Covid-19 Modelling Results, as at 21 April 2020

CANADA

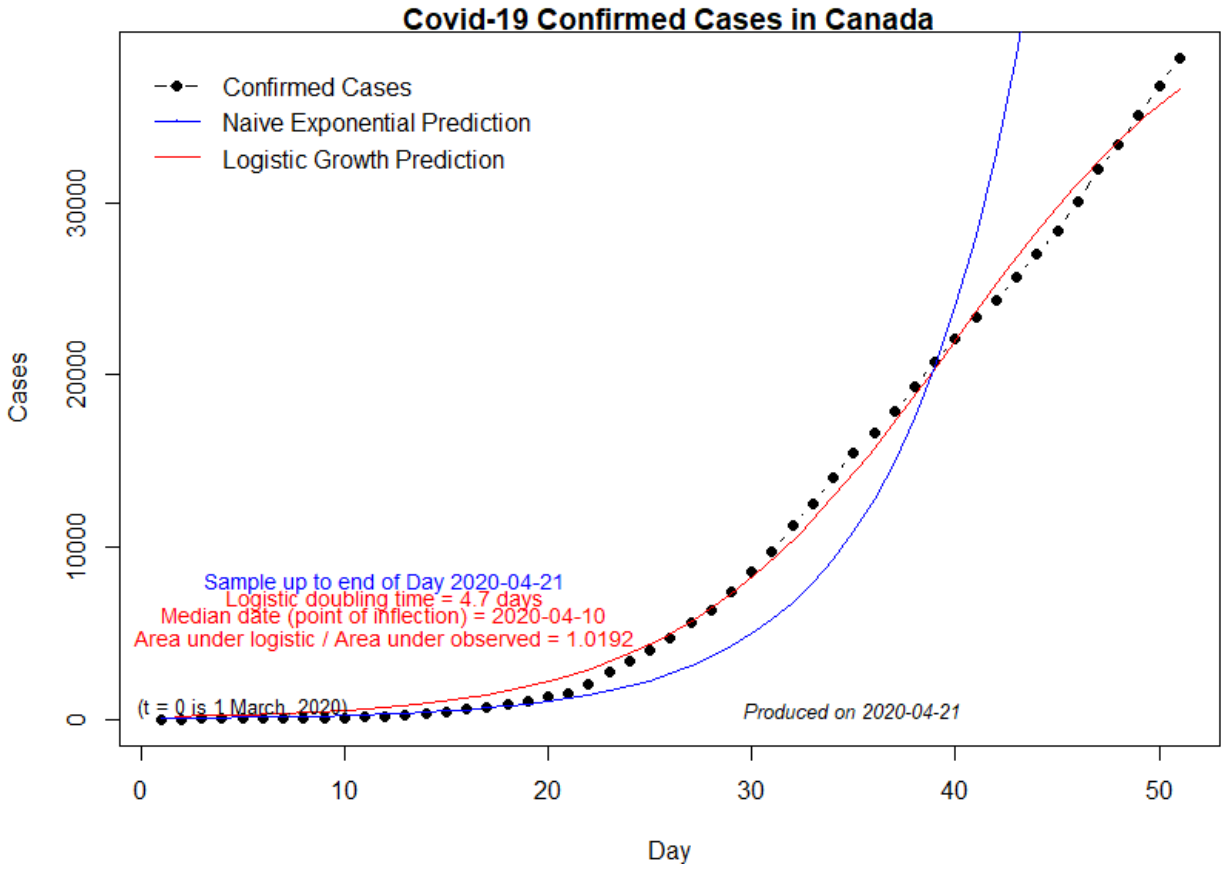
1. Total Confirmed Cases

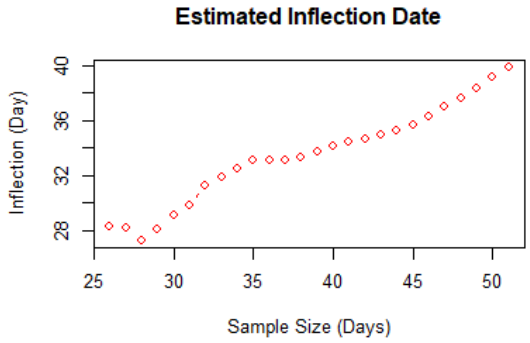
My R code for Covid-19 modelling is at

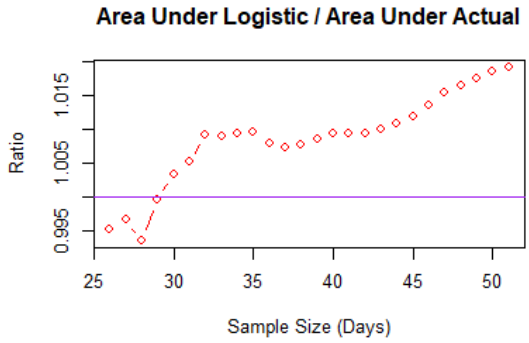
https://raw.githubusercontent.com/DaveGiles1949/r-code/master/Canadian_Covid-19_Cases.R

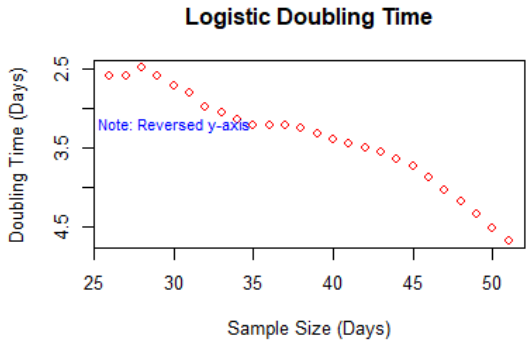
The code will automatically download the latest data from my github account.

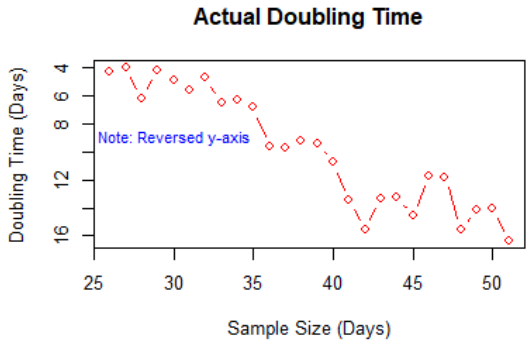
The chart below shows results based on *data from 2 March to 21 April inclusive*.




Estimated Inflection Date
Inflection (Day)
28
32
36
40
25
30
35
40
45
50
Sample Size (Days)


Area Under Logistic / Area Under Actual
Ratio
0.995
1.005
1.015
25
30
35
40
45
50
Sample Size (Days)


Logistic Doubling Time
Doubling Time (Days)
2.5
3.5
4.5
Note: Reversed y-axis
25
30
35
40
45
50
Sample Size (Days)


Actual Doubling Time
Doubling Time (Days)
4
6
8
12
16
Note: Reversed y-axis
25
30
35
40
45
50
Sample Size (Days)

