

Hepatitis A Vaccination Among Persons Experiencing Homelessness

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Objectives

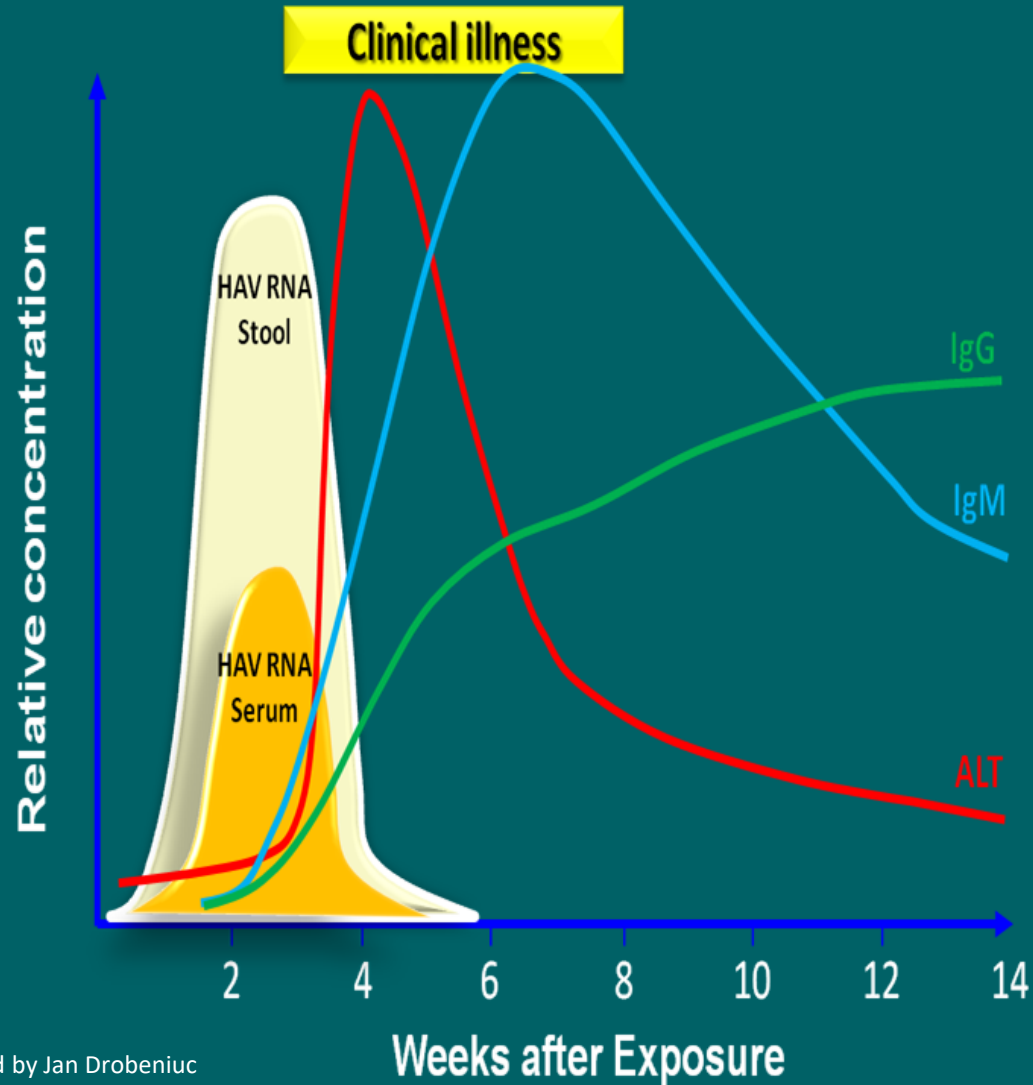
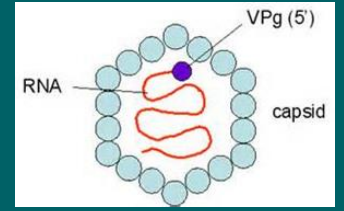
- Describe the current Advisory Committee on Immunization Practices recommendations for use of hepatitis A vaccines among persons experiencing homelessness
- Assess and discuss the clinical and public health implications of current Advisory Committee on Immunization Practices recommendations for use of hepatitis A vaccines among persons experiencing homelessness
- Describe and utilize communications materials targeting persons experiencing homelessness

Outline

- Hepatitis A Introduction
- Hepatitis A Outbreaks
- ACIP Recommendations
- Communications

Introduction

Hepatitis A Virus (HAV)



- Replicates in the liver, excreted in bile
- Acute illness
- Clinical manifestations: fever, jaundice, myalgia, anorexia, malaise, diarrhea
- Average incubation period: 28 days, range from 15 to 50 days
 - Peak infectious period 10-14 days prior to symptoms, 7-10 days after symptom onset

