

# Hepatitis C Viremia Among Patients Presenting to an Urban Emergency Department

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## Background

- Hepatitis C (HCV) is a significant public health issue. Chronic HCV accounts for 57% of hepatic cirrhosis cases and 78% of hepatocellular carcinoma worldwide, which cumulatively cause 1.4 million deaths annually.
- The therapeutic discovery of direct-acting antivirals (DAAs) for HCV has revolutionized the treatability of HCV, with sustained virologic responses (i.e. cure) exceeding 95%.
- Approximately 3 million individuals are living with HCV in the US (approximately 1% of the US adult population), yet only 55% of those with HCV are aware of their HCV-positive status.
- While there are increased efforts to screen for HCV, challenges to amplifying screening programs remain, particularly for those who are lower income or have risk factors for HCV transmission.
- Emergency Departments serve as a point of access to healthcare services in under-resourced patients who do not have access to consistent healthcare. 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.

## Objectives

- In this study, the primary outcome is to assess the number and demographics of patients presenting to the Denver Health ED between 2019-2021 with recently detectable HCV RNA as documented in the DH electronic medical record.
- Our secondary outcome is a characterization of reasons and times for ED visits and subsequent HCV treatment rates among this cohort of individuals.

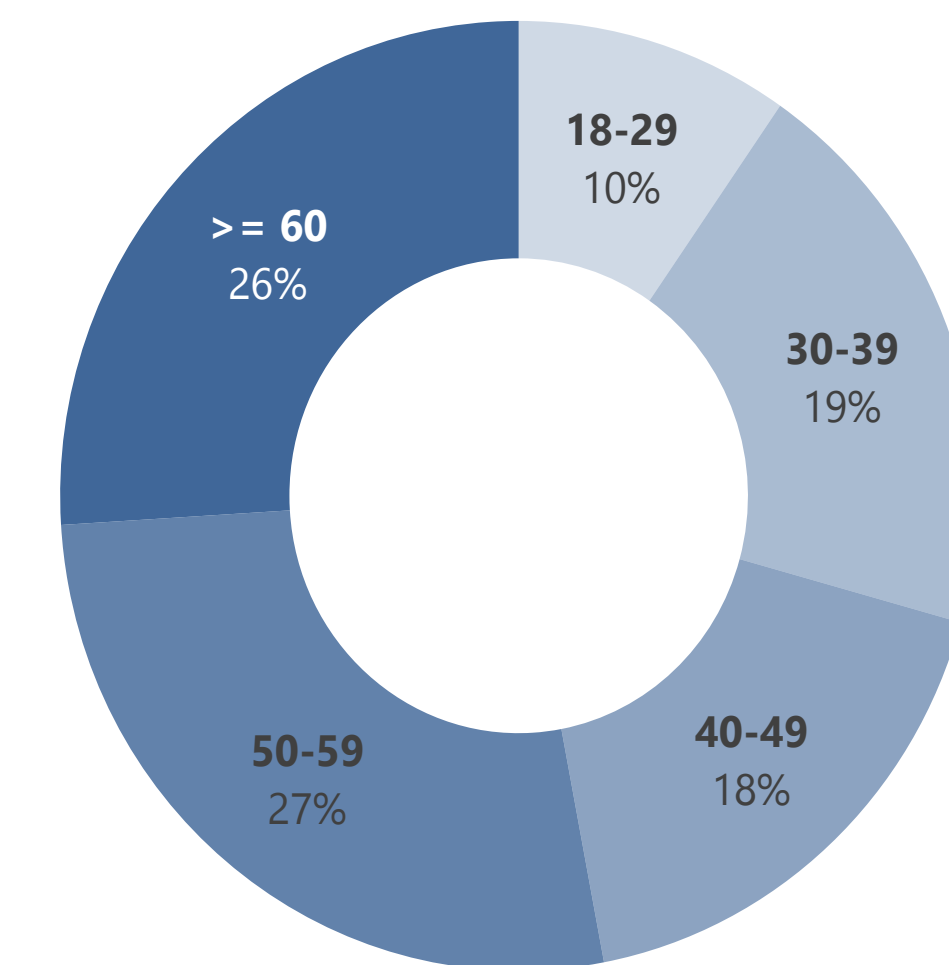
## Methods

- 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 of the ED visit.
- Individuals with a history of detectable HCV RNA followed by HCV RNA results of 0 or less than the lower limit of quantitation were excluded from the cohort as they were assumed to no longer have HCV infection.
- Demographic characteristics and visit data (e.g. chief complaint, day of the week, time of day) were additionally extracted to characterize the study cohort.
- Data was extracted from Epic into Microsoft Excel on Denver Health servers. Data was analyzed in SAS software.