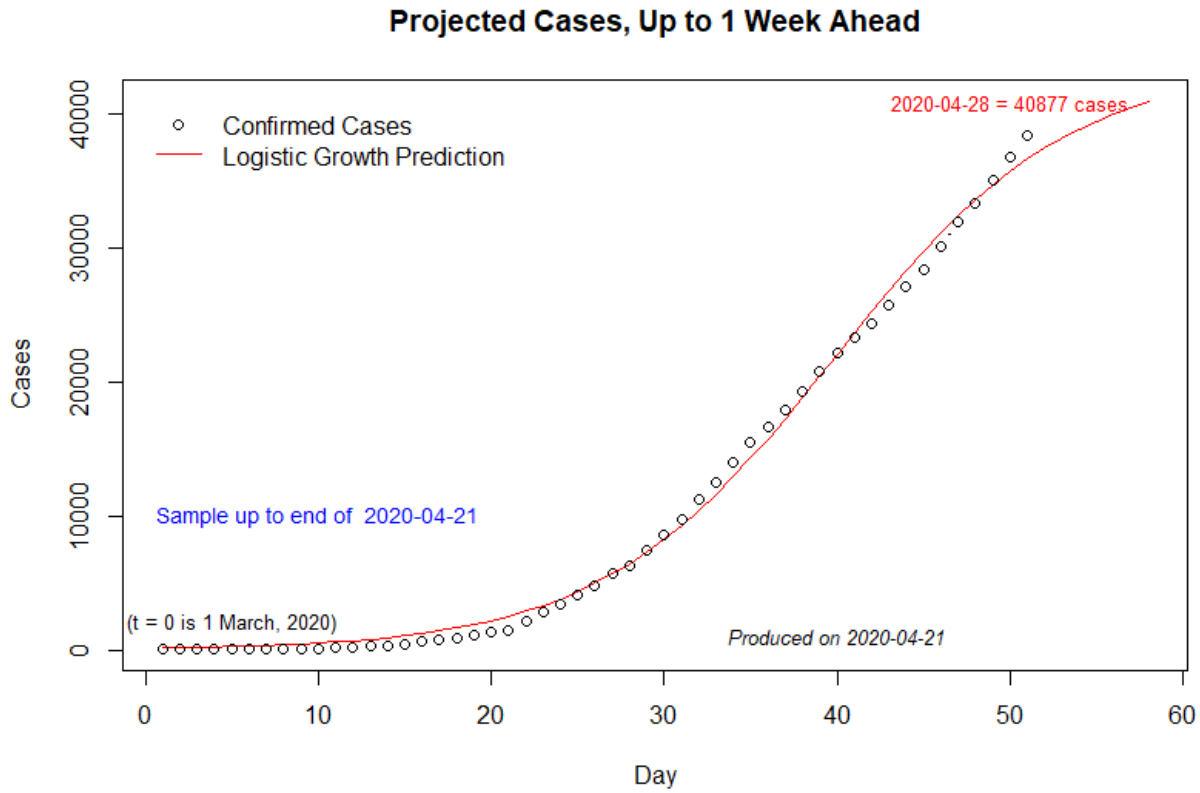

Projected Cases, Up to 1 Week Ahead
Confirmed Cases
Logistic Growth Prediction
2020-04-28 = 40877 cases
Cases
0
10000
20000
30000
40000
Sample up to end of 2020-04-21
(t = 0 is 1 March, 2020)
Produced on 2020-04-21
0
10
20
30
40
50
60
Day

Table 1: Projected Covid-19 Cases in Canada

(Projections are in Blue; Actual Values are in Brackets)

