

USAID Podcast: Are We Ready for the Next Outbreak?

Episode 1: The Race to Preparedness

- Speaker 1: Infectious diseases do not respect national borders, and the failure to contain an outbreak in one country has the potential to jeopardize the health security of the entire world. In 2014, the Ebola epidemic in West Africa killed more than 10,000 people and incited fear of global contagion. The Zika outbreak began in 2015 in Brazil, and has already affected more than 40,000 people in the U.S. and its territories.
- [00:00:30] The question is, “Are We Ready for the Next Outbreak? This is the first episode in a three-part podcast series that looks to explore what we have learned from fighting infectious disease epidemics like Ebola and Zika and understand what the U.S. Agency for International Development and its partners are doing to improve preparedness for the next outbreak. Let's go to our moderator for this podcast, Latrisha Chappin.
- Latrisha Chappin: My name is Latrisha Chappin, and I'm with the Africa Bureau at USAID. This is the first episode of a three-part series on the topic, “Are We Ready for the Next Outbreak?” The answer to this question is not a straightforward one, as global health security threats can range from naturally occurring outbreaks to the accidental or deliberate release of dangerous pathogens.
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- [00:01:30] In recent years, we have seen a variety of global health security threats emerge, including outbreaks like the plague that occurred within single countries, endemic zoonotic diseases like rabies, and regional epidemics of diseases such as cholera and yellow fever. This episode will provide the context around current and future efforts in the prevention of and response to infectious disease outbreaks, with a particular focus on the recent Ebola and Zika outbreaks. Episodes two and three delve more deeply into how USAID is working with partners to identify and invest in the most promising ideas, and applying rigorous market-oriented approaches to cut the time it takes to transform ideas in a lab to impact on the ground.
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- [00:02:30] Today we are going to speak with three leading experts about some of the pressing challenges in detecting and responding to infectious disease outbreaks. I'd like to start by having each of our panelists introduce themselves and provide some background about their work in the area of infectious disease control.
- [00:03:00] Dan, I'll start with you, you wear several hats. Tell us about your work, and yourself, as well as the role you played during the Ebola outbreak in 2014.
- Dan Bausch: Okay, thanks Latrisha. My name's Dan Bausch. My present position is Director of something called the U.K. Public Health Rapid Support Team. This is a team that was created in the wake of the Ebola outbreak in order to not only respond to outbreaks, but also do the relevant research that needs to be done in these settings and develop capacity to respond in low and middle-income countries.
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- [00:03:30] During the Ebola outbreak, I spent much of the time in my previous position at WHO helping to strategize on how to combat the outbreak, primarily on clinical aspects, and also working during that time with USAID. on some of the elements related to developing the right personal protective equipment, PPE, if you will, for Ebola and also how we bring some of the innovations to the field.
- [00:03:30] Latrisha Chappin: Maja, tell us about your work with the International Society for Infectious Diseases and PROMED, the Program for Monitoring Emerging Diseases.
- Maja Carrion: Sure. Thanks, Latrisha. PROMED is an early warning surveillance system, and the way it works is, we have a group of highly skilled senior level moderators who are continuously looking at what is being put

[00:04:00] out in informal media, and then creating posts on emerging diseases and outbreaks. So, it's curated by these highly skilled subject matter experts, essentially, and all of the posts go out to our more than 86,000 now e-mail subscribers in every country in the world. They're all open access, free for anyone to sign up.

And in terms of Ebola and Zika, PROMED was one of the first, really, to report on both of them and to kind of signal that something was happening.

Latrisha Chappin: And Christina, can you tell us about your role?

Christina Chappell: [00:04:30] I serve as the Deputy Director for our Office of Infectious Disease. It's part of our Global Health Bureau at USAID. And within that office, we provide oversight, technical support, implementation, program design and strategic vision for all of our infectious disease programming around the world.

[00:05:00] And then we have an important body of work looking at emergent disease threats and global health security agenda related items. Within our office as well, we provided the support for the response on the Ebola outbreak in West Africa and with the Zika activities now underway in Latin and South America.

Latrisha Chappin: What is the status of the spread of Zika and Ebola today? Maja, can we start with you?

Maja Carrion: Sure. So, I think everyone is really familiar, obviously with the large outbreak, the 2014 in West Africa, Ebola outbreak. However, I think what fewer people know is that prior to that outbreak and since that outbreak, we continue to have smaller outbreaks of Ebola. Most recently we reported in Democratic Republic of Congo. On June 7th there was Ebola, seven Ebola cases and four deaths.

