

Testing Policies for COVID-19

Project Summary:

The United States and worldwide is experiencing one of its greatest healthcare crises in centuries due to the SARS-CoV-2 coronavirus pandemic, with over 3.6 million infections and 250,000 deaths in the first half of the first of several waves alone. As the United States and other countries start to prepare for the next phase of the pandemic, one of several critical issues increasingly will be testing of suspected or unsuspected symptomatic or asymptomatic individuals or groups of people. To further complicate matters, this process will occur with a limited supply and production rate of a variety of single and multiple stage tests, each with estimated false-negative and false-positive rates.

The objective of this project is to develop and adapt probability and simulation decision support models that can be used to analyze and optimize current and proposed COVID testing policies. Important questions therefore include the overall accuracy and best testing policy (including who to test for best capture rate, best societal value, and best informing of regional public health policies), including multi-criteria trade-offs and disparities. Final deliverables should include a working model, application and comparison of alternative policies, and evaluation of the solution (the tools).

Testing Policies for COVID-19

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Project Aim

- Develop, adapt, and apply simulation and probability decision support models that can be used to analyze and optimize current and proposals COVID testing policies

Background

- The U.S. and worldwide pandemic is one of the largest healthcare crisis in centuries, with over 3.6 million infections and 250,000 deaths in the first half of the first of 2-3 large waves alone
- Among other urgent needs, significant uncertainty about testing policies, effectiveness, and optimal deployment

Deliverables

- A working model, application, analysis, and comparison of alternative policies, as well as evaluation of the model and recommendations for enhancements.

