Impact of Integrating EMR HCV Testing Prompts in a Difficult to Navigate EMR System

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Abstract

BACKGROUND: At least 50% of individuals infected with HCV are unaware of their status. Furthermore, 50% of individuals with a reactive antibody test never receive a confirmatory test. Electronic Health Record (EHR) testing prompts that reflect CDC recommendations for birth cohort testing and the standard HCV screening algorithm have the potential to be a useful tool. We aim to describe the impact of these EMR modifications on primary care provider (PCP) testing practices.
METHODS: EHR prompts began July 1 2014. Individuals born between 1945-1965 with no prior HCV testing had a prompt added that appeared under the patient's name reminding the PCP that the "Patient Needs HCV Screening". Any patient with a reactive antibody test or an ICD-9 code consistent with chronic HCV infection but no confirmatory test had a similar prompt added reminding the PCP that the "Patient Needs HCV Confirmatory Testing". Educational sessions about CDC screening guidelines, testing algorithms, and prompts were held at primary care practices to reinforce implementation. To simplify HCV test ordering options EHR technical staff removed orders for non-preferred tests such as older tests and redundant tests. Technical staff limited access to duplicate testing options. Providers were encouraged to use HCV antibody testing with reflex to PCR quantitative testing as the preferred method.
RESULTS: Baseline data in May showed that 6.9% of the 1,658 birth cohort patients seen were tested for HCV. Of those tested, 18% were tested using non-preferred testing methods and only 4.4% were tested using the preferred method. June showed that 12% of the 1,609 birth cohort patients seen were tested using the non-preferred tests and 5.9% using the preferred test. After prompts went live in July, 18% of the 1,807 birth cohort patients seen were tested for HCV, only 2% were tested using the non-preferred tests and 42% were tested using the preferred test. In August 19.7% of the 1,628 birth cohort patients seen were tested, only 0.76% were tested using non-preferred tests and 59% were tested using the preferred test.
CONCLUSION: Prompts implemented in July were effective in increasing routine screening of the baby boomer birth cohort. There was a shift towards ordering tests that support the recommended testing algorithm. EHR prompts and provider education have the potential to increase the number of individuals aware of their HCV status.

Background

- 50% of individuals infected with HCV are unaware of their status
- 50% of individuals with a reactive antibody test never receive a confirmatory test
- Individuals born within the baby boomer birth cohort (1945-1965) account for almost 50% of the population
- The CDC recommends that all individuals within the baby boomer birth cohort be tested for HCV at least once in their lifetime

Methods

- We created two EHR prompts that began July 1 2014
- Individuals born between 1945-1965 with no prior HCV test had a prompt reminding the PCP that the "Patient Needs HCV Screening"
- Any patient with a reactive antibody test or an ICD-9 code consistent with chronic HCV infection but no confirmatory test had a similar prompt added reminding the PCP that the "Patient needs HCV Confirmatory Testing"
- We assessed the amount of preferred versus non-preferred tests ordered by providers from May-August

Methods

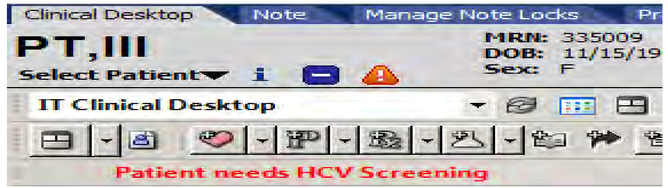


Figure 1. EMR alert for individuals born between 1945-1965 with no previous HCV test

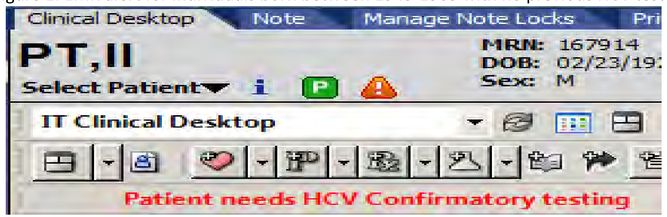


Figure 2. EMR alert for all individuals who had a reactive HCV antibody test or an ICD-9 code consistent with chronic HCV infection, but not had confirmatory PCR quantitative testing in the last 5 years

Results

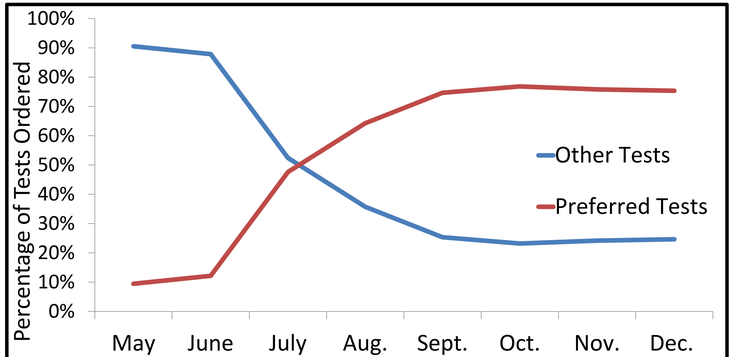


Figure 3. Percentage of tests ordered before and after prompts went live until present

Results

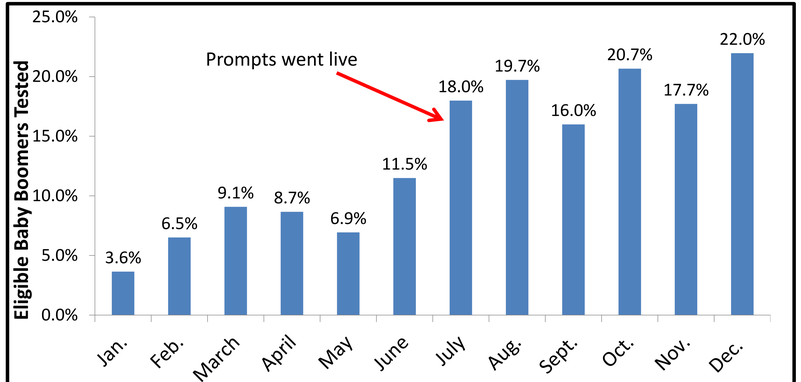


Figure 3. Percentage of eligible baby boomers tested for HCV before and after prompts went live

Conclusions

- Prompts implemented in July were effective in increasing routine screening of the baby boomer birth cohort
- There was a shift towards ordering tests that support the recommended testing algorithm with a decrease in the number of non preferred tests ordered
- Implemented EHR prompts work towards engaging the recommended birth cohort into testing and treatment
- If the preferred HCV antibody test, HCV Antibody Screening with Reflexive Confirmation, is performed then there is no need for a second blood-draw to determine the HCV viral load; the patient is then able to move forward with treatment without the need for a follow up confirmatory test.
- EHR prompts and provider education have the potential to increase the number of individuals aware of their HCV status

Future Directions

- Providers at primary care practices will continue to be educated on best practices in testing methods in accordance with CDC screening guidelines, testing algorithms, and prompts.
- Providers at primary care practices will be notified of their testing behaviors through report cards that will be distributed monthly
- Provider report cards will help to give the primary care practices feedback on preferred versus non-preferred test ordering