



Treatment of Hepatitis C in People Who Use Drugs (PWUD)

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Oregon HCV Update Meeting
December, 2018

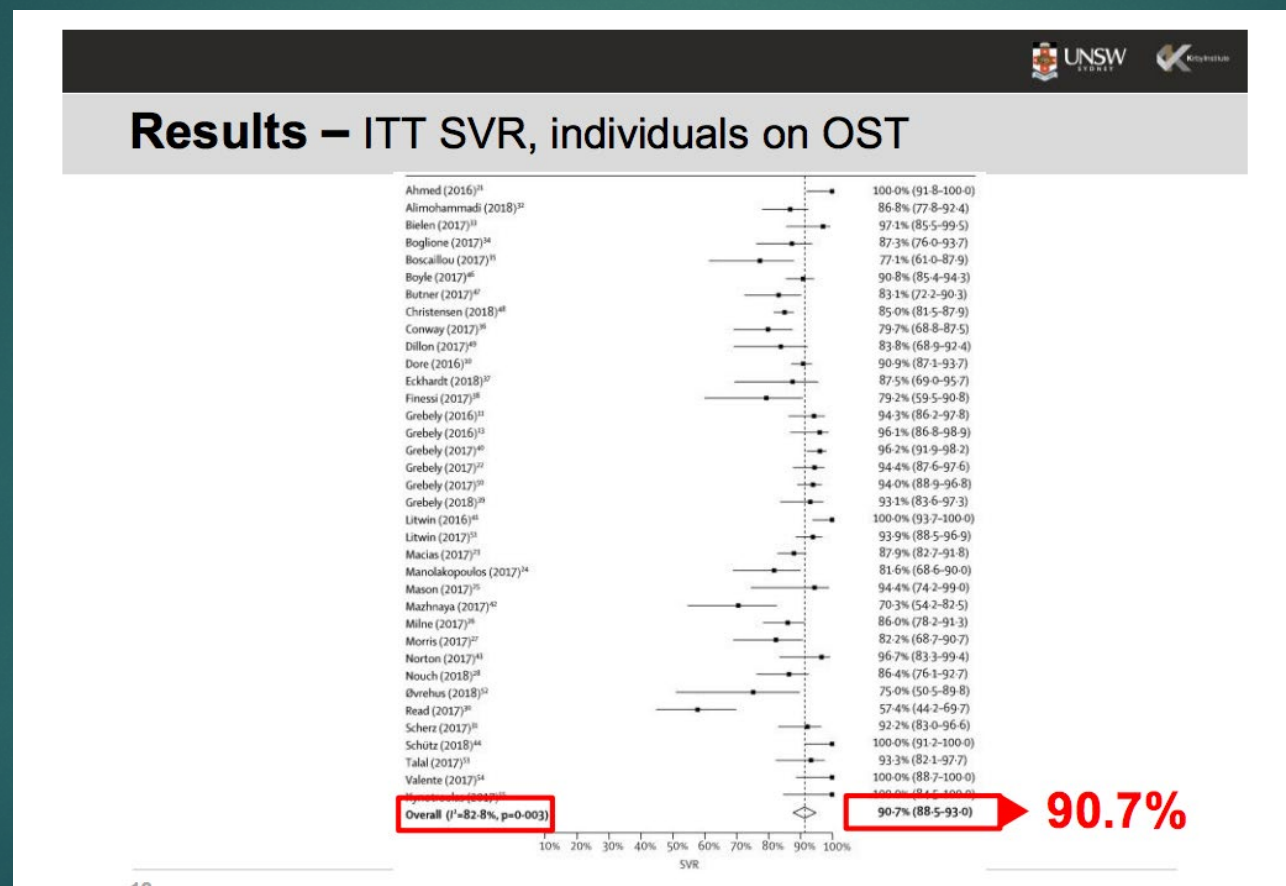
Conflicts of interest

- ▶ 2016 received <8% of my salary from an investigator initiated, Merck funded trial (makers of elbasvir/grazoprevir)
- ▶ I am highly influenced by the opinions, life experience, and knowledge my patients bring to the table (many of whom inject drugs)

