime of traumas — some self-inflicted. Even with the wealth of treatment options he is surrounded by every day, a remedy has been elusive, the damage that deep. Court papers document a tumultuous childhood, hospitalizations for mental health issues, and repeated arrests. He started drinking at 8, the documents show, and by 13 he was smoking angel dust, snorting cocaine, and using LSD; he started using Oxycontin in the late '90s, he said, before switching to heroin. He served time for a failed robbery at a McDonald's. His brother died of an overdose in 2012.

"I love heroin. I live it. The first time I ever did it I fell in love with it," he says. "But you hate it. You want to kill it. But you can't. It always wins. It's the biggest lie."

He lopes over to a low orange box of a building at the edge of Mass. Ave.,The Universal Church, and squats down on blacktop wet with rain. He opens a water bottle, takes out a clean syringe, and squeezes a few drops of water into the upturned bottle cap on his knee. Then he unwraps the folded Keno ticket that holds his heroin.

It is too windy to cook, so he stirs it up in the bottle cap and draws the amber liquid up into the syringe through a makeshift filter, a cotton pad he found discarded on the ground. He rolls up his sleeve, revealing dark blue veins he calls "ropes," and plunges the needle in, waiting for the eddy of blood called the "red flag" that means it is safe to inject.

The rod swirl beckons, and he presses the plunger.

His shoulders relax, no longer sharp points under his jacket. He is not thinking about the hours and days that will follow this one perfect moment of relief. That his plan to use just once every day will fail by the afternoon; that he will begin missing his morning walks with Donna to panhandle for more dope; that he will spend two days trying to raise enough money to take her to see "Captain America: Civil War," only to spend it on heroin instead; that he will fail to get into a suboxone clinic, try detox, then return to the streets and to heroin, then detox again. In this moment, there is only the pain leaving his body.

In many ways, the center of this teeming neighborhood — the hub of the Mile — is not a shelter or a clinic. It's a convenience store.

The Cumberland Farms on the corner of Massachusetts Avenue and Albany Street was the company's first foray into an "urban location" in Boston since 1981, and a month-long fund-raiser for Boston Medical Center accompanied the store's opening in November 2013 — a nod to their new neighbors.

"With our brand new look and store concept, we felt the timing was right for us to provide this vibrant neighborhood with a convenient, affordable option for freshly prepared food and our everyday convenience items," Cumberland Farms president Ari Haseotes said in a news release at the time.

The firm couldn't have known what was coming. Less than a year after the store opened, in October 2014, the condemnation of the bridge to Long Island shuttered the shelter there and tossed the city's already overburdened support systems into chaos. It also resettled hundreds of Boston's homeless here.

Almost overnight, the number of homeless, drug- and alcohol-dependent people crowding around Cumby's appeared to double. Shoving matches block the doorway. People mill around inside indefinitely, buying nothing. The bathrooms stay locked, to keep people from shooting up heroin inside.

One night, a pair of meth'd-out dress shoes sat abandoned in front of the register; a woman with a black eye and a metal bar slid through the belt loops of her jeans asked packet after packet of sugar to a yogurt she brought from outside.

Many of the people out front are simply having a cup of coffee with their friends outside the local shop — they're living in the shelters and spend their days outside, said Tracey, whom Mayor Martin J. Walsh appointed in 2015 to head the city office charged with addressing substance abuse. But others are nodding off on their feet, conked out by the cocktail.

"It's scary for people to see people that sick and unaware," Tracey said.

Service providers in the area meet with police and neighborhood and business groups regularly, addressing problems as they arise — harassment outside methadone clinics, or packed cars being used as cover for injection drug use. But the daily responsibility for reining in the chaos often falls to the Boston Police Department.

"Gotta go, gotta go," say the police officers who show up every hour or so to sweep away the restive crowd, pointing the

Continued on next page

■ A police officer and a security guard chased an alleged drug dealer after he ran away during questioning; at right, police handcuffed the suspect as the guard stood by.