Hepatitis A Virus Transmission

- Person-to-person transmission through the fecal-oral route (close personal contact with an infected household member or sex partner)
- Common-source outbreaks and sporadic cases occur from exposure to fecally contaminated food or water (e.g., uncooked HAV-contaminated foods, inadequately cooked food, food contaminated after cooking)
- Waterborne outbreaks are infrequent in developed countries with well-maintained sanitation and water supplies

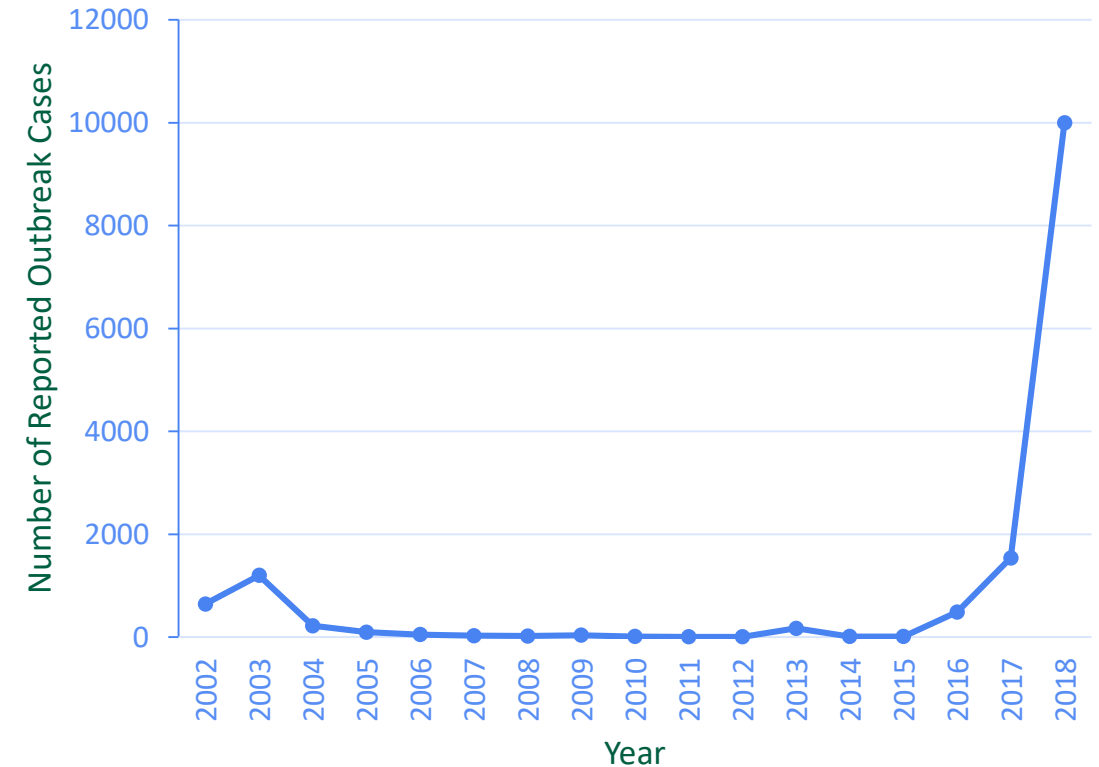
Hepatitis A among Homeless Populations

- Little is known about hepatitis A immunity among homeless populations in the United States
- Homelessness is now considered an independent risk factor for HAV infection
- Older age, duration of homelessness, and injection drug use may indicate hepatitis A immunity

