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INTRODUCTION

Only half of the 3.5 million individuals with chronic hepatitis C (HCV) in the US are aware of their infection. Emergency Departments (ED) provide a primary point of entry to the healthcare system for marginalized populations who are traditionally at elevated risk for HCV and are becoming an important venue for screening and linkage efforts. Optimal methods for HCV screening (universal vs. targeted) in ED remain undefined. We ascertained the relative prevalence of HCV infection for baby boomers vs. those with and without recognized risk factors through universal screening in our high volume urban ED. In addition, we assessed rates of completed linkage for ED patients with active HCV infection and the level of patient knowledge about HCV.

METHODS

- In this prospective observational cohort study, adult ED patients were approached at NYC Health + Hospitals/Bellevue, a large urban public hospital in New York City.
- Recruitment of patients occurred via time stratified simple random sampling.
- Eligible consenting patients participated in a researcher-administered structured interview and were offered a rapid HCV antibody (HCV Ab) screening test. If reactive, confirmatory serologic HCV Ab and HCV RNA were sent immediately and a clinic appointment was scheduled within 4 weeks.
- Participants were contacted with HCV RNA PCR results; those with detectable viral load were encouraged to attend follow-up appointment and received a reminder call one week prior to appointment. Those with an undetectable viral load had their appointment cancelled.
- Successful linkage to care was defined as appointment attendance.

RESULTS

From July 2015-September 2016, 922 patients accepted an HCV Ab rapid test. HCV antibody prevalence in the ED was 3.8% (0.35% in non-baby boomers without injection drug use (IDU), 7.8% in baby boomers, 42.8% in persons endorsing IDU). 31 out of 35 HCV Ab reactive participants submitted blood for confirmatory testing. 18/31 (58.0%) had detectable HCV RNA, corresponding to a 1.95% prevalence of chronic HCV infection. Targeted screening of the birth cohort and those with IDU would have missed 5.7% (2/35) of HCV Ab positive patients and 5.6% (1/18) with chronic infection. For confirmed chronically infected participants 9/18 (50%) attended a follow up appointment and were considered successfully linked.

