

Table 1. Potentially achievable vs. reported vaccination coverage and 95% confidence intervals for ≥2 doses HepA by age 24 months, by selected socio-demographic factors, for children born in 2015, National Immunization Survey-Child, United States

Factors	Categories	Reported Coverage % (95%CI)	Potentially Achievable Coverage % (95% CI)
National		61.7(59.1-64.2)	85.1(83.5-86.6)
	Private Only	68.2(64.7-71.7)	88.3(86.3-90.1)
Children health insurance status	Any Medicaid	57.3(53.2-61.4)	83.3(80.6-85.9)
	Other Insurance	56.9(46.0-68.4)	83.1(73.7-90.5)
	Uninsured	32.5(21.5-47.2)	61.5(48.3-74.9)
Children race/ethnicity	Non-Hispanic White	61.9(58.6-65.1)	84.0(81.7-86.1)
	Non-Hispanic Black	46.8(39.9-54.2)	78.5(72.5-84.1)
	Hispanic	64.6(58.7-70.3)	87.5(84.1-90.5)
	Other	67.6(60.9-74.0)	90.0(86.3-93.0)
Family poverty level	At/Above Poverty	63.9(61.0-66.9)	87.3(85.6-88.9)
	Below Poverty	56.6(51.2-62.1)	81.1(77.2-84.6)
Residence in a metropolitan statistical area	MSA, Principal City	64.3(60.5-68.0)	86.8(84.6-88.9)
	MSA, Non-Principal City	60.3(56.2-64.5)	83.7(80.9-86.3)
	Non-MSA	56.2(50.8-61.7)	83.1(78.8-87.0)
Mother's education level	<=12 years	55.3(51.1-59.7)	81.3(78.0-84.3)
	>=13 years	65.3(62.2-68.4)	87.3(85.5-89.0)
Mother's marital	Married	65.5(62.4-68.5)	86.8(85.0-88.5)
status	Not married	53.6(47.8-59.6)	80.7(76.4-84.6)
Mother's age	Age <= 29 years	57.4(53.1-61.8)	83.7(80.7-86.5)
	>= 30 years	64.2(61.1-67.4)	85.9(83.9-87.7)
Family's mobility since birth from different state	Moved	57.3(49.8-65.1)	79.6(73.5-85.0)
	Not moved	62.2(59.5-65.0)	85.9(84.2-87.4)
Child's birth order status	Not First Born	59.0(55.7-62.3)	84.0(81.9-86.1)
	First Born	65.7(61.7-69.7)	86.6(84.1-88.9)
Vaccination provider type	Public	54.1(47.4-61.0)	81.7(76.8-86.0)
	Other Type	61.6(57.2-65.9)	85.8(83.0-88.3)
	Private	64.9(61.3-68.4)	86.4(84.2-88.5)
Number of vaccination providers for child	1 provider	63.5(60.5-66.5)	85.6(83.7-87.4)
	>=2 providers	59.2(54.4-64.1)	85.0(81.9-87.9)
Number of children in	1 child	67.8(62.9-72.6)	88.3(85.5-90.7)
household	>=2 child	59.0(56.1-62.0)	83.7(81.7-85.7)

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284. Using Epidemiologic Investigation and Viral Sequencing to Describe and Provide Public Health Response to an Outbreak (OB) of Acute Hepatitis A Virus Infection (HAV) in the San Fernando Valley (SFV), California

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Background. California (CA) experienced a large hepatitis A OB in 2017-2018 associated with genotype IB strains, primarily among persons experiencing homelessness and/or using drugs. In October and November 2018, we identified a cluster of three HAV cases among persons linked by drug use and homelessness in the San Fernando Valley (SFV), CA. We describe how molecular epidemiologic methods linked an additional four OB cases that lived or were associated with a senior housing facility (SHF) and guided hepatitis A vaccine outreach.

Methods. Suspect HAV cases were reported to DPH through provider and electronic lab reports with positive serum HAV IgM and resided in a 2 mile<sup>2</sup> area in SFV. A case report and extended interview were completed on suspects to assess risk factors associated with HAV transmission and contacts. HAV IgM positive serum specimens were sent to the CA DPH Viral and Rickettsial Disease Laboratory for HAV RNA

detection and molecular sequencing. Extracted nucleic acids were amplified using nested, RT-PCR targeting the VP1-P2B region, and a 315 nt fragment was sequenced using Sanger sequencing. Contacts to cases received HAV prophylaxis and HAV vaccine outreaches occurred in at-risk settings.

