

Hepatitis C Screening of the “Birth Cohort” (Born 1945–1965) and Younger Inmates of New York City Jails

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Objectives. To examine uptake of screening for all individuals born between 1945 and 1965 (referred to by the Centers for Disease Control and Prevention as the “birth cohort”) and outline preliminary HCV prevalence data in the New York City jail system.

Methods. Data were extracted from electronic health records for all individuals screened for HCV between June 13, 2013, and June 13, 2014, in New York City jails. We used the Abbott EIA 2.0 HCV antibody assay for testing.

Results. In the year of study, 56 590 individuals were incarcerated; 15.1% were born between 1945 and 1965, and 84.6% were born after 1965. HCV screening was completed for 64.1% of the birth cohort and for 11.1% born after 1965, with 55.1% and 43.8% of cases found in these groups, respectively. The overall seropositivity rate was 20.6%.

Conclusions. Birth cohort screening in a large jail system identified many HCV cases, but HCV infection was common among younger age groups.

Public Health Implications. Universal screening may be warranted pending further study including cost-effectiveness analyses. (*Am J Public Health.* 2016;106:1276–1277. doi:10.2105/AJPH.2016.303163)

HCV is the leading cause of cirrhosis and hepatocellular carcinoma in the United States.¹ Given the strong interrelation between HCV and risk factors such as injection drug use, HCV in correctional settings has reached epidemic proportions. Prevalence rates in state prisons vary from 9.6% to 41.1%, with a last national estimate of 17.4%.² Less is known about prevalence rates in US jails, which are short-term facilities for individuals awaiting trial or serving sentences of 1 year or less. With average lengths of stay of approximately 2 weeks in US jails,³ screening and treatment are difficult in these settings.

In 2012, the Centers for Disease Control and Prevention recommended onetime testing for all individuals born between 1945 and 1965 (referred to hereafter as the “birth cohort”) because more than three fourths of the HCV infections in the National Health and Nutrition Examination Survey (NHANES) were identified in this age

range.⁴ This screening strategy has been questioned in correctional settings because most inmates are younger than this age group.^{5,6} Additionally, the NHANES is not representative of correctional populations because it excludes individuals who are institutionalized, including those in jail or prison.

The New York City jail system is the second largest in the United States, with approximately 70 000 intakes per year and an average daily census of 10 000. We describe the uptake of birth cohort HCV screening after a policy change in June 2013 to include all individuals born between 1945 and 1965 in

addition to ongoing risk factor-based screening in accordance with Centers for Disease Control and Prevention guidelines^{7,8} among all age groups. We also present early prevalence data.

METHODS

Data were extracted from electronic health records for all individuals screened for HCV between June 13, 2013, and June 13, 2014. The New York City Department of Health and Mental Hygiene’s contracted laboratory, Bio-Reference (Elmwood Park, NJ), performed testing with the Abbott EIA 2.0 HCV antibody assay (Abbott Laboratories, Abbott Park, IL). Positive and negative tests were included, indeterminate results were removed, and for duplicate tests the last result was used. We used R version 3.0.3 (R Foundation for Statistical Computing, Vienna, Austria) for statistical analysis (<http://www.R-project.org>).

RESULTS

In the year of study, 56 590 individuals were incarcerated, 8560 of whom (15.1%) were born between 1945 and 1965, 47 853 of whom (84.6%) were born after 1965, and 177 of whom (0.3%) were born before 1945. A total of 12 365 HCV antibody tests were ordered in the study period, of which 1509 were duplicate, indeterminate, or refused.

