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Zika Virus Response Planning: Interim Guidance for District and School Administrators in the Continental United States and Hawaii

Summary

What is already known about this topic?

Zika virus is transmitted primarily through the bite of infected Aedes species mosquitoes. Zika virus is not transmitted directly from one person to another through casual contact. There is no evidence that risk for transmission on school properties will be higher than in other areas of the local community.

What is added by this report?

If suspected or confirmed Zika virus infection occurs in a student or staff member, schools should continue to prioritize strategies to prevent mosquito bites on school grounds, to prevent further transmission through infected mosquitoes. Because Zika virus is not transmitted from person to person by casual contact, it is not necessary to issue a schoolwide notification, and students or staff members with travel-related Zika virus exposure or confirmed Zika virus infection do not need to be removed from school. Isolation of persons with Zika virus disease or quarantine of exposed persons is neither recommended nor appropriate. Schools should maintain privacy and nondiscrimination protections for all students and employees. In the case of local Zika virus transmission, it is not necessary to cancel school-related activities.

What are the implications for public health practice?

School, local, and public health authorities should work together to implement mosquito control activities and mosquito bite prevention measures in schools to decrease risk of Zika virus transmission, to apply appropriate policies for educating students and staff members, and for continuation of school operations.

CDC has developed interim guidance for kindergarten through grade 12 (K–12) district and school administrators for public health actions pertaining to Zika virus infection. This guidance is intended to address concerns about the risk for Zika virus infection in K–12 schools in the continental United States and Hawaii, provide school districts with information for planning school-related activities, and recommend actions that can be taken, in consultation with local public health authorities and government officials, to reduce the potential risk for Zika virus transmission on school premises and among students. This guidance provides an overview of the potential roles and responsibilities of public health authorities and school officials, describes prevention measures that schools can take to reduce mosquito exposure, and provides information on responding to a case of travel-associated Zika virus infection or confirmed local mosquito-borne transmission of Zika virus (See Key Points). Considerations for child care, camp, and higher education settings also are addressed. This guidance will be updated as needed when new information becomes available. The latest available Zika virus information, including answers to commonly asked questions, can be found online (http://www.cdc.gov/zika/index.html). Related relevant resources are summarized in Additional Resources below.

General Information about Zika Virus

Since 2007, Zika virus disease outbreaks have been reported in the South Pacific, and since 2015, Zika virus has rapidly spread in the Western Hemisphere.[1,2] Zika virus is transmitted primarily through the bite of infected *Aedes* species mosquitoes.[3] Mosquitoes become infected when they consume blood from a person infected with the virus. Infected mosquitoes can then spread the virus to other persons through bites. Direct human-to-human transmission of Zika virus can occur through sexual contact and from a pregnant woman to her fetus.[4,5] Zika virus infection during pregnancy can cause severe birth defects, including microcephaly.[5] Zika virus is not transmitted directly from one person to another through casual contact.

The signs and symptoms of Zika virus infection in children are similar to those in adults.[6] Most persons infected with Zika virus will not have symptoms; among those who do become ill, the most common signs and symptoms are fever, rash, joint pain, and conjunctivitis, and these usually occur within a week of infection.[6] The illness is typically mild, with symptoms lasting for several days to a week. Most children and adults infected with Zika virus do not become ill enough to seek medical care or require hospitalization, and death from Zika virus infection is rare. Cases of Guillain-Barré syndrome, a rare autoimmune condition manifested by muscle weakness (occasionally leading to temporary paralysis), have been reported among persons who have had Zika virus infection.[7] It is not known how often Guillain-Barré syndrome has occurred in children after Zika virus infection. There is currently no vaccine or specific drug to prevent or treat Zika virus infection.

Zika virus infection in childhood has not currently been linked to developmental delays or impaired growth. Because symptoms of Zika virus disease are similar to symptoms of other viral infections that commonly occur among school children, as well as less common infections such as measles, it is important that educators remain vigilant in recognizing signs and symptoms of more easily transmissible infections while planning specific interventions related to Zika virus disease.

