

Care Cascade Measure	n	% of Treated
Received Treatment	96	n/a
Achieved SVR	55	57%
Pending SVR	4	4%
On Treatment	23	24%
Lost to Follow-Up	12	13%
Reinfected	2	2%

HCV Care Cascade Outcomes

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HCV screening and treatment outcomes within HCV Care Cascade model  
Screening Outcomes

Infection	May-20	Apr-21	Delta
Hepatitis A	58.41%	80.82%	22.40%
Hepatitis B	60.63%	85.35%	24.71%
Hepatitis C	63.81%	86.56%	22.75%
HIV	62.70%	85.35%	22.65%
GC/CT	34.98%	63.90%	28.92%
Trich	32.70%	63.14%	30.44%
Syphilis	49.68%	77.98%	28.30%
n	630	663	

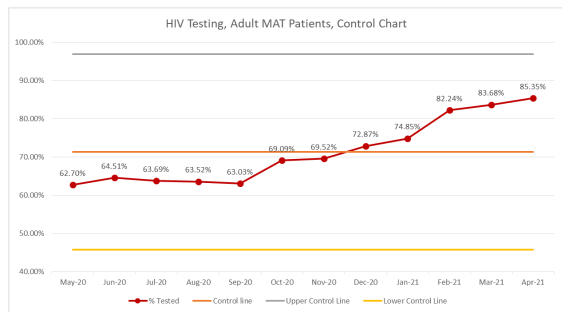
Screening rates among adult MAT population over a one-year measurement period

**Conclusion.** This study documents the successful implementation of an opt-out screening program among an adult substance use disorder (SUD) treatment population across urban, mixed, and designated rural environments. HCV treatment uptake in this setting exceeded that documented in published data for people who inject drugs (PWID).

Barriers to implementation included acceptance among patients with long-term MAT participation, acceptance/adoption by behavioral health nursing and provider staff, and functional workflow development – establishment of protocol, lab availability, scheduling, and “tough sticks.”

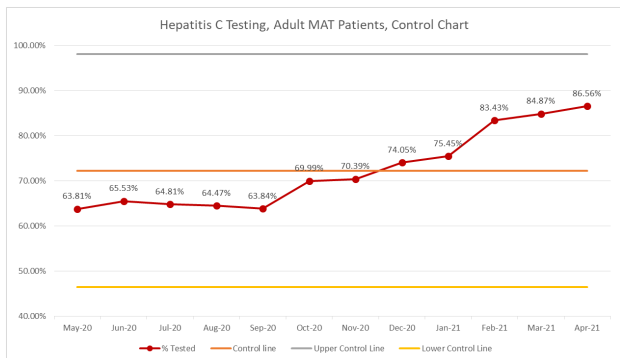
Modifications that increased effectiveness included an interdisciplinary approach and dedicated staff for monitoring results completion and patient outreach.

Run chart: HIV screening rates over a one-year period

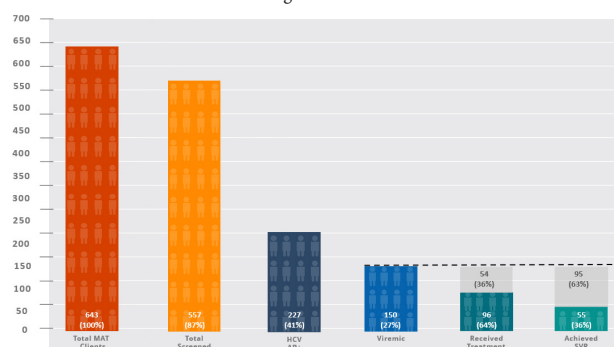


HIV screening change among adult MAT patients over a one-year period

Run chart: HCV screening rates over a one-year period



HCV screening change among adult MAT patients over a one-year period  
HCV Care Cascade: HCV screening and treatment outcomes



HCV screening and treatment outcomes presented in HCV Care Cascade for adult MAT population

**Disclosures.** All Authors: No reported disclosures

**905. Risk of Hepatitis B Reactivation in Patients Receiving Ibrutinib: The National VA Cohort**

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**Session:** P-52. Hepatitis

**Background.** Ibrutinib, a bruton tyrosine kinase inhibitor was approved by Food and Drug Administration (FDA) in 2013 and became the first-line treatment for chronic lymphocytic leukemia in 2014. The risk Hepatitis B Virus (HBV) reactivation after initiation of ibrutinib is unclear. Here, we report the results of national Veterans Health Administration (VHA) pharmacy database review estimating the incidence of HBV reactivation after initiation of ibrutinib.

**Methods.** Veterans who received ibrutinib between Feb 1, 2014 through October 31, 2019 were included in our study. Possible reactivations were identified by change of Hepatitis B Virus surface antigen (HBV sAg), HBV core antibody (Ab) or HBV viral load from no data or negative to positive after starting ibrutinib. Individual chart review was conducted to verify HBV reactivation due to ibrutinib. Cumulative incidence was calculated by identifying HBV reactivation cases among at risk patients, which was defined as prior exposure by positive HBV core Ab regardless of HBV sAg or HBV viral load status. For patients without any HBV serology, an estimated prevalence of HBV exposure in veterans from the literature is used.

