Auton Lab

Carnegie Mellon University

Enhanced Detection System for Healthcare-Associated Transmission of Infection

Description

Ongoing Project

Hospital acquired infections are a significant yet preventable detractor of patient care. According to the CDC 1 in 31 hospital patients [1] suffers from a hospital acquired infection. The Auton lab develops statistical models for joining disparate sources of information such as genetic tests, patient histories, geography, and other epidemiological information for detecting systematic outbreaks and identifying root cause. Leveraging multiple data sources, our algorithms establish corroborating evidence to support or dismiss hypothetical outbreak scenarios, both increasing detectability and speed of analysis while maintaining low false alert rates.

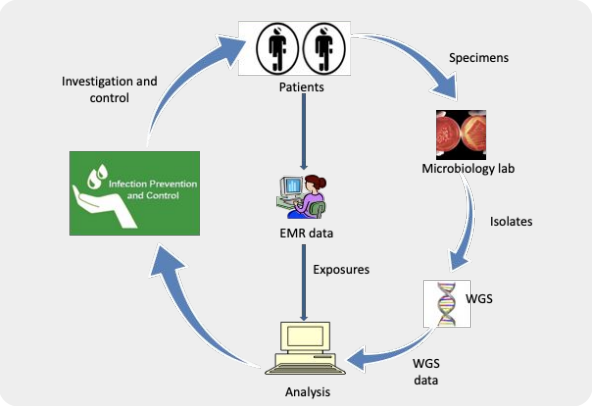

Image Description

Task / Objectives

1. Given an known outbreak based on WGS, find the contaminated routes
2. Without WGS, detect the potential outbreak clusters, routes and suggested patients for WGS
3. Objective 3

Key Contributors

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Topic / Research Areas

Outbreak detection, bayesian Inference, whole genome sequencing, electronic healthcare records (EHR)

Publications

- Publications 1
- Publications 2

Collaborators / Sponsors

- Collaborator 1
- Collaborator 2
- Sponsor 1
- Sponsor 2