

Improving Public Health Preparedness with Systems Engineering

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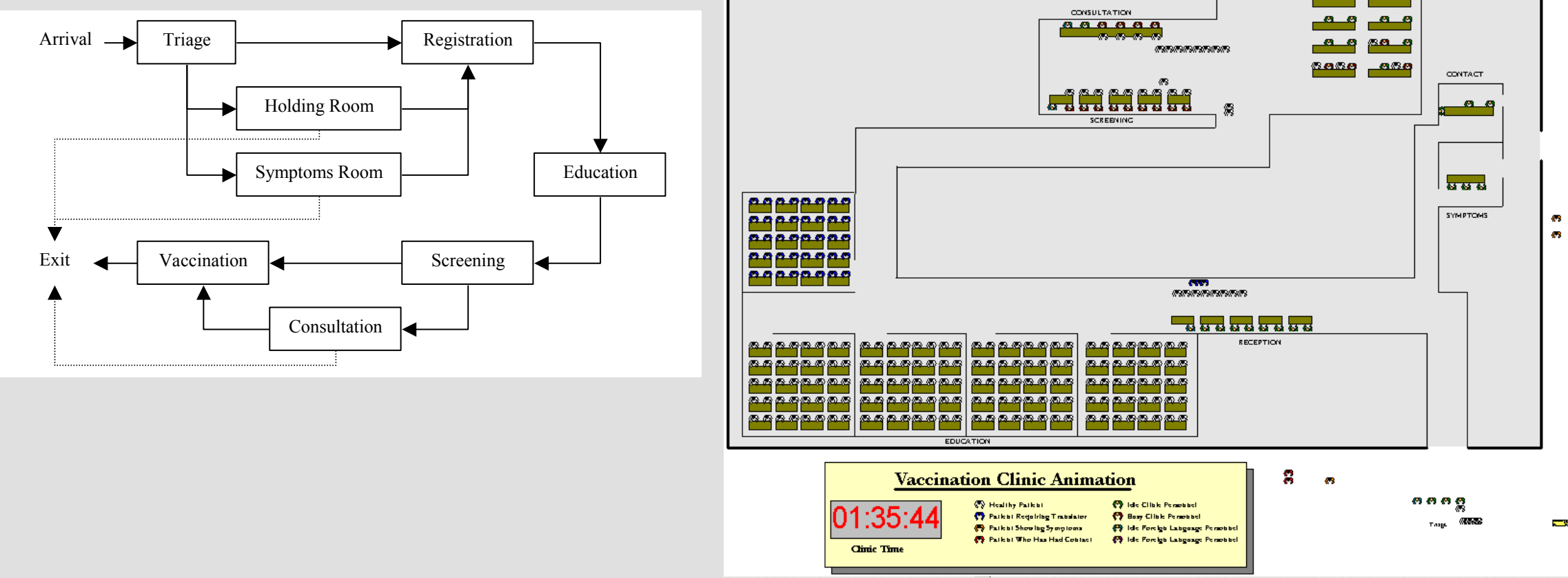
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This research used mathematical and simulation models to develop and implement decision support tools that help public health officials plan and prepare for emergencies such as anthrax attacks, smallpox, and pandemic flu outbreaks.

