COVID-19 Simulation Integrated Model (COVSIM) to Inform Local Decision-Making

COVID-19 Modeling Projections for Schools
Part 1: Model Background
The “COVSIM” Model team

The COVSIM team is one of six modeling teams funded by CDC and the Council for State and Territorial Epidemiologists to:

(a) forecast SARS CoV-2 infections and outcomes,
(b) estimate the impact of intervention scenarios, and
(c) support state and local decision-makers
Our Modeling Objective
To estimate the proportion of susceptible students infected throughout a school semester, depending on incoming protection as well as masking and testing policies.
Imagine a school...

- Student population: 500
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- 2-3 students begin infected with COVID-19 at the start of the semester
Imagine a school…

➢ Student population: 500
➢ 2-3 students begin infected with COVID-19 at the start of the semester
➢ Some students have either already had COVID-19 or have received the vaccine ("incoming protection"), or are susceptible to becoming infected

Elementary School Setting

- 70% Susceptible
- 30% Incoming Protection

Middle School Setting

- 60% Susceptible
- 40% Incoming Protection

High School School Setting

- 50% Susceptible
- 50% Incoming Protection

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- 2-3 students begin infected with COVID-19 at the start of the semester
- Some students have either already had COVID-19 or have received the vaccine ("incoming protection"), or are susceptible to becoming infected
- Every week, **one new student becomes infected** with COVID-19 outside the school

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Imagine a school...

- Student population: 500
- 2-3 students begin infected with COVID-19 at the start of the semester
- Some students have either already had COVID-19 or have received the vaccine ("incoming protection"), or are susceptible to becoming infected
- Every week, one new student becomes infected with COVID-19 outside the school
- Availability of **random RT-PCR testing and isolation** among students every week