Sample end (projection made): 20 April

21 Apr	*22 Apr*	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*
35811 [38422]	36536	37181	37753	38258	38702	39091

Sample end (projection made): 21 April

22 Apr	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*	*28 Apr*
37447	38196	38867	39464	39994	40463	40877

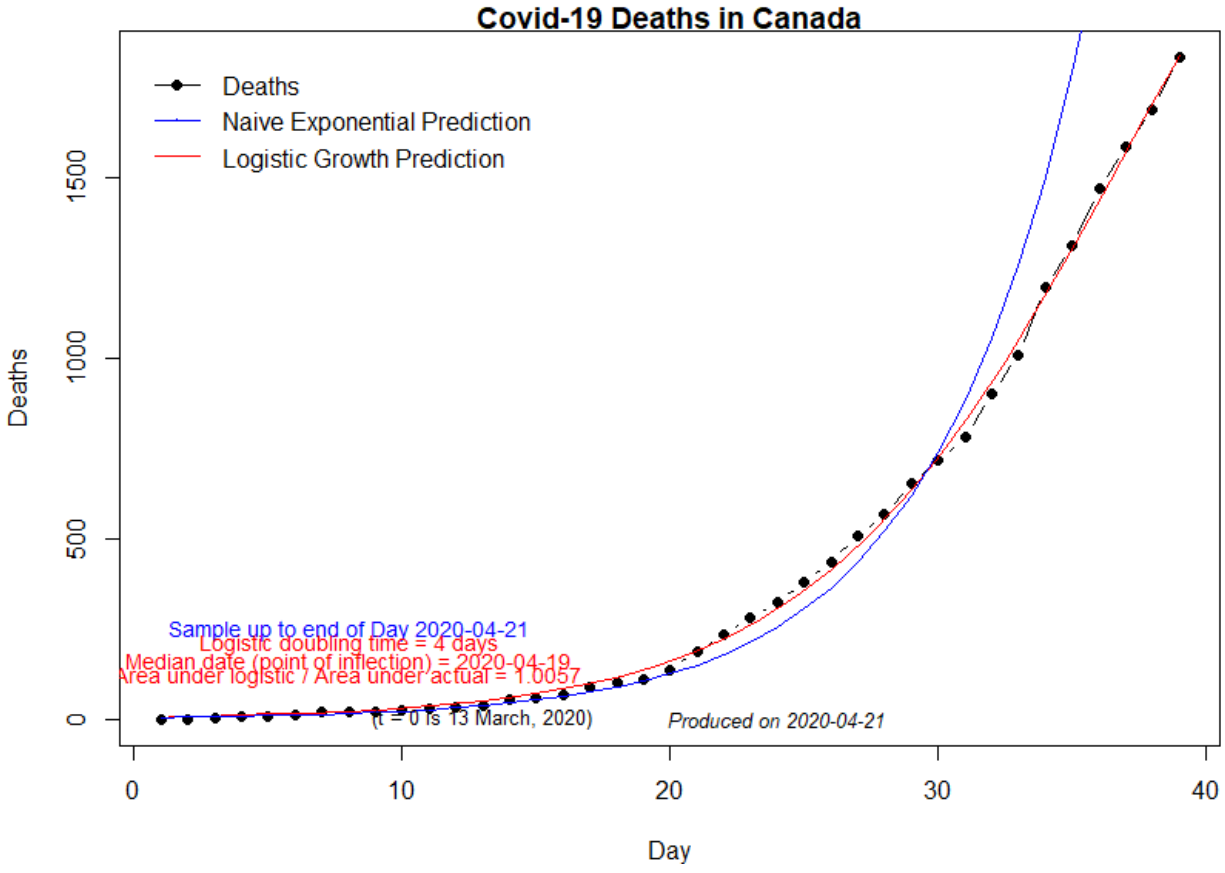
2. Total Number of Deaths

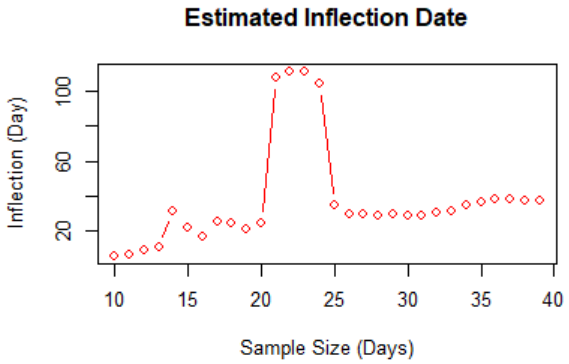
My R code for Covid-19 modelling is at

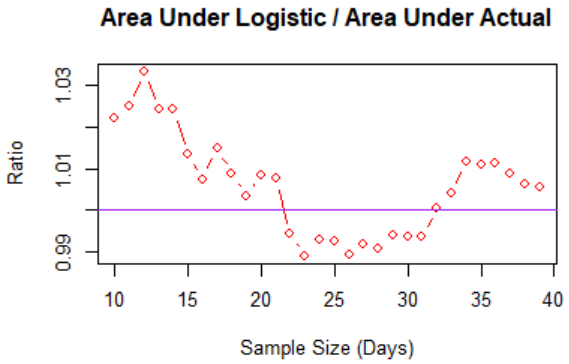
https://raw.githubusercontent.com/DaveGiles1949/r-code/master/Canadian_Covid-19_Deaths.R

