



Infectious Disease Epidemiology Report

Enhanced Hepatitis C Surveillance Project, 2015



Background

Maine Center for Disease Control and Prevention (Maine CDC) noted a sharp increase in acute hepatitis C cases reported in Maine from 2013-2014. The rate more than tripled from 0.7 to 2.3 cases per 100,000 persons (Figure 1). Over half of the cases were young adults under 30 years of age (Figure 2). The largest increase occurred in Washington County, followed by Knox, Penobscot, and Lincoln counties. The rate remained at 2.3 cases per 100,000 persons from 2014-2015.

To understand factors associated with this increase, Maine CDC conducted enhanced surveillance for hepatitis C among young adults in 2015.

The project objectives were to:

- Describe the epidemiology of hepatitis C in 18-24 year olds in Maine,
- Identify risk factors for hepatitis C in newly diagnosed 18-24 year olds in Maine,
- Identify acute cases of hepatitis C, and
- Inform about interventions to prevent transmission.

Methods

Acute and chronic hepatitis C are reportable conditions in Maine. Acute cases are routinely investigated to understand risk factors and make recommendations for screening of contacts. In this enhanced surveillance project, chronic cases reported from January 1 to June 30, 2015 in persons aged 18-24 years were also investigated. Chronic cases of hepatitis C in 18-24 year olds served as a proxy for new acute infections.

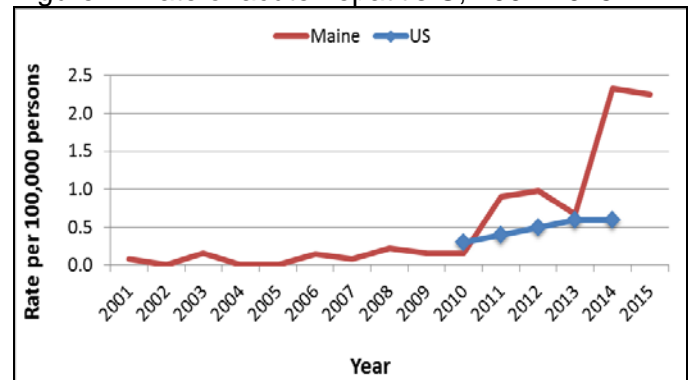
The ordering provider was contacted to verify the case was not acute, that the case was notified of the test result, and to verify case contact information. Cases were interviewed using a standardized questionnaire that was modified from one used by the Massachusetts Department of Public Health and CDC for a similar project. Institutional Review Board (IRB) approval was obtained from the University of Southern Maine and Maine CDC given that this project and the nature of the interview questions were outside the scope of

routine surveillance. Interview responses were entered into Maine CDC's electronic surveillance system and analyzed using SAS statistical software version 9.3.

Results

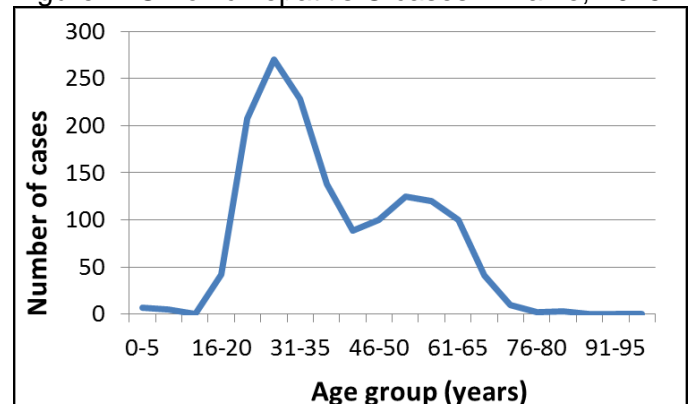
A total of 91 cases of confirmed chronic hepatitis C in persons aged 18-24 years were reported from January 1 to June 30. Forty-eight cases were contacted, of which 20 completed interviews. Of the remaining 28 cases, 22 could not be reached and six refused to participate. Letters were sent to those who could not be reached, and two cases responded and completed interviews (included in the 20 cases). Two acute cases were identified as part of this enhanced surveillance. These cases were excluded from this project and routed through our routine surveillance process. The rate of acute hepatitis C is shown in Figure 1.

Figure 1. Rate of acute hepatitis C, 2001-2015



In 2015, Maine saw a spike in the number of chronic hepatitis C cases in persons less than 30 years of age (Figure 2).

