

Results of a Rapid Hepatitis C Virus Screening and Diagnostic Testing Program in an Urban Emergency Department

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BACKGROUND

- In addition to HIV screening, the Centers for Disease Control (CDC) recommend hepatitis C virus (HCV) screening for patients at increased risk (i.e., injection drug use) and for those born between 1945-1965 (birth cohort).

OBJECTIVE

- To describe the feasibility and yield of an ED HCV testing program that integrated birth cohort screening and screening of patients who use injection drugs (IDU), as well as physician diagnostic testing.

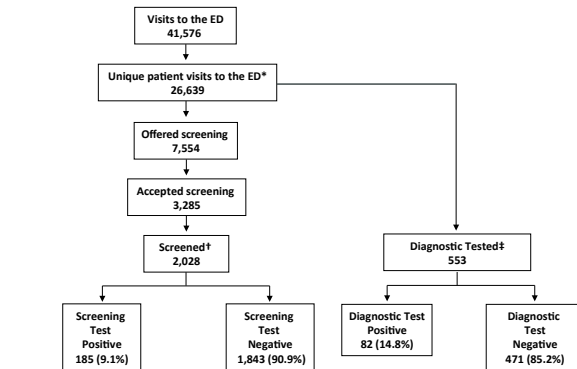
METHODS

- Descriptive analysis of a clinical protocol.
- Outcomes of first 6 months of HCV screening/diagnostic testing are reported.
- Study received institutional board approval, with a waiver of written informed consent.
- Adhered to STROBE guidelines for cohort studies.

PRIMARY OUTCOME

- HCV prevalence among tested patients.
- Factors associated with testing positive were evaluated with logistic regression.

Figure. Hepatitis C virus screening and diagnostic testing



*Data for unique patients ≥18 years of age
†Includes 25 patients who also completed diagnostic testing at a separate visit
‡Testing was initiated by physicians on the basis of perceived HCV risk behaviors or clinical manifestations of infection.

Table. Factors associated with testing hepatitis C virus antibody positive: unadjusted and adjusted odds ratios

	Number Tested N=2,581	HCV Antibody Reactivity 267 (10.3%)	Unadjusted OR (95% CI) N=2,580	Adjusted OR* (95% CI) N=1,996
Birth Cohort				
Born after 1965	1,113	68 (6.1)	Ref	Ref
Born 1945-1965	1,420	195 (13.7)	2.5 (1.8–3.3)	3.6 (2.4–5.3)
Born before 1945	47	4 (8.5)	1.44 (0.5–4.1)	2.8 (0.8–10.3)
IDU†				
No	1,741	112 (6.4)	Ref	Ref
Yes	255	98 (38.4)	9.1 (6.6–12.5)	10.8 (7.5–15.5)
Unknown	585	57 (9.7)	1.6 (1.1–2.2)	--
Gender				
Female	1,184	94 (7.9)	Ref	Ref
Male	1,397	173 (12.4)	1.6 (1.3–2.1)	1.4 (1.0–2.0)
Race/Ethnicity				
White	360	59 (16.4)	Ref	Ref
Black	1,171	164 (14.0)	0.8 (0.6–1.1)	1.2 (0.8–1.9)
Hispanic	706	29 (4.1)	0.2 (0.1–0.4)	0.4 (0.2–0.7)
Asian	178	6 (3.4)	0.2 (0.1–0.4)	0.3 (0.1–0.8)
Other	166	9 (5.4)	0.3 (0.1–0.6)	0.6 (0.2–1.3)
Reason for Testing				
Screening	2,028	185 (9.1)	Ref	Ref
Diagnostic	553	82 (14.8)	1.7 (1.3–2.3)	2.6 (1.7–3.9)
Homeless				
No	2,526	253 (10.0)	Ref	Ref
Yes	55	14 (25.5)	3.1 (1.7–5.7)	3.1 (1.5–6.8)

HCV, Hepatitis C virus; OR, odds ratio; CI, confidence interval; IDU, injection drug use.
*Adjusted OR for patients with complete data only. 585 patients with IDU unknown were excluded. Model adjusts for all covariates in the Table.
†Past or current IDU documented by the triage nurse.

RESULTS

- Overall HCV testing rate: 9.7%
- Overall rate HCV antibody positivity: 10.3%
- Of the 267 HCV antibody positive patients:
 - 137 (51%) results were disclosed
 - 181 (68%) had confirmatory RNA testing performed, of whom 127 (70%) were positive.
- Successful HCV clinic follow-up:
 - 58 of the 127 patients who were confirmed RNA positive (46%).

LIMITATIONS

- Urban, academic setting may influence yield of screening and limit generalizability.
- Unable to evaluate effect of HCV screening on other ED processes (length of stay, clinical outcomes, staff/patient experience).
- Data does not allow accurate determination of number of HCV positive patients with prior knowledge of infection.

CONCLUSIONS

- Although HCV antibody prevalence was greatest amongst the birth cohort, IDU, and homeless, rates were high within all subpopulations.
- Challenges with HCV screening included result disclosure, confirmatory testing, and linkage to care.
- Results warrant continued efforts to develop and evaluate policies for ED-based HCV screening.

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