Administration Office
Finance & Administration
Capital Projects/Public Works
HUB:
- Ontario Works
- Education Department
- LDM
HIAH Economic Development/M.E.R.E

Administration Office
P.O. Box 333, 53 Hwy 551
M'Chigeeng, ON P0P 1G0
Ph: (705) 377-5362
Fax: 705-377-4980

May 13, 2020

COVID19 – M'Chigeeng First Nation Modelling

☐ **HEALTH CENTRE**
Tel: 705-377-5347
Fax: 705-377-5090

☐ **WELLNESS CENTRE**
61 Lakeview Drive
Tel: 705-377-4240
Fax: 705-377-4179

☐ **LAKEVIEW SCHOOL**
18 Lakeview Dr.
Tel: 705-377-4988
Fax: 705-377-5080
Library
Ph: 705-377-5540

☐ **BINOOJIINH GAMGOONHS DAY CARE**
4 Assance Dr.
Tel: 705-377-5383
Fax: 705-377-4377

There is no cure and no vaccine for the COVID19 virus. There is still not enough general public testing in the Province of Ontario including Northern Ontario to determine the actual cases of COVID19. We must continue to remain cautious as COVID19 is community spread.

We do know that this virus is transmitted person to person and that this virus can remain on different surfaces for different periods of time.

Every individual must continue to practice the following:

- Physical Distancing – at least 6 feet from others;
- Continuous Handwashing daily;
- Disinfect your households, vehicles and surfaces as much as possible;
- Stay home unless it is absolutely essential to go out;
- Continue to monitor symptoms of fever, cough, shortness of breath, chest pain, aches and pains, sore throat, diarrhea, rash, headaches, loss of taste or smell
    - If you experience any of these symptoms immediately self-isolate (stay home, avoid contact with others) and call 705.377.5311.

On Thursday May 7, 2020, the Council was presented draft COVID-19 Models for M'Chigeeng First Nation that was prepared by Dr. Jennifer Walker who is the Canada Research Chair in Indigenous Health, Laurentian University. Following the review, the Council made a Motion that the Models be released immediately to the Community once finalized.

Attached you will find the finalized COVID-19 Models for M'Chigeeng First Nation. This document shows what might happen to our community and to our members once COVID-19 is here.

This document is not intended to create fear, but to give you knowledge and facts of the situation we currently face and to encourage you to continue to practice the COVID19 precautions.

This modelling exercise is helpful to understand what might happen in different scenarios as it relates to COVID-19. This modelling exercise goes through 3 scenarios as follows:

Scenario	Details of Scenario	Projections
1 – Current Scenario in MFN	*Continue border closure and strong physical distancing measures. *Assumes that each infected person only transmits the virus to one other person	This approach could contain COVID-19 over six months to: -Total Cases: **23** -Total Fatalities: **2** -Maximum people in hospital at once: **1**
Alternate Scenario 1: Maintain some physical distancing measures	-maintain physical distancing measures that would cut average daily contacts in half compared to pre-pandemic -assume that each infected person would transmit the virus to two others, on average	Over six months: -Total possible cases: **956** -Total possible fatalities: **76** -Maximum people in hospital at once: **87**
Alternate Scenario 2: Remove all restrictions	-return to pre-pandemic activity (return to normal) -assume that each infected person will transmit the virus to three others on average	Over six months: -Total possible cases: **1,128** -Total possible fatalities: **90** -Maximum people in hospital at once: **137**

The Modelling document indicates that currently, M'Chigeeng First Nation is on the right track to reduce the impact of COVID-19.

We encourage you to review the document fully and continue to practice the COVID19 Safety Precautions.

Please also be advised that on Thursday and Friday we will be distributing care packages to all band member homes and apartments. This will include masks, gloves, information as it relates to COVID19 and other materials.

