Low HCV Testing Uptake of the Current Birth Cohort Guidelines

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BACKGROUND

CMS recently supported the CDC and USPSTF grade B recommendation and currently covers a single HCV screening test if ordered by a primary care provider (PCP) to screen all persons born 1945-1965 (Birth Cohort) given a 3.25% prevalence rate.

Previously published HCV rates of 2.5% in all persons in Washington, DC (DC), and other urban areas, will likely increase with expanded testing. Additionally, the CDC reported that within the Birth Cohort, HCV prevalence was highest at 8% among non-Hispanic, black/African American (b/AA) males.

Within DC alone, from 2008-2012 there were 9,819 newly confirmed cases of HCV with 15,915 total cases documented during this timeframe. The majority of new cases were between the ages of 50-59 (47.9%), which was twofold compared to any other age group.

With such data and with support from both CDC Prevention and Public Health Fund (PPHF) and non-PPHF Supplemental funds, MedStar Washington Hospital Center (MWHC) and MedStar Health Research Institute (MHRI) developed a testing center within their Primary Care Clinic (PCC).

METHODOLOGY

In December 2012, we established an HCV testing program in the PCC at MWHC, with CDC grant funding. The goal was to increase HCV testing among the Birth Cohort who did not have predefined risk factors and were not previously tested; provide linkage to care, and provide counseling, treatment and preventive services.

Patients were identified using Centricity Electronic Health Records (EHR) technology and SAP Crystal Reports. A report was built using SAP Crystal Reports software that mirrored eligibility criteria, which included persons born within 1945 and 1965. Once a report was generated, charts were manually screened for high-risk factors in their medical history, social history, or problems list (e.g., intravenous drug use, and history of HIV infection). Popup reminders with focused messages were then inserted into each eligible EHR.

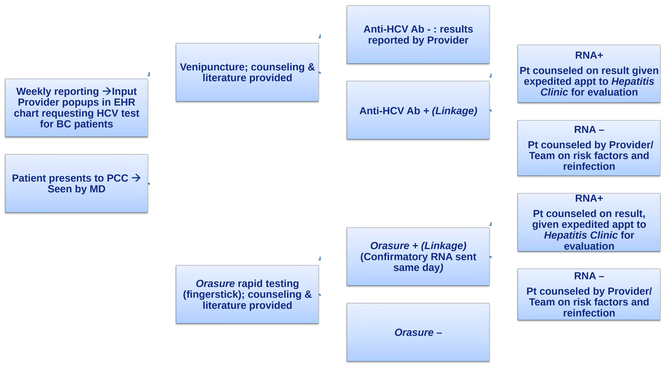


Table 1: Characteristics of those tested at MedStar Washington Hospital Center October 2012-January, 2015

Characteristics	Total HCV Ab Tests Performed N (%)	HCV Ab Positive N (%)	HCV RNA Positive N (%)
Total	2166 (100)	162 (7.5)	87/140* (62.1)
Age (mean ± SD)	58.4 ± 5.7	59.9 ± 5.0	59.7 ± 4.8
Sex			
Women	1408 (65.0)	74 (45.7)	37 (42.5)
Men	758 (35.0)	88 (54.3)	50 (57.5)
Race/Ethnicity			
Non-Hispanic, black/African American (b/AA)	1809 (83.5)	146 (90.1)	80 (92.0)
Intra-Group (b/AA Women/Men)	1192 (65.9) 617 (34.1)	67 (45.9) [67/1192 (5.8)] 79 (54.1) [79/617 (12.8)]	35 (43.8) [35/67 (52.2)] 45 (56.2) [45/79 (57.0)]
Non-Hispanic, white	168 (7.8)	8 (4.9)	3 (3.4)
American Indian/Alaskan Native (AI/AN), Hispanic	33 (1.5)	4 (2.5)	3 (3.4)
Asian	10 (0.5)	1 (0.6)	
Other/Declined/Don't Know	146 (6.7)	3 (1.9)	1 (1.2)
Insurance†			
Public	1376 (63.5)	123 (75.9)	66 (75.9)
Private	784 (36.2)	39 (24.1)	21 (24.1)
Declined/Not Reported	6 (0.3)		
IVDU (Reported Post HCV Ab Test)‖		64/142 (45.1)§	37/87 (42.5)
Intra-Group (IVDU)			37/64 (57.8)
Type of Test Performed			
Venipuncture	1915 (88.4)	149 (92.0)	81 (93.1)
Rapid Finger Stick	251 (11.6)	13 (8.0)	6 (6.9)

