

Preliminary COVID-19 Model for Wiikwemkoong Unceded Territory

Prepared for Wikwemikong Health Centre

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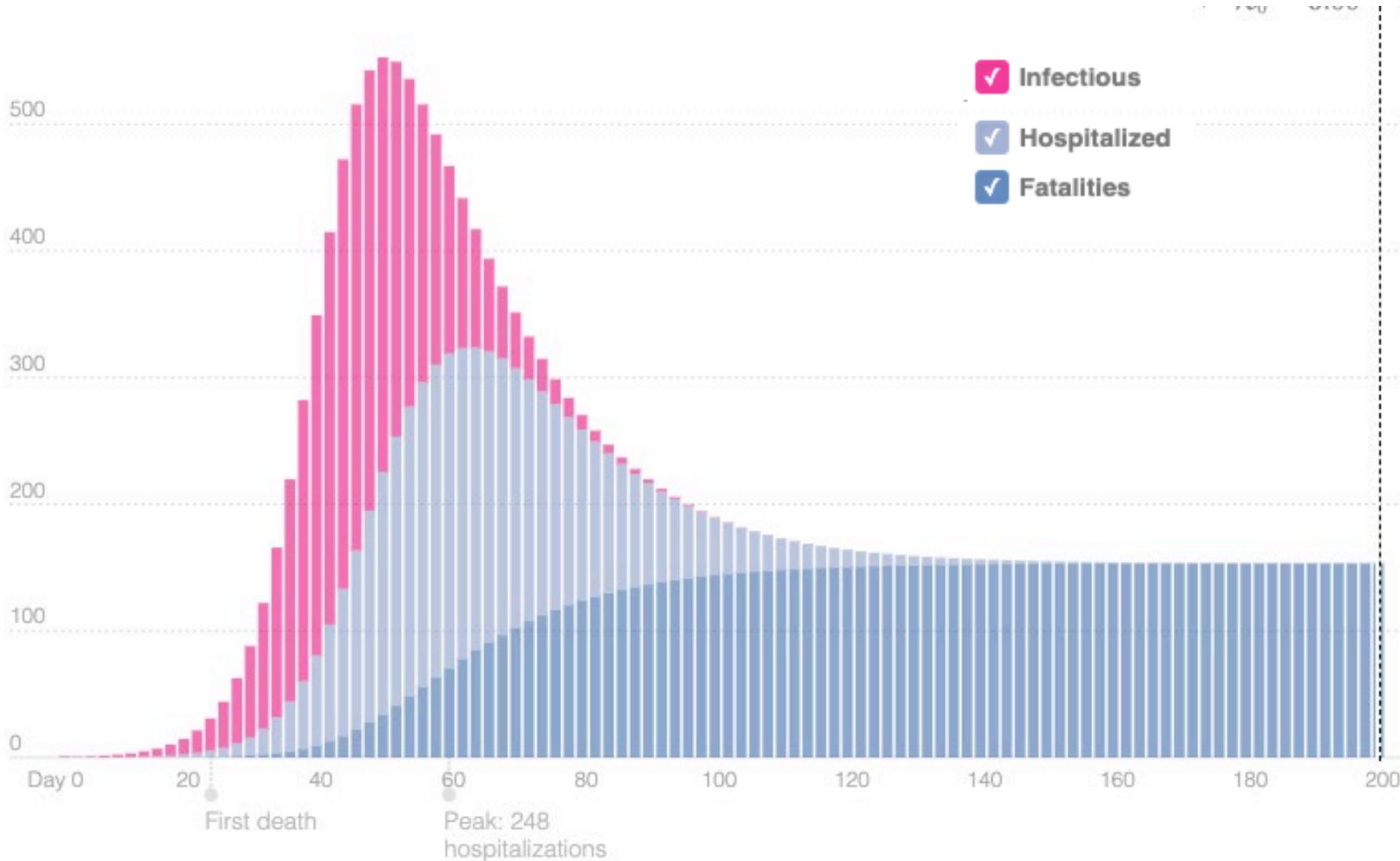
Assumptions:

- Wiikwemkoong has 3264 full time residents
- There are no COVID-19 cases yet
- The spread of COVID-19 will likely go further than for other places in Ontario because of circumstances like crowded housing
 - in Ontario, each person infects 2.5 others. In some crowded places in the world, each person infects more than 6 others.
 - We will assume that each COVID-19 case in Wiikwemkoong will infect 3 others.
- The case fatality rate (number of people who die out of those who are infected) will likely be higher in Wiikwemkoong than other places in Ontario.
 - Wiikwemkoong has higher rates of some of the chronic conditions that make the virus more severe, notably diabetes (15% vs 8% in Ontario).
 - In Ontario, 1.8% of people with COVID-19 die. This has been as high as 10% in some populations around the world.
 - We will assume a case fatality rate of 5%.