On behalf of Council,

Ogimaa Kwe Linda Debassige

COVID-19 Models for M'Chigeeng First Nation

Prepared by Jennifer Walker, PhD
Canada Research Chair in Indigenous Health, Laurentian University

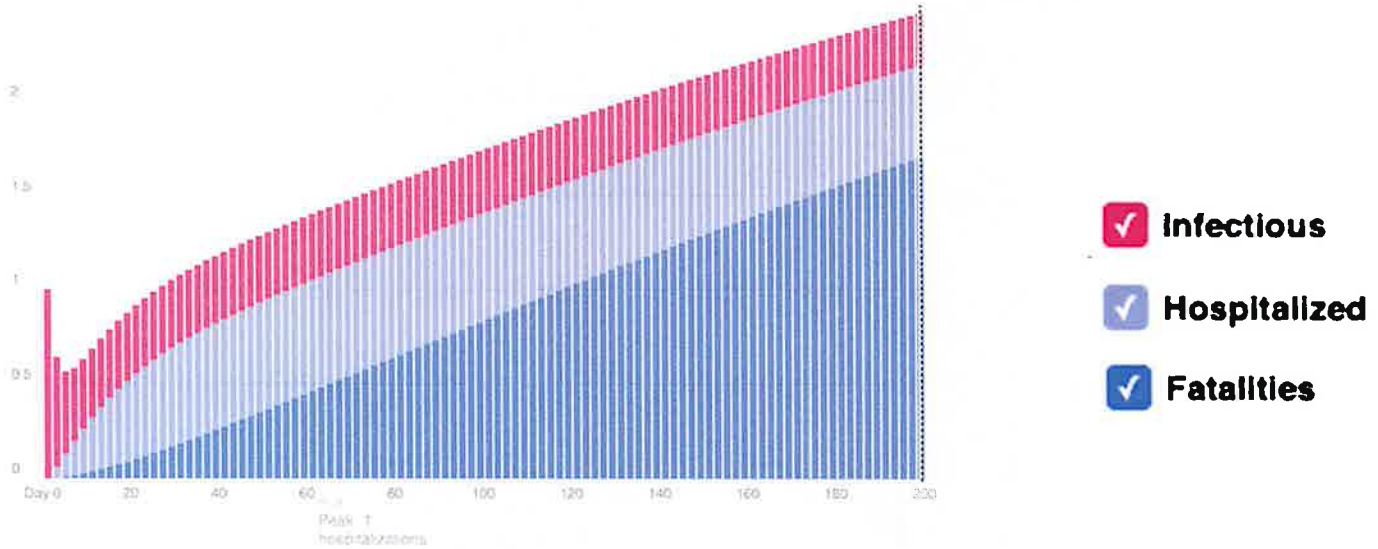
May 12, 2020

COVID-19 Pandemic

- There have been no confirmed cases in M'Chigeeng First Nation.
- The overall COVID-19 curve in Ontario has peaked for this wave of the pandemic. However, the number is just beginning to rise in First Nations.
- As of last week, the number of First Nations people in Ontario who have tested positive is 75, with approximately ½ in a First Nations community.

Current Scenario:

- continue border closure and strong physical distancing measures
- assumes that each infected person only transmits the virus to one other person



This approach could contain COVID-19 over six months to:

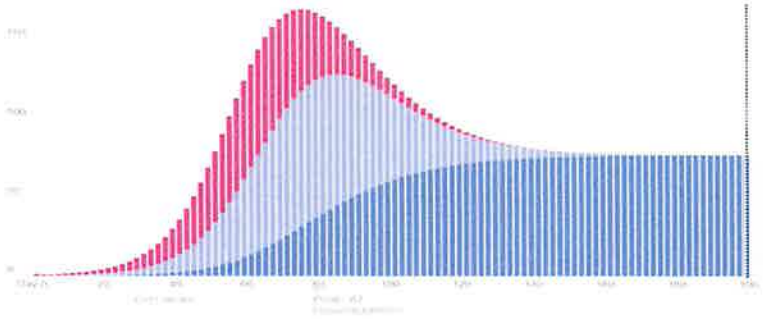
- Total cases: 23
- Total fatalities: 2
- Maximum people in hospital at once: 1

Epidemic Calculator used for this report is publicly available at: http://gabgoh.github.io/COVID/index.html
Based on 400 households and 1200 members. Does not represent non-members residing in community.

