

Nobody knows a crisis better than **DR ALI S. KHAN**, who leads the US government's efforts to prepare the public for disease outbreaks and health emergencies, as Brunswick's **SARAH LUBMAN** discovers

**S**OON AFTER THE MARCH 11 2011 Fukushima nuclear disaster, the US Centers for Disease Control and Prevention (CDC) sought to reassure a nervous American public that the trace amount of radiation wafting over from Japan posed no harm. The agency's Office of Public Health Preparedness and Response, which pays close attention to online conversations, noticed some tongue-in-cheek chatter that radiation might reanimate the dead into zombies, the premise of George Romero's classic 1968 black-and-white horror movie, *Night of the Living Dead*.

The CDC picked up the zombie meme and ran with it. A member of the CDC's communications team suggested doing a post on the agency's blog about disaster-preparation tips to help readers survive a zombie apocalypse (for the record, they include a proper survival kit and emergency planning, including an agreed evacuation route. Baseball bats, a common weapon of choice against zombies, were not on the list). Former US Assistant Surgeon General Dr Ali S. Khan, now director of the CDC's Office of Public Health Preparedness and Response, greenlit the idea. The result went viral, and the CDC's website crashed under the onslaught of the virtual hordes.

"We used this as a metaphor even though there were natural disasters already happening," says Khan. "Somehow, embracing zombies allowed people to think more concretely about how they – and more importantly their family and households – were prepared."

The CDC also dispensed more conventional advice after Fukushima, dispelling fears over US radiation exposure and urging the public not to take potassium

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**The US Centers for Disease Control and Prevention's award-winning campaign taps into the public's love of zombies to get across a serious public safety message**







iodide after noticing a push for it on social media. But the zombie blog demonstrates more than a rare display of institutional creativity and humor by a government agency. It underscores the importance of flexibility and the ability to listen and respond appropriately, all essential qualities for an effective crisis response, whether it is directed at a disease outbreak or a product recall.

Khan honed his skills in the field as an Epidemic Intelligence Service Officer, the virus hunters who travel around the world trying to determine why people in a particular community are getting sick. Khan's work has taken him to remote regions in search of clues about transmission of diseases, ranging from Ebola to SARS to the mouse-borne hantavirus. In an interview with *Microbe World* when he was a "disease detective," Khan described one of the more memorable hazards encountered on the job: taking blood samples from fanged monkeys in the Philippines during an Ebola outbreak.

In his current role, as responder-in-chief to public health threats, Khan's guiding principles are: "Be first and be credible." He acknowledges that it isn't always easy being both, and that the agency works hard to walk a line between providing accurate, science-based information and not "over-reassuring" the public. As he puts it, "You need to acknowledge people's fears, express what you do know, what they want to know, what you can't tell them – and when you'll have more information to tell them something."

It helps that the agency can often talk with certainty about the biology of a disease outbreak, whether the cause is a virus or food contamination. "We have some things that we can talk about that enhance our credibility, that are science-based and accurate," Khan says. "We can also then give somebody a point in the future to say, 'You know what? Tomorrow at three I'm going to come back to you and I'm going to tell you how many additional cases there are.'"

Pop culture depictions of health crises have evolved. Khan regards the movie *Contagion*, which features both an epidemic intelligence officer and a sophisticated understanding of incubation, as a "great example" of Hollywood getting it right. As a witness to deserted African villages, shunned healthcare workers, and patients left to fend for themselves, Khan thinks Hollywood has come to recognize that outbreaks are scary enough in their own right without requiring any added hype.

What the popular imagination and movie cameras can't capture is the day-in, day-out routine and rigor that the agency employs to stay on its toes. The CDC operates in a state of constant rehearsal and →



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## DR ALI S. KHAN

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Dr Ali S. Khan has worked in the public sector for more than 20 years, becoming Director of the Centers for Disease Control and Prevention's Office of Public Health Preparedness and Response in August 2010. Khan qualified as an MD at State University of New York's Downstate Medical Center in his hometown of Brooklyn, New York. He earned a Master of Public Health degree from Emory University. His professional career has focused on bioterrorism, global health, and emerging infectious diseases, and over the past decade he has led public responses to high profile emergencies, including Ebola, avian flu, the Asian tsunami and Hurricane Katrina in New Orleans.