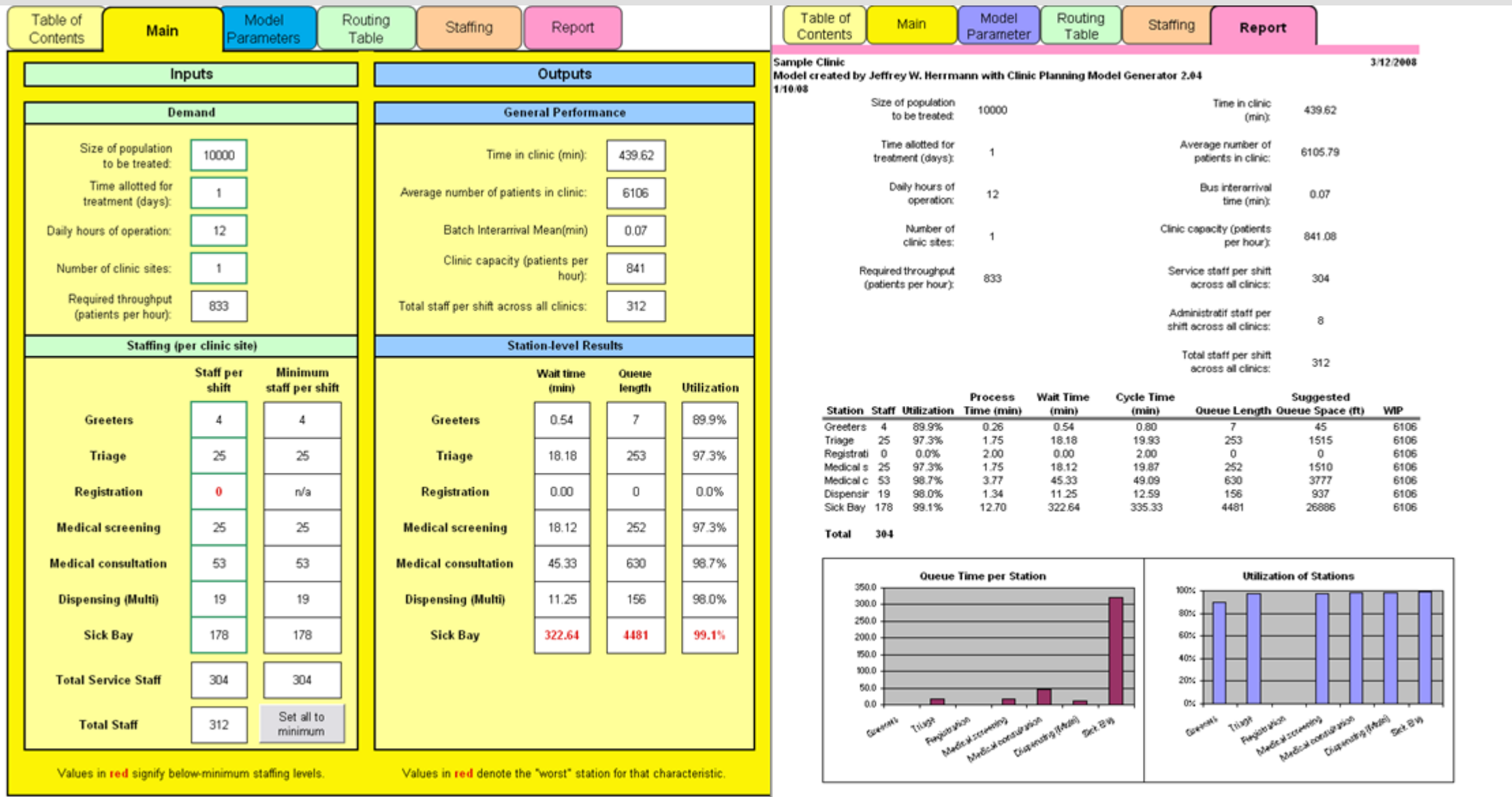
Future work will develop model-based risk assessments of syndromic surveillance systems to determine how effectively they warn public health officials when emergencies are imminent, which will help officials redesign and enhance these systems and improve preparedness.

