

# United States Senate

WASHINGTON, DC 20510

November 7, 2017

Brenda Fitzgerald, M.D.  
Director  
Centers for Disease Control and Prevention  
1600 Clifton Road  
Atlanta, GA 30329

Dear Director Fitzgerald,

We write to request information on the spread of water- and vector-borne diseases in Puerto Rico and the U.S. Virgin Islands in the wake of Hurricanes Irma and Maria.

Waterborne diseases, such as dysentery, cholera, and typhoid fever, are caused by microbes, pathogens, and other toxins that thrive and spread in water. Individuals who consume, bathe in, or otherwise contact contaminated water can become infected. According to the National Institute of Environmental Health Sciences, “major precipitation events”—such as hurricanes—can increase the likelihood of a waterborne disease outbreak by damaging critical sanitation infrastructure and overflowing sewage systems.<sup>1</sup>

Public health experts and local officials have expressed growing concern that Puerto Rico, still recovering from Hurricane Maria, is at increased risk of waterborne-disease outbreaks. To date, hundreds of thousands of Puerto Ricans do not have access to running water; meanwhile, wastewater treatment plants are relying on generator power, and a significant fraction are not operational. Left with no other options, many Puerto Ricans are bathing, washing clothes, and drinking from unsafe water—including streams and rivers contaminated by raw sewage.<sup>2</sup> On the U.S. Virgin Islands, residents are still advised to use boiled or bottled water for drinking and cooking,<sup>3</sup> and there have been recent problems with potable water standpipes.<sup>4</sup>

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<sup>1</sup> National Institute of Environmental Health Sciences, “Waterborne Diseases,” [https://www.niehs.nih.gov/research/programs/geh/climatechange/health\\_impacts/waterborne\\_diseases/index.cfm](https://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/waterborne_diseases/index.cfm).

<sup>2</sup> Michael Melia, “Raw sewage contaminating waters in Puerto Rico after Maria,” *Washington Post*, Oct. 16, 2017, [https://www.washingtonpost.com/world/the\\_americas/puerto-rico-struggles-with-massive-environmental-crisis/2017/10/16/6dd1339c-b296-11e7-9b93-b97043e57a22\\_story.html](https://www.washingtonpost.com/world/the_americas/puerto-rico-struggles-with-massive-environmental-crisis/2017/10/16/6dd1339c-b296-11e7-9b93-b97043e57a22_story.html).

<sup>3</sup> U.S. Virgin Islands Department of Health, Facebook post, Nov. 2, 2017, <https://www.facebook.com/virginislandsDOH/photos/a.1091533454200465.1073741828.1091524094201401/1630351110318694/>.

<sup>4</sup> U.S. Virgin Islands Water and Power Authority, Facebook post, Oct. 31, 2017, [https://www.facebook.com/permalink.php?story\\_fbid=723584914505965&id=292472680950526](https://www.facebook.com/permalink.php?story_fbid=723584914505965&id=292472680950526).

Waterborne diseases have impacted the health of people in both territories. In Puerto Rico, three people have reportedly died of leptospirosis,<sup>5</sup> a bacterial infection spread through the urine of infected animals.<sup>6</sup> There are 76 additional suspected cases of the disease on the island which, if confirmed, would “represent a major spike” in the disease’s frequency.<sup>7</sup> A case of leptospirosis has also been reported on St. Thomas in the U.S. Virgin Islands.<sup>8</sup> In addition, Puerto Rico has seen outbreaks of gastroenteritis and conjunctivitis.<sup>9</sup> Without concerted efforts to reduce the risk of waterborne illnesses, it is conceivable that other diseases could spread. Cholera, for example, is not endemic to Puerto Rico,<sup>10</sup> but if the bacterium were transported to the island, poor sewage and sanitation conditions would increase the likelihood of local transmission.<sup>11</sup>

In addition to waterborne disease, Puerto Rico faces the threat of vector-borne diseases. Vector-borne diseases, like dengue fever, malaria, and yellow fever, are commonly transmitted to humans through insects.<sup>12</sup> In 2016, Puerto Rico suffered from an outbreak of the Zika virus, a mosquito-borne illness that can lead to microcephaly and other birth defects in infants. The island recently declared an end to its Zika epidemic,<sup>13</sup> but the standing water left behind from Hurricane Maria threatens to undermine this progress. Though the hurricane’s floods and strong winds “killed, for now, most of the mosquitos that carry the Zika virus,” a spokesman from the Centers for Disease Control and Prevention (CDC) recently warned that with the “standing water remaining, in the coming weeks and months [mosquito] populations will likely start to increase again,” requiring the CDC to “maintain...vigilance” against the virus.<sup>14</sup> Similar vigilance is also

