

# Cases: Hepatitis C Treatment in People who Inject Drugs

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IAS-USA

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## Off-Label Warning

I will discuss the following off-label use in this presentation: Treatment for acute HCV

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## Learning Objectives

After attending this presentation, learners will be able to:

- Describe special considerations for HCV treatment for people living with HIV
- Describe special considerations for HCV treatment for people with recent history of drug use

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### CASE 4 – HCV in PWID

19 Caucasian W recently admitted for skin and soft tissue infection. Noted to have track marks by a medical resident who sees her in ED. She confides that she has recently started injecting heroin after it became too expensive to acquire oxycodone. She has one partner who injects her. Her family is unaware of her drug addiction. She is discharged from ED with antibiotics and while she declines substance abuse treatment referral, she takes information about a harm reduction center.

PMH:  
Depression –suicide attempt age, 17

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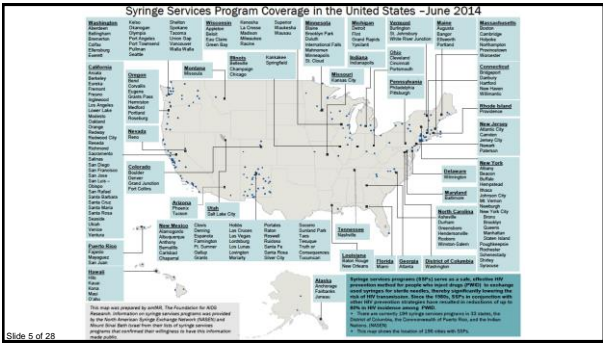
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### CASE 4 – cont

She is seen in urgent care for a skin and soft tissue infection. She also reports some malaise. The provider asks about sharing needles and she reports that she has not. (She is injecting in a group setting and had learned it was safest to be the first one to use a syringe but does not think to mention she shared other things).

Labs reveal:  
HIV 4<sup>th</sup> gen test - neg  
HBV sAb+ sAg-  
HCV Ab positive  
AST 250  
ALT 320  
Bili 1.2

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### CASE 4 – cont

The urgent care doctor calls her and urges her to see a primary doctor for further HCV RNA testing.

She feels fine and decides she will take care of it the next time she needs to see a doctor. She also knows someone who tried to get treated but insurance did not cover it.

But this news does prompt her to go with a friend to the harm reduction program.

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### Harm Reduction Kit



1. Clean Bottle for mixing water and bleach.
2. Bleach to disinfect used syringes when a clean one isn't available.
3. Bandages to help avoid infection after injecting.
4. Sterile water to mix the drug with.
5. Tourniquet to "tie off" above the injection site.
6. Bottle cap for mixing water with the drug before it's drawn up into the syringe (commonly called "cooker").
7. Cotton balls to trap dirt and debris as the drug, mixed in water, is pulled into the syringe.
8. Syringes don't come inside the kit but are provided at distribution sites.
9. Step-by-step injection instructions
10. Alcohol swabs to clean the injection site before insertion.

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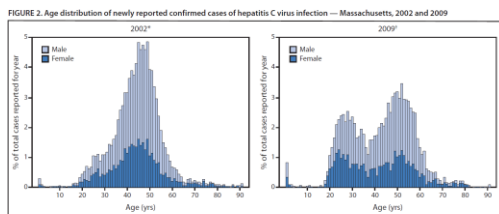
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### Increased injection drug use has shifted HCV demographics



\*N = 6,281; excludes 35 cases with missing age or sex information.  
†N = 3,904; excludes 346 cases with missing age or sex information.

