State of Alaska Epidemiology Bulletin

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Hepatitis C Update — Alaska 2003–2012

Background

Hepatitis C virus infection (HCV) is the most common chronic bloodborne infection in the United States. In approximately 75%–85% of persons, HCV persists as a chronic infection, which is often asymptomatic.[1] The U.S. Centers for Disease Control and Prevention (CDC) estimates that nationally, 2.7–3.9 million persons—or approximately 1.0%–1.5% of the population—are living with HCV, and approximately 45–85% of HCV-infected persons are unaware of their infection status.[1] HCV is reportable to the Alaska Section of Epidemiology (SOE).

Risk Factors: Persons at increased risk for HCV include injection drug users (IDU; including those who injected only one time or many years ago), recipients of blood transfusions or solid organ transplants before July 1992, recipients of clotting factor concentrates before 1987, patients on long-term hemodialysis, children born to HCV-infected mothers, persons with HIV infection, and persons with liver disease.[2]

Testing Recommendations: All adults born during 1945–1965 should receive one-time HCV testing even if they lack a history of HCV-exposure risk factors.[1] Testing should also be performed for persons with prior and ongoing exposure risk.[2]

Rapid Tests: In 2011, OraSure Technologies developed the 20-minute OraQuick HCV Rapid Antibody Test. This rapid HCV antibody test is FDA-approved and CLIA-waived for use in clinical and other non-laboratory settings. Positive results require follow-up testing to confirm infection status. Rapid tests are available at the Municipality of Anchorage Department of Health and Human Services, the Alaskan AIDS Assistance Association in Anchorage, and the Interior AIDS Association in Fairbanks until at least July 2014.

Treatment: Although pegalated interferon and ribavirin remain vital components of HCV therapy, abbreviated therapy using the direct-acting antiviral (DAA) agents such as Telaprevir and Boceprevir—which prevent viral replication by binding to the HCV protease enzyme—has led to sustained virologic response in many patients with genotype 1 chronic HCV.[3] New interferon-free DAA regimens will likely be available soon that show promise for dramatically increasing HCV cure rates (≥90% in some studies), shortening treatment duration (≤12 weeks), and yielding fewer side effects.[4]

Methods

New HCV reports received by SOE from 2003–2012 were reviewed. HCV reports were counted as cases if they met any of the following laboratory criteria:

- Anti-HCV positive (repeat reactive) by EIA;
- HCV recombinant immunoblot assay positive;
- Nucleic acid test for HCV RNA positive;
- A report of an HCV genotype;
- Anti-HCV positive, with a signal-to-cut-off ratio predictive of a true positive for the particular assay; or
- OraQuick HCV Rapid Antibody Test positive.

Positive results from EIA and OraQuick screening tests were not always verified by an additional, more specific assay. Cases were attributed to the year the infection was diagnosed or presumed to have been acquired, whichever was earliest. Rate calculations were performed using Alaska Department of Labor and Workforce Development population data.

Results

During 2003–2012, SOE received 9,210 new HCV reports; the median number of cases reported annually was 957 (range: 638–1,043), yielding an average annual rate of 133.8 cases per 100,000 population. Rates by year did not follow a statistically significant increasing or decreasing trend. Overall rates by sex and age were highest among males aged 45–59 years (Figure 1). Race data were available for ~30% of cases; of cases with known race, rates were highest among Alaska Native/American Indian people (AI/AN) and African Americans, and lowest among Asian/Pacific Islanders (88.3, 61.9, and 16.7 per 100,000 population, respectively). Rates were highest in the Gulf Coast, Anchorage/Mat-Su, and Southeast regions (Figure 2).

Figure 1. Average Annual Rate of Newly Reported HCV Infections, by Age and Sex — Alaska, 2003–2012

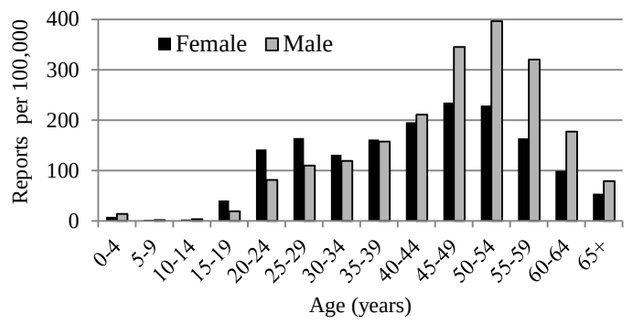
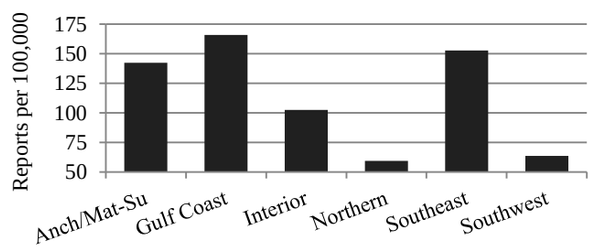


Figure 2. Average Annual Rate of Newly Reported HCV Infections, by Region — Alaska, 2003–2012



Discussion

During 2003–2012, the overall average annual rate of newly reported HCV infections in Alaska was 133.8 cases per 100,000 population. By rough comparison, in 2011, the rate of newly reported HCV in six U.S. states and two large U.S. cities ranged from 36.0 to 239.2 per 100,000 population.[5] More research is needed to better understand the reasons for the demographic differences in Alaska's newly reported HCV rates, including variation in patterns of injection drug use and clinical screening practices.

Recommendations

1. All persons with risk factors for HCV infection (see above) should be screened per the CDC guidelines.[1]
2. Prior to initiation of treatment, HCV-infected patients should be screened for ongoing alcohol and IDU abuse, and offered appropriate intervention services.
3. Health care providers and laboratories should report confirmed and suspected HCV cases to SOE via secure voice message at 907-561-4234 or fax at 907-561-4239.
4. Review the additional resources available on SOE's Viral Hepatitis webpage at: http://www.epi.alaska.gov/id/hepatitis

References

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(Contributed by Ginger Provo, RNC, BSN, and Margaret Grinnell, Alaska Section of Epidemiology.)