Advice for Health Care Providers Treating Patients in or Recently Returned from Hurricane-Affected Areas, Including Puerto Rico and the US Virgin Islands

Summary
The Centers for Disease Control and Prevention (CDC) is working with federal, state, territorial, and local agencies and global health partners in response to recent hurricanes. CDC is aware of media reports and anecdotal accounts of various infectious diseases in hurricane-affected areas, including Puerto Rico and the US Virgin Islands (USVI). Because of compromised drinking water and decreased access to safe water, food, and shelter, the conditions for outbreaks of infectious diseases exist.

The purpose of this HAN advisory is to remind clinicians assessing patients currently in or recently returned from hurricane-affected areas to be vigilant in looking for certain infectious diseases, including leptospirosis, dengue, hepatitis A, typhoid fever, vibriosis, and influenza.

Background
Hurricanes Irma and Maria made landfall in Puerto Rico and USVI in September 2017, causing widespread flooding and devastation. Natural hazards associated with the storms continue to affect many areas. Infectious disease outbreaks of diarrheal and respiratory illnesses can occur when access to safe water and sewage systems are disrupted and personal hygiene is difficult to maintain. Additionally, vector borne diseases can occur due to increased mosquito breeding in standing water; both Puerto Rico and USVI are at risk for outbreaks of dengue, Zika, and chikungunya.

Health care providers and public health practitioners should be aware that post-hurricane environmental conditions may pose an increased risk for the spread of infectious diseases among patients in or recently returned from hurricane-affected areas; including leptospirosis, dengue, hepatitis A, typhoid fever, vibriosis, and
influenza. The period of heightened risk may last through March 2018, based on current predictions of full restoration of power and safe water systems in Puerto Rico and USVI.

In addition, providers in health care facilities that have experienced water damage or contaminated water systems should be aware of the potential for increased risk of infections in those facilities due to invasive fungi, nontuberculous *Mycobacterium* species, Legionella species, and other Gram-negative bacteria associated with water (e.g., *Pseudomonas*), especially among critically ill or immunocompromised patients.

Cholera has not occurred in Puerto Rico or USVI in many decades and is not expected to occur post-hurricane.

**Recommendations**

**These recommendations apply to healthcare providers treating patients in Puerto Rico and USVI, as well as those treating patients in the continental US who recently traveled in hurricane-affected areas (e.g., within the past 4 weeks), during the period of September 2017 – March 2018.**

- Health care providers and public health practitioners in hurricane-affected areas should look for community and healthcare-associated infectious diseases.
- Health care providers in the continental US are encouraged to ask patients about recent travel (e.g., within the past 4 weeks) to hurricane-affected areas.
- All healthcare providers should consider less common infectious disease etiologies in patients presenting with evidence of acute respiratory illness, gastroenteritis, renal or hepatic failure, wound infection, or other febrile illness. Some particularly important infectious diseases to consider include leptospirosis, dengue, hepatitis A, typhoid fever, vibriosis, and influenza.
- In the context of limited laboratory resources in hurricane-affected areas, health care providers should contact their local health department if you need assistance with ordering specific diagnostic tests.
- For certain conditions, such as leptospirosis, empiric therapy should be considered pending results of diagnostic tests—treatment for leptospirosis is most effective when initiated early in the disease process. Providers can contact the local health department or CDC for consultation.
- Local health care providers are strongly encouraged to report patients for whom there is a high level of suspicion for leptospirosis, dengue, hepatitis A, typhoid, and vibriosis to your local health department, while awaiting laboratory confirmation.
- Confirmed cases of leptospirosis, dengue, hepatitis A, typhoid fever, and vibriosis are **urgently** reportable in South Carolina within 24 hours by phone to your local
health department to facilitate public health investigation and, as appropriate, mitigate the risk of local transmission.

