



## Ending the Hepatitis C Epidemic: Increases in HCV infections linked to a growing opioid crisis and the need to treat people who inject drugs

Jon E. Zibbell, PhD  
Senior Public Health Scientist  
Behavioral Health Program  
RTI International  
Atlanta, GA

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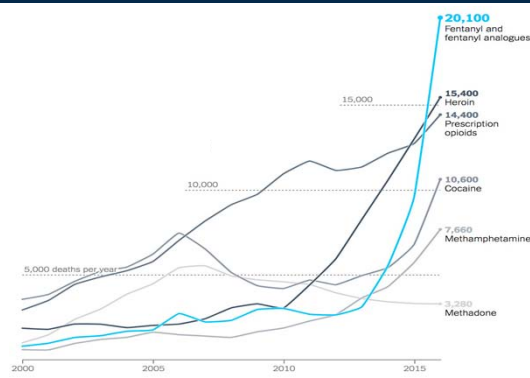
## Drug Overdose Deaths in the United States, 2000-2016

**650,000**  
drug overdose  
deaths since 2000

**5x**  
as many opioid deaths  
in 2018 as 2000



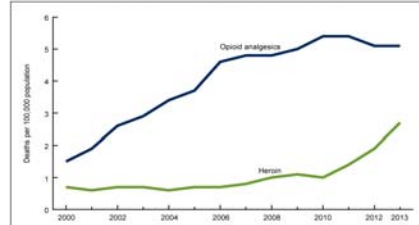
## Drugs Involved in OD Deaths, U.S., 2000-2016\*



\*NYT Interactive, 09/02/2017, National Center for Health Statistics

## Two Distinct but Interrelated Epidemics

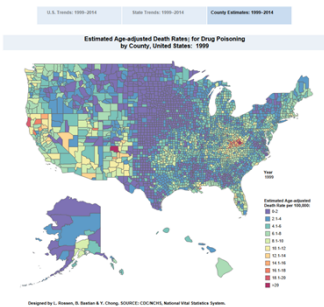
Figure 1. Age-adjusted rates for drug-poisoning deaths, by type of drug: United States, 2000-2013



NOTES: The number of drug-poisoning deaths in 2013 was 41,953. The number of drug-poisoning deaths involving opioid analgesics was 10,235, and the number of drug-poisoning deaths involving heroin was 8,257. A small subset of 1,342 deaths involved both opioid analgesics and heroin. Deaths involving both opioid analgesics and heroin are included in both the rate of deaths involving opioid analgesics and the rate of deaths involving heroin. Access data table for Figure 1 at <http://www.cdc.gov/nchs/data/ndh/ndh010113.pdf>.

1999

### Drug Poisoning Mortality: United States, 1999-2014



## Increases in New HCV Infections, U.S., 2007-2012

- ❖ 50% increase in national reporting
- ❖ 200% increase in 17 states
- ❖ Recent studies show
  - ~70% report IDU
  - Ages 18 to 29 years
  - Predominantly white
  - Equally female and male
  - Non-urban and urban
- Antecedent prescription opioid misuse among PWID

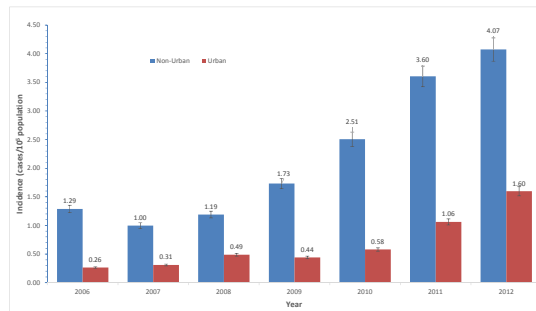


Source: CDC/hepatitis.gov; MMWR 2011; MMWR 2014; CDC unpublished data

## Brief Epidemiology of Hepatitis C Virus Infection (IDU)

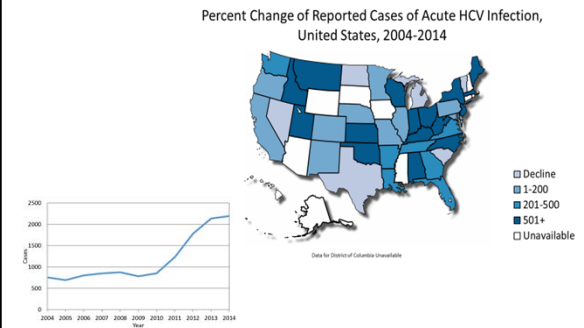
- Hepatitis C virus (HCV) infection is the most common chronic blood-borne infection in the United States
- Injection drug use (IDU) is the primary risk factor for infection and the leading cause of incidence
- HCV infection can occur rapidly after IDU initiation:
  - A 2008 meta-analysis examined the time from injection initiation to HCV infection and found a cumulative incidence of 28% at year 1 of drug injection (95% CI:17%, 42%)
- Consequently, once the virus is introduced into a network of persons who inject drugs (PWID), it can circulate quickly through the reuse of contaminated drug injection equipment—specifically, needles, syringes, cookers, and filters
- HCV prevalence among PWID between 30-70%