Objectives

- ▶ Brief update literature treatment of PWIDs for HCV
- ▶ Brief review of the Old Town Clinic / Outside In / OHSU pilot trial for HCV treatment in People Who Inject Drugs
- ▶ Brief discussion of the Old Town Clinic treatment program (if time)

Meta-analysis 3,634 PWUD treated with DAAs



Hajarizadeh, The Lancet Gastroenterology & Hepatology 2018. Adapted INHSU 2018 with permission.

Strongly biased by 75% observational studies

| Results – Meta-regression, ITT SVR | | |
|------------------------------------|----------------------------|-------|
| | Adjusted model OR (95% CI) | P |
| Participants with recent drug use | | |
| Participants receiving OST | 1.04 (0.96-1.12) | 0.364 |
| Men | 1.07 (0.82-1.39) | 0.612 |
| Median/mean age | 1.07 (1.02-1.12) | 0.008 |
| Participants with HIV co-infection | 0.96 (0.86-1.07) | 0.427 |
| Study design | | |
| Observational | 1.00 | |
| Clinical Trial | 2.18 (1.27-3.75) | 0.006 |

Hajarizadeh, The Lancet Gastroenterology & Hepatology 2018. Adapted INHSU 2018 with permission.

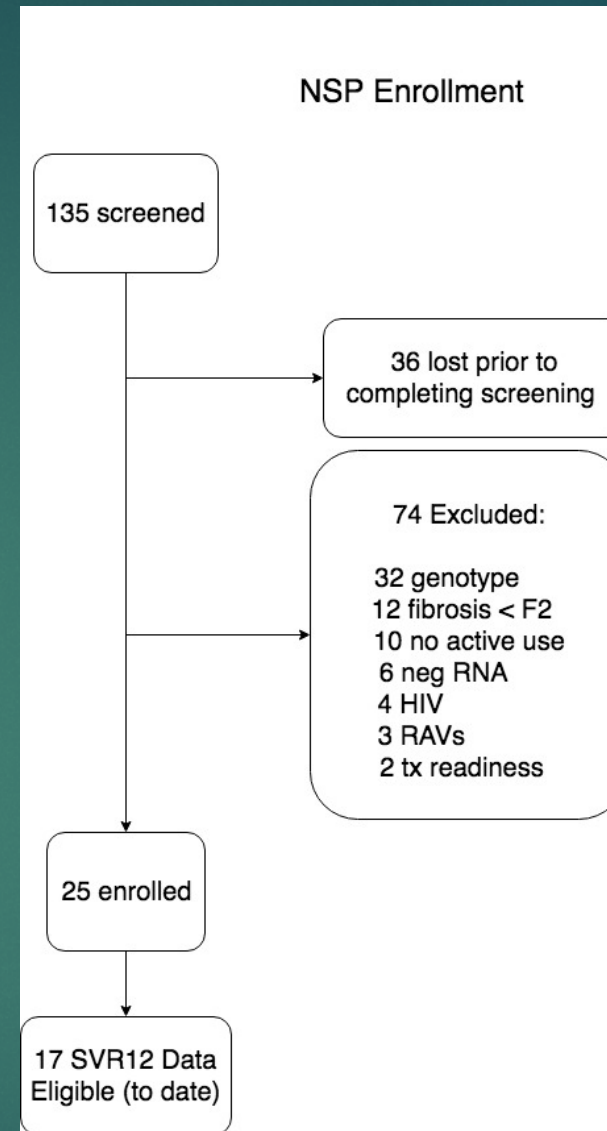
OTC – OI – OHSU Pilot Study

- ▶ Prospective, non-randomized real world clinical trial using elb/graz to treat people who inject drugs with GT 1 or 4 HCV and an APRI <0.7 who:
 - ▶ Arm 1: engage with Medication Assisted Therapy (Methadone/Bupe), n=25, Old Town Clinic
 - ▶ Arm 2: are actively using and engage with needle exchange program, n=25, Outside In
 - ▶ Arm 3: matched cohort in OHSU hepatology clinic, n=50

