Hepatitis C- and HIV Treatment Cascades among People Who Inject Drugs

Results from a sero-behavioural survey of current injectors in Germany (DRUCK-Study)

5th International Symposium on Hepatitis Care in Substance Users
Oslo, 7th September 2016
WHO targets for HIV and hepatitis C

HIV
Goal of ending the AIDS epidemic as a public health threat by 2030

UNAIDS / WHO 90-90-90 goals propose that by 2020
- 90% of all people living with HIV should know their HIV status,
- 90% of those diagnosed should receive ART,
- 90% of those should have durable viral suppression

Hepatitis C
Goal of eliminating viral hepatitis as a major public health threat by 2030
- 90% of all people with chronic HCV diagnosed
- 80% of eligible persons with chronic HCV infection treated

Draft global health sector strategies on HIV and Viral hepatitis, 2016–2021 (WHO, April 2016)
The situation in Germany (1)

- Prevalence of HCV is highest among PWID compared to other groups in Germany
Notified HCV cases 2001-2015 in Germany with IV drug use as mode of transmission

Change of case definition 07.09.2016
Probable mode of transmission of notified HCV cases
Germany, 2015

- Injecting drug use (73.5%)
- Men having sex with men (8.1%)
- Heterosexual contacts with known infected partner (6.1%)
- Blood products (7.8%)
- Dialysis (1.4%)
- Perinatal (0.4%)

Unknown mode of transmission:
- 3,717 cases (76%)

Probable mode of transmission:
- 1,170 cases (24%)
- Injection drug use (IDU) 73.5%
Number of newly diagnosed HIV infections by mode of transmission, Germany, 2001-2015

MSM = Men who have sex with men; IDU = i.v.-drug use; HET = heterosexual transmission; Blood = transmission through blood/blood products; MCT = mother-cild transmission; n.a. = not available
The situation in Germany (2)

- HCV and HIV treatment recommendations for PWID are in place in Germany
- All effective treatment options for HIV and HCV are available
- No data on the number of tested, diagnosed, treated PWID available
Treatment cascades for special populations

- Testing/counselling on test result & treatment of infected persons are important infection control measures (individual and population basis)

- PWID belong to stigmatized, marginalized, criminalized populations
  - Difficulties in accessing testing and care services and remaining in care
  - High prevalence of comorbidities
  - increased HIV and HCV transmission risk

→ Have a great need for services (specific to their needs) within the cascades of HIV and HCV prevention, diagnosis, care, and treatment.

- Yet the systems that monitor their progress through the Cascade are often lacking.
Objectives

- To provide information on the proportion of HIV- and HCV-infected PWID tested, diagnosed and treated
- To identify gaps in access and services for PWID in Germany
- To recommend which steps of the cascades need to be strengthened
- To evaluate the public health response to these infections specific to PWID (in comparison to other groups)
**DRUCK-Study**

Drogen und chronische Infektionskrankheiten

**Design**

- Multicentre cross-sectional sero-behavioural survey 2011-15
- 8 cities in Germany
- People who injected drugs during the last 12 months
- Respondent driven sampling

**Data**

- Behavioural data (sociodemographics, prevention and risk behaviours, testing history, knowledge of infection status, antiretroviral treatment and HCV treatment (IFN)
  - by questionnaire-assisted interviews

- **HIV, HBV, HCV** (serology & PCR)
  - testing from capillary Dried Blood Spots

Ross et al, Virology Journal 2013
Zimmermann et al, BMC Public Health 2014
Methods

- Treatment cascades for HIV and HCV were calculated using laboratory results and behavioural data

- Definitions:
  - eligibility for ART:
    - if testing anti-HIV-positive (confirmed by Western Blot)
  - eligibility for HCV treatment:
    - if testing HCV-RNA-positive or reporting previous HCV treatment experience
Characteristics of participants
Range in the 8 study cities

- N=2,077
- Median age: 29-41 years
- 19-35% women
- 76-88% injected in the last 30 days
- 53-77% ever living on the streets
- 73-86% ever imprisoned
- 77-95% saw a doctor in the last year
- 37-74% were currently in opioid substitution therapy (OST)
HIV treatment cascade

DRUCK-Study 2011-2015; total study population, N=2,077

HIV-Prevalence: 4.8% (0-9.1%)

- HIV positive (n=100): 81%
- HIV status known (n=81): 81%
- Ever in ART (n=65): 69%
- Currently in ART (n=56): 56%
Success of antiretroviral treatment

viral suppression

among PWID currently under ART
where a VL testing was conducted (n=39 out of 56 samples)

90%
Recency of HIV diagnosis in 7 study cities (n=100 HIV-infected PWID)