As of July 12, 2016, no local mosquito-borne transmission of Zika virus has been reported in the continental United States or Hawaii, although travel-associated cases, including travel-associated sexually transmitted cases, have been reported.[8] In light of the ongoing outbreak in the Region of the Americas and Pacific Islands, the number of Zika virus disease cases among travelers visiting or returning to the United States likely will increase. These imported cases could result in local transmission of the virus in some areas of the United States where the *Aedes* species mosquitoes that can transmit Zika virus can be found.[3,9] However, there is no evidence that risk for transmission on school properties will be higher than in other areas of the local community.

Roles and Responsibilities of School Officials and Public Health Authorities

Public health authorities play a pivotal role in identifying the risk for Zika virus exposure in different settings and providing advice on actions to reduce the risk. Schools, functioning both as educational settings and as employers, have a critical role in sharing information from public health authorities, as well as in addressing concerns and questions raised by students, families, and staff members about Zika virus, and implementing public health authorities' recommendations for schools in a timely fashion. School administrators should understand the roles and responsibilities of public health authorities and consult with them regarding questions or issues related to Zika virus infection.

Public health authorities and school districts should proactively and collaboratively establish direct communication channels and clearly define each partner's roles and responsibilities. Initial efforts should include identifying points of contact for communication and developing protocols for implementing public health recommendations. School authorities, working collaboratively with local public health authorities, should review and ensure compliance with public health codes and applicable Occupational Safety and Health Administration (OSHA) standards, including OSHA guidance for protecting workers from occupational exposure to Zika virus.[10] OSHA recommends that employers provide insect repellents for outdoor workers and consider modifying work responsibilities, if requested by the employee, of women who are pregnant or who might become pregnant, and men who have a sexual partner who is pregnant or might become pregnant.[10]

Planning for Possible Zika Virus Transmission in K–12 Schools

Outside of their homes, children and adolescents spend much of their time at school. Accordingly, district and school administrators play an important role in efforts to prevent possible Zika virus transmission among students and their families, particularly in schools that open their facilities to the community for events, extracurricular programs, and recreational use.

Prevention of mosquito bites through an integrated vector management plan is of paramount importance for avoiding Zika virus infections.[11] Schools can help to reduce risk for students, families, and the community by implementing mosquito control measures on school grounds, such as identifying and removing sources of standing water that can serve as mosquito breeding sites. Common sources on school grounds can include buckets, trash cans, planters, tires, tall grasses, playground equipment, and spaces beneath temporary modular structures. Adjustments can be made to ensure these do not become mosquito breeding areas, including regularly cleaning, turning over, tightly covering, or completely removing (if appropriate) these sources; sweeping away pools of water; and keeping all grassy areas mowed (including less-traveled and hard-to-access areas such as under bleachers). In addition, efforts should be made to prevent mosquitoes from entering classrooms by placing new screens or replacing damaged screens in windows and doors, or by using air conditioning when available.

The use of other methods of mosquito control in a school or community, including insecticide spraying, is decided upon by the local and state jurisdictions. The public health and school partnership can work with local government officials to learn which approaches are available and appropriate to prevent transmission of Zika and other mosquito-borne viruses, such as West Nile, dengue, and chikungunya.[12] If presence of mosquitoes at a school appears to remain high despite taking recommended steps, including removing sources of standing water, this might indicate unrecognized breeding sites, which can be a considerable source of mosquitoes. Local mosquito control authorities or licensed pest control contractors should be contacted to facilitate remediation.

