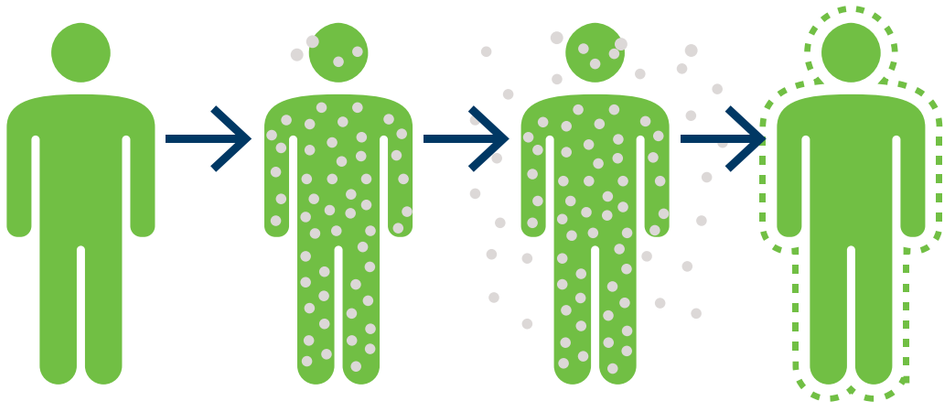
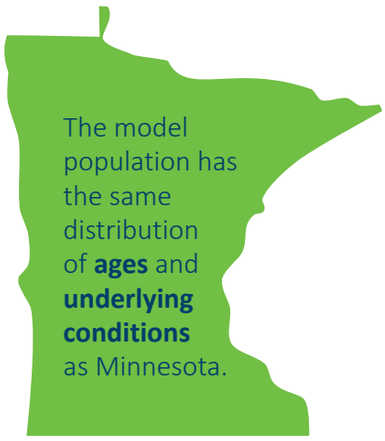
Minnesota COVID-19 Model





The model population has the same distribution of **ages** and **underlying conditions** as Minnesota.

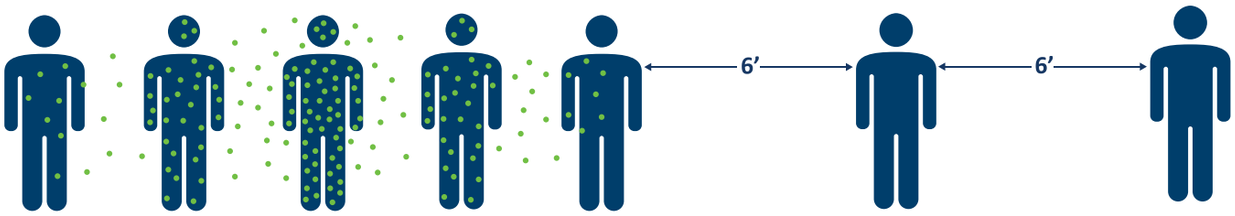
The **basic reproduction number (R_0)** measures how many susceptible people an infectious person infects on average. When a novel (new) virus first appears in humans, everyone is susceptible and the virus can spread quickly at first. The speed of this spread is measured by the value of:

R_0

The model simulates how well various social distancing measures slow this spread by hypothetically reducing the number of daily contacts people make. Fewer contacts between susceptible and infectious people lowers the **effective reproduction number**:

R_e

If these interventions can slow the spread of the virus so that R_e is reduced to < 1, the epidemic will die out.



In the model, older people or those with one or more underlying conditions experience higher rates of **hospitalization** and **mortality** from COVID-19, as is observed in real world data.

Model outputs include projected daily counts of COVID-19 **cases**, cases occupying **ICU beds**, and **deaths**. These projections help inform health care capacity planning.

Other key information used in the model:

- Time between infection and symptoms
- How long people can get others sick
- Percentage of infections that are detected
- Number of hospital beds available

For a complete list of model parameters and values, visit: https://mn.gov/covid19/

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