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Bug Zapper: Fighting Zika With Technology

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Analytics & Data Mgmt

Technology and Big Data are helping track the virus.

The buzzing of a mosquito has always been an annoyance, but recently it has become the soundtrack to the latest public health crisis. How is technology helping healthcare organizations fight back against the Zika virus?

The [Zika virus](#) has dominated headlines for months, and with so little known about the virus and its link to birth defects, much of the world is on edge. Health professionals certainly have an interest in containing the spread and focusing their prevention efforts. Technology and Big Data are helping them with these tasks.

Apps and Maps

Considering how mobile mosquitoes are—not to mention travelers who may unknowingly carry the disease from affected areas—mobile apps and mapping technologies to track the virus and spread information are essential.

- ▶ The World Health Organization (WHO) has released [a free app](#) to help people—both healthcare workers and the general public—report cases of Zika. Users can also report complications and read information about Zika, making it an educational tool as well as an important component in tracking the disease.
- ▶ Kinsa, a manufacturer of smart thermometers, [has also created a mobile solution](#) that will track incidence of fevers, one of the symptoms of Zika infection. The groups feature, created for the athletes at the Olympics in Rio de Janeiro, allows multiple users to [share information about their health](#). The company also gave some of the athletes smart thermometers that recorded body temperatures in an app, and if the person allowed it, the data was crowdsourced to see the local “health weather.”
- ▶ The Pacific Disaster Center is using geographic information systems (GIS) to map incidences of the Zika virus and layer that with information about how well the areas affected are [equipped to handle an outbreak](#), such as number of hospitals, local weather reports, and geographic elements.
- ▶ Specialists at [HealthMap](#) are also mapping Zika cases. With their experience mapping viruses spread by mosquitoes and other animals, also called vector-borne diseases, they believe [surveillance and data-gathering are essential tools](#) in fighting these complicated illnesses.

Now, the system for [tracking cases isn't perfect](#). Because the disease is spread by an intermediary—mosquitoes—rather than direct human contact, saving the locations of those who get the disease won't give a complete picture of the spread.

But when you layer on travel data and share the location of outbreaks to help consumers plan and protect themselves with mosquito repellent and clothing, Big Data can lessen the severity of outbreaks and prevent them from spreading. Local health authorities and disaster relief agencies can use this data to predict where cases may spike and prepare contingency plans.

The Power of Technology in Fighting Communicable Diseases

These tech tools allow more powerful analysis than was previously available to healthcare workers. Moreover, with the recent addition of crowdsourcing through the WHO and Kinsa apps, new technology makes it possible for data to be updated faster and to cover a broader range than it once did, when only health departments were in charge of disease reporting.

These tools and methods will also provide the basis going forward not only to address future disease outbreaks but also to possibly predict and prevent them.

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