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MMWR / May 4, 2011 / 60(18) / No. 17 539

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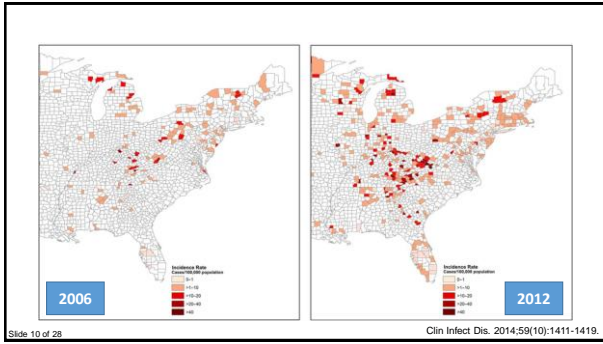
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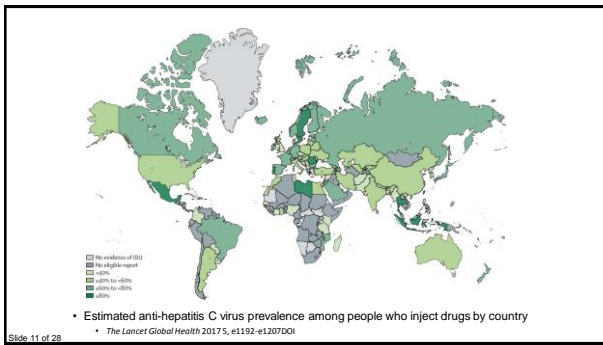
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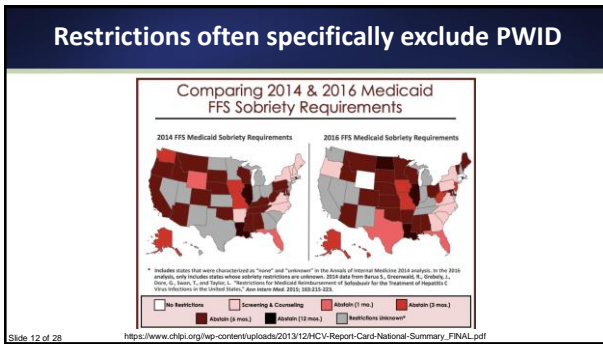
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ARS Question: All PWID should be denied HCV treatment because...

1. No treatment data with DAAs
2. Reinfection rates are too high
3. They have low fibrosis levels so does not benefit them
4. None of the above

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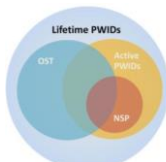
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### What is the definition of 'PWID' (people who inject drugs)?

- 'PWID' is a subjective term to any person who has ever injected drugs. (once regularly, occasionally, remotely)
- PWID populations
  - "active" or "recent" PWID – injected drugs within 1 month to 1 year (definition varies)
  - "former" PWID – ceased injecting drugs



Due to the relapsing nature of drug dependence, active PWIDs often move between populations and may access harm reduction services at any time.<sup>1</sup>

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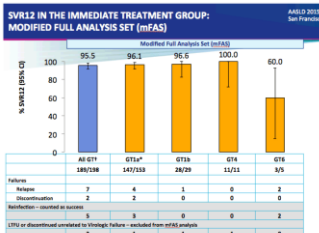
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### C-EDGE COSTAR – Clinical Trial of patients receiving opiate agonist therapy

Treatment naive PWID on opiate agonist therapy for 3 months, keeping 80% of appointments

Treated with EBV/GRZ



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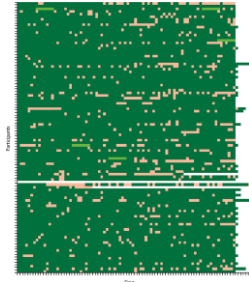
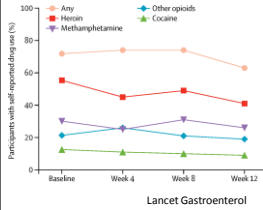
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## Sof/vel for HCV infection in recent PWID (SIMPLIFY) SVR12 = 97/103 (94%)



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Lancet Gastroenterol Hepatol 2018; 3: 153-61

