

Indications for Testing among Reported Cases of Hepatitis C Virus Infection from Enhanced Hepatitis Surveillance Sites—United States, 2004 -2010

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BACKGROUND

- Estimated 3.2 million persons with chronic hepatitis C infection (HCV); one-half are unaware of their infection
- 75% born from 1945-1965
- Providers hesitant to elicit risk factor history resulting in under-diagnosis
- CDC has recently released recommendations for a one-time HCV test for persons born from 1945-1965

OBJECTIVE

- We examined indications for testing by birth cohort (before 1945, 1945-1965, and after 1965) among persons with past or current HCV

METHODS

- Analyzed chronic HCV cases reported from 2004-2010 from 4 hepatitis surveillance sites: Colorado, Connecticut, Minnesota, and New York state
- Positive HCV laboratory markers reported to health departments
- Health departments conducted a medical chart review of the case to abstract demographic and indications for testing
- Information abstracted using standardized case report forms designed by CDC
- Case report forms compiled into a surveillance database and sent to CDC

Figure 1: Sample chronic HCV risk indicators from case report forms

	YES	NO	UNK
Did the patient receive a blood transfusion prior to 1992?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the patient receive an organ transplant prior to 1992?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the patient receive clotting factor concentrates produced prior to 1987?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the patient ever on long-term hemodialysis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the patient ever injected drugs not prescribed by a doctor even if only once or a few times?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How many sex partners has the patient had (approximate lifetime)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the patient ever incarcerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the patient ever treated for a sexually transmitted disease?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the patient ever a contact of a person who had hepatitis? If yes, type of contact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RESULTS

Table 1: Characteristics of HCV cases with reported CDC risk indications from four enhanced surveillance sites, 2004-2010

	Total (N=110,223) %	Age (1945-1965) (N=74,578) %	CDC risk indications* (N=29,544) %
GENDER			
Male	66	69	65
Female	33	30	35
RACE			
White	50	50	63
Black	18	21	18
Hispanic	15	13	13
Asian/Pacific Islander	2	1	1
American Indian/Alaskan Native	1	1	2
Multiple	1	1	1
Unknown	13	3	2

Table 1:

- Cases born during 1945-1965 were male (69%) and white (50%)
- Cases with CDC risk indications had similar demographics

*CDC. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. *MMWR* 1998;47(No. RR-19).

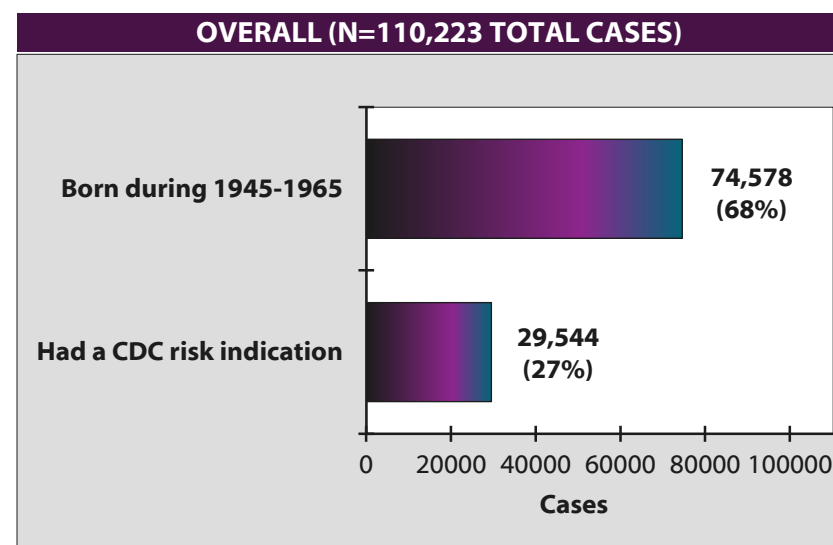
** Cases may have more than one risk indication/reason for testing specified so totals may add up to >100%.

Table 2. CDC risk indications among HCV cases from four surveillance sites by birth cohort, 2004-2010

	Total** (N=29,544) %	Born before 1945 (N=2,283) %	Born from 1945-1965 (N=19,074) %	Born after 1965 (N=8,172) %
CDC RISK INDICATIONS				
Injection drug use	62	21	60	80
Elevated liver enzyme(s)	39	54	43	26
Receipt of blood or blood products prior to 1992	13	37	13	5
Hemodialysis	2	7	2	1
Transplant history prior to 1992	1	1	<1	<1
Mother-to-child transmission	<1	0	0	<1
Healthcare exposure	<1	1	<1	<1
>1 CDC risk indicator	17	20	18	12

Table 2:

- Of those with any CDC risk indication, overall 62% of cases reported history of injection drug use (IDU)
- Main risk indicators:
 - Born from 1945-1965, 60% IDU
 - Younger (>1965), 80% IDU
 - Older (<1945), 54% elevated liver enzymes



DISCUSSION

- Among cases reported from 4 surveillance sites, 68% were born from 1945-1965, whereas only 27% had one or more CDC risk indications
- Prevalence of CDC risk indications was similar across three birth cohorts (data not shown)
- Injection drug use was the primary risk factor for those born from 1945-1965 and after 1965
- Overall, 74% of reported cases were born from 1945-1965 or had a history of injection drug use
- Data support augmenting HCV risk-based screening with recent CDC recommendations regarding screening of adults in the 1945-1965 birth cohort

LIMITATIONS

- Analysis based upon known HCV cases, so use for screening must be interpreted cautiously
- Data may not be nationally representative
- Missing reason for testing and risk data may underreport usefulness of risk-based assessment

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