NSP vs OAT HCV Pilot Study

| | OAT | NSP | PWID Standard | Com. Standard |
|---|------------------------|-------------------------------------|------------------------|------------------------|
| SVR 12, ITT % / (N) | <u>96% (24)</u> | <u>59% (10)</u> (p<0.001) | <u>89% (32)</u> | <u>94% (47)</u> |
| SVR12, Per Protocol % / (N) | 100% (24) | 90% (10) | 100% (32) | 100% (47) |
| Treatment Failures % / (N) | 0% | 6%* (1) | 0% | 0% |
| Adherence (% ≤ 7 pills missed) | 92% | 65% | 81% | 98% |

Many barriers to
HCV treatment
in harm reduction
environments.



Small difference in SVR, partially explained by trial type, LTFU

- ▶ Meta-analysis of 38 studies of PWUDs, n=3,634 included

| | Treatment Completion | Svr12 |
|--------------|----------------------|-------|
| All PWUDs | 98% | 8.8% |
| PWUDs on OAT | 97% | 91% |
| Recent IDU | 97% | 87.5% |

- ▶ Meta-Regression Analysis: Clinical trials associated with OR 2.2 (1.27-3.75) of achieving SVR12
- ▶ ITT analysis

Old Town Clinic Treatment Program

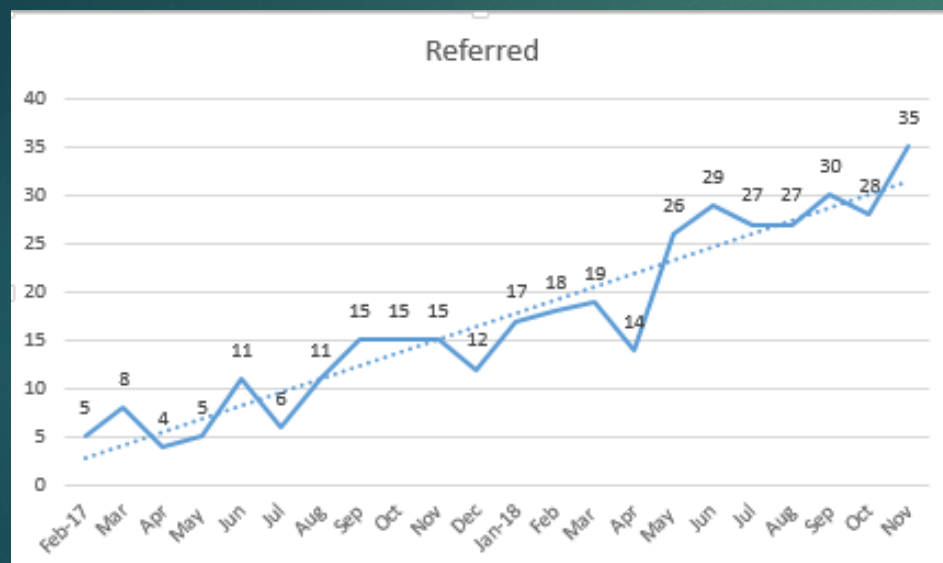
- ▶ Multidisciplinary
 - ▶ Medical director + two providers
 - ▶ HCV coordinator
 - ▶ Clinical pharmacist
 - ▶ CADC as indicated
- ▶ Weekly committee meetings
 - ▶ Decision made on need for treatment candidacy, Substance Used Disorder support, adherence support
 - ▶ Drug, labs ordered and PA process started by coordinator
 - ▶ First, last, and SVR visit by provider, remainder by pharmacist