Alternate Scenarios

Scenario 1:
Maintain some physical distancing measures

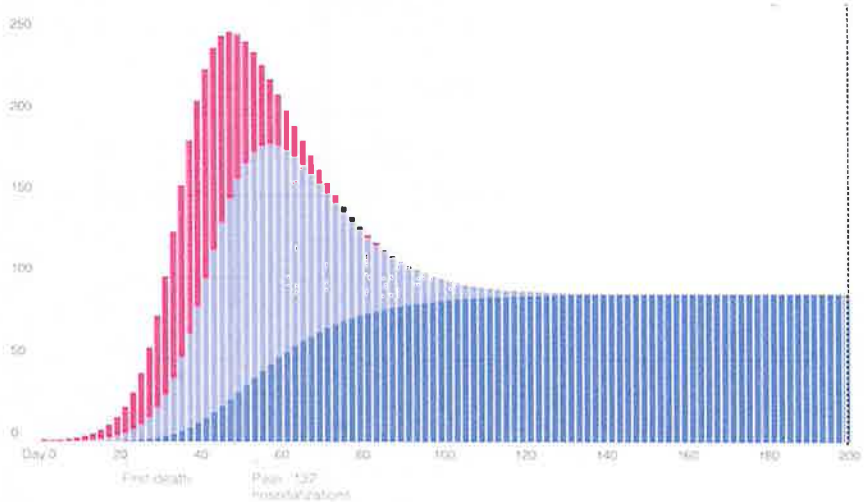
- maintain physical distancing measures that would cut average daily contacts in half compared to pre-pandemic
- assume that each infected person would transmit the virus to two others, on average



Over six months:
Total possible cases: 956
Total possible fatalities: 76
Maximum people in hospital at once: 87

Scenario 2:
Remove all restrictions

- return to pre-pandemic activity
- assume that each infected person will transmit the virus to three others, on average



Over six months:
Total possible cases: 1,128
Total possible fatalities: 90
Maximum people in hospital at once: 137

Infectious Hospitalized Fatalities

Some factors increase the risk of severe outcomes from COVID-19

Chronic Obstructive Pulmonary Disease (COPD)

- more than doubles the risk of death to 2.7 times
  - 14 community members

Diabetes

- increases risk of death by 59%
  - 160 community members

Hypertension

- Increases risk of death by 58%
  - 144 community members

Smoking

- 549 community members

Current cancer treatment

- 33 community members

Age 65 and older

- 131 community members

M'Chigeeng estimated numbers based on MCFHT rostered members

Key messages

- Models are helpful to understand what MIGHT happen but do not predict what WILL happen.

- Early action to reduce the spread of COVID-19 is the best way to reduce the number of people who might get sick or die from COVID-19.
- M'Chigeeng's actions to date are on the right track to reduce the impact of COVID-19.

- Chronic conditions and age increase the risk of severe outcomes of COVID-19.
- Focusing on preventing infection in these high-risk groups is important.

APPENDIX

Assumptions made in the new models

- The models assume that higher household sizes and other living conditions impact the average number of people that each infected person will transmit the virus to.
- The case fatality rate (number of people who die out of those who are infected) is higher when people are older and when they have certain underlying chronic conditions that make the virus more severe.
  - In Canada, the case fatality rate has risen to 5.5% and 6.7% in Ontario. This has been as high as 10% in some populations around the world.
  - Based on an assume higher level of chronic conditions, we will assume a case fatality rate of 8%.
- The hospitalization rate for COVID-19 in Ontario is 11.6%. Experience from H1N1 shows that on-reserve First Nations have three times higher hospitalization rates, so we have assumed that the rate will be 34.8%.

Modelling Parameters

- Epidemic Calculator = http://gabgoh.github.io/COVID/index.html
- Population = 1200
- # Initial infections = 1
- Reproduction number R0 = 1 for the current state, = 2 for Scenario 1 and =3 for Scenario 2
- Length of incubation period = 5.11 days
- Duration patient is infections = 2.9 days
- Case fatality = 8.00%
- Time from end of incubation to death = 20 days
- Length of hospital stay = 10 days
- Recovery time for mild cases = 14 days
- Hospitalization rate = 34.80%
- Time to hospitalization = 8 days