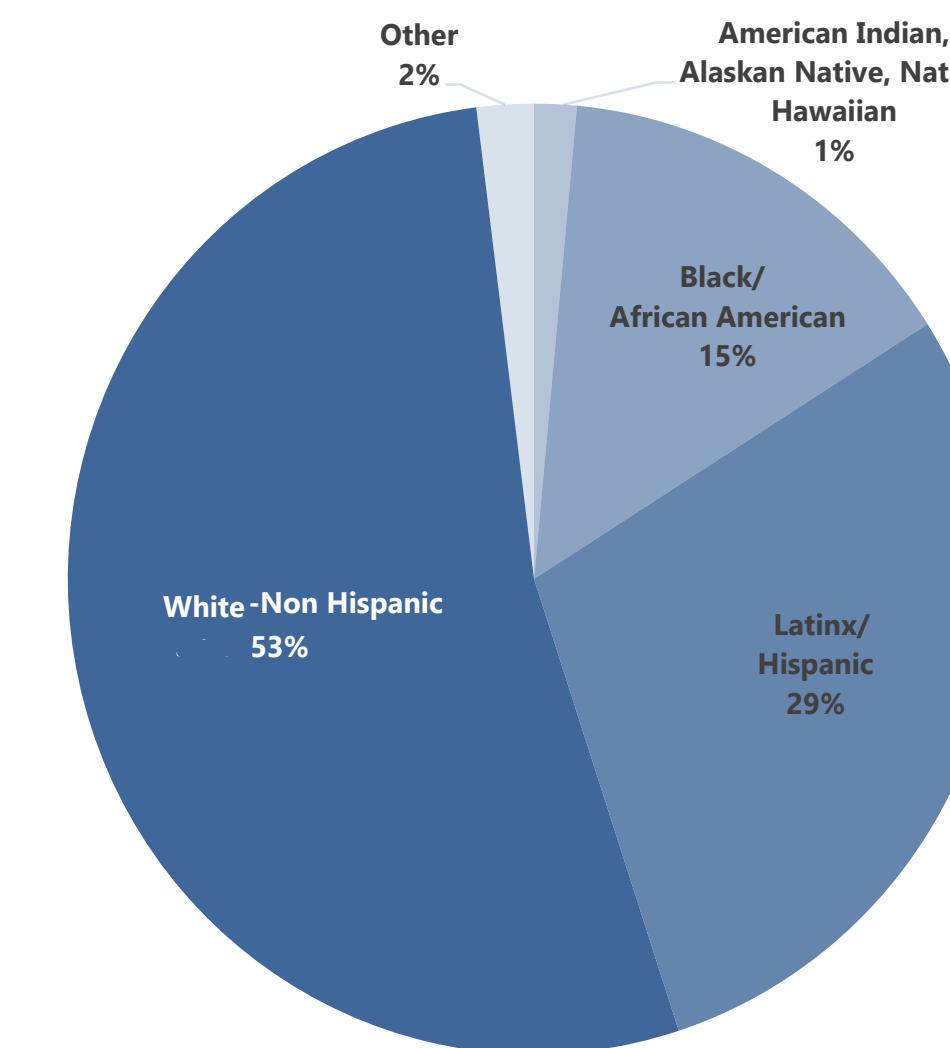
## Results

 **1,563**

unique individuals with previously diagnosed but untreated HCV were seen in the Denver Health ED from 2019-2021.



