Placing Pre-event Pharmaceuticals for Anthrax: Using Models for Risk Management

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Abstract

The deliberate release of aerosolized anthrax spores in a large city will expose thousands to this deadly disease. After an attack is detected, promptly distributing antibiotics to those exposed is the primary risk mitigation activity. State and local health departments have developed plans for points of dispensing (PODs), the primary distribution channel, but other strategies have been proposed and tested. This work focuses on the pre-event placement of pharmaceuticals in individual households for use only as directed by public health authorities. The pre-deployed medications are commonly known as "MedKits." We have developed a mathematical model to estimate the number of deaths that result from an anthrax attack when a community both pre-deploys MedKits and uses PODs. This talk will show how to use this model to help public health officials manage the risk of an anthrax attack. The findings show that, as more MedKits are pre-deployed, fewer deaths occur because the MedKits reduce the time needed to distribute medication. The model can be adapted to consider a wide range of scenarios and local factors.

Keywords: Bioterrorism; Anthrax; Modeling; Risk management.

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