Results. We identified 7 HAV cases with symptom onsets from October 2018 to January 2019. All 7 cases had positive serum HAV IgM, ≥ALT 3 X normal or had a specimen matching the OB strain and were epi- linked to a case previously identified. Of 3 homeless cases, 2 had genotype 1B, CA cluster A; one specimen was unavailable. Four additional SHF cases were 2 residents, one staff, and one visitor. Among the 4 cases associated with the SHF, three had genotype 1B, CA cluster A; one specimen was unavailable. Two elderly residents reported severe fatigue, without nausea, diarrhea and vomiting. Among the 3 homeless individuals, no direct link to the SHF was established. In total, 948 HAV vaccines were provided at the SHF, homeless shelters and other settings. HAV vaccine coverage for SHF residents and food handlers was 70% and 62%., respectively.

Two clusters of HAV cases were identified among homeless persons Conclusion. and individuals associated with an SHF were linked through a common HAV genotype. Two elderly cases had atypical symptoms that may not have been confirmed as HAV without viral sequencing and prompted vaccine campaign to prevent additional HAV cases

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## 285. Fibrosis Progression and Clinical Outcomes in HCV/HBV Coinfected Persons in the ERCHIVES Cohort

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Progression of liver disease and clinical outcomes in HCV/HBV Background. coinfected persons and how they differ from HCV monoinfected persons and HCV infected persons with resolved HBV infection are not well characterized. We compared incidence of cirrhosis, hepatic decompensation and overall mortality in these three groups.

*Methods*. Using the Electronically Retrieved Cohort of HCV-infected Veterans (ERCHIVES), we identified those with HCV infection only, HCV/HBV coinfection (HbsAg or HBV DNA or both positive) or HCV with resolved HBV (HbcAb+ in absence of HbsAg or HBV DNA positivity). We excluded those with HIV coinfection or hepatocellular carcinoma at or before baseline, and those who received any HCV or HBV treatment. Incident rates (95% CI) were determined for cirrhosis, first hepatic decompensation event and overall mortality in the three groups.

Results. We identified 60,368 HCV monoinfected (Gp A), 151 HCV/HBV coinfected (Gp B) and 19,802 HCV infected with resolved HBV infection (Gp C). Mean age was 61.0, 60.9, and 63.0 years in the three groups and 96.5%, 96.0%, and 97.9% were males. Median baseline FIB-4 index was 2.0, 2.2, and 2.1, respectively. Incident cirrhosis (among those without cirrhosis at baseline) was increased 2- to 2.5-fold in HCV/HBV coinfected persons with baseline FIB-4 of 1.46-3.25. Hepatic decompensation and mortality were also increased several-fold in the HCV/HBV coinfected who had minimal or mild/moderate fibrosis at baseline. However, among those with cirrhosis at baseline, the difference was small among HCV/HBV coinfected and the other groups.

HCV/HBV coinfected persons with minimal or mild/moderate Conclusion. fibrosis at baseline have a much higher risk of developing cirrhosis, hepatic decompensation and mortality. However, once cirrhosis has is established, the difference is diminished. This underscores the need to intervene early when HCV/HBV coinfected persons still have minimal or mild/moderate fibrosis.

Table. Incidence rates (per 1,000 patient years of follow-up) for cirrhosis, hepatic decompensation and overall mortality

	HCV monoinfection	HCV/HBV coinfection	HCV with resolved HBV
Cirrhosis <sup>1</sup>			
Baseline FIB-4 <1.45	3.55 [2.76,4.35]	02	4.19 [2.47,5.9]
Baseline FIB-4 1.46-3.25	18.9 [17.6,20.2]	49.3 [6.08,92.4]	20.3 [18,22.6]
Hepatic decompensation <sup>3</sup>			
Baseline FIB-4 <1.45	1.71 [1.16,2.26]	02	2.55 [1.22,3.89]
Baseline FIB-4 1.46-3.25	6.81 [6.03,7.59]	29.5 [-3.9,62.8]	6.57 [5.26,7.89]
Baseline FIB-4 >3.25	79.2 [75.4,83]	66.5 [8.21,125]	72.1 [66,78.2]
Mortality <sup>3</sup>			
Baseline FIB-4 <1.45	14.8 [13.2,16.5]	23 [-22,68.2]	19.6 [15.9,23.3]
Baseline FIB-4 1.46-3.25	16.6 [15.4,17.8]	38.3 [0.77,75.8]	16.2 [14.2,18.3]
Baseline FIB-4 >3.25	38.7 [36.2,41.2]	49.5 [0.99,98.1]	39.1 [34.8,43.4]

Among those with baseline FIB-4<3.25 There were no events in this group Among all subjects

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