Actual incidences of Ebola in the United States may be confined to four current cases, but that hasn't kept fear around the epidemic from spreading like wildfire across the country. Among respondents of a Washington Post/ABC News poll, two-thirds said they were concerned about a widespread Ebola epidemic in America, and 20 percent were "very worried" that they or their loved ones would contract Ebola.

Since the virus made its way to Dallas earlier this month, the CDC has fielded over 800 calls a day with false alarms and concerns about individuals with potential Ebola symptoms. Before the first case was diagnosed in Dallas, that number was 50. Once panic about Ebola spreading in the U.S. caught on, it didn't take long for hundreds and thousands of false cases to be reported.

The New York Times recently referred to fear as Ebola's "other contagious threat... whose symptoms ran from heightened anxiety to avoidance of public places to full-blown hysteria."

And Fox News correspondent Shepard Smith took a moment on the air to plead for calm: "Fear not," Smith said. "Do not listen to the hysterical voices on the radio and the television or read the fear-provoking words online."

Fear actually spreads from person to person similarly to how a physical virus is transmitted, according to Valerie Reyna, professor of psychology at Cornell University and director of the Human Neuroscience Institute.

"There's an old theory of risk and perception of fear called 'social contagion,'" Reyna tells The Huffington Post. "People would communicate with one another, and because other people were afraid, they would be afraid, and then they would interact with one another and make each other more afraid, and then you'd..."
The fear itself is a rational response to a perceived threat in the environment. But in social contexts -- particularly those amplified by social media -- fear can multiply upon itself, turning into panic and then hysteria, causing unnecessary alarm and leading to false alarms that put a burden on public health officials.

Here's what you need to know about the 'social contagion' of fear.

**Unfamiliar risks cause more fear.**

If a risk is unfamiliar to us -- something that we've never experienced and may not understand the actual level of risk associated -- it tends to produce more dread, says Reyna.

It's logical that we worry less about risks that we know. For instance, when our doctors tell us about the associated with a surgery, which we can choose to assume on or not, and we know exactly what we're getting into. Or when we cross the street, we're aware that there's a certain risk of being hit by a car, but it is a familiar, everyday risk so we are not as afraid of it.

"Just the lack of familiarity makes people fearful," says Reyna.

The more familiar risk is the "devil you know," but with an unfamiliar risk, you might imagine a higher level of threat since you don't really know what to expect.

"You can go out on the highway and be subject to a higher risk of mortality, but it's the familiar risk that take every day, so it's less dreadful -- it causes less fear," says Reyna. "If you add uncertainty to the risk -- say, 'There's a lot we don't know yet' -- then people's fear becomes even greater."

**Miscommunications and mistrust amplifies the fear.**

In situations like epidemics, terrorist attacks and natural disasters, it's important for public officials to have an understanding of how people are going to react psychologically so that they can communicate risk effectively. If false information is disseminated or lines of communication get crossed, people will become more fearful.

Reyna points to one big mistake that was made during the Ebola outbreak that may have increased the public's level of fear and perceived risk. Public officials and news outlets assured people, in good faith, that it was impossible for hospital workers to contract Ebola if they followed proper protocol. Then one nurse got infected with Ebola, and another followed shortly afterwards. So what are people supposed to think?

It's a classic example of what psychologists refer to as cognitive dissonance: We think the world is one way, and then we receive contradicting evidence which suggests that it is just the opposite, and what ensues is a struggle to fit this new knowledge into our pre-existing cognitive schema.

"It makes perfect sense from a psychological point of view," says Reyna. "You're told something is impossible, and then it happens twice."

Crisis communications expert Daniel Hill agrees that mistrust in public officials and the media amplifies public's fear.
given things that you don't know are facts but believe to be true, be clear about that also," Hill tells The Huffington Post. "Say, 'We don't know this for certain but this is what we believe.' I think it's being extremely transparent... and over-communicating is okay. What [public officials] want to avoid is losing credibility.

The more coverage we see, the more we worry.

We take cues about how to think and act from our social environment, and when we see people we know experts on television and public officials looking worried and giving us cues that we should be afraid, our perceived threat level goes up.

"This is not an irrational thing," Reyna explains.

The problem is that events are not covered in the media in proportion to their direct level of threat -- but public looks to media coverage as a cue for how to feel and behave anyway. Studies have found that people level of worry about a particular news event correlates with the amount of coverage being devoted to the event, rather than the actual risk.

Distance affects our perception of threat.

Physical distance induces psychological distance -- so when things are happening farther away (like in W Africa), we feel less affected by them. But when the threat moves closer, we are more likely to overestimate impact, Reyna explains.

There have been over 7,000 cases of Ebola in West Africa, where the virus is rapidly spreading and containing the spread is challenging due to a lack of resources and infrastructure. In contrast, there have been three cases of Ebola in the U.S., and the risk of outbreak here is extremely low. Still, there is mass panic about an Ebola epidemic in the U.S., due in part to our natural tendency to overestimate threats that are closer to us and ignore those that are farther away.

Social media amplifies the spread.

Discussion of Ebola has been the center of conversation on various social media outlets -- particularly Twitter -- in the past couple months. A geotagged map tracking tweets mentioning "Ebola" or "#Ebola" found that 10.5 million tweets mentioning the virus were sent in a three-week period around the world.

With social media and constant connectivity to news and social networks through digital devices, we're exposed to sensationalist news and fear about the virus. This amplifies process of social contagion process, Reyna explains.

"You can imagine that it's just like the spread of physical epidemics," says Reyna. "If certain people contact many people in their social networks, then that transmits in a non-linear way to other people. So it tends to take off because you get more and more people acting as a hub that basically transmits these messages."

Fun fact: Fear is literally contagious.

Fear spreads socially, but it can also spread physically through contact with the sweat of someone who is having a fear-based reaction.
Researchers collected sweat from the underarms of men while they were watching scenes from a scary movie and when female subjects sniffed the "fear sweat," their facial expressions and eye movement mirrored a sense of fear.

"Our research suggests that emotional chemo-signals can be potential contributors to emotional contagion situations involving dense crowds," the study's authors write.