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[00:06:00] With Zika, it's again probably in Brazil, and some of the areas most affected, we're really seeing a decline in cases, we've probably hit the peak now where we're on the decline. We continue to have cases. Again, Zika was around long before this recent outbreak and will continue to be I think, similar to Ebola as well, and we're finding that there's a lot of long term consequences to even those who have survived, most recently a lot of ophthalmologic issues with cataracts developing, especially in children who survived. So, I think the focus, a little bit, has shifted now to long term consequences.

Dan Bausch: [00:06:30] Well, I think, I agree with Maja's assessment to the present status. Zika has waned in itself, but we have the long-term consequence. You know, a mother who has a baby with microcephaly has years and years of challenges and expenses on her and her family's hands. In terms of prevention, how do we think more broadly so it's not so much about Zika prevention, but if you will, in this particular example, how do we think about mosquito-borne or arboviruses, how do we prevent those? Because, there's always the next ones.

Latrisha Chappin: Another question I have is what are we doing to contain Zika in South America?

Christina Chappell: [00:07:00] We're doing work in vector control, trying to mitigate the spread of the disease through addressing the mosquitoes themselves, looking at some insecticide delivery systems, looking at larvicides, looking at simple community mobilization to help communities and individuals and schools walk around their properties and tip out water reserves and other areas that serve as mosquito breeding areas.

- [00:07:30] We're working on service delivery as well, to make sure that clinicians and laboratories have the capacity to appropriately diagnose and report on suspect and confirmed Zika cases. And we also want to make sure that we have the ability to refer those who have Zika and whose babies have congenital Zika microcephaly into long term care and support so that they can assist with the development needs of those particular affected individuals.
- [00:08:00] We're also looking at research opportunities in partnership with CDC and other enterprises, and also looking at how to leverage new innovations and technologies through Grand Challenges and other ways of bringing private sector or academic expertise into the realm of rapid response.
- Latrishia Chappin: Dan, earlier you mentioned looking beyond Zika and Ebola and looking across the different disease threats. In applying lessons learned, and thinking about what we have done well, I'd be interested to hear your opinions and thoughts on what we've done that can be used across different disease threats.
- [00:08:30] Dan Bausch: Well, I won't sugar coat. I think we struggled and had challenges to get research implemented with the rapidity necessary to really get the right results and the key results that we needed. Having said that, there were some amazing things that happened.
- [00:09:00] And so, we had phase one, phase two, phase three trials of some products that happened very rapidly, and consequently have a lot of data on vaccine efficacy for Ebola. We still have a lot of work to do to push that through, but I think that nevertheless is an achievement, ultimately.
- As significantly, I think, is it has shown a model and challenged us all to change, perhaps, the status quo of how we do research and how we approach these particular events, and not accept that phase one, two, three trials need to take decades. And is there a way that we can have faster speeds and really move these things.
- Latrishia Chappin: Maja, I'm interested to hear your thoughts as well, especially on communications and outreach efforts.
- [00:09:30] Maja Carrion: I think what both these outbreaks highlighted is the lack of really good surveillance on the ground, and how important health infrastructure and the infrastructure within these countries, and being able to allocate resources quickly. The importance of having rapid diagnostic tests that can be utilized in low resource areas. I think in both of these cases, we saw the effect of that, and the delay in that and unfortunately, the consequences.
- [00:10:00] I think the global community realized that these pathogens don't respect country borders, that we're all a global community, and that we can all be at risk for different things and so I think that heightened awareness, then, is leading to an increase in surveillance and people looking for these partnerships, these collaborations, and ways that they can work together to strengthen not only their own country or what's going on with them locally, but also just their regions and on a larger scale.
- [00:10:30] Dan Bausch: Maybe if I could come back in here with another comment. I think it's worth mentioning I remember going back and was fortunate to be part of the very early stages of the USAID Global Challenge, where the first days were getting myself and a few other people who had a lot of familiarity with Ebola on the ground together with engineers and techno-whiz people that we don't usually interact with so much, and just showing them, this is what it's really like to get into the PPE, the personal protective equipment.
- [00:11:00] These are the challenges that we have in caring for a patient. How can you make this better? How can you use technology and innovation to make this better?