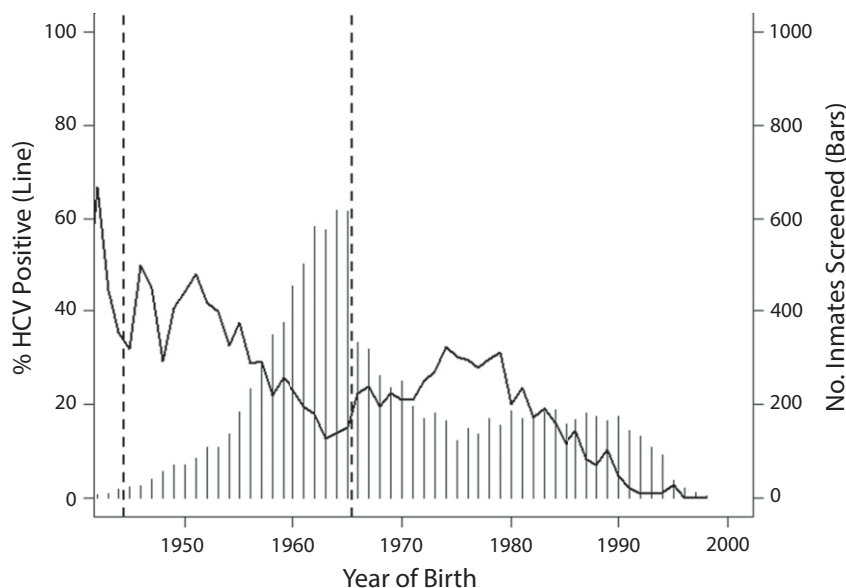
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Note. Dotted lines enclose the years 1945 to 1965.

FIGURE 1—HCV Seropositivity and Number of Inmates Screened, by Year of Birth: New York City Jail System, June 13, 2013–June 13, 2014

Therefore, 10 856 individuals had positive or negative results—5487 (50.5%) in the birth cohort and 5303 (48.8%) among those born after 1965. Thus, we screened 64.1% of the birth cohort and 11.1% of those born after 1965 for HCV.

Among the 10 856 individuals screened, 2234 were HCV antibody positive for an overall prevalence rate of 20.6%. More than half of the cases were among the birth cohort—1232 (55.1%); 979 (43.8%) were born after 1965. Among inmates screened in the year of study, HCV seroprevalence decreased with increasing year of birth, but an increase from 1964 through 1974 and a plateau between 1974 and 1980 were observed. After 1980, the seroprevalence again began to decrease (Figure 1). The mean prevalence rates among tested inmates born before 1945, between 1945 and 1965, and after 1965 were 34.9%, 22.5%, and 18.5%, respectively.

DISCUSSION

We identified numerous HCV infections in the year following implementation of birth cohort screening in this large urban jail system. Uptake among those born between

1945 and 1965 was slightly less than two thirds. This is in line with what was expected given numerous intake responsibilities for clinical staff.

Overall, prevalence rates increased with age, a trend that is correlated with duration of risk factors in the setting of low case-fatality rates and long-lasting serostatus.⁹ The bimodal distribution seen in Figure 1, with an increase in HCV seropositivity from 1964 through 1974 to a second peak from 1974 to 1980, may be reflective of increased risk behavior among this age group compared with individuals born in the younger decade of the birth cohort but also may be a dilutional effect of increased testing among those born between 1956 and 1965, which was the most heavily screened decade. A significant percentage of HCV-seropositive individuals were younger than the birth cohort, even though only 11.1% of this group were screened.

Further study of this group, including cost-effectiveness analyses, is warranted to support recent calls for universal screening in correctional settings.^{5,6} It has been noted that HCV screening will likely be cost-effective only if it results in prompt treatment delivery.¹⁰ In jail settings, short lengths of stay will necessitate strong

programs for linkage to care to accomplish this. *AJPH*

CONTRIBUTORS

M. J. Akiyama, F. Kaba, Z. Rosner, and R. MacDonald conceptualized the project. M. J. Akiyama and F. Kaba collected the data. M. J. Akiyama, F. Kaba, H. Alper, and R. S. Holzman analyzed and interpreted the data. M. J. Akiyama drafted the brief. All authors provided critical revision and gave final approval of the version to be published.

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HUMAN PARTICIPANT PROTECTION

New York City Department of Health and Mental Hygiene institutional review board approval was obtained.

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