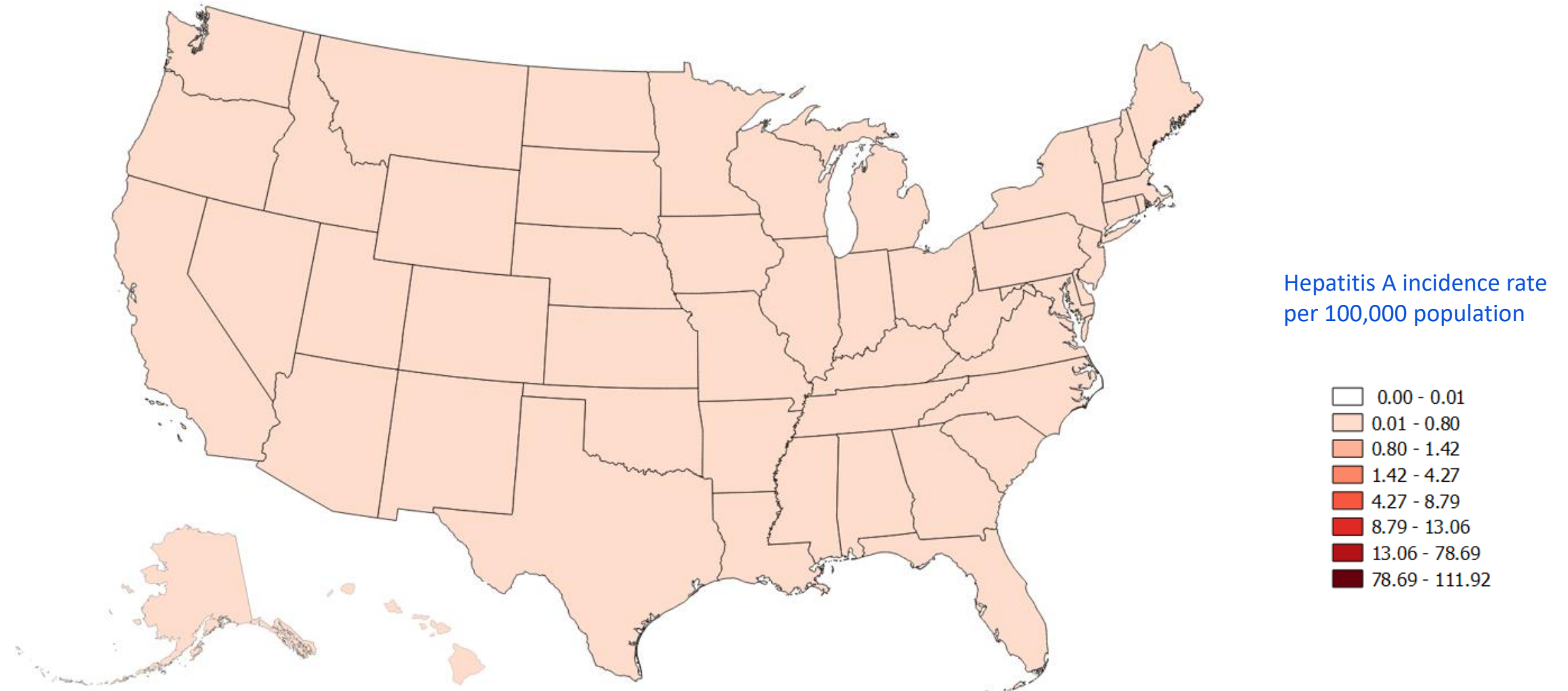
Outbreaks

Hepatitis A Virus Outbreaks – United States, 2016–Present

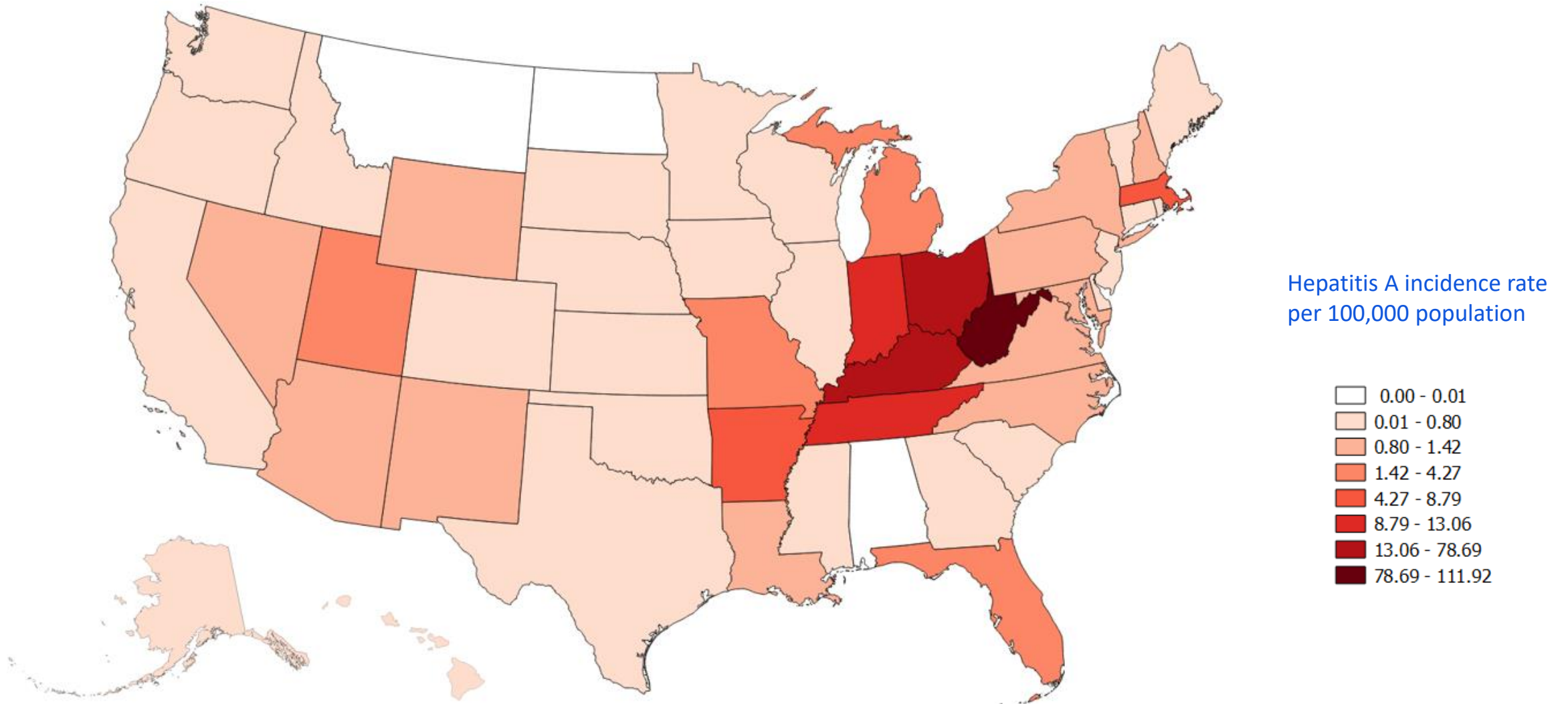
- CDC has assisted in multiple HAV outbreaks since July 1, 2016
 - Foodborne Transmission
 - Hawaii-Frozen Scallops
 - Multistate- Frozen Strawberries
 - Person-to-Person Transmission
 - People who use drugs and people experiencing homelessness
 - Men who have sex with men (MSM)
- >14,000 outbreak associated cases reported since July 1, 2016