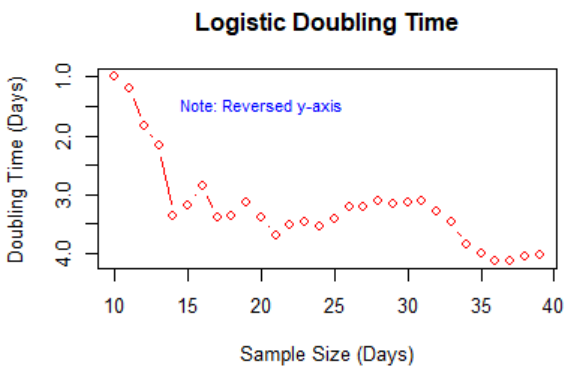
The code will automatically download the latest data from my github account.

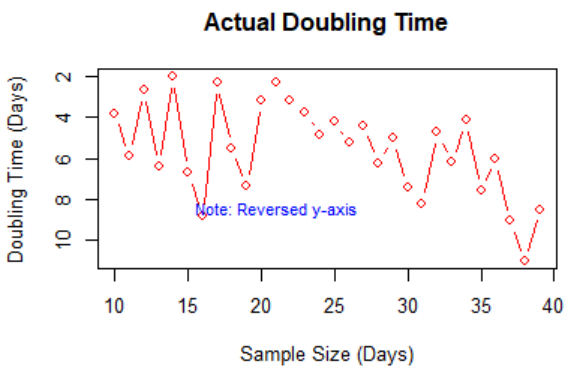
The chart below shows results based on *data from 14 March to 21 April inclusive*.




Estimated Inflection Date
Inflection (Day)
20
60
100
10
15
20
25
30
35
40
Sample Size (Days)


Area Under Logistic / Area Under Actual
Ratio
0.99
1.01
1.03
10
15
20
25
30
35
40
Sample Size (Days)


Logistic Doubling Time
Doubling Time (Days)
4.0
3.0
2.0
1.0
Note: Reversed y-axis
10
15
20
25
30
35
40
Sample Size (Days)


Actual Doubling Time
Doubling Time (Days)
10
8
6
4
2
Note: Reversed y-axis
10
15
20
25
30
35
40
Sample Size (Days)

