Hepatitis C Screening of Baby Boomers in Primary Care
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Significance
- The United States Preventive Services Task Force has endorsed one-time testing of baby boomers (born 1945-1965) for hepatitis C virus (HCV) infection.
- In 2000, nearly 400,000 Texans (1.79%) were estimated to be chronically infected with HCV.
- Baby-boomer screening may diagnose >800,000 persons with chronic HCV and avert 121,000 deaths with anti-viral therapy and lifestyle changes.

Population and Setting
- Eligible: Persons born 1945 - 1965
- Exclusion: Prior HCV diagnosis or HCV test resulted in the system in past 7 years

In Bexar County, five primary care clinics:
- 3 serving insured, higher socio-economic mixed-ethnicity patients with real-time EMR flag identifying eligible (MARC)
- 2 serving underinsured, low-income, Hispanic patients with EMR flag requiring manual order entry (RBG)

In Rio Grande Valley (RGV), two Federally Qualified Health Centers in Brownsville and San Juan, serving primarily underinsured, low-income Hispanic patients

Practice Implementation
- Modified electronic medical records (EMR) to include health maintenance flag for HCV screening of never-tested BBs
- Test orders placed by clinicians or staff for never-screened patients
- Antibody (AB) screen with follow-up RNA test (reflex available at RBG and secondary blood draw required at MARC)
- Lab tests for uninsured RGV patients covered through program funds

Primary Care Clinician Education
- Clinicians and staff educated about: 1) HCV epidemiology, national guidelines for HCV prevention, 2) implementation procedures; 3) patient education; 4) evaluation of chronic HCV infection; 5) treatment options and linkage to care

Patient Education
- Posters/lyers summarize HCV screening guidelines and offer opt-out testing
- Brochures about HCV from Texas Dept. State Health Services on HCV risk factors, symptoms, diagnosis, and treatment
- Bilingual case managers offer individual counseling and review of HCV epidemiology, transmission, prevention, reducing risks for disease progression, and treatment in English/Spanish on a mobile app

Linkage to Care
- In Bexar County and Rio Grande Valley: Bilingual case managers:
  - Offer ongoing navigation for tests to evaluate HCV genotype and disease stage
  - Address barriers to care, including counseling for substance use and risky behavior, and acquisition of health insurance
  - Support linkage to Hepatology for specialty care, including compassionate drug programs

- In Rio Grande Valley:
  - Bilingual case managers (LVNs) connect patients with follow-up testing to stage HCV
  - PCPs and LVNs prepare for and participate in remote conferences with consulting San-Antonio-based hepatologist who offers treatment recommendation
  - LVNs monitor patients through treatment to gauge compliance and offer support for visit and medication adherence

- LVNs, onsite social services, and remote CHWs collaborate to submit application to compassionate drug programs or to enroll patients in clinical drug trials

Findings

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<tr>
<th>Table 1: Rates of HCV AB screening and confirmatory RNA testing within RBG, MARC, and RGV primary care (91/1/2014 - 3/31/2016)</th>
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<td>Eligible (%)</td>
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<td>Age (50)</td>
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<td>AB+ (%)</td>
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<tr>
<td>Received PCR Quant</td>
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<td>PCR+ (chronically infected) (%)</td>
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Conclusions
- Rates of infection were significantly higher in primarily uninsured, Hispanic patients (RBG) than in clinics serving primarily insured, non-Hispanic BBs (MARC), and significantly lower than national predictions within rural, underserved settings (RGV).
- Real-time EMR alert about patients needing HCV screening resulted in a higher proportion of eligible patients being successfully screened, while reflex RNA testing increases follow-up testing of anti-HCV+ patients by averting the need for a second blood draw.
- Programs should avoid manual processes (i.e., distribution of daily lists, provider entry of orders) unless required by EMR infrastructure limitations.
- Key factors to successful program implementation include:
  1. Educating the community about the prevalence and risk of HCV as well as its treatment
  2. Modifying existing EMRs to align HCV flag with other preventive alerts (i.e. breast or colon cancer screening)
  3. Integrating new preventive screening into established clinic flow
  4. Engaging patients for follow-up counseling and care
  5. Pathways to specialty services, especially for uninsured patients

References and Related Publications