We treat... everyone

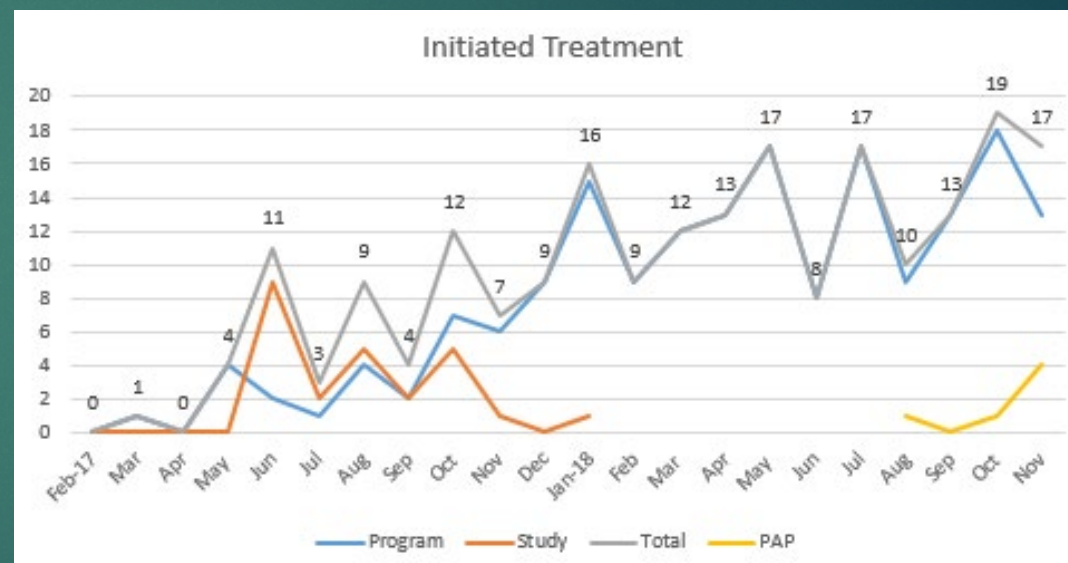
- ▶ Treatment candidacy
 - ▶ Made 2/3 last appointments or subjective adherence measure (whichever lower barrier)
 - ▶ Desires treatment
 - ▶ Any engagement in treatment for substance use disorder, usually in primary care setting