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<sup>5</sup> Associated Press, “Deaths from Hurricane Maria increase to 51 in Puerto Rico,” *Washington Post*, Oct. 24, 2017, [https://www.washingtonpost.com/world/the\\_americas/deaths-from-hurricane-maria-increase-to-51-in-puerto-rico/2017/10/24/098f0460-b8d9-11e7-9b93-b97043e57a22\\_story.html](https://www.washingtonpost.com/world/the_americas/deaths-from-hurricane-maria-increase-to-51-in-puerto-rico/2017/10/24/098f0460-b8d9-11e7-9b93-b97043e57a22_story.html); Martin Savidge and Tristan Smith, “Puerto Rico family mourns father they believe was killed by tainted water,” CNN, Oct. 27, 2017, <http://www.cnn.com/2017/10/27/health/puerto-rico-leptospirosis-victim/index.html>.

<sup>6</sup> Centers for Disease Control and Prevention, “Leptospirosis,” <https://www.cdc.gov/leptospirosis/infection/index.html>.

<sup>7</sup> Daniella Silva, “Puerto Ricans at Risk of Waterborne Disease Outbreaks in Wake of Hurricane Maria,” *NBC News*, Oct. 26, 2017, <https://www.nbcnews.com/storyline/puerto-rico-crisis/puerto-ricans-risk-waterborne-disease-outbreaks-wake-hurricane-maria-n814461>; Martin Savidge and Tristan Smith, “Puerto Rico family mourns father they believe was killed by tainted water,” CNN, Oct. 27, 2017, <http://www.cnn.com/2017/10/27/health/puerto-rico-leptospirosis-victim/index.html>.

<sup>8</sup> “Case of Leptospirosis, a Sometimes Deadly Disease, Reported in USVI; Dept. of Health Launches Investigation,” *Virgin Islands Consortium*, Oct. 16, 2017, <http://viconsortium.com/health/case-of-leptospirosis-a-sometimes-deadly-disease-reported-in-usvi-dept-of-health-launches-investigation/>.

<sup>9</sup> Ana Campoy, “Puerto Ricans, washing in contaminated water, face the spread of disease,” *Quartz*, Oct. 28, 2017, <https://qz.com/1114413/hurricane-maria-puerto-ricans-washing-in-contaminated-water-face-the-spread-of-leptospirosis/>.

<sup>10</sup> Tweets by Centers for Disease Control, Sept. 30, 2017, <https://twitter.com/CDCgov/status/914249271951716353>.

<sup>11</sup> Renaud Piarroux et al., “Understanding the Cholera Epidemic, Haiti,” *Emerging Infections Diseases*, July 2011, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3381400/>.

<sup>12</sup> National Center for Biotechnology Information, “Vector-Borne Diseases: Understanding the Environmental, Human Health, and Ecological Connections—Summary and Assessment,” <https://www.ncbi.nlm.nih.gov/books/NBK52939/>.

<sup>13</sup> Helen Branswell, “Puerto Rico declares its outbreak of Zika virus is over,” *STAT*, June 5, 2017, <https://www.statnews.com/2017/06/05/puerto-rico-zika-outbreak/>.

<sup>14</sup> Christopher Flavelle, “The Hurricane Did one Good Thing for Puerto Rico: It Blew Away Zika,” *Bloomberg*, Sept. 29, 2017, <https://www.bloomberg.com/news/articles/2017-09-29/the-hurricane-did-one-good-thing-for-puerto-rico-blew-away-zika>; Maggie Koerth-Baker, “One More Thing For Puerto Rico To Worry About: Disease-Ridden

called for in the U.S. Virgin Islands, where the CDC had reported cases of Zika and where authorities are now advising residents to take precautions against mosquitoes.<sup>15</sup> It has been reported that many homes in the U.S. Virgin Islands still lack roofs and therefore do not offer protection against mosquitoes.<sup>16</sup>

We are aware that the CDC is taking steps to support the Puerto Rico Department of Health as it tests for and diagnoses illnesses stemming from Hurricane Maria—a process made much more difficult by the decimation of Puerto Rico’s public health laboratory capacity. Furthermore, we applaud the CDC for issuing a health alert advising providers treating patients from Puerto Rico and the U.S. Virgin Islands to “consider less common infectious disease etiologies,” including “leptospirosis, dengue, hepatitis A, typhoid fever, vibriosis, and influenza.”<sup>17</sup> However, we are concerned by dire conditions in Puerto Rico and by reports that more than 900 deaths on the island were not adequately examined to determine whether they should be included in the official storm death toll—suggesting that there may be more water- and vector-borne deaths than have been officially reported.<sup>18</sup>