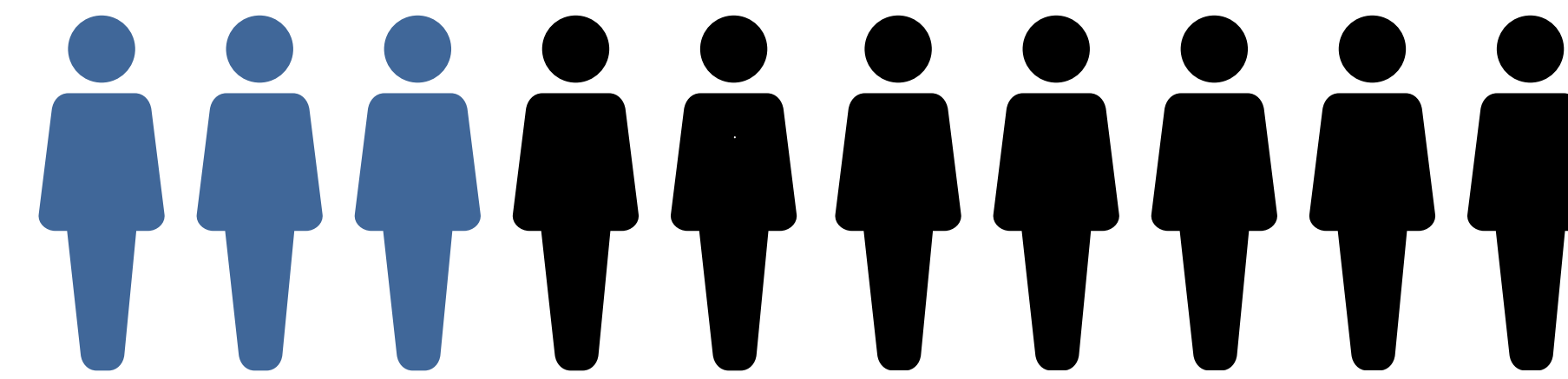
Age in Years on Date of ED Visit for 1,563 Individuals with Previously Diagnosed But Untreated HCV



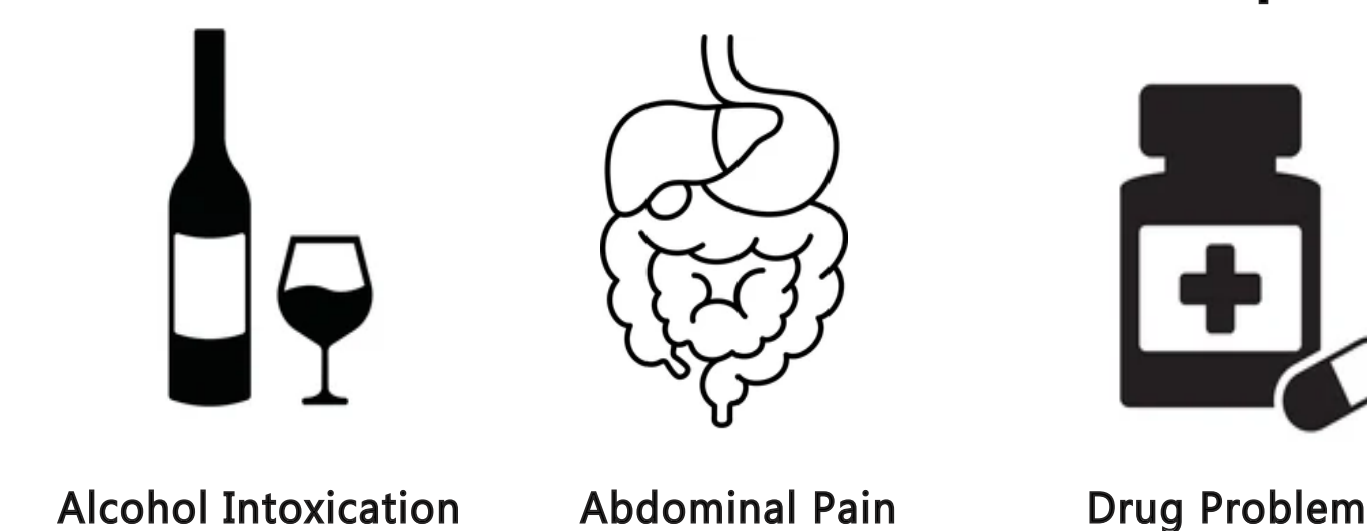
Racial Demographics of 1,563 Individuals with Previously Diagnosed But Untreated HCV