HCV Tx at OTC: ~2 years in

Patients Referred

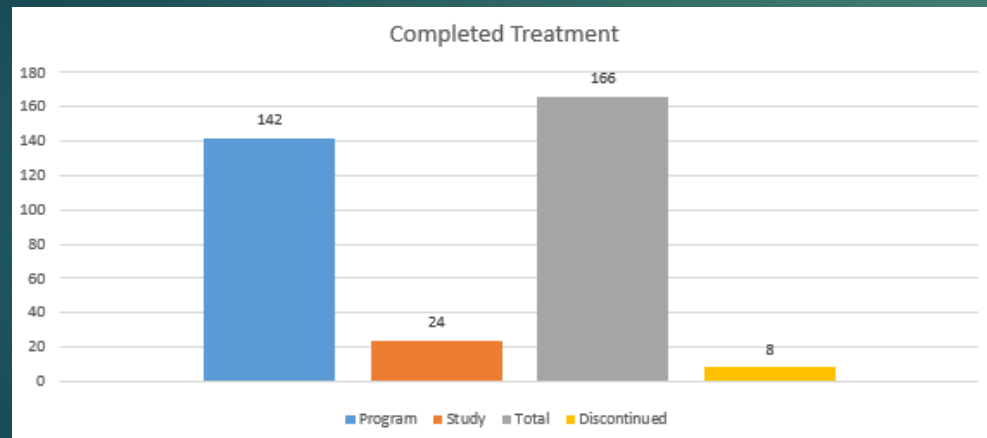


Patients Initiating Tx



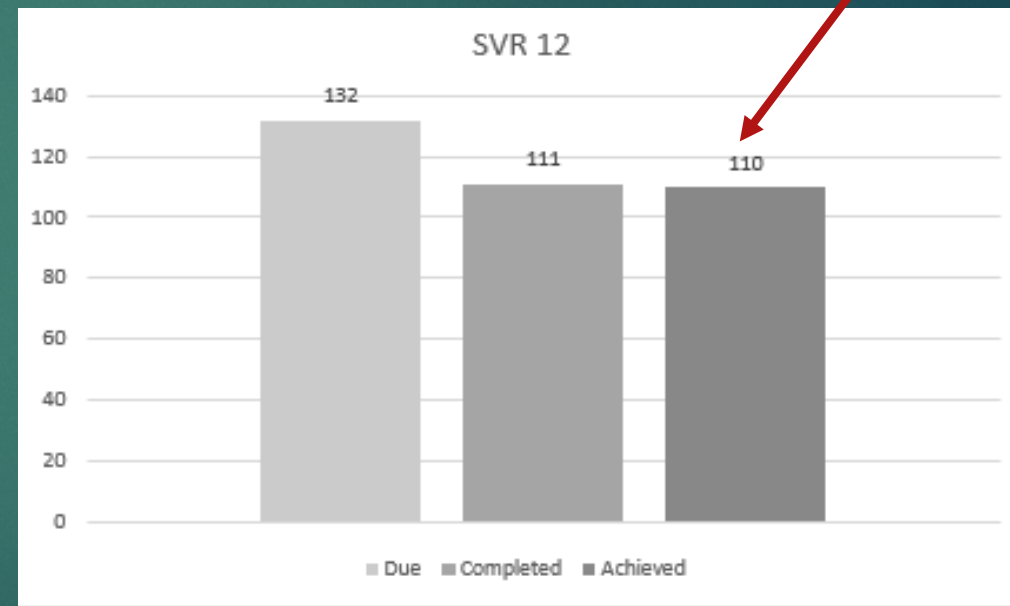
HCV Tx at OTC: SVR12

Patients Completing Tx

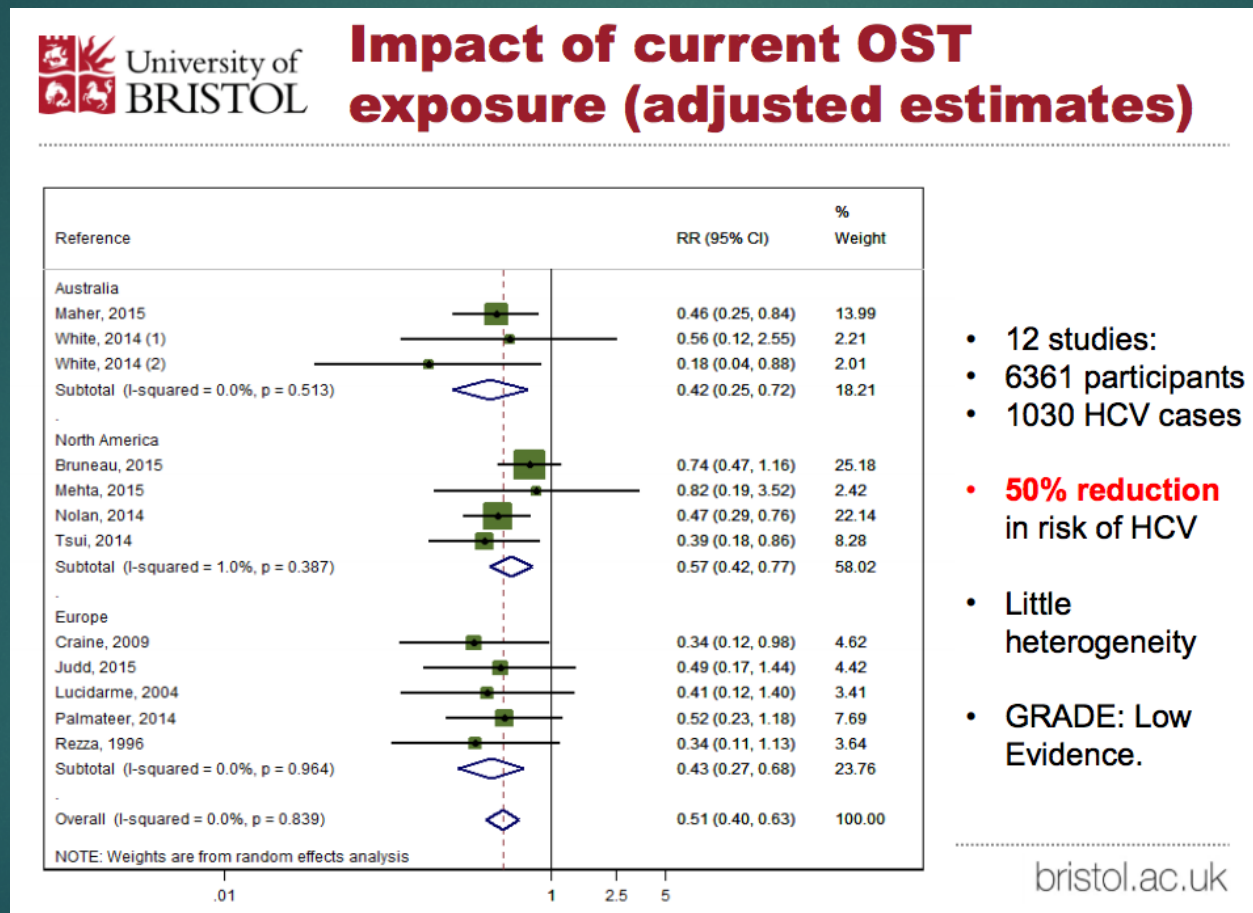