## DAA treatment for hepatitis C among people who use or inject drugs: a systematic review and meta-analysis

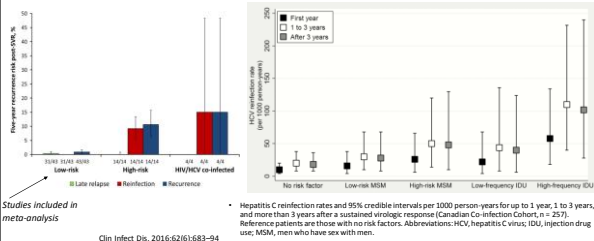
	Number of studies or subgroups	Number of participants	Treatment completion (95% CI)	P	ITT SVR (95% CI)	P	net SVR (95% CI)	P	Loss to follow-up (95% CI)	P
<b>Exclusive study population/subpopulation</b>										
Recent IDU, with or without OST	8	670	96.9% (95.6-98.2)	0.0%	87.4% (82.0-92.8)	80.8%	93.7% (87.9-99.4)	66.1%	2.8% (0.5-5.2)	24.8%
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	30	633	96.5% (94.5-98.5)	45.7%	86.7% (80.2-93.2)	87.0%	93.8% (90.3-97.2)	79.3%	7.3% (2.4-11.8)	88.1%
<b>Study design</b>										
Observational	28	2482	96.9% (95.9-98.0)	33.6%	88.8% (85.4-92.1)	87.1%	93.4% (91.3-95.5)	80.2%	4.6% (2.9-6.3)	84.1%
Clinical trial	30	1525	95.2% (92.4-98.0)	61.0%	93.9% (91.5-96.3)	72.3%	95.2% (94.6-95.8)	52.4%	2.9% (1.3-4.6)	52.1%

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

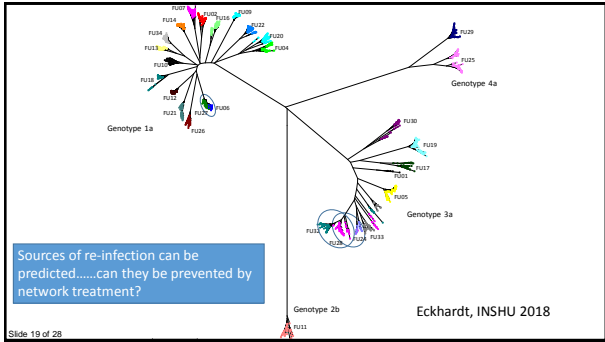
Table 3. Pooled estimates of treatment completion, SVR and loss to follow-up, by study population and study design.

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## Additional Treatment Considerations: Re-infection



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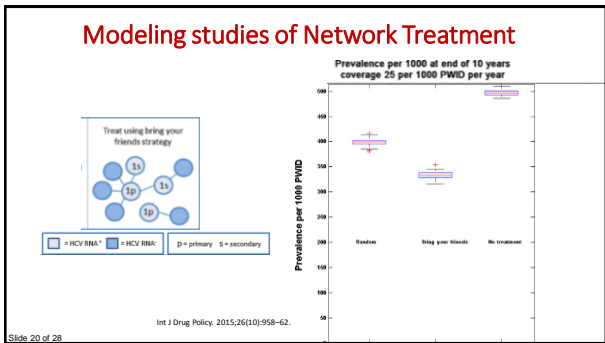
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### HCV treatments are compatible with opioids and medication-assisted therapies

Opioid / Opioid Substitutes	LDV/SOF	SOF/VEL	P-OD	GZR/EBR	GP	SOF/VEL/VOX
Hydromorphone	✓	✓	Monitor*	✓	✓	✓
Fentanyl	✓	✓	Monitor*	✓	Monitor*	✓
Hydrocodone	✓	✓	Monitor*	✓	Monitor*	✓
Morphine	✓	✓	Monitor*	✓	✓	✓
Oxycodone	Monitor*	✓	Monitor*	Monitor*	Monitor*	✓
Codeine	✓	✓	✓	✓	✓	✓
Methadone	✓	✓	✓	✓	✓	✓
Buprenorphine	Monitor*	✓	Monitor*	✓	✓	✓

www.hep-druginteractions.org

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### Collocation of Buprenorphine with HCV Treatment to Improve Adherence and Reduce Harm in PWID with HCV