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### WATCHING THE DISEASE DETECTIVES

The Centers for Disease Control and Prevention (CDC) describes itself as "the nation's health protection agency." It has 15,000 employees operating in all 50 of the United States and 50 countries worldwide, commanding a budget of nearly \$7 billion. The CDC has a wide brief, but the single largest expenditure is on "preparedness" to protect Americans from natural and bioterrorism threats (\$1.3 billion). One way the CDC does this is through public education, an example of which came after the 2011 film *Contagion*, starring Kate Winslet, when the CDC deployed its "disease detectives," who had advised on the film, to sort fact from fiction. "While the movie is a work of fiction," the CDC said, via a live Twitter chat, "real-life stories of CDC's elite Epidemic Intelligence Service [where Khan started his career] are just as exciting as the story on the screen."



planning for any number of different crises, going so far as to hold mock press conferences where real members of the media are invited to attend and ask tough questions. “We take that part very seriously,” Khan says. “We’re a public health agency. We could have the brilliant diagnosis of what happens, and if we can’t communicate that, we’ll never get the control measures and preventions in place. We have to be able to communicate.”

### MAPPING THE FUTURE

The CDC has time-tested protocols in place for different events and disease outbreaks, with clear guidelines – or “critical information requirements” – for what needs to be flagged and how far up the chain it goes, including to Khan himself. The agency also gives training and classes around the world on emergency risk communications, working with the World Health Organization and various governments.

Asked about the toughest crises he has managed, Khan picks two. The first was the 2001 anthrax attacks in Washington, DC, when letters containing deadly anthrax spores were mailed to several news media offices and two Democratic senators, killing five people and infecting 17 others. The second was during the aftermath of Hurricane Katrina, when the local public health workforce was displaced.

During the anthrax attacks, “The defining teacher was uncertainty,” Khan says. “You don’t know what’s going to happen next. You have no way to map out what the future of the response is going to look like and what control strategies are going to look like ... it makes it very challenging to communicate.”

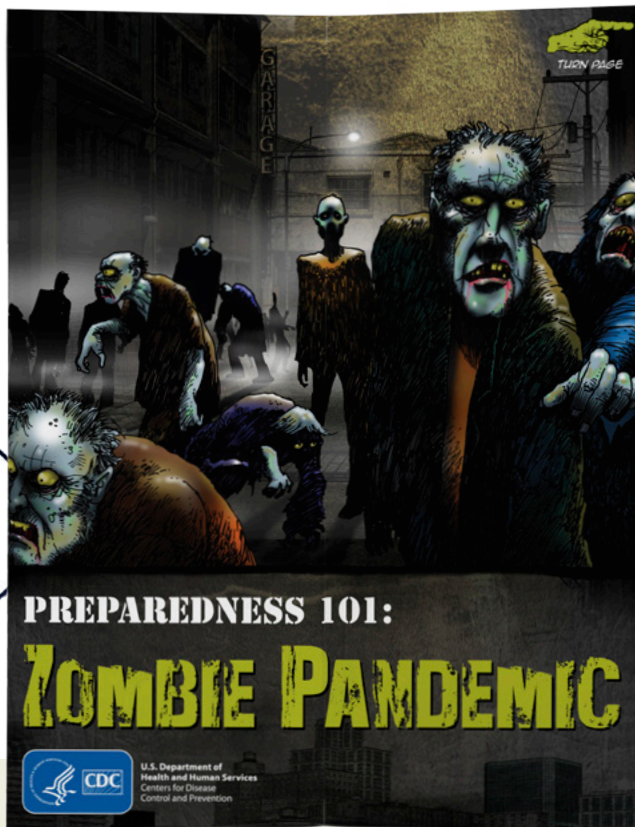
The CDC already makes extensive use of social and digital media to listen to the public and tailor its response, as it did in the aftermath of Fukushima by warning that the health risks of taking potassium iodide far outweighed any benefit against minimal radiation detected by highly sensitive US monitoring. The agency wants to do far more, and is actively exploring new ways to harness the power of the internet to aid disaster relief and disease outbreak.