THE OVERDOSE CRISIS

- Drug overdose was leading cause of death for cohort of 28,033 adults seen at BHCHP from 2003 to 2008*
- Opioids implicated in 81% of overdose deaths*
- Overdoses frequently happening in our building
- Significant existing addictions programming

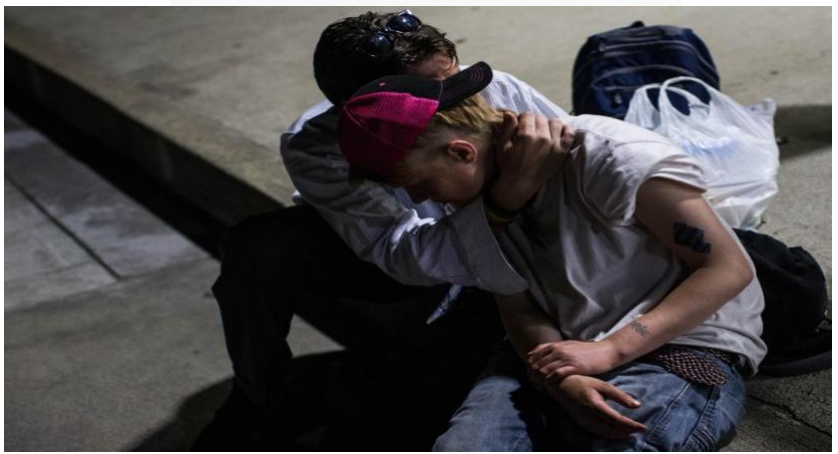
BHCHP'S SUD SERVICES

A HARM REDUCTION APPROACH

We believe in a world without stigma. We recognize the need to expand access to all types of addiction treatment, on demand. But we also recognize a parallel need to reduce the harms associated with drug use for people who do not seek treatment or cannot access treatment currently. We do not require our patients to stop using before we start helping them.

PARTNERS & COLLABORATORS

People who Inject Drugs,
Bay Cove,
BPHC & AHOPE,
BMC & the Grayken Center for Addiction,
Boston Rescue Mission,
Casa Esperanza
Kraft Center for Community Health,
MGH,
NECHV,
Pine Street Inn, St. Francis House,
Victory Programs, ...
and many more!



Baggett TP, Hwang SW, O'Connell JJ, et al. Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period. *JAMA Intern Med.* 2013;173(3):189-195.

THE OVERDOSE CRISIS

MAT

Medication for Addiction Treatment (MAT), such as buprenorphine and naltrexone, is provided by individual waivered clinicians and by a centralized team, with services coordinated by nurse care managers and therapists, in collaboration with physicians.

ACCESS TEAM

The Addiction Collaborative and Expedited Support Services (ACCESS) team provides expedited primary care, MAT, and individual and group therapy for those at highest risk of overdose.

CAREZONE

The CareZONE health van provides accessible, high quality primary care and addiction services to individuals in Boston's overdose "hotspots" who are not already well connected to health care or addiction treatment.

SPOT

The Supportive Place for Observation and Treatment (SPOT) actively engages people who inject drugs, and provides medical monitoring of oversedation, harm reduction services, and linkages to treatment.

NALOXONE

BHCHP offers overdose education and naloxone trainings to all patients and staff We also distribute naloxone rescue kits to all those at risk of experiencing or witnessing an overdose.

SPOT* STATS: 2016-2018

800+	7,139	22%	24%
unique visitors	encounters	direct connections to medical or mental health care	visitors referred to substance use treatment

** BHCHP's Supportive Place for Observation and Treatment (SPOT). Data reflect visits in the 2 years between April 2016 and March 31, 2018.*

THE OVERDOSE CRISIS

THERAPY ON-DEMAND

Through our "Open Access" system, patients are able to access same-day therapy appointments with licensed clinicians, eliminating wait times and supporting patients in times of crisis.

QUALITY IMPROVEMENT

Program wide, we strive to improve outcomes across the opioid use disorder cascade of care—that is, at each stage of care, from initial diagnosis to achievement of sustained recovery.

SUD GROUPS

Peer support and group therapy is incredibly helpful to our patients, and is offered daily, including at the Barbara McInnis House, where patients receive 24/7 respite care.

INTEGRATED BEHAVIORAL HEALTH

Behavioral Health clinicians work side by side with primary care teams and help to manage co-occurring PTSD, depression, anxiety, and other mental illnesses.

BATHROOM MONITORING

To respond to the almost daily overdoses happening in our public bathrooms, we use close monitoring and have installed reverse motion detectors, alerting us when someone has not moved in 3 minutes.

ADVOCACY

We actively participate in community meetings with neighborhood & government partners seeking solutions.

RISK ROUNDS

Monthly discussions with specialists from MGH foster multidisciplinary, team-based problem-solving.

