Multi-disciplinary approach to the investigation of an outbreak of acute hepatitis C amongst a hard to reach population of homeless PWID

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Overview

• Background information about NI
• Description of the outbreak
• Control measures
• Next steps
Northern Ireland

Population of approx. 1.8 million - 3% of UK pop
In 2011 census - 98% white ethnicity
96% born in UK or RoI
Unlinked Anonymous Survey in PWID

<table>
<thead>
<tr>
<th></th>
<th>Northern Ireland (%)</th>
<th>England (%)</th>
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</thead>
<tbody>
<tr>
<td>Anti-HCV prevalence</td>
<td>27</td>
<td>52</td>
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<tr>
<td>Anti-HBc prevalence</td>
<td>6.5</td>
<td>14</td>
</tr>
<tr>
<td>Anti-HIV prevalence</td>
<td>0.65</td>
<td>1</td>
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<tr>
<td>Hepatitis B vaccine</td>
<td>84</td>
<td>75</td>
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<tr>
<td>% aware of their HCV infection</td>
<td>58</td>
<td>53</td>
</tr>
<tr>
<td>Injection site infection</td>
<td>37</td>
<td>32</td>
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<tr>
<td>Level of direct sharing</td>
<td>17</td>
<td>17</td>
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<tr>
<td>Level of sharing (direct and indirect)</td>
<td>31</td>
<td>38</td>
</tr>
</tbody>
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Source: Shooting Up report 2016 PHE. Data from 2015

Data source: Regional Virology Labs/PHA 2015
Description of the Outbreak

3 cases of acute hepatitis C diagnosed by virology within 1 week July-Aug 2016
All homeless PWID in large NI city
Homeless nursing team with PHA identified 12 injecting contacts of the cases for:
- Education about BBV’s and harm reduction
- Injecting pack provision
- Hep B vaccine
- Blood Borne Virus testing

Case Definition

**Confirmed** case: Hepatitis C infection on venous blood sample in PWID currently or previously living in or contact with homeless hostels in City X since July 2016

**Probable** case: Hepatitis C infection on DBS (Dried Blood Spot) in PWID currently or previously living in or contact with homeless hostels in City X since July 2016

**Sub-definitions:**

**Acute**: Evidence of active infection with negative test within 6 months of first positive test

**Chronic**: Evidence of active infection with 2 positive tests at least 3 months apart

**Unspecified**: where unable to identify acute/chronic but has evidence of active infection

** Likely recent acquisition**: Started injecting drugs within past 12 months or previous negative within past 12 months
1st round of screening Aug - Sept 2016

12 tested
4 positive (25%)
Of which 2 known chronic, 2 unknown time of acquisition - not recent
All genotype 1A except one chronic genotype 1
One cleared
1 further cases identified who meet case definition

2nd round of screening
Nov 2016-Feb 2017

32 people tested
18 positive (56%)

4 more of the original 12 tested now positive despite interventions
3rd Round of screening March-date

57 tested of which 28 positive (49%)

23 Confirmed:
- Acute- 8
- Chronic-3
- Unspecified-12 (of which 5 recent)

- 5 Probable
  - Acute- 1
  - Unspecified- 4 (of which 1 recent)

The cases
20 males and 8 females
Average age- 29 years
Age range- 19-46 years
Genotype:
- 1: 17 (of which 9 confirmed 1A) 61%
- 3: 3 (of which 1 is 3A) 11%
Awaiting genotype- 7

2 have cleared (7%)
6 of the newly identified cases are now chronic
Epidemic curve

Phylogenetics

3 distinct lineages
Two different 1A lineages (B and C identical and A different)
One 3A lineage
-More than one type of hep C spreading in this cohort
What we know about the cohort:

Intelligence from the homeless team:
- Young
- Recently started injecting - inexperienced
- Group injecting practice
- Being injected by others
- Mainly injecting heroin
- May not share needles but share other injecting equipment

Unique and vulnerable group

- Difficulty accessing services
- Not registered with General Practitioner
- Choose not to engage with mainstream services/pathways
- Live between addresses or have no fixed abode
- Very difficult to locate for repeat testing
**Multi – agency approach**

- A number of Key stakeholders are involved
- Public Health Agency Northern Ireland (PHA)– Health Protection, Health Improvement
- Hospital Trust - Homeless nursing team, community addiction service, mental health team and hepatology service
- General Practitioner
- Voluntary Service Sector - Extern
**Control Measures**

Outbreak Control Team formed  
Close working with homeless team/ drug outreach team and PHA  
Individual and group advice to anyone in cohort  
Training on smoking heroin and foil provision  
Provision of injecting packs extended to hostel staff  
Sharps bins in hostels for safe disposal  
Hepatitis B vaccines  
Referral for assessment by drug treatment team

**Education**

- General education sessions about BBV’s  
- 1:1 education sessions from a number of Key agencies – improving injecting practice, avoid sharing works (water, filters, cookers or spoons)  
- Access to needle exchange – injecting packs, foil and naloxone
Control measures 2

Dry blood spot testing by homeless team
Repeat testing every 3 months for those in cohort who are negative but still at risk
Second sample 3 months after first positive to confirm chronicity
All chronic cases referred to hepatology for consideration for treatment
Posters and wallet cards to raise awareness
Letter to clinicians re testing
Next steps

Complete survey of cohort to gain more info on risk behaviours to target interventions

Aiming to set up service for those hep C positive in cohort for swift access to substitute prescribing and hepatitis C treatment as prevention

Other possible factors associated with outbreak

Psychoactive Substances Act 2016 made “legal highs” illegal in UK from May 2016
Has this led young people to turn to heroin?
Price of heroin currently low in NI
People in cohort may have accommodation but attend hostels to obtain heroin
Summary

Highlights needs in PWID particularly new/inexperienced users
Change in injecting practice leading to outbreaks
Frequent testing important to identify outbreak
Multi-disciplinary working vital
Take services to the clients
Very challenging to continue to engage clients

References


Acknowledgments

This presentation is given on behalf of the outbreak control team and we gratefully acknowledge everyone in the outbreak team and the voluntary and statutory section teams who have been working with the OCT to control the outbreak.
Questions?

If the Drugs Don't *Kill* You
The *Needle* Might!

Prevent Hepatitis B&C and HIV
Never Share Works!

HSC Public Health Agency

*Improving Your Health and Wellbeing*