I will show three models:

- No action taken
- Action taken today that reduces transmission by 50%
- Action taken today that reduces transmission by 60%

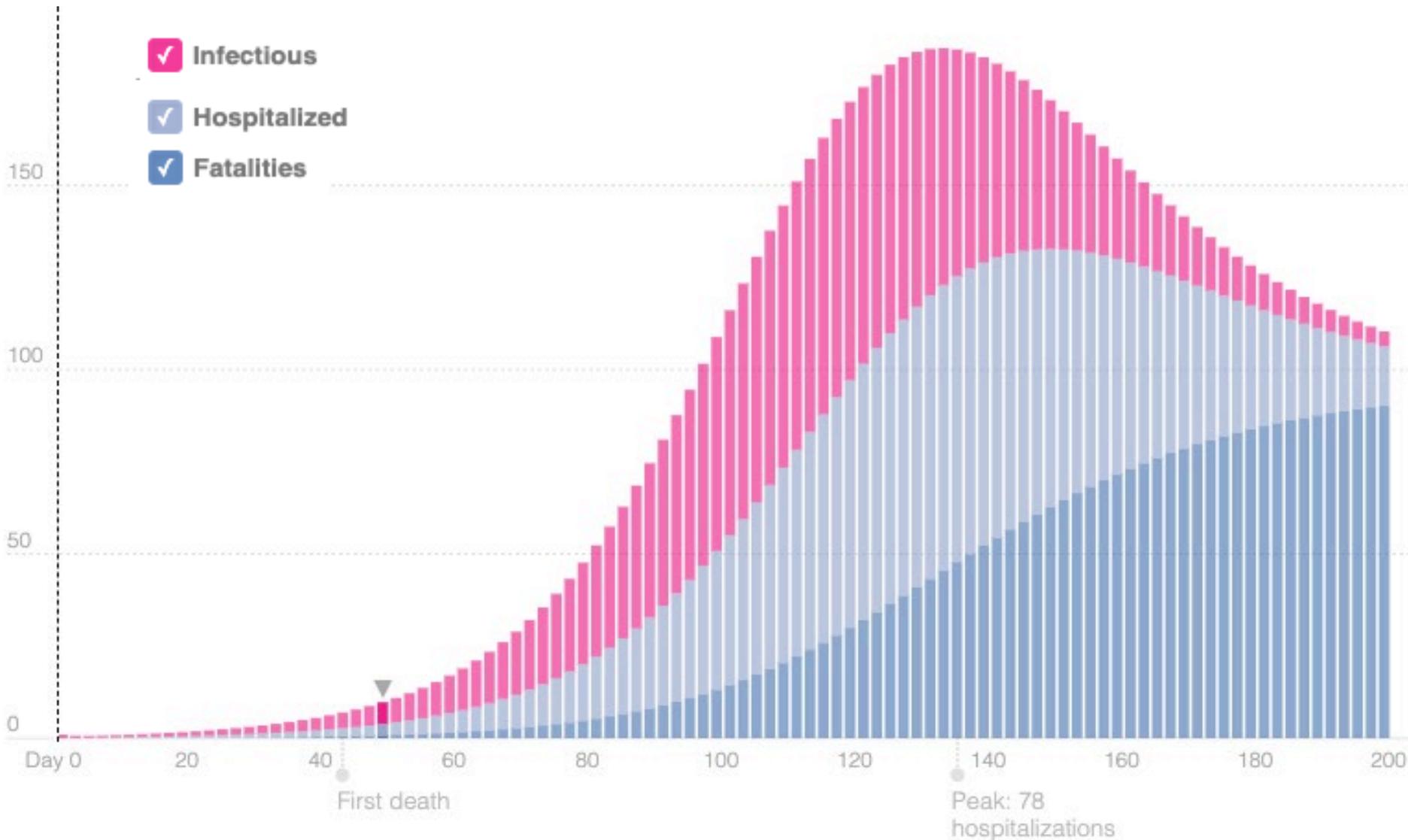
Scenario 1: **No Action taken**



This high-level model #1 shows that, **if no action is taken:**

- An estimated 150 people would die within 6 months of the first COVID-19 case
 - The first death would be about three weeks in and then there would be up to 4 deaths per day for about a month before the number started to slow down
- After 2 months, there would be a peak of 11 people hospitalized each day with severe COVID-19.
 - At that time there would be about 250 people who need hospitalization at the same time