Patients Achieving SVR12

1 tx failure



OAT associated with 50% reduction HCV transmission

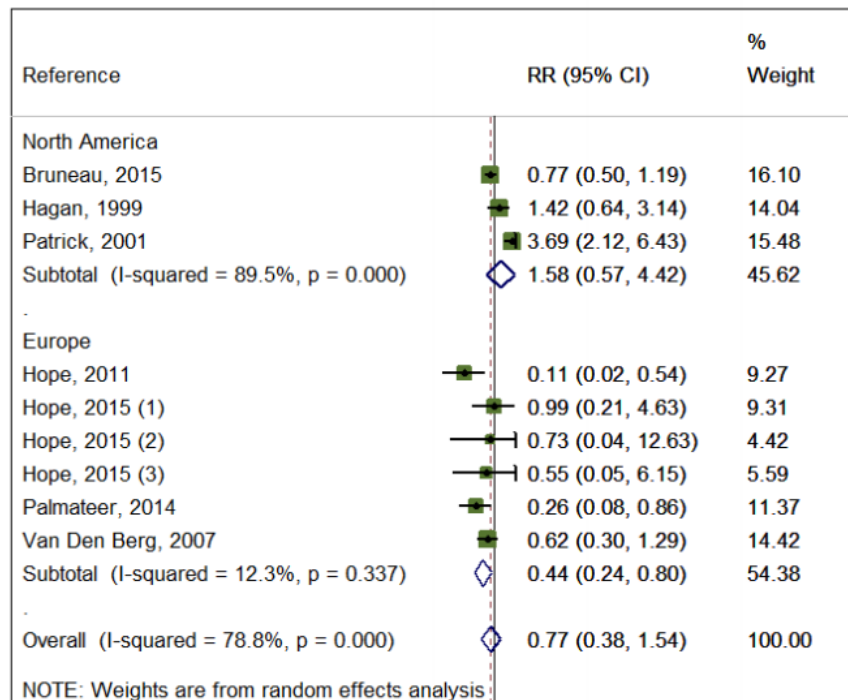


- 12 studies:
- 6361 participants
- 1030 HCV cases
- **50% reduction** in risk of HCV
- Little heterogeneity
- GRADE: Low Evidence.