## Incidence of Acute Hepatitis C by Urbanicity and Year among Young Persons: Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012



Zibbell et al., 2015, MMWR

## Increase in Acute Hepatitis C Virus Infections, U.S., 2004-2014\*

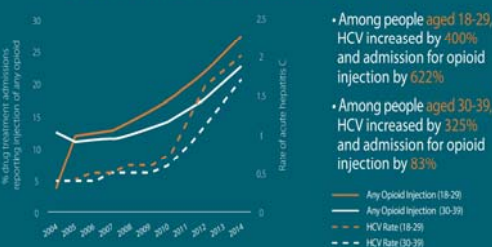


Source: National Notifiable Disease Surveillance System (NNSS)

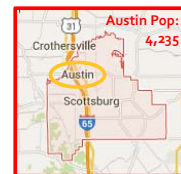
\*Zibbell et al., 2016, AJPH

## CDC Report on Hepatitis C and Opioid Injection

### HEPATITIS C AND OPIOID INJECTION ROSE DRAMATICALLY IN YOUNGER AMERICANS FROM 2004-2014

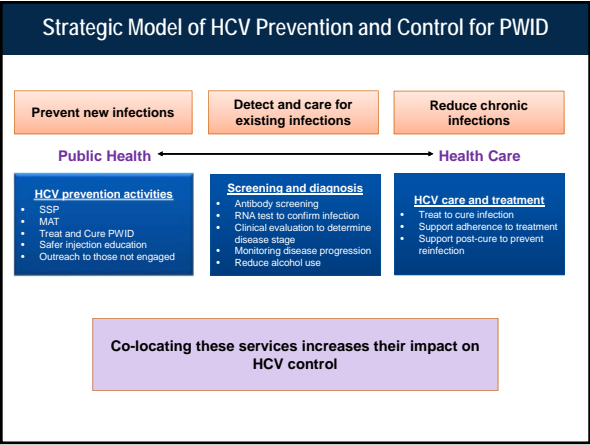
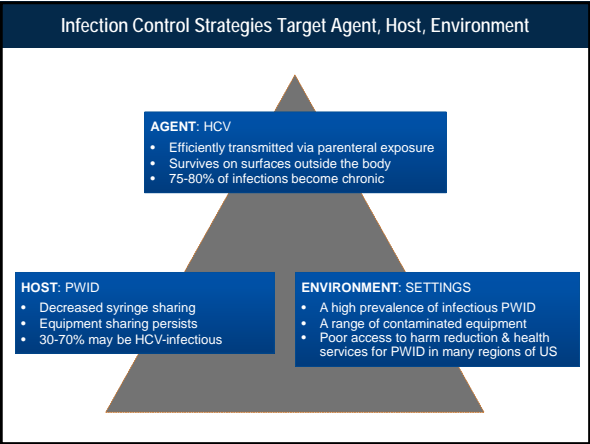
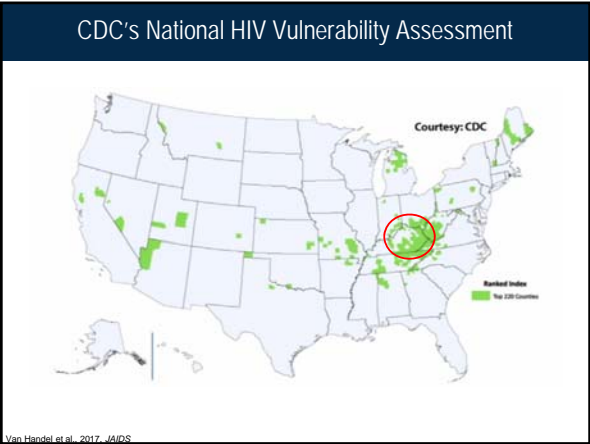


Source: Centers for Disease Control and Prevention and Substance Abuse and Mental Health Services Administration



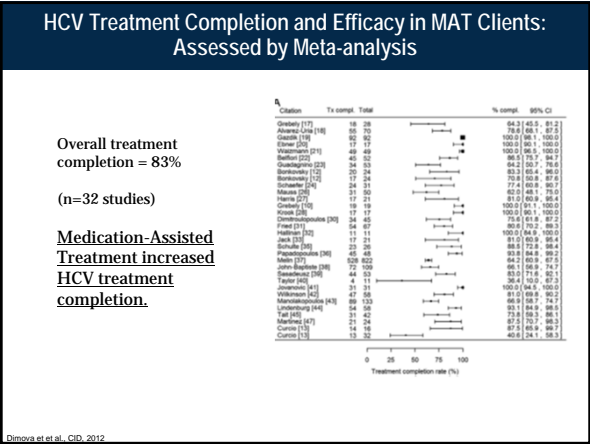
- Population: 24,000 (Austin : 4,235)
- High poverty (19.0%)
- High unemployment (8.9%)
- Low educational attainment (21.3% have not completed high school)
- Ranked last among 92 counties in a variety of health and social indicators, including life expectancy