Figure 1. Subject enrollment and HCV screening outcomes

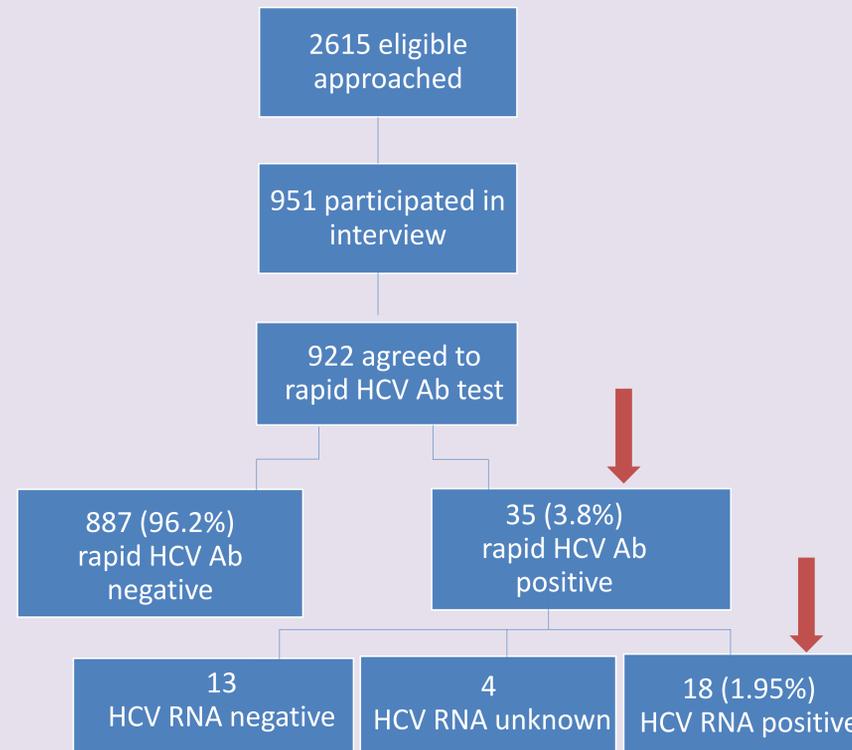


Figure 2. Distribution of participants with positive HCV Ab

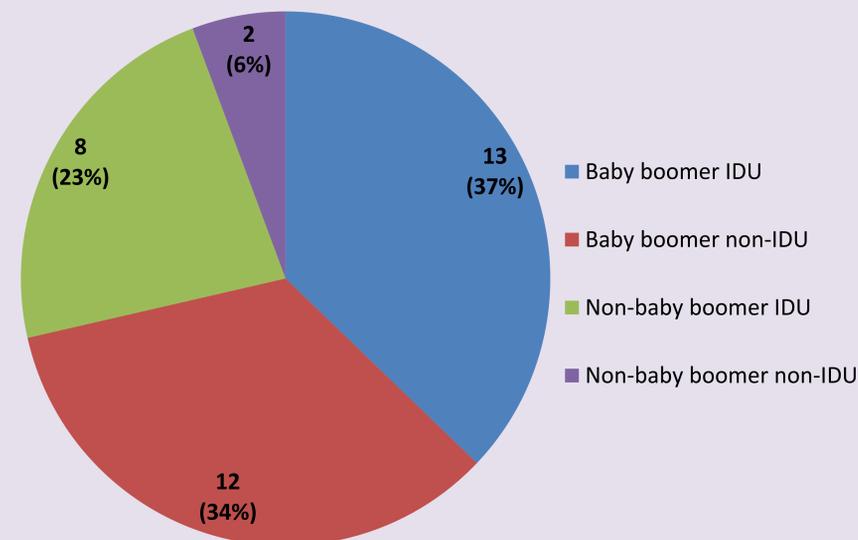


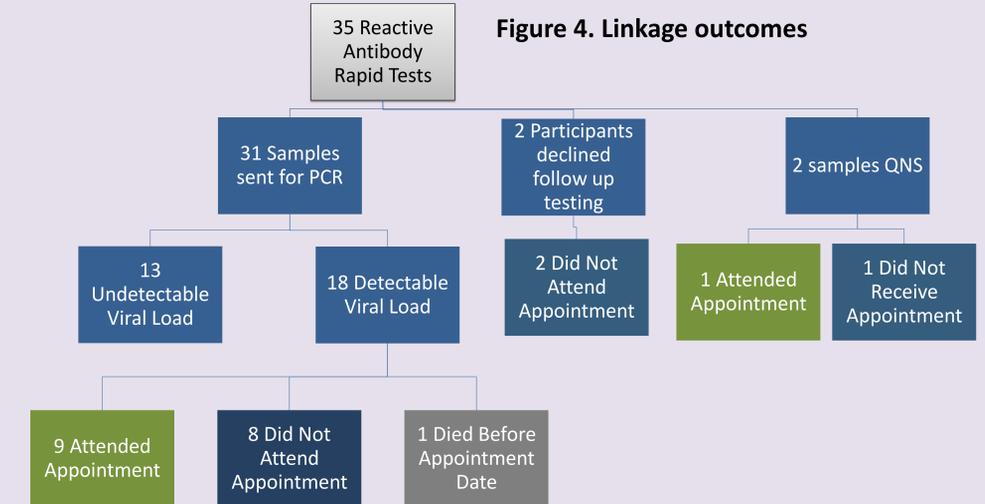
Figure 3. Gaps in knowledge of HCV risk factors, treatment efficacy and screening guidelines

Survey Item	True n (%)	False n (%)	I Don't Know n (%)
People born from 1945-1965 are more likely to have hepatitis C than people born before or after these years	244 (25.7)	191 (20.1)	510 (53.7)
Hepatitis C is curable	426 (44.8)	211 (22.2)	308 (32.4)
New medications have become available in the past three years that have made hepatitis C easier to treat	557 (58.6)	38 (4.0)	350 (36.8)
Sharing needles used for injecting drugs even if only once many years ago [is a risk factor for hepatitis C]	789 (82.9)	27 (2.84)	132 (13.8)

Survey Item	Yes n(%)	No n(%)	Don't Know n(%)
Aware of CDC screening recommendation [for people born 1945-1965]?	193 (20.3)	714 (75.2)	37 (3.89)
Aware of New York State Law?	164 (17.2)	753 (79.3)	26 (2.73)
Do you have a primary care doctor?	565 (59.4)	376 (39.0)	5 (0.53)

Total Patients: 951

Figure 4. Linkage outcomes



DISCUSSION

Prevalence of HCV Ab in our ED was higher than the national estimate of 3.4% among baby boomers used to justify national birth cohort screening. Optimal ED HCV screening methods should target baby boomers and those endorsing IDU, though a small proportion (5.6%) of infections would be missed without universal screening. Significant gaps in knowledge remain with respect to recognizing the baby boomer cohort as at increased risk for HCV and with respect to treatment efficacy. Linkage to care remains challenging for ED. Strategies to increase linkage to care should include reflex testing and consider both patient escort to same-day specialist care upon ED discharge and intensive case management to maximize patient engagement and access to care.