**Results.** A total of 4130 veterans were on ibrutinib during the study period. Of 4130 patients, 1875 patients with HBV core Ab negative and 68 patients on anti-virals against HBV prior to ibrutinib were excluded. Among the remaining 2187 patients, there were 170 patients with positive HBV core Ab and 2017 patients without HBV core Ab tested regardless of HBV sAg or HBV DNA status. We used the estimated 13.6% (95%CI 11.5-16.1) of HBV exposure in veterans and estimated that 274 (95%CI 232-325) out of 2017 patients would be at risk of HBV reactivation. Thirty-nine patients were identified to have HBV reactivation after ibrutinib. After detailed review, 7 HBV reactivations were attributable to initiation of ibrutinib. The cumulative incidence of HBV reactivation after ibrutinib was estimated as 1.5% (95% CI 1.4-1.7).

**Conclusion.** In this large VHA study, we identified 7 cases of HBV reactivations among 444 at risk patients. The cumulative incidence of HBV reactivation after ibrutinib was 1.5% in patients with prior HBV exposure with positive HBV core Ab irrespective of HBV sAg or HBV DNA status, indicating a moderate risk of HBV reactivation.

**Disclosures.** All Authors: No reported disclosures

**906. Characteristics of Chronic Hepatitis B Patients with Severe Outcomes in a Large Integrated Healthcare System - 2008-2019**

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**Session:** P-52. Hepatitis

**Background.** It is estimated that there are 1.59 million cases of chronic hepatitis B virus (HBV) infection (CHB) in the United States. HBV infection is highest among men and non-Hispanic Asian adults. CHB can lead to liver damage, cirrhosis, hepatocellular carcinoma, or death. However, the population that is most likely to develop severe outcomes is not as well-defined.

**Methods.** We evaluated electronic health record data from Kaiser Permanente Southern California adult members from 2008-2019 with at least 1 year of continuous membership, and with 2 successive, positive HBV lab results (HBV DNA, or HBSAg,

or HBeAg) at least 6 months apart (indicative of CHB). Severe outcomes included incident hepatic decompensation, hepatocellular carcinoma (HCC), liver transplant and death, and prevalent and incident liver cirrhosis. For each outcome, we estimated the distribution of characteristics including age, sex, race/ethnicity, and lab values (alanine aminotransferase [ALT], alpha-fetoprotein [AFP], MELD score).

**Results.** Our final study population included 5,427 CHB-diagnosed patients with 411 (7.6%) cases of liver cirrhosis, 123 (2.3%) of hepatic decompensation, 65 (1.2%) of HCC, 8 (0.1%) of liver transplant, and 164 (3.0%) deaths. Compared to the total cohort, those who developed severe outcomes were older (median age for each outcome >50 years vs. 47 years in total CHB population). Among those with severe outcomes, the majority were male (>56%) and Asian. Diabetes was more prevalent in patients with hepatic decompensation, HCC, and death versus the entire cohort (25% vs. 8%, respectively,  $P < 0.0001$ ), and twice as prevalent among those with cirrhosis. All severe outcomes were associated with >2 x upper limit of normal ALT levels.

**Conclusion.** The characteristics of those with severe outcomes were consistent with those of overall CHB, although there was a 2-3 times higher prevalence of diabetes in those with severe outcomes. Identifying characteristics that are more prevalent in those with severe outcomes can help inform screening and management of CHB.

**Disclosures.** Ana Florea, PhD MPH, Gilead Inc. (Grant/Research Support) Prabh Gounder, MD, Gilead Inc. (Grant/Research Support) Amandeep Sahota, MD, MS, Gilead Inc (Grant/Research Support) Katherine J. Pak, MS, Gilead (Grant/Research Support) Vennis Hong, MPH, Gilead Inc. (Research Grant or Support) Theresa M. Im, MPH, Gilead Inc. (Grant/Research Support) Sara Tartof, PhD, Gilead (Grant/Research Support, Scientific Research Study Investigator)

### 907. The HCV Care Continuum Among Hospitalized Persons Who Inject Opiates: Missed Opportunities for Screening and Referral to Treatment

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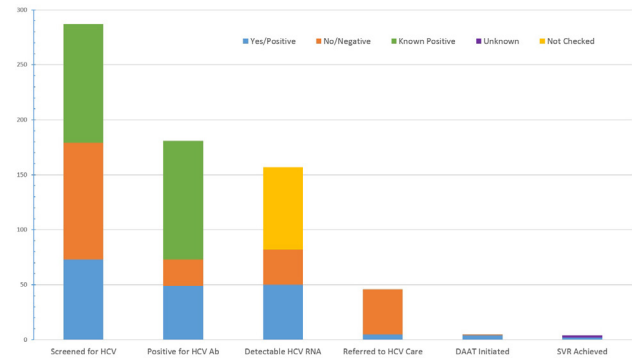
**Session:** P-52. Hepatitis

**Background.** Despite an effective cure, hepatitis C virus (HCV) remains a major public health problem for persons who inject opiates. Hospitalization provides an opportunity to identify chronic HCV infection and provide referral and linkage to outpatient care upon discharge. We examined the HCV care continuum among hospitalized persons who inject drugs and have opiate use disorder (OUD).