Significant burden of HCV at BHCHP

- 23% HCV prevalence (2010 Medicaid claims data)[1]
  - Updated (2016) internal report suggests 11.6%
- HCV dx associated with excess health care utilization and cost[1]
- Excess mortality from liver cause[2]
- Needs assessment of BHCHP patients with HCV[3]
  - 74% indicated interest and confidence in ability to complete HCV treatment
  - Majority identified primary care as preferred location for treatment

1. Bharel M, Lin WC, Zhang J, O'Connell E, Taube R, Clark RE. Health care utilization patterns of homeless individuals in Boston: preparing for Medicaid expansion under the Affordable Care Act. *Am J Public Health.* 2013;103 Suppl 2:S311-317.
2. Baggett TP, Chang Y, Porneala BC, Bharel M, Singer DE, Rigotti NA. Disparities in Cancer Incidence, Stage, and Mortality at Boston Health Care for the Homeless Program. *Am J Prev Med.* 2015;49(5):694-702.
3. Beiser M, Leon C, Gaeta JM. Needs Assessment of HCV-Infected Individuals Experiencing Homelessness and Implications. *J Health Care Poor Underserved.* 2017;28(1):596-606.

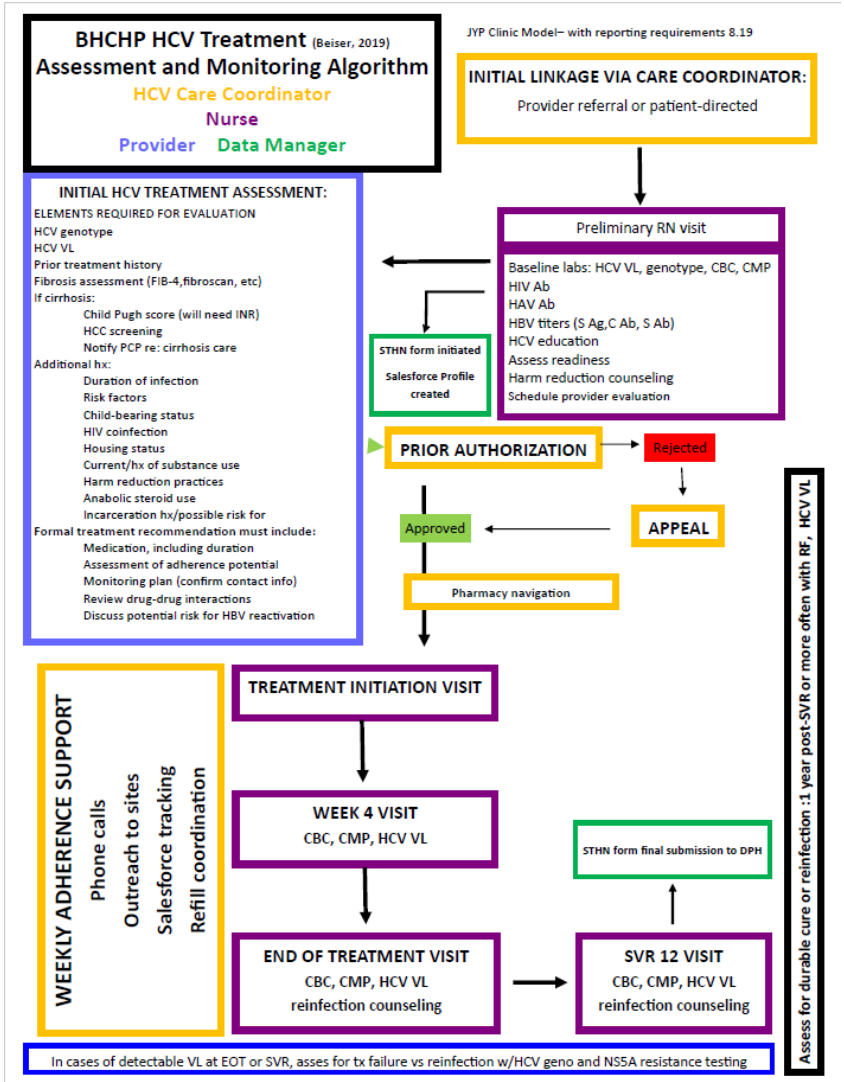
HCV Treatment Team

HCV Team: Founded in 2014

- Case manager- referrals, PAs, adherence support
- Nurse- intakes, on treatment visits/labs
- Providers- assess liver health and recommend tx
- Program Director- supervises team, sees pts, guides quality and research agenda, manages grants

Funding:

