Improving Hepatitis C Testing in the Primary Care Setting: A Demonstration in Success

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Introduction

Chronic infection with hepatitis C virus (HCV) represents an escalating public health concern worldwide and within the United States (US). The disease burden of HCV is increasing, driven in large part by a high prevalence among those born between 1945 and 1965 (the ‘baby boomer’ generation).1 Unlike many other chronic infections, HCV presents without symptoms until decompensation occurs, which is in direct contrast with clinical practice as illustrated through the development of medical records and data extraction, which showed suboptimal application of birth cohort-based screening. Within our study group, barriers to guideline adherence are multifactorial, including systems-based challenges, clinician factors, and patient-related complications. Clinicians reported that optimal and timely linkage of identified cases to specialty care is hindered by many of these barriers.

Although risk-based screening guidelines have been in place for many years, the CDC, USPST, and others have recently published recommendations for one-time testing for HCV infection among all adult patients, regardless of the presence of other risk factors.2,3 Numerous potential barriers to timely identification in this setting have been proposed. Thus, we developed a quality improvement initiative to evaluate contemporary screening patterns among patients in the guideline-targeted birth cohort and elucidate the barriers that must be overcome to facilitate adherence to new recommendations and ensure timely care and optimal outcomes for patients with chronic HCV.

Methods

Physician HCV Knowledge, Clinical Confidence, and Counter Barriers

Clinician knowledge, confidence, and self-reported HCV screening practices were evaluated by electronic surveys distributed to 118 physicians (MDs and DOs) within the Duke University Primary Care Research Consortium (PCRC) between May 29, 2013 and July 29, 2013. Survey respondents received a maximum of 2 semi-structured interviews with 6 staff members (4 physicians, 1 nurse or nurse practitioner (NP), and 1 administrative staff member) at each of the 5 PCRC clinics participating in this initiative (total 25 physicians, 5 nurses/NPs, 2 staff members). Interview participants received a stipend for their time.

Evaluation of Clinical Practice Patterns

To evaluate HCV testing practices, we conducted a retrospective electronic health record review of 5,046 patients born between January 1, 1945 and December 31, 1965 (i.e. baby boomers) without a prior diagnosis of HCV or HIV who were cared for within 5 Duke University Health System-affiliated primary care clinics in North Carolina between March 1, 2013 and March 31, 2013. In addition, we reviewed testing patterns among patients with HIV through evaluation of the electronic health records of 96 patients to evaluate changes in a population which was not the focus of the study.

To evaluate the screening practices for the patients with positive HCV antibody results, the ERHS were further reviewed for documentation of either referral to an HCV specialist (hepatologist or infectious disease physician) or a negative HCV RNA test. This evaluation process was repeated monthly following the first educational intervention and continued for a total of 6 months; data were reviewed for patient visits between November 2013 and April 2014. Over the course of the entire initiative, 24,822 records from baby boomer patients were reviewed, as well as 282 records from patients with HIV infection.

Methods – Cont’d.

Results

Survey data

Of the 118 physicians within the PCRC who received the electronic survey, 41 responded (RR = 34.7%). Responses to the survey indicated high baseline knowledge of the prevalence and morbidity associated with HCV infection but low levels of understanding of the potential for cure with therapies available at the time of the survey. The majority of respondents reported that they were aware of CDC guidelines for birth cohort screening. (Figure 1a) Clinicians reported very high confidence in their ability to counsel patients about the need for screening and diagnosis and new screening recommendations with patrons; however, fewer than one-quarter (22%) of clinicians reported that they were extremely or very confident to test a patient born between 1945 and 1965 for HCV in the absence of symptoms (data not shown).

Among the 9,046 baby boomer patients, 1,047 (11.6%) had documentation of an HCV antibody test. In the population of patients with HIV, 75 (78.1%) had record of HCV antibody testing. Across the 5 clinics, variability in testing within both patient groups was evident; birth cohort testing rates varied between 5.2% and 18.7% and HCV-positive patients varied between 58.3% and 87.5%.

Linkage to Care

Between March 1, 2013 and May 31, 2013, among all participating clinics, 4,046 patients met criteria for HCV testing based on birth year and had no other risk factors; 69 patients were identified as HIV positive based on CDC-9 codes and therefore at risk for HCV.

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Discussion

In our study, physicians largely reported knowledge of newer recommendations for HCV testing and the rationale for birth cohort-based screening, were able to identify an increased prevalence of HCV infection among baby boomers, and had an awareness of the high mortality rates associated with HCV infection. This knowledge, however, is in direct contrast with clinical practice as illustrated through the development of medical records and data extraction, which showed suboptimal application of birth cohort-based screening. Within our study group, barriers to guideline adherence are multifactorial, including systems-based challenges, clinician factors, and patient-related complications. Clinicians reported that optimal and timely linkage of identified cases to specialty care is hindered by many of these barriers.

This initiative provided participating clinicians with continuous performance feedback related to testing baby boomer patients for HCV and linkage of antibody-positive patients to specialty care. These improvement efforts were supported by multiple educational offerings which provided clinicians with an in-depth look at the evidence for HCV testing among the baby boomer populations, a resource outline, the process of the “From the Screening” to the primary care clinic, best practices for provision of primary care services to patients with HCV, and a series of brief, focused publications to highlight and reinforce key educational concepts. The combination of continuous data sharing and education helped clinicians improve HCV testing rates within the targeted population.

We have a number of limitations, including those related to execution and data collection which prevented accurate interpretation of our data. The quiet nature of HCV infection necessitates an emphasis on screening in order to identify patients at earlier stages of disease before the complications of decompensation develop. These tremendous advances in therapy will not be able to truly impact the HCV outcomes at the population level until we can better identify patients with HCV infection and get them on the path to treatment.


References