

# Infectious outbreaks must be combatted strategically, experts argue

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Transmission electron micrograph (TEM) of Zika virus. Credit: Cynthia Goldsmith/Centers for Disease Control and Prevention

New funding is not enough to guarantee success against emerging infectious diseases around the world. Rather, good governance, a long-term technology investment strategy and strong product management

skills are essential, say a Dartmouth College researcher and her co-author.

Their article appears in the journal *Nature Biotechnology*.

Kendall Hoyt, Ph.D., an assistant professor at the Geisel School of Medicine at Dartmouth and an expert in biosecurity, and Richard Hatchett, M.D., the acting director of the Biomedical Advanced Research and Development Authority (BARDA) at the U.S. Department of Health and Human Services, propose a new way to develop countermeasures for Ebola, Zika and other emerging [infectious diseases](#). As momentum builds for an international effort to develop drugs and vaccines for emerging infectious diseases, the duo examined U.S. biodefense programs to understand approaches that might work and developed a global strategy for countermeasure development.

"As infectious outbreaks such as SARS, MERS, Ebola and Zika become the new norm, there is growing recognition that governments and philanthropic organizations need to pool funds to develop countermeasures for these diseases," Hoyt says. "Money is not enough, however. Without strong governance, a clear technology strategy and good product management, precious public funds will be wasted and we will continue to battle public health emergencies of international concern without the aid of medical countermeasures."

In February, the World Health Organization declared the Zika virus a [public health emergency](#), setting a now familiar scenario into motion. As with previous infectious disease outbreaks—HIV/AIDS, severe acute respiratory stress (SARS) disorder, pandemic flu and most recently Ebola—Zika will spark an international race to develop new vaccines.

"The problem is that vaccines can take over a decade to develop," Hoyt says. "The development of new biomedical countermeasures—vaccines,

therapies and diagnostic—requires the coordination of a wide number of institutional and industry actors to succeed. We argue that international efforts to develop countermeasures for emerging infectious diseases should build on lessons learned from U.S. programs to develop closely related biodefense products."

**More information:** Kendall Hoyt et al, Preparing for the next Zika, *Nature Biotechnology* (2016). [DOI: 10.1038/nbt.3532](https://doi.org/10.1038/nbt.3532)

Provided by Dartmouth College

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