Models, Tools, and Outputs

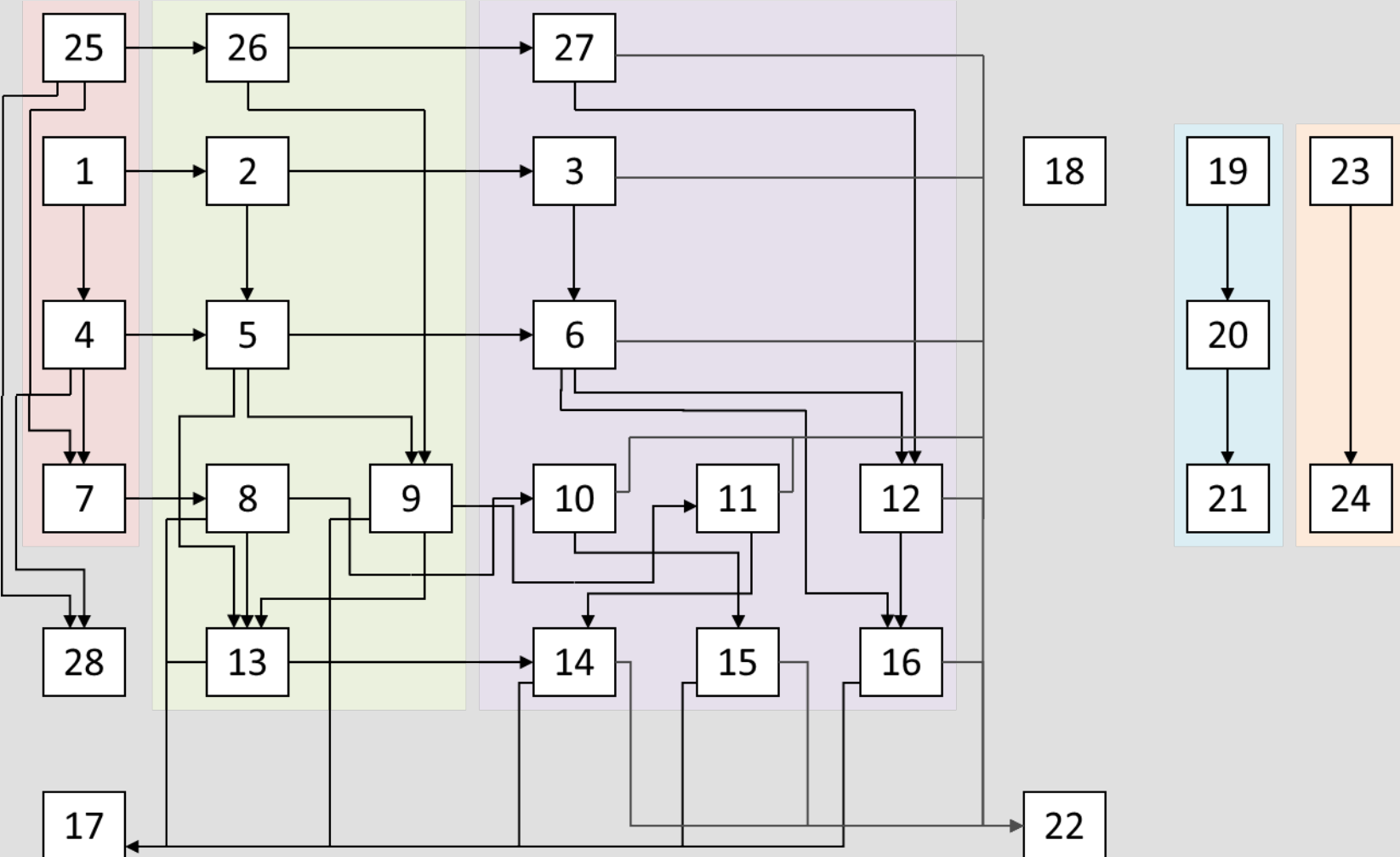
Discrete-event simulation model of smallpox mass vaccination clinic



Clinic Planning Model Generator to estimate POD capacity and performance



Anthrax Progression and Treatment Model to evaluate impact of pre-positioning



Publications



Undergraduate and Graduate Student Research Experiences



Funding sources: Montgomery County, Maryland, Advanced Practice Center; the National Association of County & City Health Officials (NACCHO); Centers for Disease Control and Prevention (CDC).