**Methods.** The CHOICE Study is a retrospective chart review of adults hospitalized with infectious complications of OUD and injection drug use at four academic medical centers (University of Maryland, George Washington University, University of Alabama, and Emory University). The sample included patients hospitalized between 1/1/2018-12/31/2018, had ICD9/10 diagnosis codes consistent with OUD and acute bacterial/fungal infection, and chart review verification of active infection associated with OUD. Data on HCV antibody (Ab) and RNA testing and referral to HCV treatment within the medical system were abstracted from medical records.

**Results.** Of 287 patients, median age was 40 (IQR: 32-52), 59% were male, and 63% were white and 34% black. Overall, 38% (n=108) had known HCV infection at hospitalization; of those with unknown status, only 41% (n=73) were screened for HCV. Among those, 67% were HCV Ab+. Of patients who were HCV Ab+ or had known HCV infection (n=157), only 52% were tested for HCV RNA, of whom 61% had detectable RNA. Only 40% of those with detectable RNA received a treatment referral prior to discharge (Fig. 1). The length of stay of the admission was not associated with treatment referral, but a shorter length of stay was significantly associated with not being screened for HCV Ab or RNA tested ( $p < 0.05$ ). Of five patients who were referred to care within the medical system, four initiated HCV treatment, and two achieved known sustained viral response.

Figure 1. HCV Continuum of care for hospitalized patients who inject drugs with opioid use disorder (OUD) at four academic medical centers in the United States, January 2018-December 2018



**Conclusion.** Hospitalization is a missed opportunity for HCV screening and linkage. Despite opportunities to address HCV infection among this highly impacted population, there were sizeable gaps in the HCV continuum of care among hospitalized persons who inject opiates. Structural reasons such as length of stay may be a factor in implementing HCV testing.

**Disclosures.** Sarah Kattakuzhy, MD, Gilead Sciences (Scientific Research Study Investigator, Research Grant or Support) Ellen Eaton, MD, Gilead (Grant/Research Support) Ellen Eaton, MD, Gilead (Individual(s) Involved: Self): Research Grant or Support Greer A. Burkholder, MD, MSPH, Eli Lilly (Grant/Research Support) Elana S. Rosenthal, MD, Gilead Sciences (Research Grant or Support) Merck (Research Grant or Support)

### 908. Dismantling Barriers to Hepatitis Elimination: Automated Hepatitis C Screening with Care and Cure by a Primary Care Based Team

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**Session:** P-52. Hepatitis

**Background.** Liver cancer rates are rising in the US, viral hepatitis accounting for more than 65% of the cases. Yet more than half of viral hepatitis infections remain undiagnosed. In response to the rise in HCV due to the opioid epidemic, the Centers for Disease Control and Prevention began recommending a one-time HCV test for all adults in 2020. Screening, linkage to care (LTC) and access to HCV curative therapy must be scaled up to reach the WHO goal of eliminating hepatitis by 2030.

**Methods.** In 2018, automated HCV screening utilizing electronic medical record protocols began in the emergency department (ED) based on the date of birth. Drug testing and peer recovery consults were added as eligibility criteria. Screening became universal and expanded to the inpatient units in 2020. Patient navigators (PN) received alerts of positive results and worked with patients to arrange LTC, one site being a primary care-based practice (PCP) where internists provided HCV care and support from ambulatory care clinical pharmacists.

**Results.** From Mar 2018 to Mar 2021, 50,873 people were screened for HCV, with 977 (1.9%) testing HCV Ab+, and 259 (0.5%) had confirmed infection by reflex HCV RNA. LTC 86.6% of patients, and 128 (49.4%) were newly diagnosed. Universal screening led to 35,482 testings from Jan 2020-Mar 2021. People born out of the 1945-65 birth cohort made up 75.8% of the screened and 39.1% of the infected. The PCP evaluated 47 HCV patients, initiated therapy in 38; 36 required prior authorization and 15 needed financial assistance. Treatment breakdown was: 29 (76.3%) glecaprevir/pibrentasvir, 6 (15.8%) sofosbuvir/velpatasvir & 3 (7.9%) ledipasvir/sofosbuvir. Pharmacist intervention with prior authorizations and financial assistance significantly reduced the cost (table 1). Thus far, 35 achieved cure with undetectable HCV RNA at 12 weeks.