Hepatitis A Incidence – United States, 2015



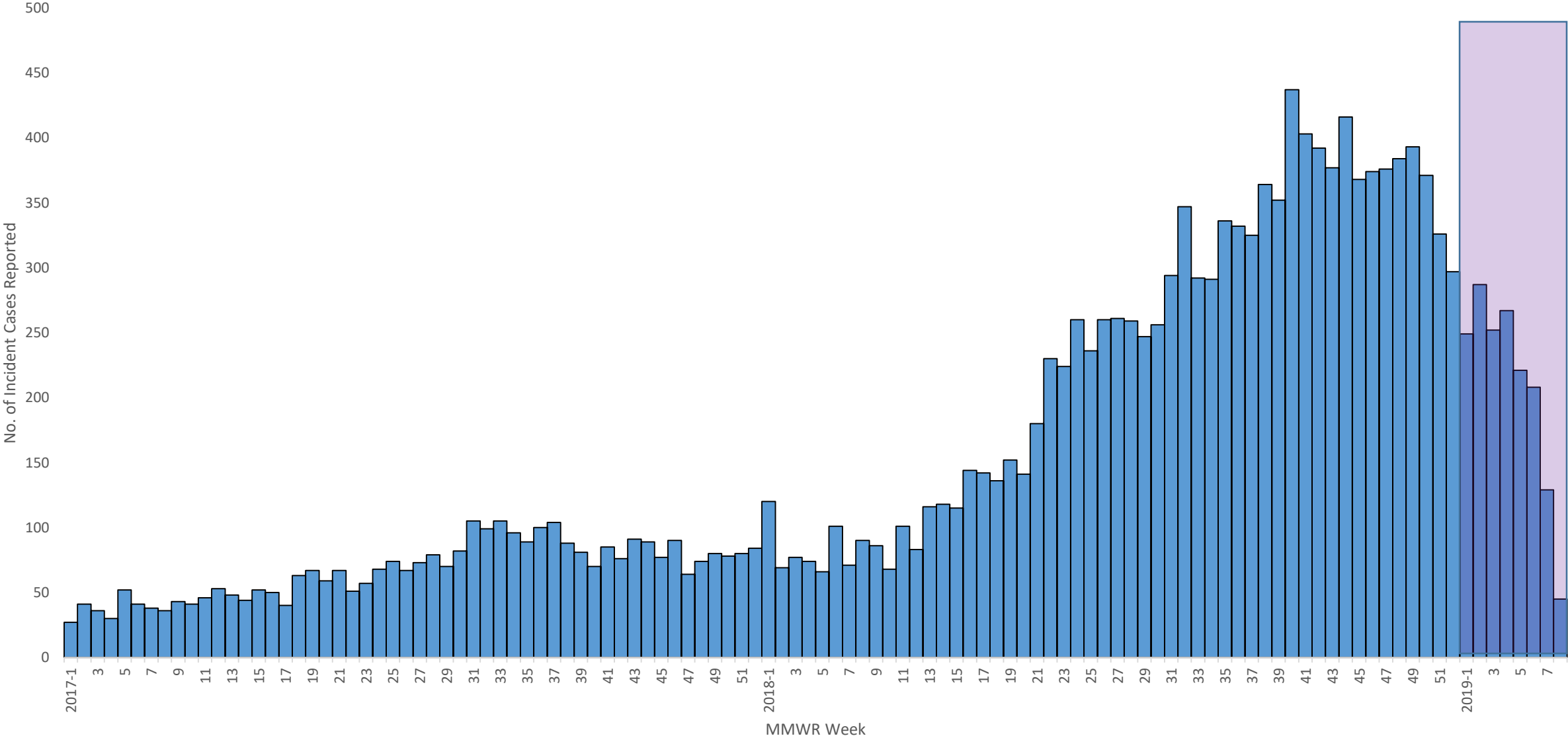
Hepatitis A Incidence – United States, 2018*