As the situation in Puerto Rico continues to worsen, and as the U.S. Virgin Islands face a long recovery, we are seeking additional information to help us better understand the extent of the problem of water- and vector-borne diseases in both territories. We request answers to the following questions no later than November 21, 2017:

1. Please provide a list of all waterborne diseases that the CDC has confirmed are present in Puerto Rico and the U.S. Virgin Islands post-Hurricane Maria. How many cases has the CDC confirmed for each waterborne disease in each territory?
2. Please provide a list of any vector-borne disease that the CDC has confirmed are present in Puerto Rico and the U.S. Virgin Islands post-Hurricane Maria. How many cases has the CDC confirmed for each vector-borne disease in each territory?
3. Please describe the steps the CDC is taking to support territorial agencies—the Puerto Rico Department of Health (PRDH) and the U.S. Virgin Islands Department of Health (USVI DOH)—in their efforts to test for and diagnose illnesses in the wake of Hurricane Maria.

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Mosquitoes,” *FiveThirtyEight*, Sept. 26, 2017, <https://fivethirtyeight.com/features/one-more-thing-for-puerto-rico-to-worry-about-disease-ridden-mosquitoes/>.

<sup>15</sup> Centers for Disease Control and Prevention, “Zika Virus in US Virgin Islands,” <https://wwwnc.cdc.gov/travel/notices/alert/zika-virus-usvirgin-islands>; FEMA U.S. Virgin Islands, Facebook post, Nov. 1, 2017, <https://www.facebook.com/FEMAUSVirginIslands/posts/350857675384299>.

<sup>16</sup> Brianna Sacks, “People On The US Virgin Islands Can’t Get Food Aid Because There’s Still No Electricity,” *Buzzfeed News*, Oct. 31, 2017, <https://www.buzzfeed.com/briannasacks/six-weeks-after-hurricanes-hit-power-and-fresh-food-still>.

<sup>17</sup> Centers for Disease Control and Prevention, “Advice for Providers Treating Patients in or Recently Returned from Hurricane-Affected Areas, Including Puerto Rico and US Virgin Islands,” Oct. 24, 2017, <https://emergency.cdc.gov/han/han00408.asp>.

<sup>18</sup> Nidhi Prakash, “Puerto Rico’s Government Just Admitted 911 People Died After the Hurricane—Of ‘Natural Causes,’” *Buzzfeed News*, Oct. 27, 2017, <https://www.buzzfeed.com/nidhiprakash/puerto-rico-natural-causes>.

- a. How many CDC staff are currently in Puerto Rico and the U.S. Virgin Islands assisting with recovery efforts? How long will these staff stay in these territories?
  - b. What steps have the CDC and territorial agencies taken to reduce the rate of waterborne diseases in Puerto Rico and the U.S. Virgin Islands?
  - c. What steps have the CDC and territorial agencies taken to reduce the rate of vector-borne diseases in Puerto Rico and the U.S. Virgin Islands?
4. What are the biggest public health challenges facing Puerto Rico in the wake of this Hurricane and what is the CDC doing to help assist with preventing further suffering?
  5. What, if anything, does the CDC need from Congress in order to adequately and quickly meet the public health needs of the people of Puerto Rico and the U.S. Virgin Islands?
  6. How does the status of water- and vector-borne diseases on Puerto Rico compare with that on the U.S. Virgin Islands?


If you have any questions or concerns, please do not hesitate to reach out to Alex Blenkinsopp of Senator Warren's staff at 202-224-4543.

Sincerely,



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Elizabeth Warren  
United States Senator




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Patty Murray  
United States Senator



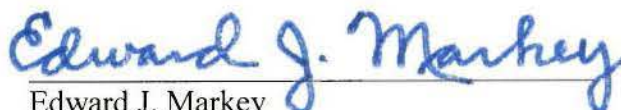
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Richard J. Durbin  
United States Senator



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Bill Nelson  
United States Senator



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Edward J. Markey  
United States Senator



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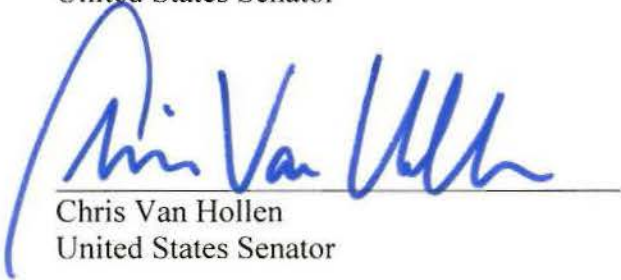
Kirsten Gillibrand  
United States Senator



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Amy Klobuchar  
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Brian Schatz  
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