Considerations for Use of Hepatitis A Vaccines for Routine Vaccination of the Homeless

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Hepatitis A Vaccines: Policy Question

- **Should routine inactivated hepatitis A vaccination be recommended for protection against hepatitis A among persons experiencing homelessness?**

Current Recommendations

- **ACIP Hepatitis A Vaccine Recommendations**

  Groups at increased risk of HAV or severe HAV disease

  - Travelers
  - Men who have sex with men
  - Users of injection and non-injection drugs
  - Persons with clotting-factor disorders
  - Persons who work with nonhuman primates
  - Persons who anticipate close personal contact with an international adoptee
  - Persons with chronic liver disease
  - **Homelessness**

MMWR 1996;45(RR-15); MMWR 1999;48(RR-12); MMWR 2006;55(RR-7)

Evidence Type for Benefits and Harms

Outcome	Design (# studies)	Risk of bias	Inconsistency	Indirectness	Imprecision	Other	Evidence type	Overall quality of evidence
Reduction in disease burden	1 clinical trial	Serious	Serious	Serious	Serious	*	4	**
Adverse events	1 clinical trial 3 observational studies	Serious	Serious	Serious	Serious	*	4	⨁⊖⊖⊖ VERY LOW

*Limitations in determining the estimates of the effect as no study had a comparison group available.

**Unable to determine the overall quality of evidence as only one was study available for GRADE.

Balance of Consequences

- ☐ Undesirable consequences clearly outweigh desirable consequences in most settings
- ☐ Undesirable consequences probably outweigh desirable consequences in most settings
- ☐ The balance between desirable and undesirable consequences is closely balanced or uncertain
- ☐ Desirable consequences probably outweigh undesirable consequences in most settings
- ☒ Desirable consequences clearly outweigh undesirable consequences in most settings
- ☐ There is insufficient evidence to determine the balance of consequences

Should routine inactivated Two dose Hepatitis A Vaccination be Recommended for Protection Against Hepatitis A Among Persons Experiencing Homelessness?

Type of recommendation

☐ We recommend against the intervention

☐ We recommend that the intervention not be routinely recommended for all persons but be available for individual clinical decision-making

☒ We recommend the intervention

☐ We do not recommend the intervention at this time

Work Group Considerations

- The Hepatitis Vaccines Work Group convened for four teleconference meetings on this topic and has reached consensus regarding the proposed update to the hepatitis vaccine statement regarding homelessness as a risk group for hepatitis A vaccination

Homelessness as an Independent Indication for Hepatitis A Vaccination

- **Work Group Considerations**
  - Homelessness might be a proxy for high rates of known risk factors (e.g., chronic liver disease, drug use), however these risk factors might be more difficult to identify than homelessness itself
  - In San Diego, a currently recommended indication for vaccination was not found for >25% of homeless cases reporting risk factors

Risk of Infection and Severe Manifestations Among The Homeless

- **Work Group Considerations**
  - Homeless are more vulnerable due to poor hygienic conditions and overcrowding
  - Once hepatitis A virus is in the homeless community, it spreads because of poor sanitation, poor hygiene and congregated living conditions
  - Homeless have an increased risk of severe disease, hospitalization and death
  - Vaccinations are critical to the prevention of disease outbreaks and epidemics among individuals experiencing homelessness because of their poor living conditions conducive to hepatitis A virus transmission.

Routine 2-dose hepatitis A single-antigen vaccination

- **Work Group Considerations**
  - The FDA licensed schedule and ACIP hepatitis A vaccine routine recommendations include two dose vaccination
  - If homelessness is included as an ACIP indication for vaccination, vaccination is more likely to be considered by homeless service providers
  - Evidence that homeless in San Diego are returning to care for a second dose
  - One dose single-antigen vaccine is highly effective, provides up to 11 years of protection and might provide life-time immunity; however, considering the immune and health status of homeless, 2 doses is optimal for long-term immunity

Routine 2-dose Hepatitis A Single-antigen Vaccination, cont.

