SimPandemic™

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SimPandemic.org: Visualize How Social Distancing, Testing, and Vaccines Slow or Grow Coronavirus and the Economy

Free online tool shows interdependence of health and employment by illustrating how interventions impact spread of COVID-19

(**Milpitas, Calif. – May 7, 2020**) – SimPandemic.org is a new web app that will help people visualize how various actions impact the spread of Coronavirus and sometimes spillover to affect the economy. The interdependence of health and jobs is something that everyone is aware of, but until now, it's been difficult to picture the impact of one alongside the other.

This new simulator, available completely free at SimPandemic.org, takes into account various factors impacting the spread of COVID-19. It creates a graph depicting infections, symptomatic individuals, deaths, and acquired immunity, as well as economic output. The results also show projected hospital capacity and the number of deaths from Coronavirus relative to all other causes.

SimPandemic is pre-loaded with the disease characteristics for COVID-19; data is taken from the CDC, WHO, and other sources. You can change any of the parameters to keep up with our fast-evolving knowledge or experiment to see the sensitivity of the model to uncertainties in the disease data. The app is preloaded with population statistics for the United States, but those parameters can be changed to reflect different communities or countries.

The app offers a gentle introduction to key factors and unique scenarios in different environments, but then the user can play with the numbers to instantly see which interventions have the greatest impact.

Tinker with various interventions to fight the pandemic:
- Social distancing and business closures
- Personal protective equipment (PPE)
- Testing
- Quarantine
- Improved therapies
- Vaccine
- Travel restrictions

"Like most people, I've been thinking about what we can do to both save lives and save jobs. As someone with a long history developing software and web apps, I realized that I could create a tool that takes into account all of the disease factors, plus the impact on the economy of various interventions," said Kenneth Hess, SimPandemic developer.

A complex engineering backbone enables SimPandemic to complete more than 900 million calculations in each run of a different scenario. It is not a game. It is not a toy. Choose from the library of preloaded scenarios and just press Run. Or dive in deeper and look at "what ifs" for hours.

Here is an example of a comparison created for a hypothetical rural area:
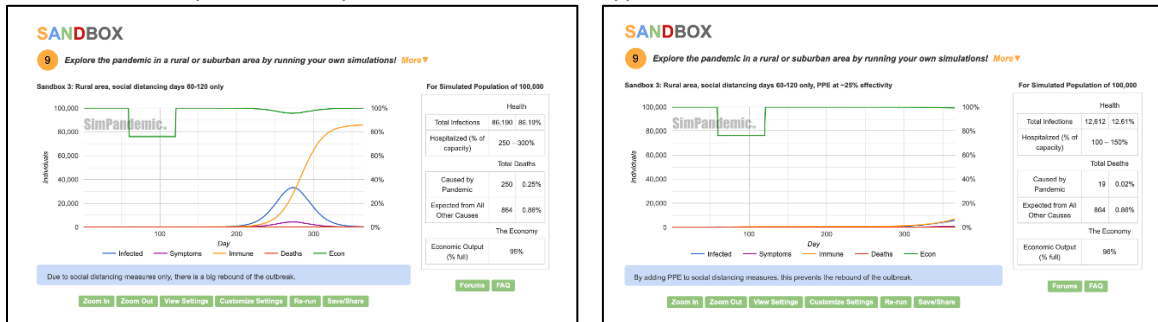
Ending social distancing measures at day 120 (left) leads to a big rebound of the virus. Following the same round of social distancing with the use of PPE (right) prevents the outbreak.

What is the effect of different social distancing measures in a hypothetical "average" community?
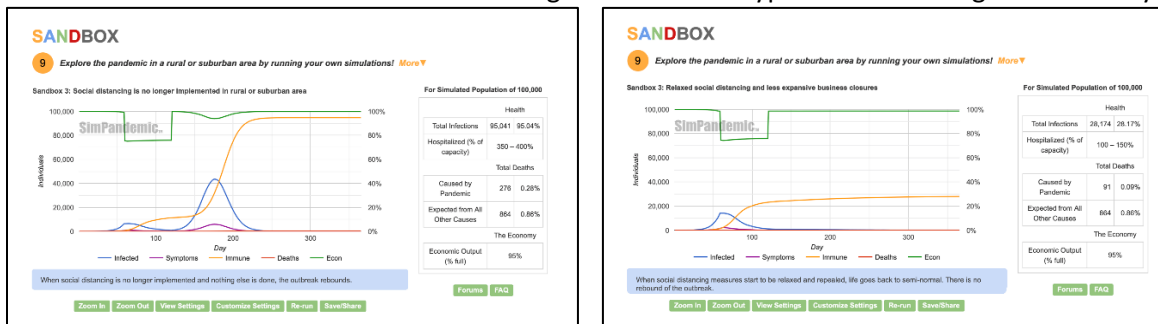
The virus rebounds (left) if social distancing ends with no other measures, but following 60 days of rigorous social distancing by somewhat relaxed distancing (right) allows a return to a new "normal."

"The app is not designed to project the outcome for a specific community; there is far too much statistical variation in the real-world environment for that to be possible. Our purpose in developing SimPandemic is to enable people to throw light on a scary situation by enabling them to explore how a pandemic works. What are the forces driving it? Uniquely, SimPandemic looks at both the disease and the economy. What can you do that helps – or hurts? What policies are plausible – or ridiculous? Adjust the contributing factors and see for yourself," said Hess.

Hess is an entrepreneur, engineer, and educator. During his lifetime, he has developed software apps and web resources used by well over 100 million individuals. He founded Banner Blue Software where during the 1990's he popularized computer genealogy and created the family history industry by designing, developing, and selling the Family Tree Maker product line, much of which is currently owned by Ancestry. Years ago, he strived to help citizens understand government processes and budgeting tradeoffs with the free program Uncle Sam's Budget Balancer.

Hess created and now directs the popular site [ScienceBuddies.org](). Science Buddies is non-profit that aims to help students from all walks of life to build their literacy in science and technology. Science Buddies provides fun, intellectually-stimulating and cutting-edge science education resources. SimPandemic is housed at the Science Buddies site, with hopes that in addition to the adults who access the simulator for insights, youth and educators will use it to improve student understanding.

Use SimPandemic at [SimPandemic.org](); find on [Twitter](), [Facebook](), and [LinkedIn]() as @SimPandemic.

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