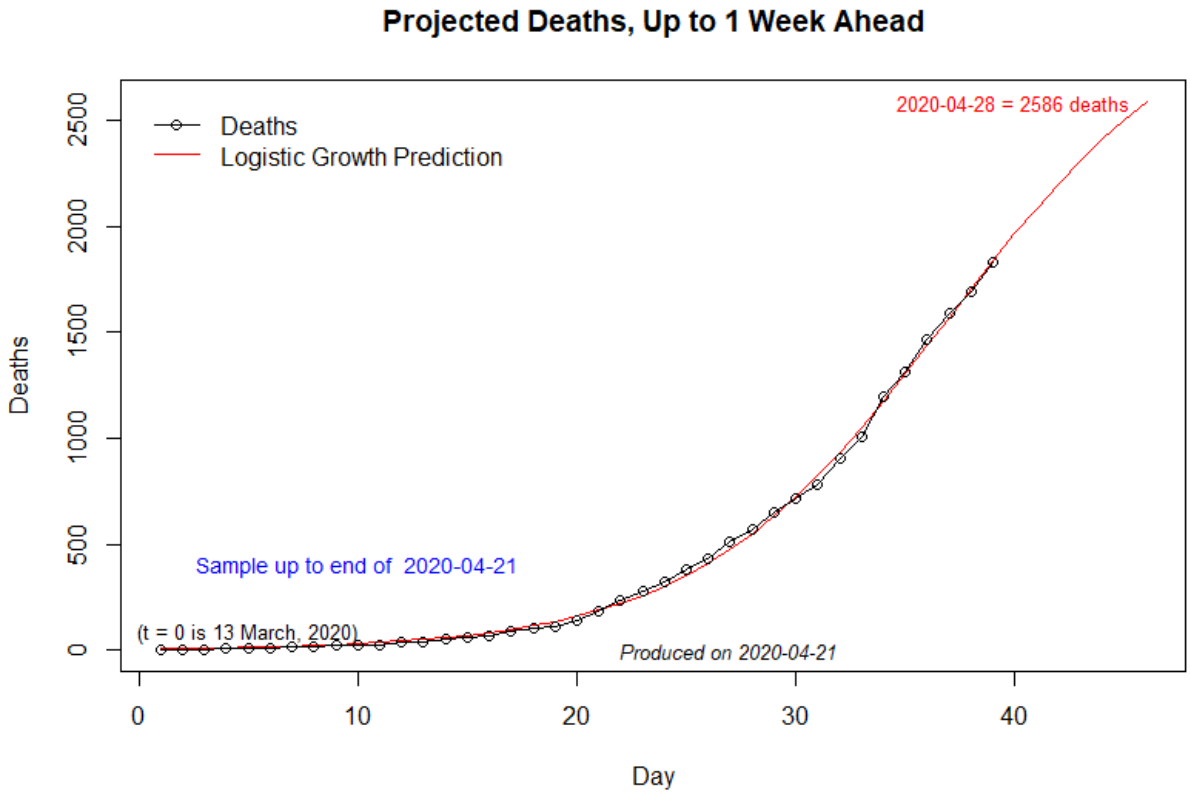

Projected Deaths, Up to 1 Week Ahead
Deaths
Logistic Growth Prediction
2020-04-28 = 2586 deaths
Deaths
0
500
1000
1500
2000
2500
Sample up to end of 2020-04-21
(t = 0 is 13 March, 2020)
Produced on 2020-04-21
0
10
20
30
40
Day

Table 2: Projected Covid-19 Deaths in Canada

(Projections are in Red; Actual Values are in Brackets)