- Internal BHCHP
- Kraft Center for Community Health, Practitioner Program (supported time for HCV Director)
- National Viral Hepatitis Roundtable (NVHR) mini-grant
- MA Department of Public Health as of 11/17


BHCHP HCV Treatment (Beiser, 2019)
Assessment and Monitoring Algorithm
HCV Care Coordinator
Nurse
Provider Data Manager
JYP Clinic Model– with reporting requirements 8.19
INITIAL LINKAGE VIA CARE COORDINATOR:
Provider referral or patient-directed
INITIAL HCV TREATMENT ASSESSMENT:
ELEMENTS REQUIRED FOR EVALUATION
HCV genotype
HCV VL
Prior treatment history
Fibrosis assessment (FIB-4,fibroscan, etc)
If cirrhosis:
Child Pugh score (will need INR)
HCC screening
Notify PCP re: cirrhosis care
Additional hx:
Duration of infection
Risk factors
Child-bearing status
HIV coinfection
Housing status
Current/hx of substance use
Harm reduction practices
Anabolic steroid use
Incarceration hx/possible risk for
Formal treatment recommendation must include:
Medication, including duration
Assessment of adherence potential
Monitoring plan (confirm contact info)
Review drug-drug interactions
Discuss potential risk for HBV reactivation
Preliminary RN visit
Baseline labs: HCV VL, genotype, CBC, CMP
HIV Ab
HAV Ab
HBV titers (S Ag,C Ab, S Ab)
HCV education
Assess readiness
Harm reduction counseling
Schedule provider evaluation
STHN form initiated
Salesforce Profile created
PRIOR AUTHORIZATION
Rejected
APPEAL
Approved
Pharmacy navigation
WEEKLY ADHERENCE SUPPORT
Phone calls
Outreach to sites
Salesforce tracking
Refill coordination
TREATMENT INITIATION VISIT
WEEK 4 VISIT
CBC, CMP, HCV VL
END OF TREATMENT VISIT
CBC, CMP, HCV VL
reinfection counseling
SVR 12 VISIT
CBC, CMP, HCV VL
reinfection counseling
STHN form final submission to DPH
In cases of detectable VL at EOT or SVR, asses for tx failure vs reinfection w/HCV geno and NS5A resistance testing
Assess for durable cure or reinfection :1 year post-SVR or more often with RF, HCV VL

BHCHP guiding principles for HCV treatment

- Everyone should be treated. Reduce barriers, don't add them
  - Nobody has to "prove that they really want it" in any other aspect of their health care

- Recognize that you have power to prioritize HCV care alongside other health issues
  - There is no perfect situation
  - Kept appointments as proxy for stability
  - Readiness can be assessed over time

- **Do not assume things are stable on treatment**
  - Weekly adherence checks are central to our model, allow team to respond quickly to destabilizing issues, such as:
    - Change in housing status
    - Loss or theft of medication
    - Loss of insurance
    - Relapse/progression to more chaotic drug use and increased exposure risk
    - Incarceration