- Christina Chappell: If I can complement that. The other side of that coin, if you will, of the advanced technologies and a lot of the global expertise bring cutting edge technologies or communications platforms or big data systems to compile and track all of the varied algorithms for disease transmission, those have a very key role.
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- At the same time, it's still the basics that have to be in place to control any epidemic. You have to have basic hygiene. You have to have gloves. You have to have the soap. You have to have the way to connect on a personal level with the individuals and communities most affected by it.
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- Trust became a huge issue in addressing and stemming the epidemic in West Africa. And it was really working through people who understood and knew communities and culture to address the specific behaviors that led to higher risk, that also helped to stem the epidemic. And you need both of those elements. You need to bring in your latest and greatest in the science, in the medicine and the vaccines. You need to have the human touch and the basics in place to also make it real.
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- Dan Bausch: I want to add one more layer onto that because I think one has to recognize that it's not by chance that we had a large Ebola outbreak in Sierra Leone, in Guinea, in and Liberia, two war torn countries over the last decades, and Guinea with many political and civil challenges as well.
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- So, I think the human rights element and the advocacy on the human rights element is extremely important. Because we know, not only from outbreak prone diseases, but there's many diseases for which we have vaccines, we have therapeutics, we have tools, but we still see that disease in the world. And so, the advocacy and the human rights work and getting those tools in the right context to the people and the right to health has to be something that we can't forget. That has to be a background approach and a background emphasis of all our work.
- Christina Chappell: Ditto. The interconnected nature of the global world today means you're going to get the spread of viruses, but you're also going to get the spread of information technology and resources. And so, while the two will never be equivalent or counterbalanced, and you have to work hard to get the right things to the right place to mitigate an outbreak, the opportunities on both sides are real and present.
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- Latrisha Chappin: One of the big questions is complex, and we probably don't have a complete answer but is West Africa better prepared today than it was before the Ebola outbreak?
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- Maja Carrion: I would say yes. Lessons were learned along the way. Hard lessons were learned along the way. But, a lot of very skilled individuals in those countries rose to the top. They rose to the game. And with domestic assistance within their countries, with international assistance, we've been able to provide them with additional resources, laboratory equipment, training opportunities, field epidemiology, curricula now installed in national universities, or the capacity to provide other workforce development assistance.
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- Dan Bausch: I think, unequivocally yes, that West Africa is better prepared. But these are three countries out of 192 in the world, and we're not so good at predicting what comes next and where it comes. So, the questions are two, I think, how long do they stay better prepared? Do we keep up that momentum? Because it does take resources. And then, how do we extend that preparation on a much more ... the challenge of a global scale, because this time the Ebola outbreak started in Guinea, and we need to develop the leaders, the capacity in country.
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- [00:15:30] I think it is extremely important to invest in some of the educational institutions, secondary education, developing really the biomedical leaders in the future so that we all need to be driving for, and what we look for in 10 or 20 or 30 years, or however many years is when people say, "Well, why would someone from Geneva or London or Washington or anywhere else have to go to West Africa for an outbreak because they have people in West Africa who have those skills, and they're able to do that.?"
- [00:16:00] It happens with an investment in the institutions and really culturing and bringing people into a status where they really have the leadership skills. They understand the issues, they can implement programs.
- Latrisha Chappin: What is the best way to protect our own country from an outbreak, and is there a single way?
- Dan Bausch: I think keeping up our capacity, and then finding ways to continue to engage overseas and export that knowledge and capacity. We have great science in the United States. We do great science overseas. We need to make sure that we use those data and that evidence to make sure that our messages are on target.
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- Christina Chappell: Agreed. There's no one answer. There's no one silver bullet. It comes down to a lot of innovation and expertise and global leadership that the United States exemplifies, but it also comes down to the recognition that no one nation is safe from a health outbreak.
- Latrisha Chappin: As we've seen from this really fascinating conversation, as important as our internal expertise is our partnership and engagement with the scientific community, with academia, with up and coming innovators and organizations helps us to ensure that we're bringing the best thinking to our different global solutions, in health and in other sectors.
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- I would just like to thank all of you for joining us today for this very important conversation.
- Speaker 1: This episode is part of a three-part podcast series on the topic, "Are We Ready for the Next Outbreak?" To listen to the rest of the series and learn more about how USAID and its partners are working to prevent, detect and respond to future infectious disease outbreaks, visit usaid.gov.
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