Improving Rate of Compliance with Hepatitis C Virus Screening

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Abstract

This project aimed to improve rates of hepatitis C virus screening for all outpatient primary care visits for patients aged 18-55 and 77-79 in Syracuse, Rome, and Binghamton using education initiatives and changes to the electronic medical record. Changes were implemented over a six-month time frame. Interventions improved rates of hepatitis C virus screening by 2.3%. Increased rates of screening are associated with early identification of infected patients who could benefit from effective treatment before developing complications or transmission of infection.

Introduction

The process of screening patients for hepatitis C virus infection is frequently overlooked. Hepatitis C virus is a leading cause of chronic liver disease in the US. It is estimated that 2.4 million individuals in the US were living with hepatitis C virus during 2013-2016. Around 5-25% of patients will develop cirrhosis within 10-20 years of infection. These patients have a 1-4% annual risk of developing hepatocellular carcinoma, a 3-6% annual risk of hepatic decompensation, and a 15-20% mortality risk with decompensated cirrhosis. The US Preventive Services Task Force has determined that screening is beneficial for patients aged 18-79. Previous recommendations only included those born between the years of 1945-1965. The American Association for the Study of Liver Diseases has also recommended a one-time routine hepatitis C virus antibody test in patients 18 years and older.

Even though hepatitis C virus is treatable, the rate of screening with hepatitis C virus antibody in patients aged 18-55 or 77-79 is only 70% in the primary care settings in Syracuse, Rome, and Binghamton. Inadequate detection leads to missed treatment opportunities and contributes to significant liver disease. Our quality improvement initiative aimed to increase compliance rate with hepatitis C virus screening for all outpatient primary care visits for patients aged 18-55 or 77-79 by 20% from baseline of 70% to 90% in 6 months.

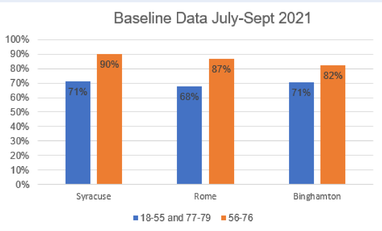


Figure 1: Baseline data

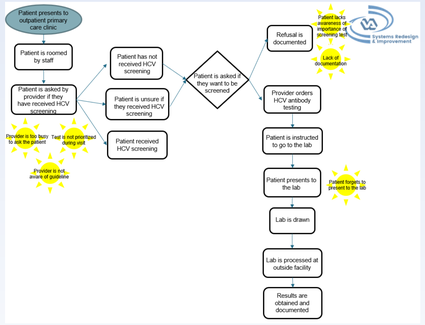


Figure 2: Current state map

Methods

Data was obtained from internal medicine and family medicine outpatient clinics at three locations: Syracuse, Rome, and Binghamton. Eligible patients for hepatitis C viral screening were divided into two categories: 18-55 or 77-79 years were the group of interest and 56-76 years (born between years 1945-1965) were the reference group as testing in these group of patients had previously been widely practiced. We excluded patients who were inpatients, those presenting to sub-specialty clinics, or if a hepatitis C virus antibody was ordered for reasons other than screening purposes.

Baseline rates of completed antibody testing was obtained from July-September 2021. Gap analysis was performed identifying causes of reduced compliance. Certain possible or probable limiting factors that we identified were healthcare providers were not aware of updated guidelines, the test was not prioritized during the visit, and the patient lacked awareness of the importance of the screening test, etc.

Interventions were taken at the patient level (distribution of informational flyers), provider level (education on updated guidelines), and system level (electronic medical record alerts). Interventions were initiated in October 2021 and testing rates were tracked until March 2022.

Results

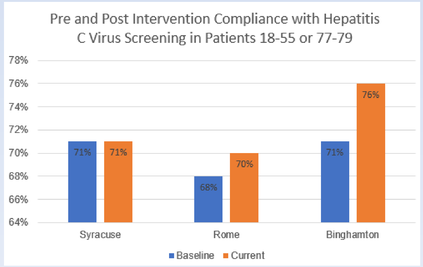


Figure 3: Post-intervention data

The rate of screening with hepatitis C virus antibody in patients aged 18-55 or 77-79 improved by 2.3% from 70% to 72.3% from October 1, 2021, to March 31, 2022, across three sites. Binghamton's rate improved by 5%. 397 tests have been ordered during this time and 240 were for the age group of interest.

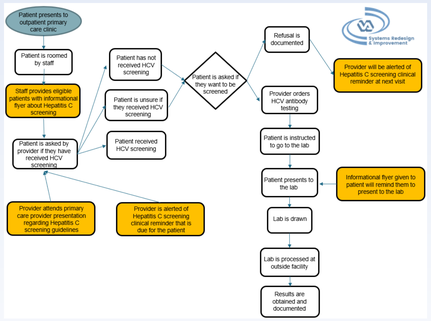


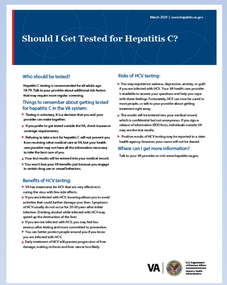
Figure 4: Target state map

Discussion

This project demonstrates the impact of education at the patient and provider levels as well as electronic medical record changes on compliance with hepatitis C virus screening. The interventions mostly impacted the outpatient primary care clinics in Binghamton. There was no change in rate of compliance in the outpatient primary care clinics in Syracuse.

Rate of compliance improved from 70% to 72.3% overall. While we did not meet our target of 90% compliance, the measure showed improvement over the six-month time frame. Given the significant amount of time between outpatient primary care visits, we believe that there will be an increase in screening over the next few months with continued provider and patient education.

Given the project's large scope, we have handed this project off to the new CRQS for continued audits/interventions. We plan to further break down our data by looking at the two age groups separately (18-55 and 77-79) to identify additional ideas for interventions and to break down the data by provider to assess if any specific provider would benefit from more education pertaining to screening.



Conclusion

Hepatitis C virus screening in eligible patients beyond the previously recommended age groups is relatively low. Focused and simple interventions at the patient, provider, and system levels can increase compliance and help reduce the burden of significant liver disease. We hypothesize continued education and monitoring of data will demonstrate improved rates due to long time between primary care visits. Additional interventions may improve rates further.

References

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