Data Sources: NNDSS, US Census Bureau

*Data are preliminary

Reported Incident Hepatitis A Cases by MMWR Week, NNDSS — United States, 2017–Present



SHADED AREA INDICATES 8-WEEK PERIOD OF POTENTIAL SURVEILLANCE REPORTING LAG

Case counts-Hepatitis A Virus Outbreak, person-to-person transmission—Multiple States, 5/3/2019*

State	as of	Case Total	Hospitalizations	(%)	Deaths	Homeless	(%)
Arkansas	5/3/2019	335					
California	4/11/2018	704	461	65%	21		
Colorado	5/1/2019	52	31	60%	0		
Florida	5/2/2019	1496	1091	73%	18	196	13%
Georgia							
Illinois	5/1/2019	65	40	62%	0	6	9%
Indiana	5/3/2019	1325	709	54%	4	111	8%
Kentucky	4/20/2019	4572	2213	48%	53	57	1%
Louisiana	4/26/2019	136	90	66%	1		
Massachusetts	4/26/2019	350	290	83%	5	168	48%
Michigan	5/1/2019	913	733	80%	28	112	12%
Missouri	4/30/2019	286	143	50%	1		
New Hampshire	4/30/2019	88	54	61%	1		
New Mexico							
North Carolina	4/22/2019	76	55	72%	1		
Ohio	4/29/2019	2178	1336	61%	7		
Tennessee	4/18/2019	1242	770	62%	7		
Utah	2/12/2019	281	152	54%	2	21	7%
Virginia	5/2/2019	51	27	53%	0		
West Virginia	4/26/2019	2503	1234	49%	21	236	9%
TOTAL		16653	9429	58%	170	907	

*Outbreak case definition and criteria for reporting of case totals differs by state. Data presented is publically available from states, where presented.

Hepatitis A Vaccines

ACIP Recommendations

Poll Question #1

- Do you routinely administer Hepatitis A vaccine to persons experiencing homelessness?

1) Yes

2) No

Hepatitis A Vaccines in the United States

- All inactivated (killed virus)
- Monovalent, Merck CR326F strain, VAQTA™
- Monovalent, GSK HM175 strain, HAVRIX™
- Combination, GSK HM175 strain and recombinant hepatitis B surface antigen, TWINRIX™

Hepatitis A Vaccines Schedule

- Recommended by the Advisory Committee on Immunization Practices (ACIP) starting in 1996
- Administered on a two dose schedule:
 - HAVRIX™: 0, 6-12 months
 - VAQTA™: 0, 6-18 months
 - TWINRIX™: 0, 1, 6 months
 - Accelerated Dosing: 0, 7, and 21 to 30 days, 12 months

Immunization Schedules: <https://www.cdc.gov/vaccines/schedules/index.html>

Hepatitis A Vaccines Immunogenicity

- Hepatitis A vaccines are highly immunogenic, and >95% of immunocompetent adults develop protective antibody within 4 weeks of receipt of 1 dose
- Detectable antibodies persist for at least 20 years after hepatitis A vaccination in childhood, and antibodies persist for an estimated 40 years or longer based on mathematical modeling and anti-HAV kinetic studies
- Although recommended as a 2-dose series, evidence of protection for up to 11 years exists for 1 dose of single-antigen vaccine; clinical and outbreak response experience suggests that lifelong protection is possible after 1 dose

MMWR. 2019 Feb 15;68(6):153-156.

Theeten H, et al. Long-term antibody persistence after vaccination with a 2-dose Havrix (inactivated hepatitis A vaccine)...Vaccine 2015;33:5723–7.

Ott JJ, Wiersma ST. Single-dose administration of inactivated hepatitis A vaccination in the context of hepatitis A vaccine recommendations. Int J Infect Dis 2013;17:e939–44.