- **Work Group Considerations**
  - Homeless population is not stable; move from place to place (e.g., California outbreak is genotypically linked to the outbreaks that are in Utah, Kentucky, and other states); it is important that we take a national approach to vaccinating homeless
  - Integrate vaccination into services for the homeless over time, reduce the at risk population and therefore reduce the risk of large-scale outbreaks
  - Increase the herd immunity among the homeless population over time
  - Vaccine administration record-keeping was a work group concern (a challenge for all adult immunization), but it was felt that increasing use of immunization information systems (IIS) for adults and future advances in interoperability will address this concern and should not be a reason not to vaccinate routinely.

Pre-exposure prophylaxis (vs post-exposure prophylaxis)

- **Work Group Considerations**
  - Vaccinating homeless in an outbreak setting is very challenging; resources involved are enormous, the population is hard to reach and the efforts required to vaccinate are vast
  - Vaccination of homeless in outbreak situations result in vaccine hesitancy due to the emergency situation, unanticipated event, rushed health care, and limited time for education and understanding of the situation
  - Effective post-exposure vaccination is difficult, including obtaining exposure history and coordinating vaccination within 2 weeks
  - Difficult to control outbreaks among homeless quickly; the longer it takes to vaccinate, the higher the probability of breakthrough cases and spread to other jurisdictions

Pre-exposure prophylaxis (vs post-exposure prophylaxis), cont.

- **Work Group Considerations**
  - Routine vaccination is a more feasible approach to reach homeless over time through homeless outreach organizations; this can occur through gradual implementation
  - Barriers to vaccination might be mitigated with a routine recommendation; more opportunities to reach people in settings where they are comfortable with greater use of homeless advocacy groups
  - Routine recommendation would allow for vaccination of homeless by trusted providers who serve the homeless in familiar settings

Individual

- **Work Group Considerations**
  - It is important to recognize the individual homeless person, because they are at higher risk than other groups
  - High hospitalization and fatality rate in these outbreaks occur on an individual level
  - People experiencing homelessness have difficulty implementing recommended non-vaccine strategies to protect themselves from exposure (e.g., clean toilet facilities, the ability to wash their hands regularly)
  - For this reason, they depend more heavily on vaccination for protection from hepatitis A infection
  - Due to limited access to healthcare, and state-to-state variation in access to insurance coverage, homeless adults can be more vulnerable than other adults to vaccine preventable diseases

Cost

- **Work Group Considerations**
  - These outbreaks have demonstrated the enormous cost and difficulty associated with trying to do widespread immunization of a large vulnerable population in a short amount of time
  - High hospitalization rates among vulnerable populations drives up costs
  - Costs per capita of integrating vaccination into routine care is cheaper and much less disruptive than vaccination solely as part of outbreak response
  - Outbreak response has caused substantial diversion of human and financial resources from other activities in many affected jurisdictions

Work Group Consensus

- Homelessness should be an indication for hepatitis A vaccination.
- Homeless persons could benefit from a specific recommendation for routine hepatitis A vaccination.
- Recent outbreaks have demonstrated that individuals who are experiencing homelessness have an increased risk of serious illness with hepatitis A and face barriers to implementation of alternative strategies to prevent exposure, such as strict hand hygiene, due to their living conditions.
- A routine recommendation would allow homeless to be vaccinated using the services and facilities that already provide established healthcare for the homeless population.
- Routine hepatitis A vaccination of the homeless would allow for integration of vaccination into these services over time toward reducing the HAV infection risk of this vulnerable population and reducing the risk of large-scale outbreaks.

Work Group Considerations:

Homelessness as an indication for vaccination vs. No indication for homelessness

- **Pros:**
  - Protection of a vulnerable population
  - Providers are more likely to administer vaccine to homeless persons if homelessness is an ACIP recommended indication for vaccination
  - Vaccination of homeless persons would reduce an at risk population and therefore reduce the risk of large-scale outbreak, and increase the herd immunity among the homeless population over time
  - Vaccinating homeless in an outbreak setting and controlling an outbreak among homeless is challenging compared to integrating services into a familiar setting
  - Routine vaccination is likely less costly than vaccination as part of an outbreak response
- **Cons:**
  - Vaccine administration record-keeping
  - Limited published data exist on hepatitis A or vaccination that specifically focuses on persons who are homeless
  - Routine vaccination of homeless who do not utilize health services might not be feasible

Vote

- **All persons aged 1 year and older experiencing homelessness should be routinely immunized against hepatitis A.**