

Title Hepatitis C Viremia Among Patients Presenting to an Urban Emergency Department in 2019

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Abstract

Hepatitis C is a significant public health issue both domestically and internationally and is associated with significant morbidity and mortality due to the sequelae of chronic liver disease if left untreated. Chronic hepatitis C (HCV) accounts for 57% of hepatic cirrhosis cases and 78% of hepatocellular carcinoma worldwide, which cumulatively cause 1.4 million deaths annually.^{1,2} The development of well-tolerated and effective direct-acting antivirals (DAAs) for HCV which produce sustained virologic responses (i.e. cure) exceeding 95%, has revolutionized the treatability of HCV.³ Despite therapeutic availability, HCV eradication appears difficult to achieve given the challenges in HCV screening and access to treatment. Despite disease burden and the need for early identification, only 21% of people living with HCV globally in 2019 knew their diagnosis.⁴ Emergency Departments serve as a point of access to healthcare services for under-resourced patients. Over 138 million ED visits occur annually, with individuals with HCV accounting for 73,000 ED visits annually. Quantifying and assessing the disease burden of patients presenting to the ED may reveal the potential of the ED to serve as a site to identify individuals with untreated HCV and link them to care. Here we quantify the volume of individuals who presented to the Denver Health ED between 2019 through 2021 with previously documented detectable HCV RNA levels in the electronic medical record. We used a retrospective cohort study design to query the electronic medical record to generate a cohort of patients who visited the Denver Health ED from January 1, 2019 through December 31, 2021 and had evidence of detectable HCV RNA levels in the EMR sometime between 2016 and the day prior to the ED visit. From Jan 1, 2019-Dec 31, 2021, 1,890 unique individuals presented to the Denver Health ED with untreated HCV. Of the individuals with HCV seen in the ED, 74.18% were male, 25.82% were female, and <1% identified as transgender or non-binary gender as documented in the EMR. 27.78% were Hispanic/Latinx (all races), 54.39% White-Non Hispanic, 13.97% Black-non Hispanic, 0.42% Asian-Non Hispanic, 1.43% American Indian/Alaska Native/Native Hawaiian, 0.9% Multi-Race, and 1.11% Unknown. The median age of individuals on the date of their first ED visit during the specified time frame was 30-39 years, with 10.58% between ages 18-29, 20.42% between ages 30-39, 17.51% between 40-49, 25.5% between 50-59, and the remaining 25.6% above the age of 60. Over 73% of the cohort was on Medicaid, and an impressive 57.78% established a PCP after their ED. 97.09% were English

speakers, and 2.28% were Spanish speakers. The most common chief complaints were alcohol intoxication, abdominal pain, drug problem, chest pain, and shortness of breath. Our data reflects the high burden of HCV in the baby boomer generation (those born between 1945-1965), with an upward trend in affected young adults which has been attributed to IV drug use in the ongoing opioid epidemic.⁵ Marginalized communities of color are more affected, which similarly reflects demographics studied in other parts of the country.⁵ Additionally, this cohort is largely underserved, with a significant majority enrolled in Medicaid, and almost one-third experiencing current or recent homelessness. This emphasizes that marginalized and underserved communities are lacking indicated healthcare services – despite previously testing positive for HCV, these individuals have not received treatment, potentially due to adverse social determinants of health. Our data elucidates that a large patient population with untreated HCV regularly presents to the Emergency Department, highlighting the need for pathways to treatment from the ED. Potential pathways to treatment may include linkage to care models, automatic EMR flags in the ED, after-visit summary resources, a system-wide HCV treatment coordinator, a forwarded message to a PCP, or even prescribing HCV treatment from the ED given recent phasing out of prior authorizations.