When possible, students, staff members, and family members participating in outdoor activities in areas with mosquito activity should be advised to follow CDC Zika virus prevention guidelines, including wearing long pants and sleeves and using U.S. Environmental Protection Agency –registered insect repellents, all of which are considered safe for school-aged children and pregnant women.[13,14] Schools should review and, if necessary, update their policies regarding student possession and application of insect repellent, and inform students, their caregivers, and staff members of updated plans or policies. Administrators might also need to consider logistical issues involved, including purchasing responsibilities for repellents and the processes for applying them to large groups of children when necessary. Schools should consider risk for potential exposure to mosquito-borne diseases when planning field trips and other school-sponsored travel. Although the mosquitoes that transmit Zika virus are more active during the day, they can bite and spread

infection at any time.[13] If travel outside the continental United States and Hawaii is planned, risk for exposure to Zika virus might exist. CDC's Travel Information website includes information about the current Zika virus situation in specific countries.[15]

Zika virus can also be transmitted sexually.[4] Nationwide, 41% of high school–aged students report having had sexual intercourse at least once.[16] Therefore, age-appropriate sexual health education should include information regarding the risk for Zika virus during pregnancy and the potential for sexual transmission of Zika virus, including that correct and consistent condom use can reduce the likelihood of sexual transmission of Zika virus, other sexually transmitted infections, and unintentional pregnancy, and that abstinence can eliminate these risks.[4,17]

Responding to a Case of Zika Virus Infection in K–12 Schools

While planning for possible cases of Zika virus infection in schools, educators should maintain provision of a safe, consistent, and effective learning environment. If a case of Zika virus infection is suspected or confirmed in a student or staff member, schools should continue to prioritize strategies to prevent mosquito bites on school grounds, to prevent further transmission through infected mosquitoes. Administrators, educators, and school health professionals can disseminate accurate Zika virus information to students and families, and prevent stigma related to perception of a student's risk for Zika virus through efforts such as dispelling of myths and ensuring no particular students or groups are targeted for social exclusion.

In the event of a case of Zika virus disease in a student or staff member at a K–12 school, medical privacy and confidentiality should be maintained. Because Zika virus is not transmitted from person to person by casual contact, it is not necessary to issue a schoolwide notification, and students or staff members with travel-related Zika virus exposure or confirmed Zika virus infection do not need to be removed from school. Isolation of persons with Zika virus disease or quarantine of exposed persons is neither recommended nor appropriate. Patients with symptomatic illness should receive appropriate supportive medical management.

Children with fever or symptoms that might be associated with Zika virus infection, including rash, conjunctivitis, or joint pain, should be managed according to school illness policies, regardless of potential for Zika virus infection.[18] School nurses and other staff members should continue to adhere to OSHA bloodborne pathogen standard precautions for any potential body fluid contact in the course of their duties.[19]

Responding to Mosquito-Borne Transmission of Zika Virus in the Local Area

If local mosquito-borne transmission of Zika virus occurs, state and local jurisdictions and public health authorities will inform school districts of the range of the affected areas, provide recommendations based on cases reported in the local community, and guide schools and school

districts in the implementation of enhanced measures, if required.[12] This might include providing options, if requested by the employee, to limit outdoor duties or activities of students and staff members who are pregnant, who might be pregnant, or who are trying to conceive. While implementing these measures, schools should continue to maintain privacy and nondiscrimination protections for all students and employees. Zika virus testing might be offered by health authorities for pregnant staff members and students, and for persons exhibiting symptoms consistent with Zika virus disease.[20]

School administrators, in close coordination with local officials, will need to consider local factors, such as climate, landscape of school grounds and their surroundings, and proximity of Zika virus transmission to the school, to determine what additional measures to undertake.[12] It is not necessary to suspend or cancel classes (including physical education classes), outdoor recess or outdoor activities, outdoor sporting events, or extracurricular activities.