Resources for Additional Information

- Information about Hurricane Maria: [https://www.cdc.gov/disasters/hurricanes/hurricane_maria.html](https://www.cdc.gov/disasters/hurricanes/hurricane_maria.html)
- Information for Travelers:
  - Resources from CDC Health Information for International Travel 2018 (the Yellow Book):
- Information about infectious diseases after a disaster: [https://www.cdc.gov/disasters/disease/infectious.html](https://www.cdc.gov/disasters/disease/infectious.html)
  - Dengue: [https://www.cdc.gov/dengue/index.html](https://www.cdc.gov/dengue/index.html)
  - Hepatitis A: [https://www.cdc.gov/hepatitis/HAV/index.htm](https://www.cdc.gov/hepatitis/HAV/index.htm)
  - Leptospirosis: [https://www.cdc.gov/leptospirosis/](https://www.cdc.gov/leptospirosis/)
  - Vibriosis: [https://www.cdc.gov/vibrio/index.html](https://www.cdc.gov/vibrio/index.html)
- Information about other infectious diseases of concern:
  - Conjunctivitis: [https://www.cdc.gov/conjunctivitis/](https://www.cdc.gov/conjunctivitis/)
- Influenza: [https://www.cdc.gov/flu/index.htm](https://www.cdc.gov/flu/index.htm)
- Scabies: [https://www.cdc.gov/parasites/scabies/index.html](https://www.cdc.gov/parasites/scabies/index.html)
- Tetanus and wound management: [https://www.cdc.gov/disasters/emergwoundhcp.html](https://www.cdc.gov/disasters/emergwoundhcp.html)

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

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**DHEC contact information for reportable diseases and reporting requirements**

Reporting of **Urgently reportable conditions** is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the DHEC 2017 List of Reportable Conditions available at: [http://www.scdhec.gov/Library/CR-009025.pdf](http://www.scdhec.gov/Library/CR-009025.pdf)

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).
## Regional Public Health Offices – 2017

Mail or call reports to the Epidemiology Office in each Public Health Region

### MAIL TO:

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<tr>
<th>Lowcountry</th>
<th>Midlands</th>
<th>Pee Dee</th>
<th>Upstate</th>
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<tr>
<td>4050 Bridge View Drive, Suite 600</td>
<td>2000 Hampton Street</td>
<td>145 E. Cheves Street</td>
<td>200 University Ridge</td>
</tr>
<tr>
<td>N. Charleston, SC 29405</td>
<td>Columbia, SC 29204</td>
<td>Florence, SC 29506</td>
<td>Greenville, SC 29602</td>
</tr>
<tr>
<td>Fax: (843) 953-0051</td>
<td>Fax: (803) 576-2993</td>
<td>Fax: (843) 661-4859</td>
<td>Fax: (864) 282-4373</td>
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<tr>
<td>Berkeley, Charleston, Dorchester</td>
<td>Kershaw, Lexington, Newberry, Richland</td>
<td>Chesterfield, Darlington, Dillon, Florence, Marlboro, Marion</td>
<td>Anderson, Oconee</td>
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<tr>
<td>Phone: (843) 953-0043</td>
<td>Phone: (803) 576-2749</td>
<td>Phone: (843) 661-4830</td>
<td>Phone: (864) 260-5581</td>
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<td>Nights/Weekends: (843) 441-1091</td>
<td>Nights/Weekends: (888) 801-1046</td>
<td>Nights/Weekends: (843) 915-8845</td>
<td>Nights/Weekends: (866) 298-4442</td>
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<td>Beaufort, Colleton, Hampton, Jasper</td>
<td>Chester, Fairfield, Lancaster, York</td>
<td>Clarendon, Lee, Sumter</td>
<td>Abbeville, Greenwood, McCormick</td>
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<td>Phone: (843) 322-2453</td>
<td>Phone: (803) 286-9948</td>
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<td>Aiken, Barnwell, Edgefield, Saluda</td>
<td>Georgetown, Horry, Williamsburg</td>
<td>Cherokee, Greenville, Laurens Pickens, Spartanburg, Union</td>
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<tr>
<td>Phone: (803) 268-5833</td>
<td>Phone: (803) 642-1618</td>
<td>Phone: (843) 915-8804</td>
<td>Phone: (864) 372-3133</td>
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For information on reportable conditions, see [http://www.scdhec.gov/Health/FHPF/ReportDiseasesAdverseEvents/ReportableConditionsInSC/](http://www.scdhec.gov/Health/FHPF/ReportDiseasesAdverseEvents/ReportableConditionsInSC/)

Categories of Health Alert messages:

- **Health Alert**: Conveys the highest level of importance; warrants immediate action or attention.
- **Health Advisory**: Provides important information for a specific incident or situation; may not require immediate action.
- **Health Update**: Provides updated information regarding an incident or situation; unlikely to require immediate action.
- **Info Service**: Provides general information that is not necessarily considered to be of an emergent nature.