Sources: U.S. Census <http://quickfacts.census.gov/qfd/states/18/18143.htm>; Indiana State Health Department <http://www.in.gov/isdh/17397.htm>



### Multi-Component Interventions (MCI)

- An approach to risk reduction where programs are combined as “packages” and offered concurrently in the form of a “one-stop shop.”
  - MAT + HCV Care and Treatment + Syringe Services + Naloxone
- Rather than providing one service at a time, MCI incorporates myriad services simultaneously, increasing the likelihood that PWID will traverse health services based on the status of their drug use—not by disease risk or disease status.
- MCI shown to reduce:
  - Injecting Risk
  - New HIV and HCV infections
  - HCV Re-infection

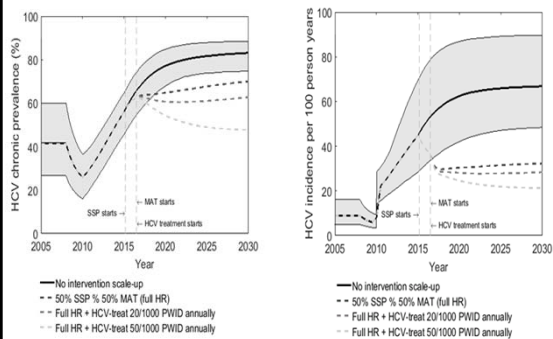


Dimova et al., CID, 2012

### What about HCV Treatment as prevention?

- New treatments may cure more than 90% of patients**
  - They are well-tolerated and safe, and treatment is only 8-12 weeks
  - New treatments are expensive but studies show cost-effective
- Currently only 1-2% of PWID with chronic HCV infection are treated each year**
  - Abstinence restrictions for treating PWID
  - Treatment providers' fear of relapse or re-infection
- HCV treatment alone will not control HCV infection among PWID**
  - Combined HCV prevention—SSPs and MAT—must be continued and expanded
- Curing HCV infection in PWID can prevent new infections**
  - Tx will reduce the number of infectious carriers
  - With fewer carriers, SSPs and MAT programs will be more effective

Changes in HCV prevalence/incidence over time with different interventions:  
Parameters modeled with data from eastern KY and Scott County, IN

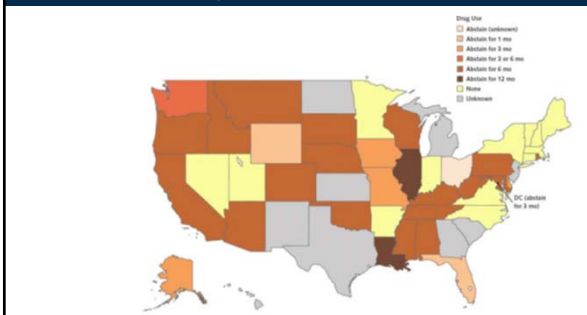


Source: Frazier, Zibbell, Hoegerer et al., *Addiction*, forthcoming 2017

People who use drugs are being categorically excluded from HCV Tx

- **1997 NIH Consensus Statement:** "Treatment of patients who are actively using illicit drugs should be delayed until these habits are discontinued for at least 6 months."
- **2002 NIH Consensus Statement:** "Treatment of active injection drug use should be considered on a case-by-case basis."
- **2004 AASLD Clinical Guidelines:** "Treatment of HCV infection can be considered for persons even if they currently use illicit drugs."
- **2014 NAMD:** "Exclude use in patients with drug use within the past year."

Abstinence Restrictions for Medicaid Reimbursement for the Treatment of Hepatitis C Virus Infection in the U.S.



Legend: Medicaid reimbursement criteria for sofosbuvir based on the required period of abstinence from drug and alcohol use.

Ann Intern Med. Published online June 30, 2015

2015 Global Recommendations for Managing HCV Infection among PWID



SUPPLEMENT ARTICLE

Recommendations for the Management of Hepatitis C Virus Infection Among People Who Inject Drugs

Geert Rebeaeyts,<sup>1,2,3,4</sup> Jason Grebely,<sup>1,5</sup> Stefan Mauss,<sup>7</sup> Philip Bruggmann,<sup>4</sup> Joseph Mousalli,<sup>1,2</sup> Andrea De Gottardi,<sup>1</sup> Tracy Swan,<sup>6</sup> Amber Arain,<sup>1,2</sup> Achim Kautz,<sup>1</sup> Heino Stöver,<sup>1</sup> Heiner Wedemeyer,<sup>1</sup> Martin Schaefer,<sup>1,10</sup> Lynn Taylor,<sup>10</sup> Markus Backlund,<sup>1,10</sup> Olav Dalgaard,<sup>10</sup> Maria Prins,<sup>10</sup> and Gregory J. Dore,<sup>1,10</sup> on behalf of the International Network on Hepatitis in Substance Users



La Fin

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