NSP associated with 20% reduction HCV transmission



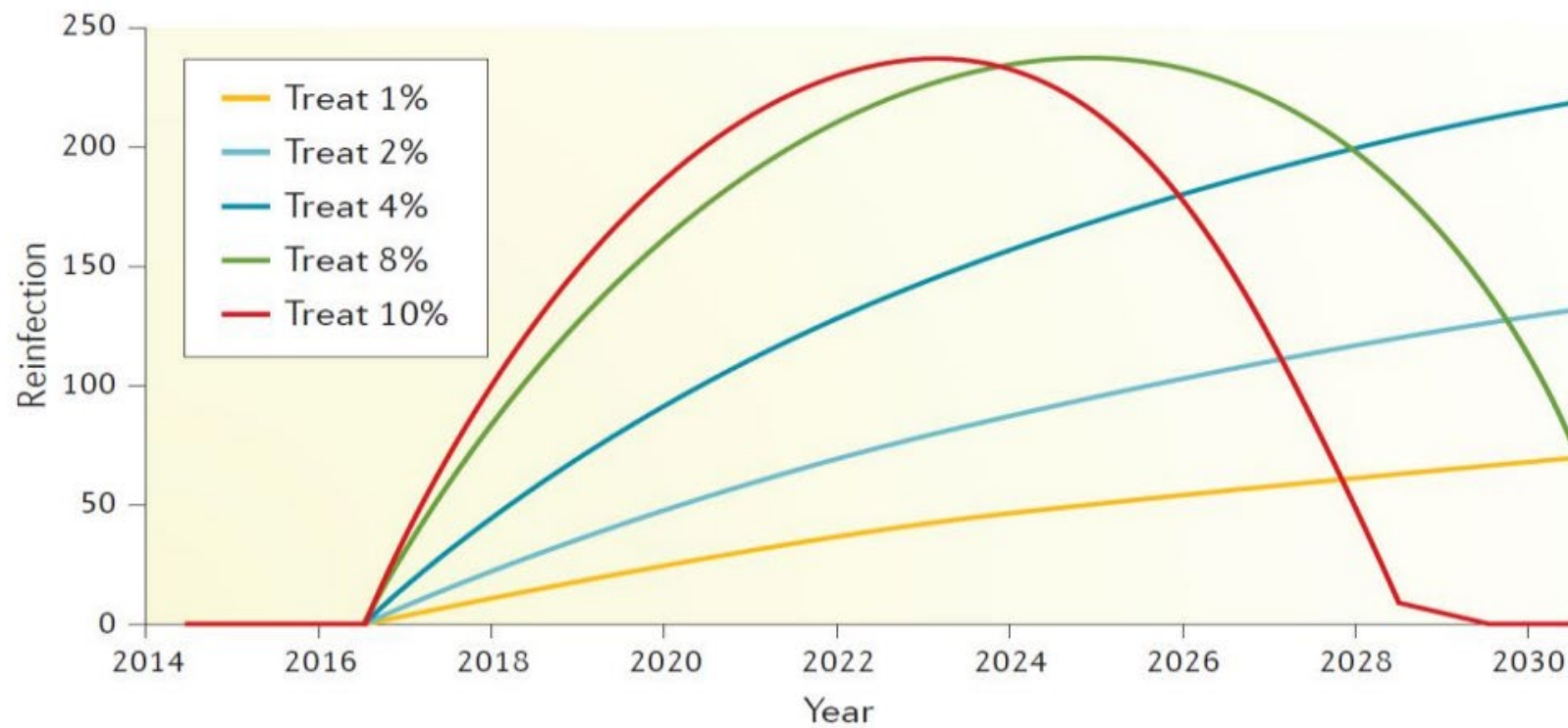
Impact of high NSP by region (unadjusted analyses)



- 7 studies
- High heterogeneity ($I^2=79\%$)
- Weak evidence overall – RR 0.77
- In Europe NSP associated with 66% reduction in HCV
- Grade: very low evidence

