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Where is the US Hepatitis C Epidemic *Now*? Putting the “Pen” on the Map as Elimination Efforts Hunt for Remaining Cases.

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514. High Incidence of Hepatitis C Virus (HCV) Infection among an Urban Emergency Department (ED) Patients. 2003–2016.

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Session: 59. Hepatitis B and C in Varied Settings
Thursday, October 5, 2017: 12:30 PM

Background. CDC estimated 30,500 new HCV infections in the US in 2014 [or 0.096 per 1,000 person-years (PYs)] and HCV incidence of high-risk groups ranged from 2 to 400 per 1000 PYs. High seroprevalence of HCV antibody, evidence of HCV infection ever, is common among urban emergency department (ED) patients. Little is known regarding incidence of HCV infection in ED patients in recent years.

Methods. We conducted a retrospective cohort study to determine HCV incidence among ED adult patients. The study ED rolled out an ED-based HCV screening program since November 2015. A secondary data analysis was performed from a seroprevalence study on all adult patients who visited the study ED during December 10, 2015 and January 21, 2016. Patients who had at least two HCV antibody testings from two separate visits at the study hospital from 2003 to 2016 were included for this secondary data analysis. Patients who had reactive HCV antibody result at the first time point were excluded. Follow-up time (PYs) was calculated for each patient by the interval of between two HCV antibody tests. Time of HCV seroconversion was defined as the midpoint between the negative and positive HCV antibody test. Incidence rate ratio (IRR) and corresponding 95% CI was used to present the relative incidence between groups by mid-p exact test.

Results. A total of 302 ED patients were identified. The majority of them were female (60%), African American (79%), aged 35 years and older (60%). Sixty-eight percent of patients were born after 1965 (68%) and 25% born between 1945 and 1965 (birth cohort). Fifty-six percent of patients had commercial insurance payor and 36% had Medicaid or Medicare. Thirty-four (11%) patients had HIV infection and 7 (2%) were injection drug users (IDU). Overall, 6 (2%) had HCV seroconversion during 971.1 PYs, resulting in an HCV incidence of 6.2 per 1,000 PYs (95% CI: 2.5, 12.9 per 1,000 PYs). The incidence was significantly different by race [white: 30.9/1,000 PYs, African American: 2.9/1,000 PYs; RR: 12.3 (2.2, 95.8)] and IDU [IDU: 192.3/1,000 PYs, non-IDU: 4.2/1,000 PYs; RR: 46.2 (5.9, 260.3)] but not by birth cohort or HIV status.

Conclusion. The HCV incidence in urban ED patients was over 60 times higher than the general US population and even higher in some high-risk groups, indicating ED is a critical venue for identifying high-risk individuals for HCV prevention and detecting HCV-infected Americans for treatment.

Disclosures. All authors: No reported disclosures.

515. Where is the US Hepatitis C Epidemic *Now*? Putting the “Pen” on the Map as Elimination Efforts Hunt for Remaining Cases.

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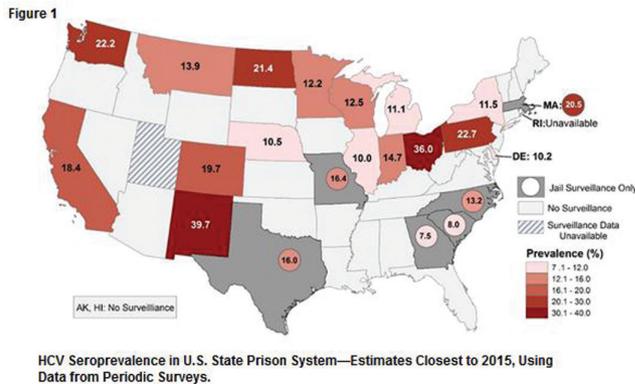
Session: 59. Hepatitis B and C in Varied Settings
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Background. Hepatitis C disease (hepC) is unevenly distributed both by geography and subpopulation. Our 2013 US prisons survey led to an estimate of 17.4% anti-HCV prevalence in 2006. The 10M persons who pass through jails and prisons each year bear 30–50% of disease burden, but are excluded from traditional sources of surveillance data, such as NHANES. CDC estimates 50% of persons with hepC lack knowledge of infection in life, thus death data are also imperfect. Data for corrections would enrich understanding of geographic representation of hepC.