Recommendations for routine use of hepatitis A vaccine — Advisory Committee on Immunization Practices

- All children at age 12–23 months.
- Travelers
- Persons who anticipate close contact with an international adoptee
- Men who have sex with men
- Users of injection and non-injection drugs
- Persons with chronic liver disease
- Persons with clotting factor disorders
- Persons who work with HAV-infected primates or with HAV in a research laboratory setting
- **Persons experiencing homelessness**
- Anyone wishing to obtain immunity

Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Persons Experiencing Homelessness

Mona Doshani, MD¹; Mark Weng, MD¹; Kelly L. Moore, MD²; José R. Romero, MD³; Noele P. Nelson, MD, PhD¹

- All persons aged 1 year and older experiencing homelessness should be routinely immunized against hepatitis A.
 - Routine vaccination consists of a 2-dose schedule or a 3-dose schedule when combined hepatitis A and B vaccine is administered

Persons Experiencing Homelessness

- Congregate living conditions, both within and outside shelters, increase the risk for disease transmission, which can result in outbreaks
- Systematic literature review results:
 - Substantial benefits of vaccinating persons experiencing homelessness
 - Cost and risk of vaccinating persons experiencing homelessness is much lower than the risk of not vaccinating

Gambatese M, Marder D, Begier E, et al. Programmatic impact of 5 years of mortality surveillance of New York City homeless populations. *Am J Public Health* 2013;103 (Suppl 2):S193–8.
Baggett TP, O’Connell JJ, Singer DE, Rigotti NA. The unmet health care needs of homeless adults: a national study. *Am J Public Health* 2010;100:1326–33.
Tjon GM, et al. An outbreak of hepatitis A among homeless drug users in Rotterdam, The Netherlands. *J Med Virol*. 2005 Nov;77(3):360-6.
Doshani M, et al. *MMWR Morb Mortal Wkly Rep*. 2019 Feb 15;68(6):153-156.

Clinical Considerations for Vaccinating Persons Experiencing Homelessness

- Concern about loss to follow-up before hepatitis A vaccine series completion should not be a deterrent to initiating the vaccine series in persons experiencing homelessness
- One dose of hepatitis A vaccine provides personal protection and can contribute to herd immunity, although long-term protection might be suboptimal

Advantages of Hepatitis A Vaccine for Persons Experiencing Homelessness

- Persons experiencing homelessness might have difficulty implementing recommended non-vaccine strategies to protect themselves from exposure (e.g., using clean toilets, regular handwashing, avoidance of crowded living conditions)
 - Vaccination is the most reliable protection from HAV infection
- Hepatitis A vaccination will provide individual protection and increase herd immunity over time, reducing the risk of person-to-person outbreaks among the homeless
- Routine hepatitis A vaccination of persons experiencing homelessness allows for administration of vaccine in facilities that already provide health care services for the homeless population

Health care for Persons Experiencing Homelessness

- Due to limited access to health care and historically low rates of insurance coverage, the majority of adults who experience homelessness have low rates of immunization coverage with vaccines routinely recommended for adults
- Community health centers provide preventive and primary health services to meet the specific needs of persons experiencing homelessness, including vaccination
 - Street or shelter-based vaccination during outbreaks
- Thirty-six states and the District of Columbia have expanded Medicaid under the Affordable Care Act, providing an increase in coverage and access to care among persons experiencing homelessness
 - An estimated 77% had access to some form of insurance in 2017

Poll Question #2

- What are the challenges of administering hepatitis A vaccine to persons experiencing homelessness?

Poll Question #3

- What can CDC do to assist with overcoming barriers to hepatitis A vaccine implementation among persons experiencing homelessness?