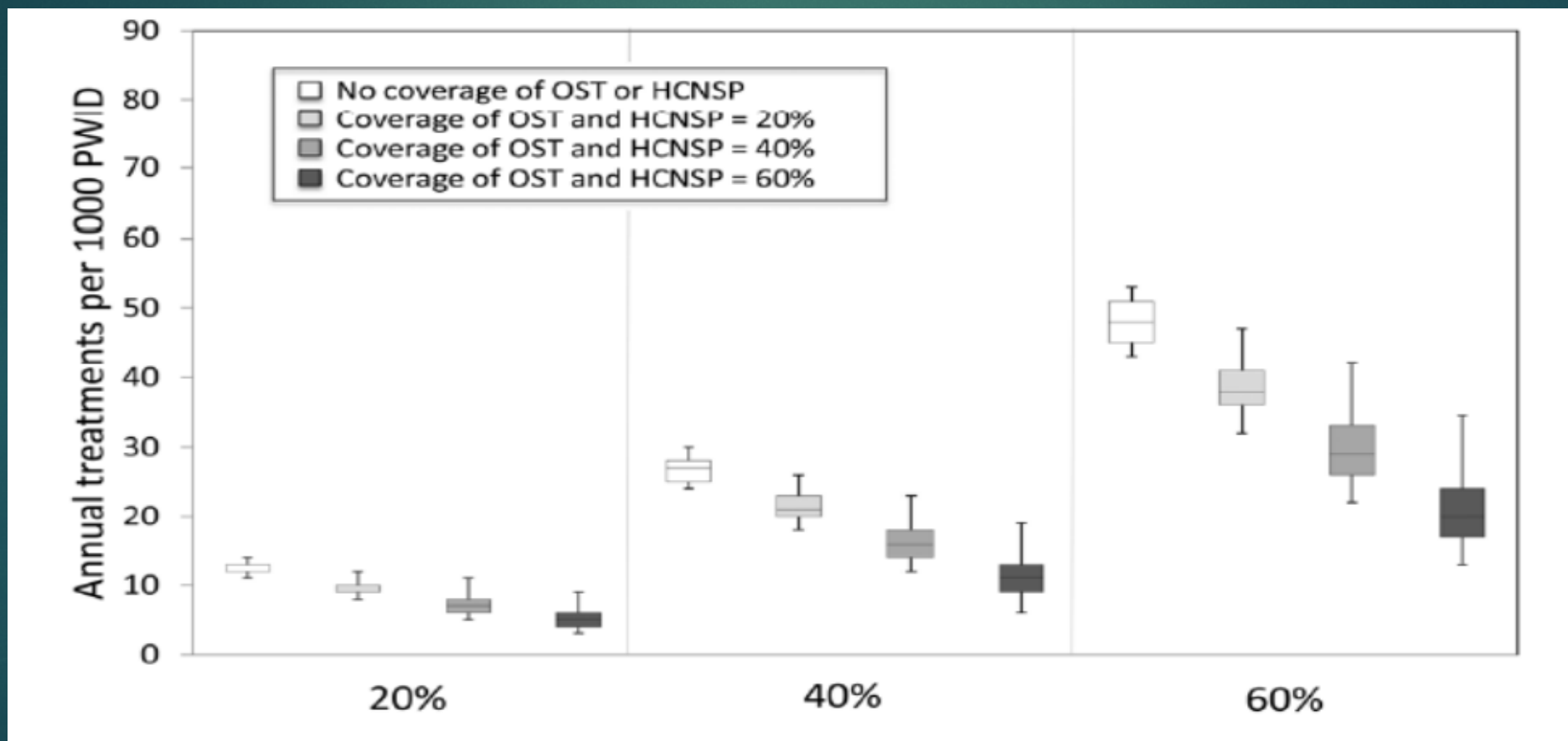
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Treat more high risk pts, end HCV sooner



Grebely J, Hajarizadeh B, Dore GJ. *Nature Reviews Gastro Hepatol* 2017

DAA tx rates to half chronic prevalence in 10 years with HR.



Martin, et al Clinical Inf Diseases 2013. Adapted from Hickman, INHSU 2018.

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