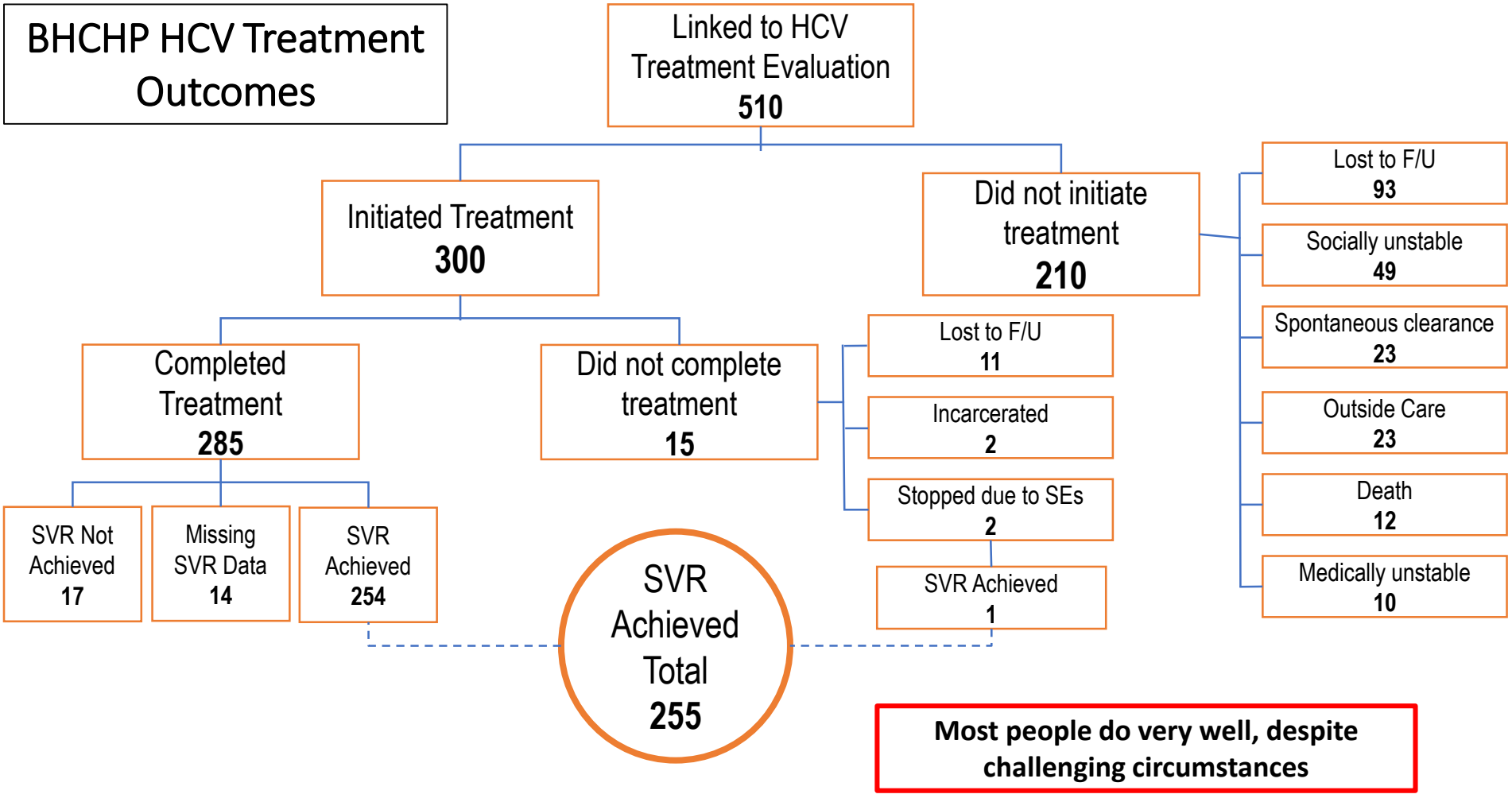
Pearls related to treating HCV among people currently using drugs

- Obtain as many points of contact as possible
  - Phone numbers, email/MyChart, case workers at programs, contacts at syringe exchange programs (SEPs), etc
- Try to treat couples or other drug-using partners concomitantly
- Try to reinforce that the goal is to continue HCV therapy through any challenges
  - Destigmatize
  - Keep communication flexible and responsive to times of crisis
  - Anticipatory guidance to reduce risk of reexposure
  - ***MAT on demand by HCV treater