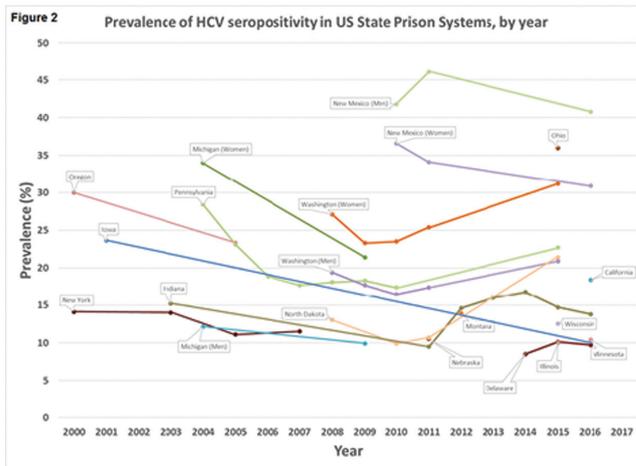
Methods. In 11/2016, we surveyed state prison medical directors, providers and testers, for data on non-targeted screening of prisoners between 2010–2016. Non-responders were phoned for information. Sizes of state prison populations came from the Bureau of Justice Statistics. Via published reports, we obtained data on jail prevalence. Estimates of the contribution to the national hepC in prison epidemic came from weighting the size of the prison population of the states with prevalence data.

Results. As the map (Figure 1) shows, 50% of contiguous states performed non-targeted screening for anti-HCV prevalence in corrections. States with either jail or prison data held 65% of all state prisoners. Seroprevalence ranged from 7.5% to 39.7%. The 2015 prevalence in state prisoners nationwide, weighting by population size, was 18%. Prevalence in states has fluctuated substantially. (Figure 2)

Conclusion. Data from penitentiaries allow us to estimate an 18% prison anti-HCV prevalence nationwide, which varies by state and time. Better checks for uniformity in reporting in the future, such as how known positives are handled, would improve data quality. Correctional systems that routinely screen provide real-time data on new trends in hepC distribution, which will help ongoing efforts to treat and eliminate hepC. Such data could improve estimates based on NHANES and death data. Over 99% of persons entering jails and prisons leave, so the correctional epidemic closely influences the community epidemic. Adding hepC data from the Federal Bureau of Prisons, which tests persons entering from every state, will further inform our understanding of the changing geographic distribution of hepC, and, by proxy, the underlying opioid epidemic.



HCV Seroprevalence in U.S. State Prison System—Estimates Closest to 2015, Using Data from Periodic Surveys.



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516. African-Born Status and Risk of Hepatocellular Carcinoma among Patients with Chronic Hepatitis B Infection

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Background. Risk factors for hepatocellular carcinoma (HCC) have not been well documented among immigrants to the USA with chronic hepatitis B virus (HBV) infection. All African-born patients are considered high risk for HCC and therefore screened at a younger age, but most data come from West African studies. We conducted a case-control study to identify risk factors associated with HCC among Asian and African immigrant patients with chronic HBV in an academic urban hospital setting in the US.

Methods. We identified a total of 278 patients with HCC and chronic HBV seen at two medical centers in a 12-year span from January 2002 to December 2015. These cases were age- and sex-matched in a 1:3 ratio with 823 non-cancer control subjects with chronic HBV. Logistic regression analyses were used to estimate the odds of HCC for each race, with black race stratified by foreign-born status, after adjustment for other demographics and clinical conditions.

Results. Of the 278 HCC cases, 67% were 60 years of age or older, 78% were male and 72% were Asian. Twenty percent of 823 HBV controls were black but only 7% of 278 HCC cases were black, of whom 14 were African immigrants (1 each from Chad, Liberia and Senegal and 11 from East Africa: Ethiopia $n = 4$, Somalia $n = 4$, Eritrea $n = 1$, Sudan $n = 1$, Kenya $n = 1$). In multivariable analysis, Asian race and cirrhosis were associated with greater odds of HCC (adjusted odds ratio [aOR] 3.2, 95% confidence interval [CI] 2.1–5.1 for Asians and aOR 18, 95% CI 12–27 for cirrhosis). Black race was not associated with HCC: aOR was 1.3 (95% CI 0.6–2.9) for African immigrants and 0.6 (95% CI 0.2–1.8) for non-immigrant blacks. We found no association with HCC and other risk factors including diabetes, HCV coinfection, and HIV coinfection. Alcohol use was associated with HCC but risk appeared to be mediated through cirrhosis as it was no longer associated when cirrhosis was included in the model.

Conclusion. Asian patients were the only racial subgroup associated with an increased odds of HCC in our cohort. African-immigrant status was not associated with increased risk of HCC in our mostly East African cohort, suggesting regional differences in HCC risk. Optimal screening strategies for HCC in African immigrants with chronic HBV warrant further study.