- Cologne (n=5):
  - Don't know/missing: 60%
  - Longer than 10 years ago: 27%
  - Last 1-10 years: 13%
  - Last 12 months: 14%
  - Newly diagnosed: 8%

- Frankfurt (n=26):
  - Don't know/missing: 42%
  - Longer than 10 years ago: 31%
  - Last 1-10 years: 71%
  - Last 12 months: 14%
  - Newly diagnosed: 8%

- Hamburg (n=16):
  - Don't know/missing: 31%
  - Longer than 10 years ago: 31%
  - Last 1-10 years: 14%
  - Last 12 months: 14%
  - Newly diagnosed: 13%

- Munich (n=7):
  - Don't know/missing: 71%
  - Longer than 10 years ago: 14%
  - Last 1-10 years: 15%
  - Last 12 months: 15%
  - Newly diagnosed: 14%

- Berlin (n=13):
  - Don't know/missing: 23%
  - Longer than 10 years ago: 39%
  - Last 1-10 years: 55%
  - Last 12 months: 18%
  - Newly diagnosed: 32%

- Essen (n=11):
  - Don't know/missing: 55%
  - Longer than 10 years ago: 32%
  - Last 1-10 years: 36%
  - Last 12 months: 32%
  - Newly diagnosed: 32%

- Hanover (n=22):
  - Don't know/missing: 36%
  - Longer than 10 years ago: 32%
  - Last 1-10 years: 32%
  - Last 12 months: 32%
  - Newly diagnosed: 32%
HIV treatment cascade
PWID vs. total HIV infected population in Germany

- HIV infected: 81% PWID in Germany, 84% HIV infected population in Germany
- HIV diagnosed: 69% PWID in Germany, 82% HIV infected population in Germany
- under ART: 90% PWID in Germany, 94% HIV infected population in Germany
- viral suppression: 84% PWID in Germany, 79% HIV infected population in Germany

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HCV treatment cascade

DRUCK-Study 2011-2015; total study population, N=2,077

HCV-Prevalence: 65% (42-75%)

- Anti HCV or HCV RNA positive (n=1,361)
- HCV RNA positive or ever treated (n=1,092)
- ever HCV diagnosed (n=933)
- ever started treatment (n=324)
- ever treated with success (n=212)
- without viremia (n=147)

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The Population Level Cascade of Care for Hepatitis C in British Columbia, Canada

The BC Hepatitis Testers Cohort (BC-HTC)
### Knowledge of HCV status
Comparing self-reported and measured HCV status

<table>
<thead>
<tr>
<th>Self-reported status</th>
<th>HCV laboratory test results (N = 2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unexposed  (AB-, RNA-)</td>
</tr>
<tr>
<td>Concordant</td>
<td>339 (47%)</td>
</tr>
<tr>
<td>Discordant</td>
<td>194 (27%)</td>
</tr>
<tr>
<td>Never tested</td>
<td>113 (16%)</td>
</tr>
<tr>
<td>Unclear#</td>
<td>69 (10%)</td>
</tr>
<tr>
<td>Total</td>
<td>716 (100%)</td>
</tr>
</tbody>
</table>

# Unclear: Not sure if tested or did not get last test result

- Few of those unexposed or with cleared infection were aware of their HCV status
- 73% with chronic HCV aware of their infection
  (Wiessing et al 2014: 24-76% PWID with HCV diagnosed)

More info: Poster 57 (Stine Nielsen)
Limitations

- Self-reported data, may cause over- or underestimation
- Proportion of HCV-diagnosed might be overestimated, confusion about tests, and about hep B & C
- Possible selection bias (informed consent, blood samples, stigmatised group and sensitive questions)
- Study was conducted before the approval of highly effective oral direct antivirals for HCV – situation might have changed
- Evaluation of prevention measures not possible: cross section
Conclusions

- high proportions of PWID eligible for HIV- and HCV-antiviral treatment
- relatively high proportions of tested and diagnosed individuals
- But often lack of exact knowledge about HCV status
- PWID in Germany are less HIV-tested, diagnosed and particularly treated than the total HIV infected population in Germany
- Interruption of ART seems relatively common in PWID
- If under ART, treatment seems to be highly effective.
- low proportion of HCV-treated PWID
- We suppose that PWID have poorer access to HCV-treatment than other patient groups in Germany (but no data)
Recommendations

Increase **HIV** testing, diagnosis, **access and retention in treatment** for PWID

Improve exact knowledge of **HCV status** among PWID

Increase **HCV access and uptake of treatment** (all-oral, IFN-free treatments are available)

Provide **treatment cascades for vulnerable groups** separately
Thank you!

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cooperating partners in drug services
all study participants
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Further results of DRUCK-Study:
See Posters No. 26 and 57

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