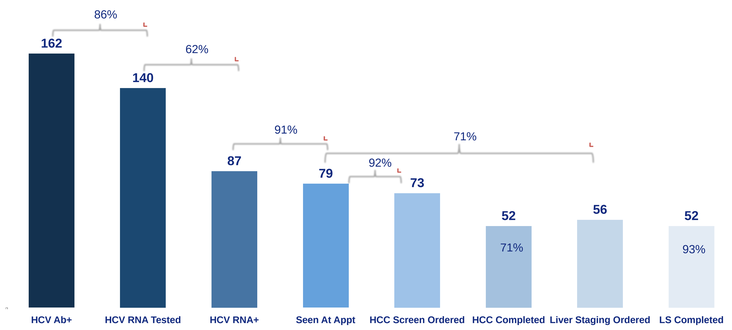
* 22 patients were removed from this calculation; 3 were deceased prior to RNA testing, and 19 were either tested without result, or never tested
† Public insurance includes Medicare and Medicaid
‖ N/A responses were NOT included in this calculation, but only those who answered OR that had it documented in the chart
§ 20 patients were removed from this calculation as IVDU was never ascertained

Table 2. Primary Care Clinic Appointments

	Total Appointments N (%)	Unique Appointments N (%)
Total	8966	4388
Tested	2166 (24.2)	1370 (31.2)
Missed	2480 (27.7)	1083 (24.7)
Canceled/No Show*	4320 (48.1)	1935 (44.1)

*Cancelled and No-show appointments were not differentiated during October 2012-September 2013

Figure 1: HCV Care Cascade



RESULTS

As of January, 2015:
- 7.5% of the 2166 tested were HCV Ab+, 62% had chronic HCV (HCV RNA+)
- Mean age of HCV Ab+ was 60 years; 54% were men
- 76% had public insurance (Medicare or Medicaid)
- 84% of those tested, and 90% of those HCV Ab+ were b/AA
- 13% of bAA men tested were HCV Ab+, 6% of b/AA women were HCV Ab+
- IVDU were more likely to have chronic HCV than non-IVDU (OR 3.7 [CI_{95} 1.8-7.5])

Those HCV Ab+ were more likely to be:
- Men than women (OR 2.4 [1.7-3.3]),
- b/AA men than b/AA women (OR 2.5 [1.8-3.5]),
- b/AA men than white men (OR 4.4 [1.1-18.4]) and white women (OR 2.4 [1.0-5.8])

Overall, 11.6% of all men tested were HCV Ab+; 12.8% were both HCV Ab+ and b/AA.

Testing between the two years remained steady, with 1123 (52%) tests completed during PPHF funding, and 1043 (48%) occurring through January, 2015 of the Supplemental funding period.

Regarding linkage, of the 140 (86%) RNA tested, 87 (62%) were RNA+, of which 79 (91%) were seen by ID or GI. This adherence rate of 91% is significantly greater than the overall PCC appointment adherence rate of 51.8%.

CONCLUSION

The HCV Ab+ prevalence rate of 7.5% remained consistent over the two years and is significantly higher than the CDC Birth Cohort rate of 3.25% (p<0.001) and the DC rate of 2.5% (p<0.001), although the latter reports all ages. Additionally, the HCV Ab+ prevalence rate of 12.8% among b/AA men has remained consistent, and is statistically greater than the 8% reported by the CDC (p<0.001). It is remains clear that a better effort needs to be made to engage this population into care.

HCV chronicity (i.e. HCV RNA +) in the MWHC data revealed a rate of only 62%. Although, this rate is lower than the widely reported rate of 75-80%, it is with the range of 55%-85%. The higher rate in IVDU needs to be explored further in the Birth Cohort.

Risk factors should to be collected even on those HCV Ab negative in order to make more meaningful comparisons. However, even on those Ab+ the risk factors were not always ascertained appropriately and needs to be improved. The EHR template should be created in order to capture all risk factors for appropriate identification and counseling.

Overall testing uptake remains low at 24%, and the missed opportunity rate of 28% is unacceptable, despite educational sessions, talks, prompts to encourage testing uptake. It is unclear why testing uptake remains low. A provider survey has been disseminated to identify barriers to and improve testing. Primary care champions are needed to advocate for increased testing and to ensure linkage to care and engagement within the HCV care cascade. Testing needs to become more comprehensive, fully integrated, with automated EHR prompts and testing, and maintained as sustainable models, especially within primary care clinics.

Although testing was well below expected levels, linkage to care for those HCV Ab+ remained strong throughout the two years with 91% of those chronically infected being linked to care. The difference between testing uptake and linkage is a prominent gap in the cascade of care and needs to be addressed.

Given these high prevalence rates, new CMS recommendations, and improved therapeutic options available, testing initiatives in primary care settings need to be more rigorously upheld.

Author Disclosures:
Dawn A. Fishbein, MD has served on an Advisory Board for Boehringer Ingelheim
Alexander G. Geboy has served on an Advisory Board for Gilead Sciences, LLC. Both have grant funding from CDC and Gilead Sciences.