#### Preliminary Data from the ANCHOR STUDY

Elina Rosenfield MD, Karel Hill BA, Laura Nasonoff BA, Priscilla Mathur DO MPH, Chisa Orson RN, Rachel Sisk RN MPH, Elizabeth Heath RN MPH, David Zemberg BA, Nabeya Siddiqua BA, Chae Cheafray BS, Benjamin Emmanuel MPH, Henry Shaker MD, Ibrahim-Ahmed Kishi MD PhD, Sarah Kalkbrenner MD

NH DC Partnership for HIV/AIDS Program  
Institute of Human Virology, University of Maryland School of Medicine, Baltimore, MD, USA

#### Conclusions

- Preliminary results of the ANCHOR study support that active PWID not on MAT can be successfully initiated on buprenorphine during the course of HCV treatment**
  - HCV treatment may provide a critical opportunity to engage active PWID in MAT
- Compared to those not on MAT, initiation of collocated buprenorphine:**
  - Improves adherence to medical visits and medication pick-up
  - Decreases resources necessary to dispense medication
  - Decreases risk-taking behavior during and after HCV treatment

#### MAT Status

Enrolled = 98

Baseline MAT = 27 (27%)

Initiated Buprenorphine = 39 (45%)

No MAT = 22 (24%)

Other = 2 (2%)

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### HCV treatments are compatible with other drugs of abuse

	LDV/SOF	SOF/VEL	PYOD	GZR/EBR	GP	SOF/VEL/VOX
Cannabis	✓	✓	✓	✓	✓	✓
Cocaine	✓	✓	Monitor*	✓	✓	✓
Diamorphine	✓	✓	Monitor*	✓	✓	✓
Gamma-hydroxybutyrate	✓	✓	Monitor*	✓	Monitor*	✓
Ketamine	✓	✓	Monitor*	✓	✓	✓
MDMA (Ecstasy)	✓	✓	Monitor*	✓	✓	✓
Methamphetamines	✓	✓	Monitor*	✓	✓	✓
Phencyclidine	✓	✓	Use lowest dose	✓	✓	✓

Slide courtesy of David Back (with modification), University of Liverpool. [www.hbv-druginteractions.org](http://www.hbv-druginteractions.org)

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### Models of Treatment Delivery for PWID

- The shift from INF-based therapy to DAA has allowed for increased decentralization of care
- Treatment environments that can provide multi-disciplinary services around addiction, social support, mental health, and re-infection prevention will be essential
- Examples of models being evaluated include:
  - integrated primary care facilities
  - methadone clinics
  - prison

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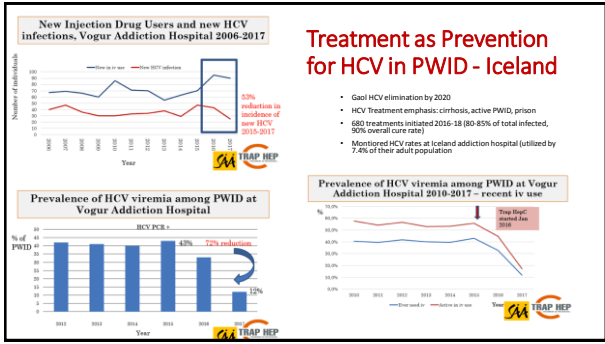
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**CONCLUSIONS CASE 4**

- DAA therapy is **safe and effective** among PWID
- HCV **reinfection will occur** when treating HCV in PWID
- Testing, diagnosis, and **linkage to care** remain a significant barrier that must be addressed
- **Simplification of models** of care will be essential to achieve HCV elimination in PWID

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**Resources**

- HCVguidelines.org
- nynjaetc.org
- <http://www.hep-druginteractions.org>

*THANK YOU*

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# Question-and-Answer

Remember to raise your hand and wait until you have the microphone before you ask your question—we are recording!

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