Biosurveillance Tools for Early Warning of Infectious Outbreaks | Capabilities for the U.S. Department of Defense

EXECUTIVE SUMMARY

Biological threats such as COVID-19 and future epidemics pose a threat to mission readiness of our Armed Forces. Having real-time, geographically-precise awareness of community disease levels for populations on military installations and surrounding communities can help the Department of Defense ensure better force health protection and readiness as well as preparedness and response to future contagious illness outbreaks.

Kinsa has built a next-generation early warning system, based on syndromic surveillance principles, that supports households, communities and public health systems with earlier and more actionable information about when and where biological threats, such as infectious illness, will spread. This system comprises 2.5M deployed medical guidance apps and smart thermometers, which together operate as a community-based triage system, and provides data and insights not available via public health data, wearables, or other methods. Kinsa is able to communicate with households at the very onset of illness symptoms, providing immediate guidance to users by means of directed communications shared on the application. Kinsa's network enables accurate local forecasts of influenza-like illness (ILI) months in advance, and provided up to a three-week early indication of COVID-19 hospitalization and deaths. This network has detected changes in illness trends earlier and with greater granularity than other surveillance systems.

The Department and the nation could benefit from utilizing such an arsenal of early detection tools, including the allocation of time-sensitive medical resources and countermeasures needed to protect an exposed workforce. Advance warning of illness spread among service members, their families, and the surrounding communities with geographic precision -- while maintaining individual privacy and operational security -- can decrease the likelihood that service members become sick during a mission or embarking on a mission while asymptomatic or pre-symptomatic.

Kinsa seeks a partnership with DoD on a project demonstrating how an early warning system -- including alerts, dashboards and unique insights -- can be leveraged to monitor for new outbreaks, inform where and when to deploy testing and response resources, and maintain force readiness. A pilot program could take place at a base in proximity to a major metropolitan area with high smart thermometer penetration, which would allow an examination of how the platform's sensitivity as an early warning system translates to improve health outcomes. This proven technology has been utilized for six years in the public and private sectors: manufacturers and retailers, state and local governments, and thousands of schools across the U.S. are working with Kinsa to intake real-time illness signals to inform policy responses.

We look forward to discussing our capabilities with officials and presenting information that we believe could be used to help keep servicemembers, their families, and the civilian personnel safer and healthier.