Considerations for Child Care, Camp, and Higher Education Settings

In addition to schools, locations where children and adolescents routinely gather, such as child care facilities, camps (including day camps and overnight camps), and institutions of higher education (colleges and universities), should also consider strategies for preventing Zika virus transmission. In these settings, interventions to prevent and prepare for Zika virus infection should, at minimum, be consistent with the recommendations for K–12 schools. Administrators should act in accordance with regulations concerning public health issues relevant to their specific settings. The Administration for Children and Families has developed informational resources for child care providers to prepare for Zika virus[21], and CDC has developed Zika virus communication toolkits for day camp and overnight camp settings, as well as for colleges and universities.[22] College and university administrators should pay particular attention to issues relevant to students in this age group, including sexual transmission, guidance for pregnant women and their male sexual partners, and travel advisories.

Key Points

- Zika virus is spread primarily through the bite of an infected *Aedes* species mosquito, through sexual contact, or from a pregnant woman to her fetus. Zika virus is not passed directly from person to person through casual contact.
- For most children and adults, Zika virus infection will not cause symptoms or will only cause mild symptoms.
- Zika virus infection during pregnancy is associated with adverse pregnancy outcomes and certain birth defects; therefore, special considerations for preventing exposure might be needed for pregnant women, women trying to conceive, and their male sexual partners.

- School jurisdictions should proactively establish effective channels of communication with local government and public health authorities regarding response plans for local transmission of Zika virus disease.
- School administrators can help provide safe school environments through mosquito bite prevention efforts and sharing of accurate Zika virus information with staff members, students, and families.
- It is not recommended for schools to remove students or staff members who have Zika virus disease or who were exposed to Zika virus, or to cancel school-related activities because of Zika virus concerns.
- Nondiscrimination and privacy and confidentiality measures should be maintained for all students and staff members.

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Additional Resources

- Zika communication toolkits. (http://www.cdc.gov/zika/comm-resources/toolkits.html) Toolkit for public and private schools serving prekindergarten through high school students.
- Ideas for talking to your children about Zika [PDF - 2 pages] (http://www.cdc.gov/zika/pdfs/zika-ttykids.pdf)
- Mosquito bites are bad! [PDF - 9 pages] (http://www.cdc.gov/zika/pdfs/zika-activity-book.pdf) Children's activity book on mosquitoes.
- Interim guidance for protecting workers from occupational exposure to Zika virus [PDF - 7 pages] (http://www.cdc.gov/niosh/topics/outdoor/mosquito-borne/pdfs/osha-niosh_fs-3855_zika_virus_04-2016.pdf). Occupational Safety and Health Administration/National Institute for Occupational Safety and Health
- Keeping students and staff safe from infectious diseases (http://rems.ed.gov/KeepSchoolsSafeFromDiseases.aspx) . U.S. Department of Education, Readiness and Emergency Management for Schools Technical Assistance Center
- Zika virus: Areas with Zika (http://www.cdc.gov/zika/geo/index.html)
- Travelers' Health: Zika Travel Information (http://wwwnc.cdc.gov/travel/page/zika-information)
- Zika virus: Controlling mosquitoes at home (http://www.cdc.gov/zika/prevention/controlling-mosquitoes-at-home.html)
- Zika virus: Prevention (http://www.cdc.gov/zika/prevention/index.html)

- Zika and Guillain-Barré syndrome (http://www.cdc.gov/zika/about/gbs-qa.html)
- Zika virus: how to protect against mosquito bites [PDF - 2 pages] (http://www.cdc.gov/zika/pdfs/mosqprevinus.pdf)
- Zika virus: Help control mosquitoes that spread dengue, chikungunya, and Zika viruses [PDF - 2 pages] (http://www.cdc.gov/zika/pdfs/control_mosquitoes_chikv_denv_zika.pdf)
- How you can prevent sexually transmitted diseases (http://www.cdc.gov/std/prevention/default.htm)
- Condom effectiveness: Male condom use (http://www.cdc.gov/condomeffectiveness/male-condom-use.html)
- Adolescent and school health (http://www.cdc.gov/healthyyouth)
- Caring for children in a disaster (http://www.cdc.gov/childrenindisasters/index.html)

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