“We’re currently in the process of developing a crowdsourcing/crowd analysis tool for public use around outbreaks and other disasters,” Khan says. Dubbed Project Dragon Fire, the CDC envisions it as a single online source or site, developed in partnership with other federal agencies and the American Red Cross, where citizens can go to report damage and share information.

To illustrate the need for a better online disaster response tool, Khan recalls his experience in the hardest-hit areas of Indonesia, after the Indian Ocean







### The CDC embraced the undead and went viral with *Preparedness 101: Zombie Pandemic*, a graphic novella

When he made the first of his *Living Dead* films, director George A. Romero had a purpose larger than simply exploitation-horror in mind. As both the Library of Congress and the American Film Institute recognized, *Night of the Living Dead* was a culturally significant film that held deeper messages of social critique.

So it was natural, then, that Dr Ali S. Khan, a fan of the zombie genre, should embrace the undead as a source of inspiration to improve the way the government's Centers for Disease Control and Prevention (CDC) got across its message about public safety – specifically in response to questions about the Fukushima nuclear incident following the earthquake and tsunami in 2011.

Khan posted a tongue-in-cheek blog in May 2011 initially as a clever way to get across what might otherwise have been a mundane message about

preparedness for emergencies. The media got the joke and the serious message behind it. CNN commented, “[Khan] and his communications team recently noticed that what they’d want you to do if the world really did suddenly go *Night of the Living Dead* is pretty much the same thing they’d want you to do in the case of a hurricane or a major pandemic.”

The blog has received nearly five million views, up from the few thousand that a CDC posting usually receives.

Later in 2011, CDC launched a graphic novella, *Preparedness 101: Zombie Pandemic* (excerpts shown here) reaching an even wider audience. Included is a “preparedness checklist” for readers to get their family, workplace or school ready before disaster strikes. The campaign was garlanded with multiple awards and mentions, including two Platinum Awards and a cover story in *PR News*.

earthquake and tsunami devastated the region. More than 280,000 people in 11 counties perished on December 26 2004, many at the mercy of waves that reached up to 98 feet in the wake of a massive earthquake. Khan went to Aceh, one of the hardest-hit areas of Indonesia, as a World Health Organization representative to help coordinate the response. He saw how one NGO after another was sent to the same refugee camp, even though there were others nearby in desperate need. “I think we can do a lot better at collating information and using that information to drive actions in our communities, either by our citizens or our response community,” Khan says.

### LISTENING AND PRACTICING

Khan thinks a lot about performance measures and he admires the effective targeting of specific audiences that accompanies good marketing by companies. “My sense is that the corporate world has a better idea of how to segment their message so that they’re not wasting time and energy,” he says.

The CDC has also learned some lessons from slow-moving crises, such as the rise of anti-vaccine advocates who have contributed to an increase in disease outbreaks, such as whooping cough. “We are doing better by listening to social media to give us a more timely sense of the heartbeat of America, but we need to be more aggressive in communicating the evidence for our recommendations. Being science-based, emotionally neutral, and non-judgmental does not have to conflict with our duties to share our convictions and passion to protect our children.”

What keeps Khan awake at night? “The next AIDS-like epidemic,” he says. Also, terrorist threats, which can’t be predicted. Catastrophic natural disasters, because “there’s nothing static about what Mother Nature will throw at us.” And last but not least, continued budget cuts in public health. He estimates that there are 45,000 fewer public health practitioners at the state and local level than five years ago.

A crisis exercise cut the interview a few minutes short: the CDC was simulating an anthrax attack, and it was time for Khan to jump in. The scenario included 1,600 spiked samples sent to the CDC to test how quickly the anthrax would be spotted. “We’ve put some ringers in there to see if they all get picked up or not,” Khan says, clearly relishing the mock problem as good preparation for a real one. ♦

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