


Hepatitis Outreach Network: A Practical Strategy for Hepatitis Screening with Linkage to Care in Foreign-Born Communities

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BACKGROUND & AIMS

- The Institute of Medicine Report on viral hepatitis and liver cancer in 2010 focused on the unmet need to identify persons with chronic viral hepatitis
- At least 10% of persons with chronic HCV do not fall within current high-risk groups with traditional risk factors (TRF) for screening
- NHANES III data suggests that HCV prevalence is highest in the US residents born from 1945 to 1965 and this Birth Cohort (BC) was recently added to current TRF screening guidelines by the Centers for Disease Control and Prevention (CDC) in August, 2012
- HONE is a community viral hepatitis screening and linkage to care study targeting adult, foreign-born communities in the New York City area who are at risk for HBV and HCV
- MSSM Division of Liver Diseases in partnership with NYC Department of Health and in collaboration with:



AIMS OF THE HONE STUDY:

- To raise awareness in minority communities about HBV and HCV
- To create a HBV, HCV, and ALT screening initiative
- To establish a link between screening efforts and follow up
- To test the theory that HCV prevalent cases can be identified by targeting communities from high prevalence countries

METHODS

- Awareness and Screening, May 2009-July 2011**
 - Provided 25 in-language didactics and screening events in the NYC area
 - Public schools, community and business centers, places of worship, public parks and train stations
 - Eligibility: telephone number and >18 years of age
 - Self-administered survey
 - Blood tests: ALT, HBsAg, HBsAb, HBeAb, HCV Ab (EIA)
- Follow Up and Linkage to Care**
 - Participants called with results: **HBV positive** = HBsAg+, **HCV positive** = HCV Ab+, **Opportunity to vaccinate** = HBsAg-/HBeAb-/HBsAb-
 - Positive subjects were invited for a free follow up visit or given a referral
 - HBV vaccine provided via NYC DOH gratis vaccination program

Positive

PCP

Invited for free follow up visit and navigated into care

Screening Follow-Up

Opportunity to Vaccinate Counselled

Free HBV vaccine

Immune

Reassurance

RESULTS

- 1,603 participants screened and consented

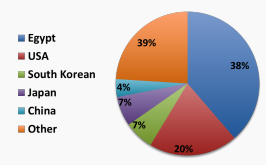
Baseline Characteristics	n (%)	National Average*
Age, median (IQR)	51 (18,76)	37.2
Gender, Women	865 (54)	50.6%
Insurance	699 (44)	83.3%
Household Income		\$49,777 Median
<15K	393 (52)	
15-25K	126 (17)	
25-50K	123 (16)	
50-75K	40 (5)	
>75K	86 (9)	
Educational Attainment		87% high school graduate
≤8 th grade	613 (39)	
9-12	107 (7)	
Attended college	195 (12)	
Associate or Bachelor's Degree	370 (24)	
Post graduate	284 (18)	

*Data from United States Census available at <http://www.census.gov>

- 75 (5%) overall HCV positive
- 76 (5%) overall HBV positive
- Overall persons screened originated from 68 countries

HCV by Place of Origin

- HCV positive persons originated from 16 countries

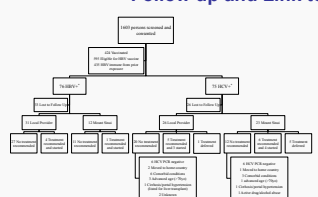


Country	Percentage
Egypt	39%
USA	20%
South Korea	7%
Japan	7%
China	4%
Other	16%

Other Countries: Brazil, Burkina Faso, Ecuador, Haiti, India, Malaysia, Morocco, Russia, Saudi Arabia, Senegal, Ukraine

- The countries of origin with the highest prevalence of HCV infection were Egypt (39%), United States (20%), South Korea (7%), and Japan (7%)

Follow up and Link to Care



*Persons who were recommended to defer treatment were genotype 1 and encouraged to wait for FDA approval of direct acting antivirals.

**Reasons for not recommending treatment included HCV RNA PCR negative, planned move back to their country of origin, evidence of cirrhosis with portal hypertension, comorbid conditions, and advanced age.

- Of the 75 persons with HCV infection and 76 persons with HBV infection, 49 (64%) and 43 (57%) respectively had a full medical evaluation.

RESULTS

Screening Strategies for HCV

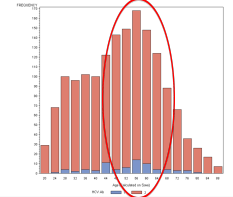
- Screening based on TRF alone captured 25/75 (33%)
 - Univariate analysis of TRF

Traditional Risk Factors	HCV+	HCV-	P value	Prevalence Ratio
Injection Drug Use	Yes: 20 (27) No: 54 (79)	35 (2) 1451 (98)	<.0001*	10.13 [6.55, 15.69]
HIV	Yes: 3(4) No: 71 (96)	6 (0.4) 1480 (99.6)	<.007 [§]	7.28 [2.81, 18.86]
Blood Transfusion	Yes: 15 (20) No: 59 (80)	169 (11) 1315 (89)	<.0001*	1.90 [1.10, 3.28]

Hemodialysis, health care professional, mother with hepatitis were not significantly associated with testing HCV positive.
 *FE = Chi Square Analysis § = Fisher's Exact Analysis

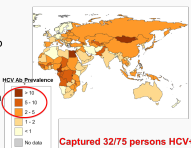
- Screening based on birth cohort alone captured 39/75 (52%)
- Screening based on birth in a HCV high prevalence countries (>2% HCVAb+) alone captured 32/75 (43%)

Birth Cohort Analysis for HCV+



HCVAb+ High Prevalence Countries

- Egypt
- China
- Burkina Faso
- Haiti
- Japan
- Saudi Arabia
- Russia
- Taiwan
- Ukraine



Captured 32/75 persons HCV+

Screening Strategy	HCV+ cases from HONE
Traditional Risk Factors (TRF)	25 (33%)
TRF + Birth Cohort (BC, birth between 1945-1965)	52 (62%)
TRF + BC + Birth in HCV High Prevalence Country	67 (89%)

- A total of 8 (11%) HCV cases would have been missed using any of the above screening strategies
- Using TRF alone, >65% HCV cases would have been missed
- Using BC alone, 39 (52%) HCV cases would have been identified

CONCLUSIONS

- Results from HONE support the recent addition of CDC's birth cohort screening to traditional risk factor screening for HCV
- Screening for HCV in foreign-born communities is currently not widely practiced
- HONE data supports the Institute of Medicine's recommendation to consider screening persons born in Egypt and supports targeted screening in persons born in countries with high HCV prevalence
- Urban viral hepatitis screening programs that partner with public and community partners are important to aid in detection of disease and linkage to care

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