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Hepatitis C reinfection among incarcerated and non-incarcerated individuals in Tennessee



Introduction: Hepatitis C virus (HCV) is the most common bloodborne pathogen transmitted in the United States. HCV can be cured with appropriate treatment, however only about half of those living with HCV are aware of their status, and even fewer receive treatment. Tennessee has developed a laboratory-based HCV Continuum of Care Cascade (CoC) and is validating the subsequently infected category utilizing provider surveys and medical record abstractions. The objective of this analysis is to describe HCV subsequent infection amongst Tennesseans.

Methods: We evaluated medical records from patients diagnosed with HCV from January 1, 2016, to December 31, 2021. Using laboratory-based surveillance data, we identified individuals "subsequently infected" and defined as having at least one positive HCV RNA after a negative HCV RNA result. The ordering medical provider received a standardized survey to assess the patient's HCV medical history. Risk factor variables were collected from received medical records and Stata used to analyze findings.

Results: There were 108,725 diagnosed with HCV in the state of Tennessee, and of those 2,790 were identified as "subsequently infected." Medical records were requested, and we received 572 completed records that we reviewed and abstracted. Survey completion occurred in 58.4% (334/572). Reinfection with HCV was reported in 14.4% (77/572). Males accounted for 63.9% (365/572), females for 35.9% (205/572), unknown 0.2% (2/572). HCV treatment was completed in 36.4% (208/572), not completed in 7.8% (41/572), and unknown in 52.8% (279/572). Sustained virologic response was achieved in 33.6% (179/572), not achieved in 6.6% (35/572), and unknown in 59.9% (319/572). A history of the following risk factors were identified: 29.3% (161/572) injection drug use, 7.3% (24/572) intranasal drug use, 14.5% (83/572) rehabilitation or mental health services, 4% (23/572) homelessness, 3.8% (22/572) HIV co-infection, and 7.3% (42/572) with other sexually transmitted infections.

Conclusions: Laboratory based surveillance data can be used to improve the HCV CoC in Tennessee. Findings help describe the epidemiology of HCV reinfection and risk factors associated with HCV transmission. Future analyses will compare HCV treatment and identified risk factors between individuals "subsequently infected" with HCV during incarceration to those not incarcerated.