Figure 2. Chronic hepatitis C cases – Maine, 2015

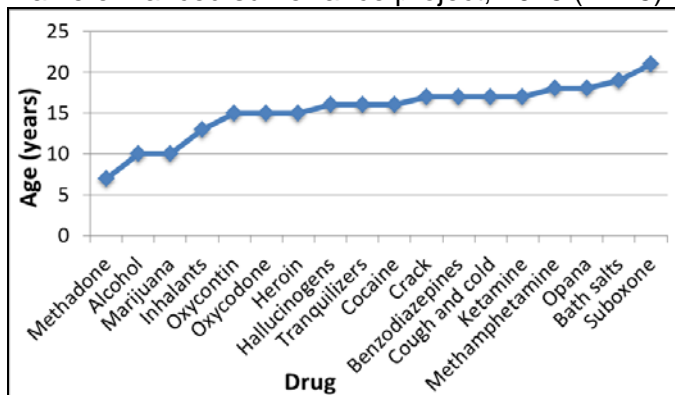


Hepatitis C Enhanced Surveillance Project – Maine, 2015

Among the 20 cases interviewed in the enhanced project, 10 (50%) thought they got hepatitis C from injection drug use, out of 11 that reported ever injecting drugs. Cases could report injecting more than one drug. The median age of first injection was 18.5 years with a range of 15-21 years. Drugs first injected were heroin by itself (5), heroin and cocaine together (1), opioids including Suboxone (2), Oxycontin (2), and morphine (1), and bath salts (1).

Fifteen cases reported ever using street drugs (injection or non-injection). Cases could report using more than one street drug. The median age of first street drug use was 15 years with a range from 7-23 years. The youngest age drug use was started was seven years, for methadone, and it was reportedly provided by a family member. The minimum age drug use was started is shown in Table 1.

Table 1. Minimum age drug use started by drug, Maine enhanced surveillance project, 2015 (N=15)



Two and five out of 11 cases who reported using Oxycontin and Oxycodone, respectively, reported that it was prescribed.

Discussion

The incidence of hepatitis C in the US has steadily increased since 2006. The largest increase is in non-urban areas, and young adults less than 30 years are disproportionately affected. The most frequently reported risk factor is injection drug use.

The increase in reports of acute hepatitis C in young adults less than 30 years has already been demonstrated in other rural states, including Kentucky, Tennessee, Virginia, and West Virginia.

Maine has the fifth highest rate of acute hepatitis C in the country.

National data shows that out of 1,202 acute hepatitis C cases investigated, 77% reported injecting drugs, 57% reported sharing needles, and 82% reported sharing equipment. Filters, cookers, water, and surfaces all serve as significant fomites for the hepatitis C virus. A new syringe for every injection is not sufficient to prevent hepatitis C transmission. Instead, CDC recommends using a whole “new kit for every hit,” which includes clean drug preparation equipment.

A common national pattern among people who use drugs is to start using cocaine and then transition to prescription opioids and heroin. Maine’s enhanced surveillance results show a median starting age of 17.5 years for cocaine, 17 years for prescription opioids, and 18 years for heroin.

Injection drug use is a well-known route of transmission of blood borne infections, particularly HIV and hepatitis B and C. The viruses can be transmitted through the sharing of needles and drug-preparation equipment. CDC recommends blood borne pathogen testing for persons who inject drugs. The Advisory Committee on Immunization Practices recommends that people who inject drugs get vaccinated for hepatitis A and hepatitis B.

Maine’s enhanced surveillance project results should be used to inform about interventions to promote harm reduction and prevent hepatitis C transmission in persons who inject drugs.

Resources

- Maine CDC Viral Hepatitis website: <http://www.maine.gov/dhhs/mecdc/infectious-disease/hiv-std/contacts/viral-hepatitis.shtml>
- CDC Persons Who Use Drugs (PWUD) website: <http://www.cdc.gov/pwud/>
- CDC Fact Sheet on Hepatitis C & Injection Drug Use: <http://www.cdc.gov/hiv/pdf/risk/cdc-hiv-idu-fact-sheet.pdf>
- Technical Consultation: Hepatitis C Virus Infection in Young Persons Who Inject Drugs: <https://www.aids.gov/pdf/hcv-and-young-pwid-consultation-report.pdf>