Hepatitis C Investigations for Local Boards of Health

Current Landscape and a Refresher on Case Investigations

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Overview

- Current landscape of Hep C in MA
  - What is hepatitis C and how is it spread
  - Surveillance data
- Case investigations
  - Goals
  - Steps and guidance
- Summary
  - Useful Information: Resources, Links
  - Questions
Objectives

• To provide up-to-date information on the hepatitis C epidemic in Massachusetts
• To provide a refresher on case investigations of hepatitis C at the local level
# The ABC’s of Viral Hepatitis

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<tr>
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<th>Hepatitis A</th>
<th>Hepatitis B</th>
<th>Hepatitis C</th>
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</thead>
<tbody>
<tr>
<td><strong>Routes of transmission</strong></td>
<td>Oral-fecal</td>
<td>Blood, semen</td>
<td>Blood</td>
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<tr>
<td><strong>Vaccine?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td><strong>Persons at risk</strong></td>
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<tr>
<td>• Sexual and household contacts</td>
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<td>• MSM</td>
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<td>• IDU</td>
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<td>• Homeless</td>
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<td>• Infants born to infected mothers</td>
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<td>• Sexual and household contacts</td>
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<td>• IDU</td>
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<tr>
<td>• Recipients of blood transfusions or donated organs before 1992</td>
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Hepatitis C – Key Issues

- Hepatitis C can be cured
- No vaccine
- Plans for elimination
- Most people who are exposed go on to have chronic infection
  - 75 – 85% new cases develop chronic infection
  - 20 – 30% of new cases develop symptoms of acute disease
- Can lead to cirrhosis, liver cancer, death
HCV Routes of Transmission

• Currently most people infected through injection drug use (Sharing drug injection equipment)
  – Sharing syringes, cookers, cottons, rinse water, etc.

• Prior to 1992, many people also exposed through blood transfusions/clotting factors/organ transplants
  – Before blood supply screened for hepatitis C
Other Routes of Transmission

- Sexual transmission – inefficient but does occur
- Vertical transmission – 4-7% of births to infected mothers (20% in HIV/HCV co-infected)
- Sharing personal/household items with blood
- Intranasal drug use
- Tattoo/body piercing non sterile practices
Hepatitis C - A Tale of Two Epidemics

<table>
<thead>
<tr>
<th>Baby Boomers (born 1945-1965)</th>
<th>Young people who inject drugs</th>
</tr>
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</table>

- **BORN FROM 1945-1965?**
  - CDC recommends you get tested for Hepatitis C.
  - LEARN MORE

- **TRYING TO BE HEP C FREE**
Confirmed and Probable HCV Cases Reported in MA, 2002


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2003


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2004


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2005


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2006


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2007


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2008


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2009


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2010


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2011


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2012


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2013


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2014


Data as of November 16, 2016 and subject to change.
Confirmed and Probable HCV Cases Reported in MA, 2015


Data as of November 16, 2016 and subject to change.
Rate of HCV Cases 15 – 29 y/o

## Number of Confirmed and Probable Acute and Chronic HCV Cases Reported in MA by Year, 2007-2016

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<tbody>
<tr>
<td><strong>Confirmed</strong></td>
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<tr>
<td>Acute</td>
<td>17</td>
<td>15</td>
<td>14</td>
<td>20</td>
<td>27</td>
<td>30</td>
<td>35</td>
<td>79</td>
<td>138</td>
<td>128</td>
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<tr>
<td><strong>Probable</strong></td>
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<tr>
<td>Acute</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>4</td>
<td>17</td>
<td>23</td>
<td>12</td>
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<tr>
<td><strong>Confirmed</strong></td>
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<tr>
<td>Chronic</td>
<td>3736</td>
<td>3901</td>
<td>3360</td>
<td>3425</td>
<td>4181</td>
<td>4121</td>
<td>3863</td>
<td>4427</td>
<td>4390</td>
<td>4882</td>
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<tr>
<td><strong>Probable</strong></td>
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<tr>
<td>Chronic</td>
<td>5091</td>
<td>4511</td>
<td>4476</td>
<td>4076</td>
<td>3751</td>
<td>3852</td>
<td>3535</td>
<td>3367</td>
<td>2995</td>
<td>2670</td>
</tr>
<tr>
<td><strong>Total Cases</strong></td>
<td>8850</td>
<td>8428</td>
<td>7853</td>
<td>7525</td>
<td>7968</td>
<td>8010</td>
<td>7437</td>
<td>7890</td>
<td>7546</td>
<td>7692</td>
</tr>
</tbody>
</table>

Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences. *Hepatitis C Virus Infection 2016 Surveillance Report*. http://www.mass.gov/eohhs/gov/departments/dph/programs/id/. Published April 2018. ~21 cases per day
HCV Cases by Town Frequency

Count of Reported Confirmed and Probable Hepatitis C Virus Infection Cases by Official Massachusetts City/Town: 2016*

Case Counts (N=7,692)

- No Reported Cases
- > = 5
- 6 - 10
- 11 - 25
- 26 - 50
- 51 - 100
- > 100

* Unknown Official City (N = 749)

Note: 608 cases with residences listed in the 33 federal, state, and county correctional institutions in Massachusetts were excluded.
HCV Cases by Town Incidence Rate

Rate of Reported Confirmed and Probable
Hepatitis C Virus Infection Cases per 100,000
Population by Official Massachusetts City/Town: 2016*

Incidence Rate (N=7,692)
- No Reported Cases
- 0.1 - 42.34
- 42.35 - 71.43
- 71.44 - 106.43
- 106.44 - 148.20
- 148.21 - 226.15
- 226.16 - 344.94

* Unknown Official City (N = 749)
Note: 608 cases with residences listed in the 33 federal, state, and county correctional institutions in Massachusetts were excluded.
Case investigations

• Which cases are determined by epis to be suspected acute cases?
  – Those with event dates in the last 12 months with:
    • ALTs >200 (primary driver)
    • Jaundice
    • Seroconversion
    • Reports marked as acute from Electronic Medical Record submission
Targeted approach

- Our goal is to reduce the burden for LBOHs while ensuring that efforts toward those cases that are being actively investigated are being meaningfully applied.
  - Cases that will not be assigned out:
    - Those with negative RNA results
    - Those with a known history of injection drug use
Goals of acute HCV investigations

• Identify clusters

• Prevent additional cases

• Improve outcomes for HCV infected individuals
Initiating an investigation

- A task in MAVEN will be assigned regarding a case

- This generates an e-mail

- You will also receive a phone call from one of the epis to discuss the case
Step 1

- Contact the ordering provider listed on the lab to verify the diagnosis and confirm that the case is aware of their diagnosis. Start with the provider listed on the most recent laboratory test.
• Determine if the provider has additional laboratory information that is not recorded in MAVEN. Request additional labs be faxed to MDPH at 617-983-6813
Step 3

- Complete the questions in the Clinical Question Package with the provider. Discuss the date of diagnosis, whether this is a new diagnosis, and symptoms.
Step 4

- Discuss the patient’s risk history with the ordering provider. Record all available risk history and exposure information in the Risk/Exposure/Control & Prevention Question Package.
  - If there is only an unusual risk history and no history of injection drug use (e.g. medical procedures, tattoos, etc), please contact the epidemiologist on-call at 617-983-6800.
CRF Wizard

Question Packages
Question Package
1. Administrative
2. Demographic
3. Clinical
5. Risk/Exposure/Control & Prevention
6. Epi-linked and Outbreak Information

View Question Package Wizard
Acute Hepatitis C Case Report Form Wizard

View Wizard
Step 5

• If you are missing risk history, contact the case directly.

• What to tell the individual:
  – Their health information is protected
  – Hepatitis C is spread through blood
  – Hepatitis impacts your liver
  – Hepatitis C can be cured
Step 6

• If you have attempted to obtain case information but have been unsuccessful, complete the Question Packages in MAVEN with as much information as you have gathered and indicate that the case is LTFU in the Admin Question Package
  – Notes in the MAVEN notes section regarding the status of follow-up are very helpful
Wrapping up

• Epis on the hepatitis team review cases roughly one month after they have been assigned out for completeness and concerning exposures

• Please feel free to contact us with questions
Questions?

• [www.mass.gov/hepc](http://www.mass.gov/hepc)

• Contact me: [Leslie.Fowle@MassMail.State.MA.US](mailto:Leslie.Fowle@MassMail.State.MA.US)