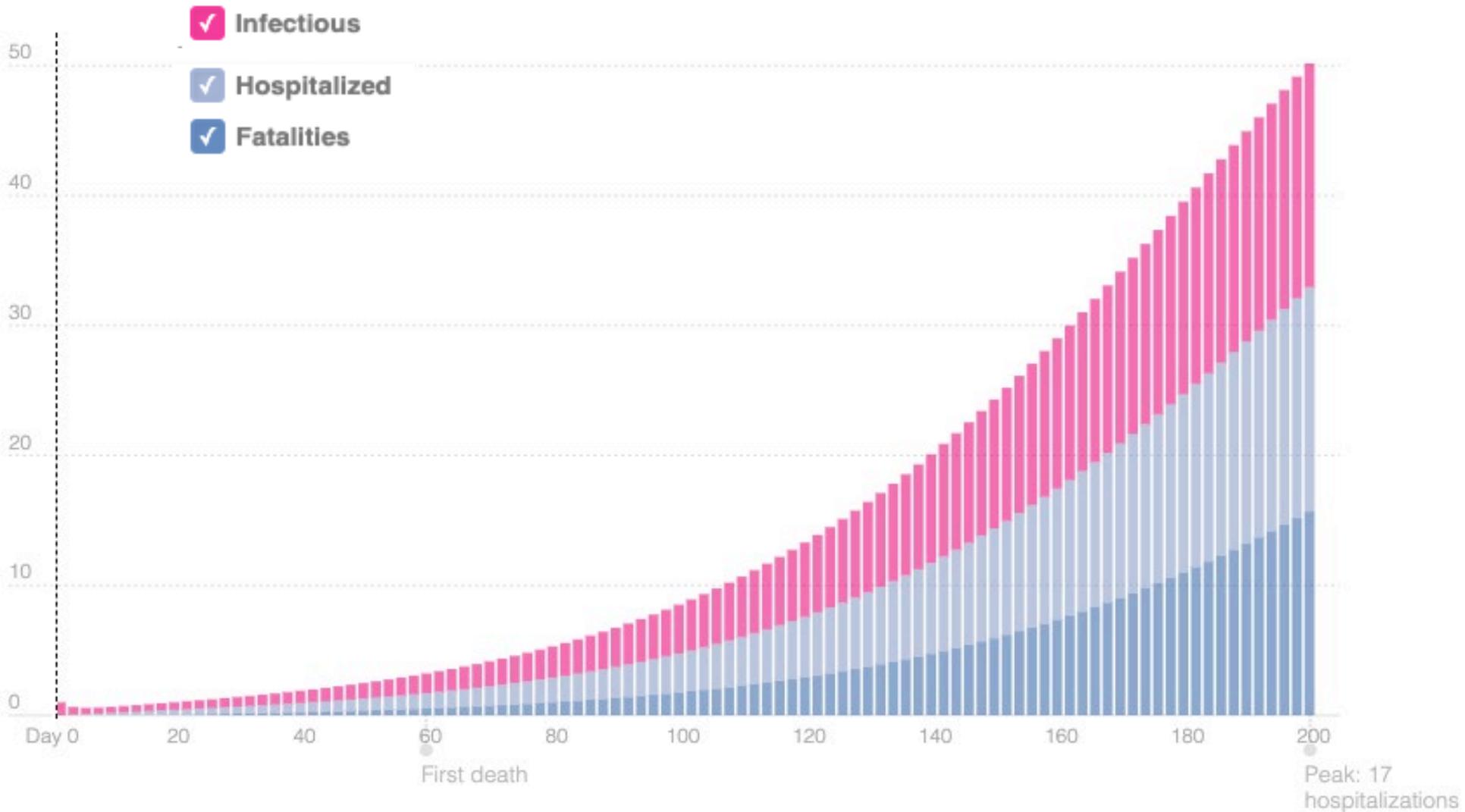
Scenario 2: Intervention before first case to reduce transmission by 50%



This high-level model #2 shows that, **if action is taken now to reduce transmission by 50%:**

- An estimated 90 people would die within about 6 months of the first COVID-19 case
 - The first death would be about six weeks in and then there would be up to 1 death per day for several months
- About one person per day would require hospitalization during the first four months. There would be only 78 people who need hospitalization at the same time.

Scenario 3: Intervention before first case to reduce transmission by 50%



This high-level model #3 shows that, **if action is taken now to reduce transmission by 50%:**

- The outbreak will be delayed and spread out over a longer time with fewer deaths, fewer hospitalizations and more time for a vaccine to be developed
- An estimated 21 people would die within about 6 months of the first COVID-19 case
 - The first death would be about eight weeks after the first case
- Over the six months, there would be only 17 people who need hospitalization at the same time.

Serious action today means:

- Saving the lives of over a hundred community members in the next six months
- Preventing a serious burden on the health care system