Communications

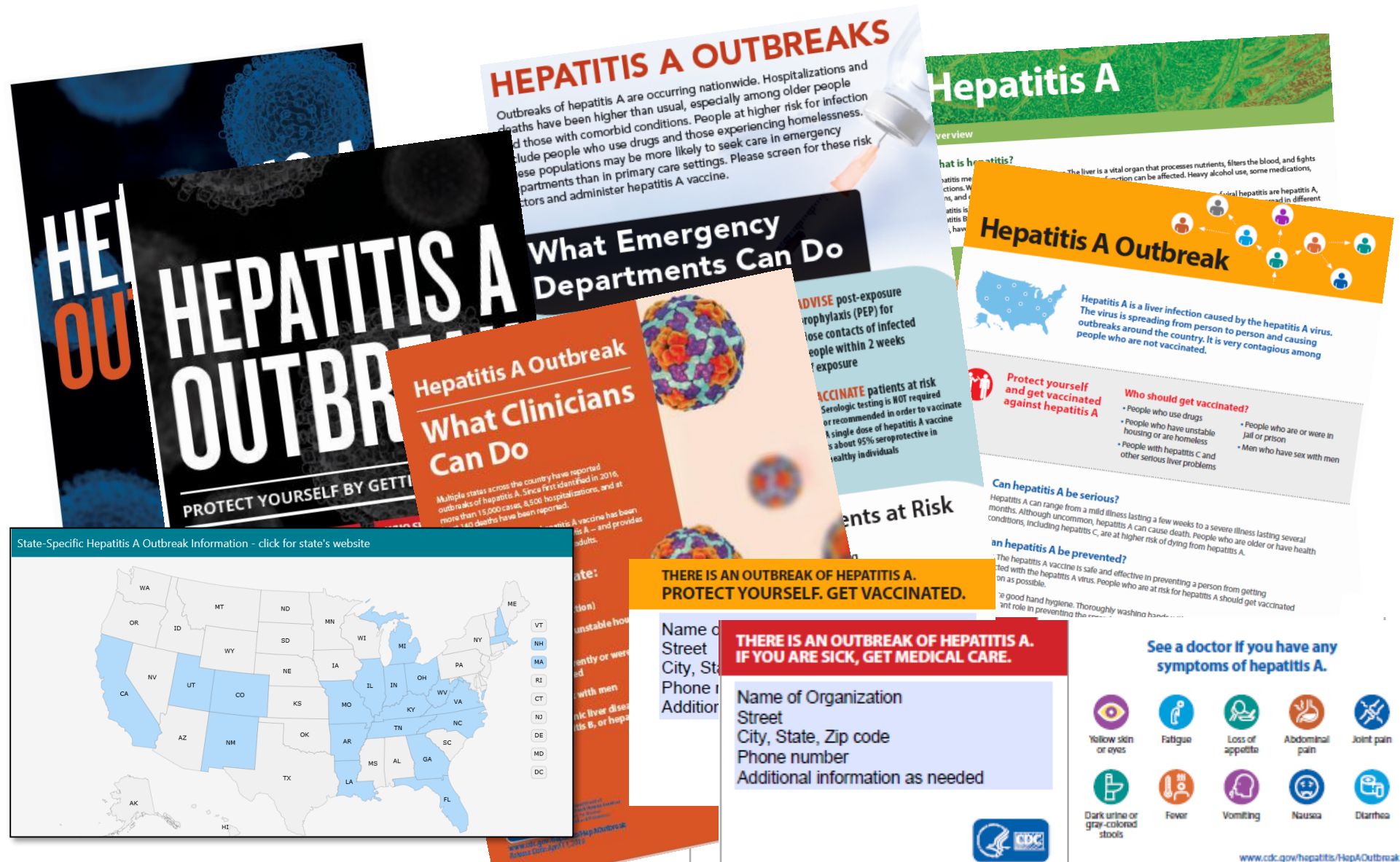
Outbreak Communication and Education Materials