Solutions to Practical Challenges

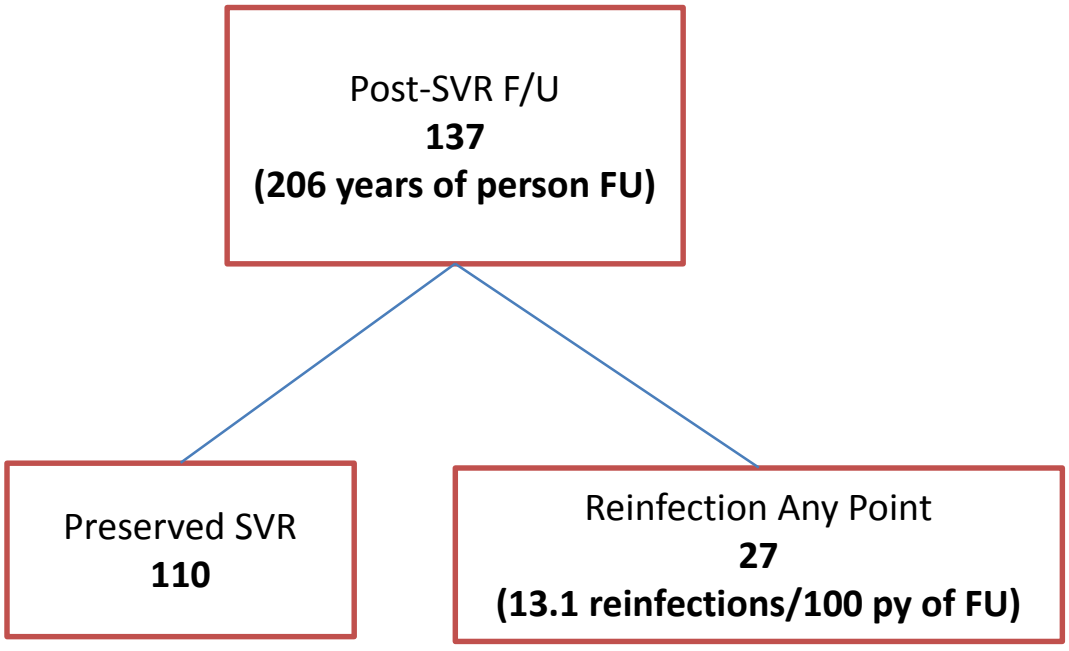
Challenge	Solution
Readiness	Multiple visits to gauge adherence potential Anticipate RF for tx interruption Collaborate with established care teams who know pt well
Medication loss/theft prevention	DOT, weekly pill boxes, home delivery, emergency insurance override
No phone	Pre-arranged appts My Chart, if applicable Outreach to nearby shelter/program settings at reliable intervals
Lack of transportation	Bus passes, medication delivery, satellite laboratory
Competing priorities	Decrease barriers as much as possible Co-schedule with PCP or OBAT/MMT Limit unnecessary travel **Accept less than perfection**
Specialty pharmacies (copay, home delivery, time)	HCV team care coordinator navigates for pt Insurance authorized rep Mail to clinic

BHCHP HCV Treatment Outcomes



Beiser ME, Smith K, Ingemi M, Mulligan E, Baggett TP. Hepatitis C treatment outcomes among homeless-experienced individuals at a community health centre in Boston. *Int J Drug Policy.* 2019;72:129-137.

BHCHP Post SVR Follow Up



Median time to reinfection: 168 days (IQR=81-207)

In univariate analyses, reinfected individuals were more likely to be:

- Hispanic (p=0.017)
- Literally homeless (p=0.007)
- Dx OUD (p=0.012)
- IDU HCV risk factor (p=0.026)
- Address change during treatment (p=0.004)

Challenges to HCV and SUDs integration at BHCHP

- Siloed programs, even within same organization
- All of us are “putting our fingers in the dam” to try to meet an overwhelming need
- Ad hoc collaboration
  - All BHCHP providers are x-waivered
  - HCV treaters also AAHIVSs, OBAT providers and PCPs
  - Benefit from colocated BH, addiction and HCV services (limited to main site and one veterans shelter, initially)
  - Shared EMR- can cross-collaborate on adherence check-ins, labs, med delivery

Plans for improved HCV and SUDs integration

- Where we are going:
  - Expanded training of OBAT providers/PCPs in shelter and street-based settings to perform their own HCV tx assessments
    - Decentralize treatment access
    - Promote continuity across primary, addiction, and HCV care
  - Case manager specifically for support of outreach site providers and patients added 10/19
  - Correctional Linkage to Care for HCV combined with buprenorphine treatment in pre-release period at local HOC
  - Panel management review between HCV team and OBAT to systematically approach elimination
  - Enhanced relationship with SEP next door to our site
  - Improved focus on reinfection prevention

Thank you for your time!

Questions?

mbeiser@bhchp.org

To receive credit…

We will send an email with a link from Clinical Directors Network within 1-2 days after the webinar.

You must complete to receive credit and the certificate will arrive within 1 week of completing the survey.

National Nurse-Led Care Consortium

Remaining webinars for the Learning Collaborative Series:

Part 3: Implementing an Enhanced HCV Screening Model in Iowa

- **Tuesday November 12, 2:00 pm ET**

Part 4: Expanding Medication Assisted Therapy in Philadelphia

- **Tuesday December 3, 2:00 pm ET**
- NNCC will host an extra 30 minutes for “office hours”
- Extended Q&A and discussion topics for a related article

NATIONAL NURSE-LED CARE CONSORTIUM
a PHMC affiliate

Thank you!

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Office Hours

Discussion Questions, Best Practices, Case Presentations

Marguerite Beiser, ANP-BC, AAHIVS
Boston Healthcare for the Homeless Program

Jillian Bird, RN
Nurse Training Manager
National Nurse-Led Care Consortium