The Policy Studies Organization

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Budding Scholars Conference

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"The Math behind Ebola and Potential Impact on Policy"

What happens when a fatal virus has a first class ticket to several geographical regions in the world? They multiply. Ebola is the disease that has the world rampant and consequently in chaos. The fear that something that couldn't be seen or detected before it's been transmitted can cause a person madness. This past year proved to be a "coming out" party for the virus in terms of knowing what it is. Before we can delve into Ebola at its current stage we must first take a step back. How does a person become infected from Ebola? There are 2 main paths that a person can become infected. The first, direct transmission of the virus through direct contact. "Direct contact means that body fluids (blood, saliva, mucus, vomit, urine, or feces) from an infected person (alive or dead) have touched someone's eyes, nose, or mouth or an open cut, wound, or abrasion" (CDC.gov) Another way is through wild animals. Ebola is not spread through the air, by water, or in general, by food. However, in Africa, Ebola may be spread as a result of handling bushmeat and contact with infected bats (CDC.gov). This information is not new to the public so why hasn't the virus been aggressively fought until now? Because it wasn't a problem on a national level. The first patient of Ebola was Thomas Eric Duncan was a citizen of Liberia (which is the hardest hit country of Ebola according to CDC.gov) who traveled to Dallas to visit his family and while there was diagnosed with the virus. As a result of the virus' successful transfer to the United States as more and more people caught on the more aware and ominous the public became towards the virus. Now that people are more aware of the virus, how do they respond? Ebola does not just affect our local conversational life but on the global scale of humanity in terms of social, economic and emotional level. This research explores the math behind the spread of the disease, rates of infection, and how data expands since and before the last major outbreak.

Biography

Mohamed Salad is a computer science student at the University of North Carolina at Charlotte. His research interests include how math and big data can facilitate the exploration of disease and epidemic spread.