Public

- Fact sheets
- Posters
- Pocket cards

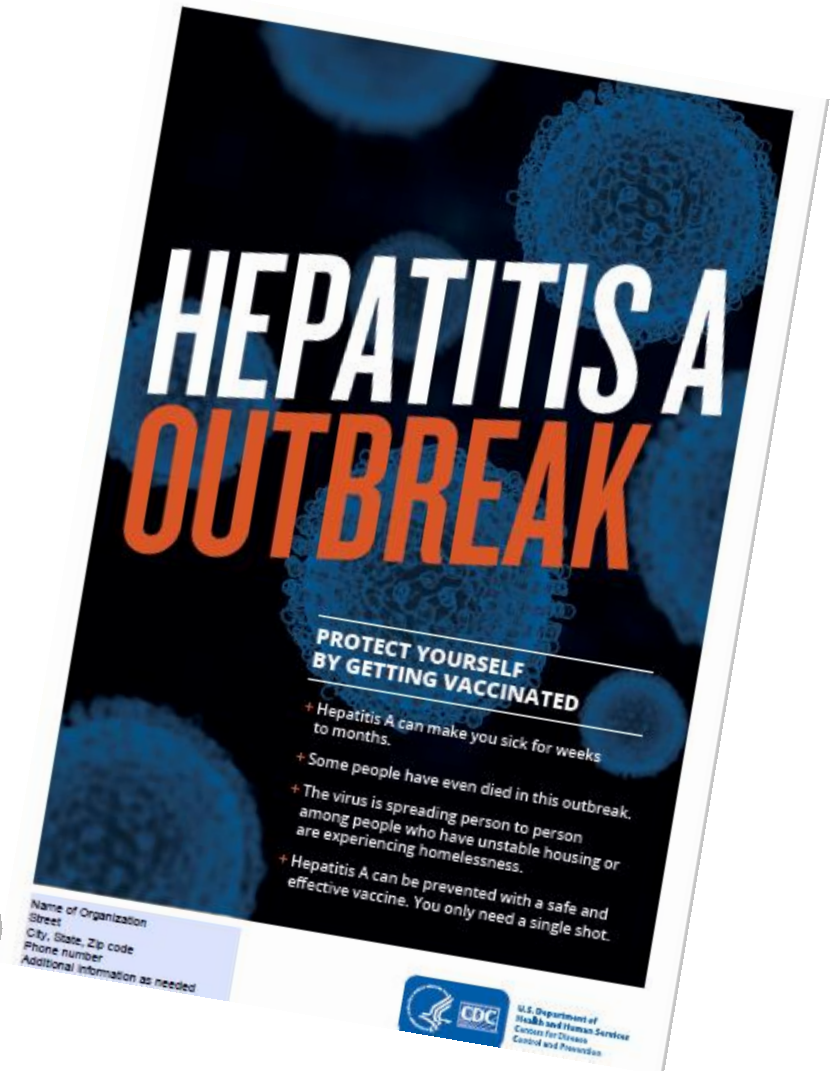
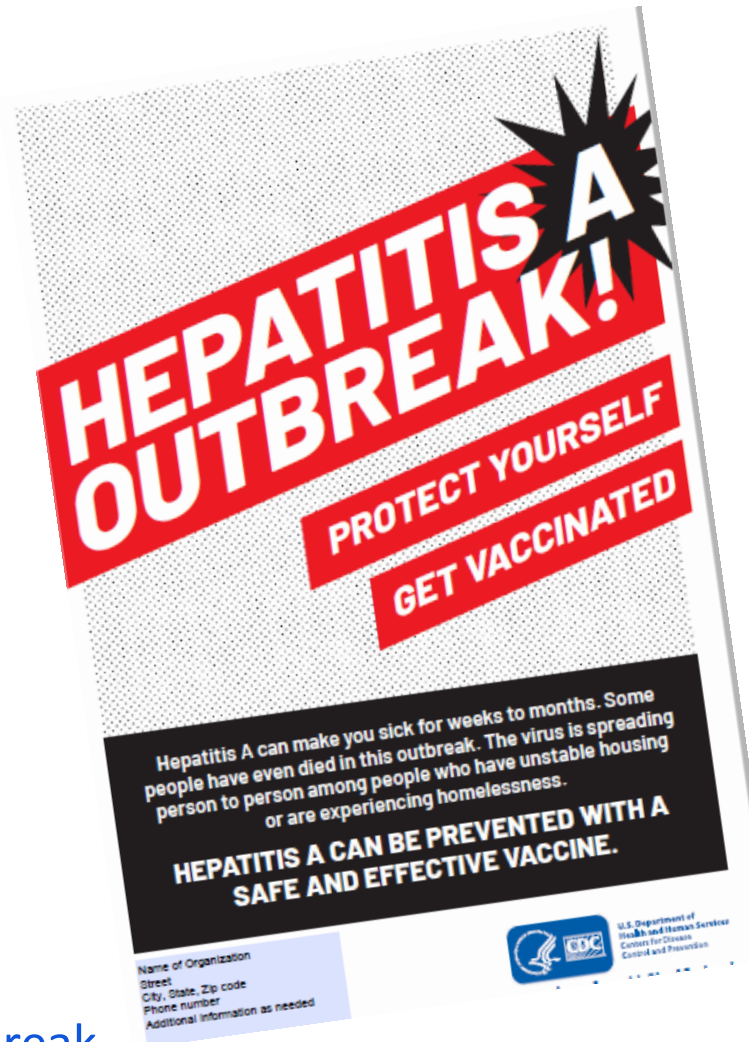
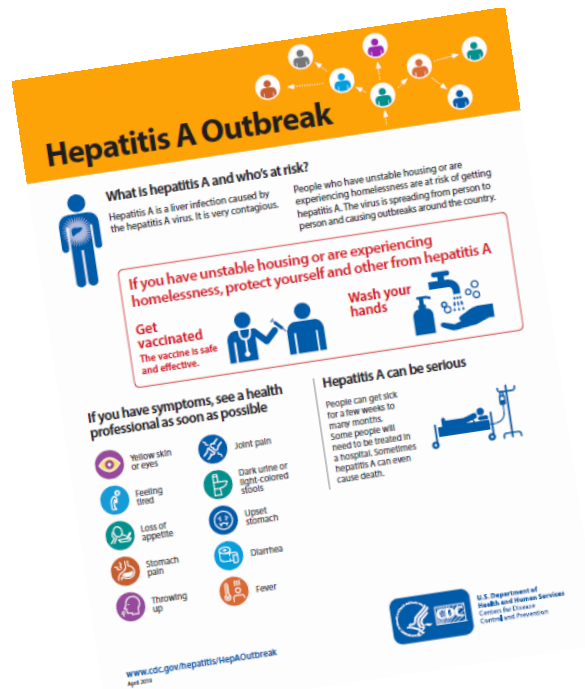
Professional

- Website
- Poster
- Flyer
- Vaccine hesitancy guidance



Materials for People Experiencing Homelessness

- Fact sheet
- Posters



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

