Impact of a Hepatitis C Virus Electronic Medical Record Screening Alert for Baby Boomers

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CHI Health

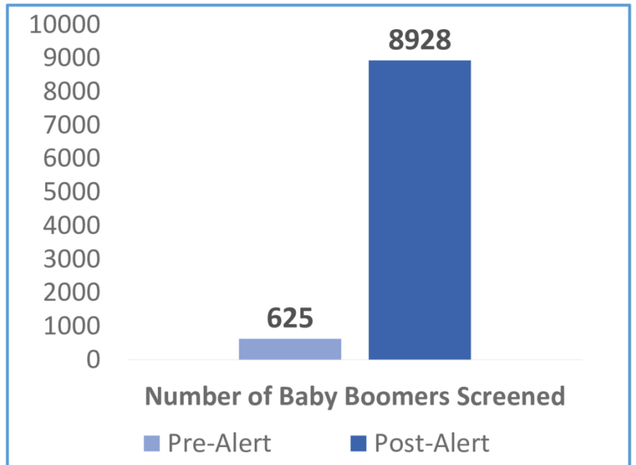
BACKGROUND & PURPOSE

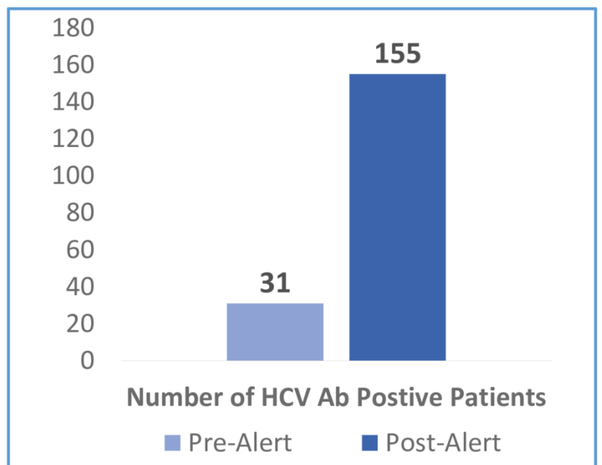
- Approximately 4 million people in the United States are chronically infected with hepatitis C Virus (HCV) and many are unaware of their diagnosis.[1]
- An estimated 77% of individuals infected with HCV were born between 1945-65 and are referred to as "Baby Boomers".[2]
- It is recommended all patients born between 1945-65 have a one-time screen for HCV regardless of the presence of risk factors, but adherence to this guideline is largely deficient.[3]
- To improve screening rates within a health system consisting of 35 primary care clinics in eastern Nebraska and southwest Iowa, an electronic medical record (EMR) alert was initiated to identify patients in need of screening.
- The purpose of this study was to evaluate the impact of the alert and compare the HCV antibody (Ab) positive patients identified prior to the alert to those after.

METHOD

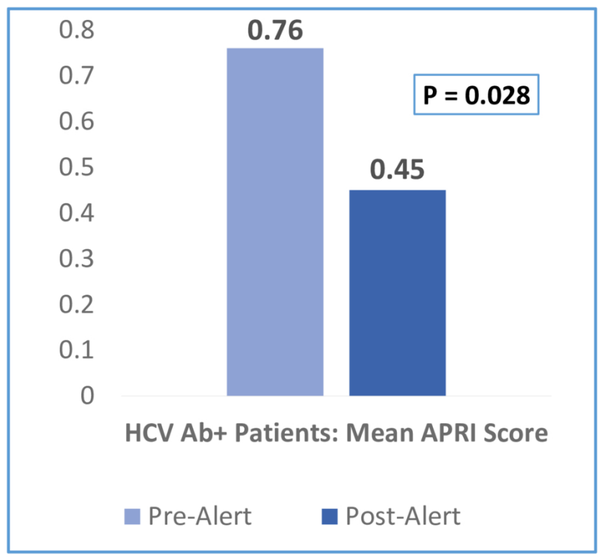
- Data was collected retrospectively for patients seen at a CHI Health primary care clinic during two time periods:
  - "Pre-Alert": June 1, 2016 - Nov 30, 2016
  - "Post-Alert": Dec 1, 2016 - May 31, 2017
- Data included number screened, demographics, drug use history, laboratory measurements, referral for treatment and completion of appointment for treatment evaluation
- Descriptive statistics were determined along with Chi-square and ANOVA tests to evaluate the differences between the groups.

RESULTS





- **Number of "Baby Boomer" patients seen in primary care:**
  - Pre-Alert: 35,823
  - Post-Alert: 37,424
- **HCV Ab positive:**
  - Pre-Alert = 4.96% (31/625)
  - Post-Alert = 1.74% (155/8928)
- **Current or Previous Drug Use:** p = 0.058
  - Pre-Alert = 38.7% (12/31)
  - Post-Alert = 19.4% (30/155)
- **HCV viral load detection**: p = 0.005
  - Pre-Alert = 74.2% (23/31)
  - Post-Alert = 46.5% (72/155)
- **Elevated AST and/or ALT**: p = 0.001
  - Pre-Alert = 54.8% (17/31)
  - Post-Alert = 24.5% (38/155)
- **HCV Ab+ Patients:**
  Mean Fibrosis-4 score: p = 0.100
  - Pre-Alert = 2.00
  - Post-Alert = 1.54
- There were no statistical differences between the 2 groups in regards to race, gender, or insurance provider



DISCUSSION

- A screening alert within the EMR system greatly improved screening rates, but still a majority of patients seen in the primary care clinic were not screened despite the alert.
- Overall, the patients identified as HCV Ab positive post the alert were found to have a lower rate of elevation in AST and/or ALT, lower APRI score and lower Fibrosis-4 score.
- This difference in patient population suggests that prior to the alert, patients were predominantly screened for HCV if they had clinical signs and/or symptoms for hepatitis.
- Screening based on the guideline recommendations allows for identification of hepatitis C positive patients earlier in the disease process and a much more effective process than without an EMR prompt

CONCLUSION

- An alert within the EMR increased the rate of screening for HCV 14-fold for patients being seen in primary care.
- Five times the amount of HCV Ab positive patients were identified with the screening alert and most of which did not have elevated liver tests or a history of drug use.
- Such prompts should be implemented to improve screening and linkage to care rates for HCV

DISCLOSURES

- Robyn Teply: Advisory board member for AbbVie and Gilead Sciences, speaker's bureau for AbbVie, Gilead Sciences and Merck & Co
- Sandeep Mukherjee: Advisory board member for Gilead Sciences, speaker's bureau for AbbVie, Gilead Sciences and Merck & Co
- Mark Goodman and Thomas Guck have no disclosures

REFERENCES

1. Holmberg SD, Spradling PR, Moorman AC, Denniston MM. Hepatitis C in the United States. *N Engl J Med* 2013;368(20):1859-1861.
2. Smith BD, et al. *MMWR Recomm Rep*. 2012;61(RR-4):1-32
3. American Association for the Study of Liver Diseases (AASLD) and Infectious Disease Society of American (IDSA) Recommendations for Testing, Managing, and Treating Hepatitis C. http://www.hcvguidelines.org/.

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