**27.58%**

of persons with diagnosed but untreated HCV were experiencing homelessness

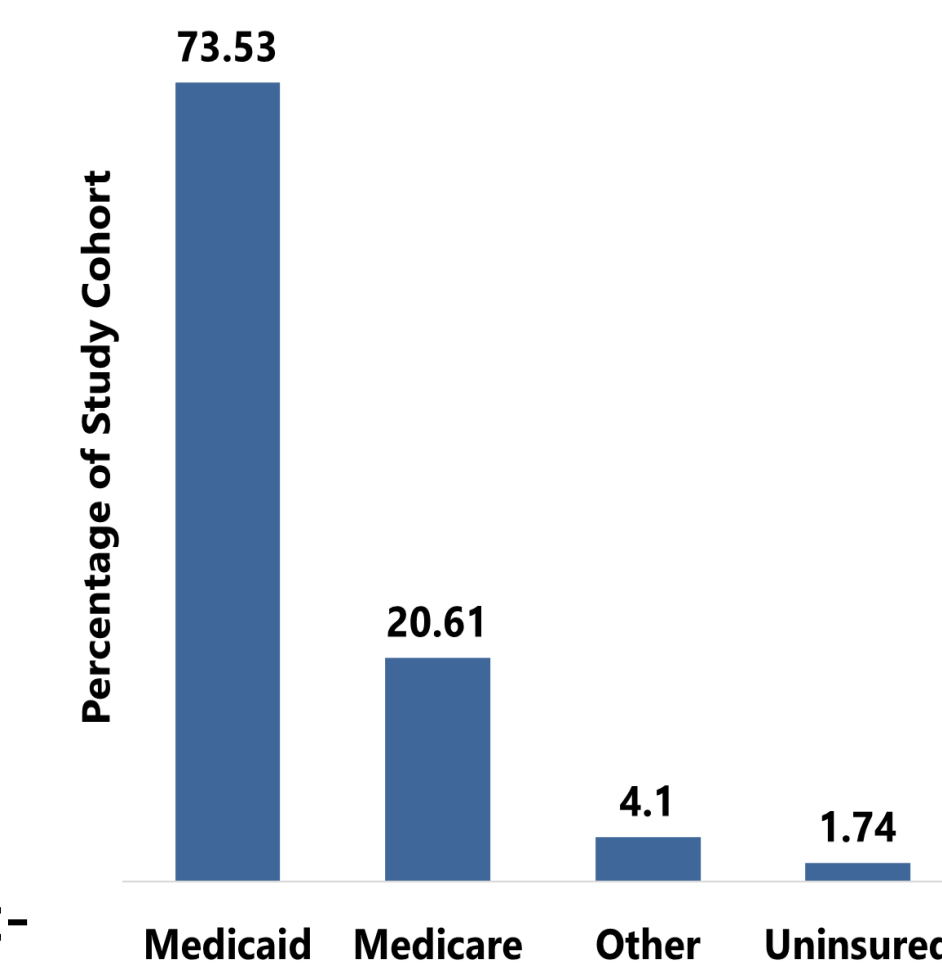


## Most Common Chief Complaints



**74%**

of individuals with diagnosed but untreated HCV who presented to the Denver Health ED between 2019-2021 were on Medicaid.



Health Insurance at the Time of ED Visit for 1,563 Individuals with Previously Diagnosed But Untreated HCV

## Discussion

- Our data reflects the high burden of Hepatitis C in the baby boomer generation (those born between 1945-1965), with an upward trend in affected young adults due to IV drug use in the ongoing opioid epidemic.
- Our data shows that marginalized communities of color are over-represented, which similarly reflects demographic trends studied in other parts of the country. Additionally, this cohort of individuals is largely underserved, with a majority on Medicaid and almost one-third experiencing homeless.
- This emphasizes that marginalized and underserved communities are lacking indicated healthcare services – while having been tested previously for HCV, these individuals have not sought out treatment, potentially due to adverse social determinants of health or lack of awareness given an initially asymptomatic disease process.
- 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.

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