

Instructions and assumptions

All users should first determine the corrected number of active cases per 100,000 persons in their community. First, locate the number of laboratory confirmed cases of Covid-19. Next, multiply this number by the undercount of true cases in the community. Finally, multiply the product of laboratory-confirmed cases and the undercount by the days that a single case remains infected (generally 7 days). Therefore, if the count in your community was 10 and the undercount is 10, you may enter $10 \times 10 \times 7 = 700$ cases. This number should be entered in the “Community Characteristics” tab.

Next, input values and assumptions specific to your case study by clicking on the appropriate tabs and moving the sliders.

Assumptions

1. Employees and students who are over the age of 70 will not come to work or school. We computed risk only for those under the age of 70, roughly 95% of the affiliate population.
2. Areas in which an infected affiliate had studied or worked will be closed for 24 hours, and all close contacts (less than 6 feet apart for more than 10 minutes) will be isolated.
3. The campus will be closed and classes will be held online for the remainder of the semester if: 1) when the cumulative number of incident cases among students/staff reaches 50; or 2) there is a super-spreader event while university students attending a community party in which 5 or more students are infected.
4. Super-spreader events will be detected many days after the occur, producing multiple close contacts.
5. Litigation costs will not be incurred.
6. Reducing viral load influences the chance of contagion, but not disease severity. We did not account for a potentially less severe disease among those exposed to a relatively smaller viral load than they would have were control measures not in place.
7. There is no difference in viral loads across sex, age groups and disease severity.
8. Those who test positive for Covid-19, or who are close contacts of confirmed positive Covid-19 cases, will remain at home for 14 days.
9. Roughly 75% of students asked to quarantine will strictly adhere to the quarantine.
10. When an otherwise healthy person gets misdiagnosed by a test or thermal screening, the relevant intangible cost is lost leisure time valued at the national average wage during the quarantine time.
11. All wages should be valued at the median hourly wage in the US.
12. The average infected student will have an average of 10 close contacts (>6 feet for more than 10 minutes) prior to detection. Other university affiliates will have 3 close contacts.
13. To the extent that aerosol transmission is possible, masks, ventilation systems, and far UVC light will be 100% effective at reducing fine aerosol transmission for

those who are not close contact because both systems clear >90% of viral particles within 8 minutes.

14. Ventilation systems and far UVC light are only effective when social distancing is in place. We assume that large droplet transmission will not be impacted by either ventilation systems or far UVC light fixtures because these systems typically require 8 minutes to clear the air of viral particles.²⁶
15. In the absence of any interventions, 80% of those with symptoms or a close contact with Covid-19 will stay home.
16. A symptom checking application will lead to a 10-percentage point improvement in those with symptoms or a close contact staying home.