Sample end (projection made): 20 April

21 Apr	*22 Apr*	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*
1842 [1834]	1972	2097	2215	2325	2427	2520

Sample end (projection made): 21 April

22 Apr	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*	*28 Apr*
1966	2089	2205	2313	2413	2504	2586

ONTARIO

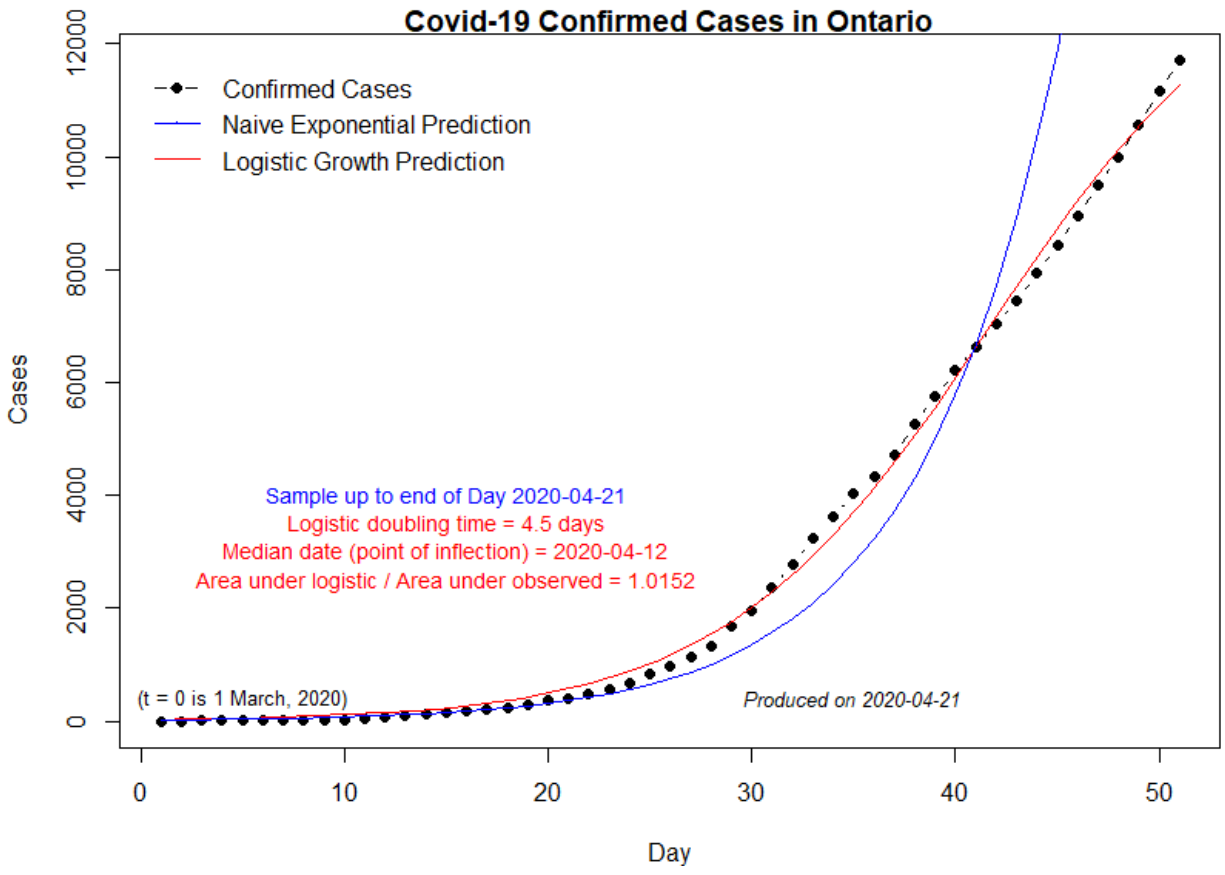
1. Total Confirmed Cases

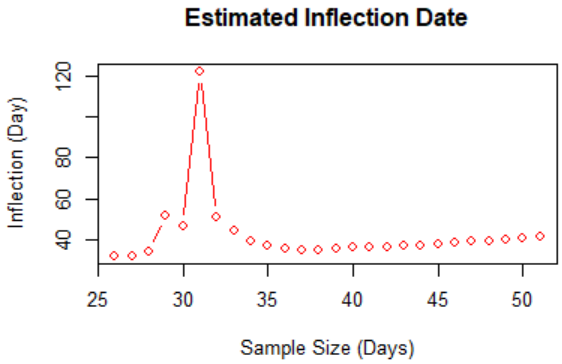
My R code for Covid-19 modelling is at

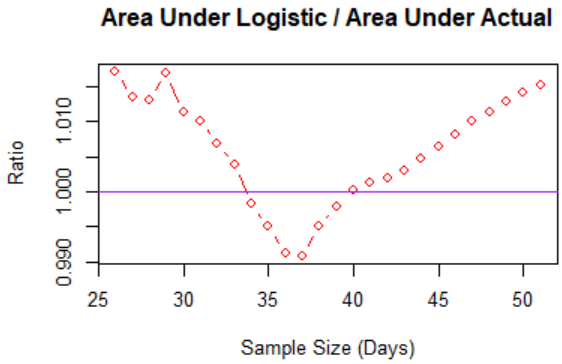
https://raw.githubusercontent.com/DaveGiles1949/r-code/master/Ontario_Covid-19_Cases.R

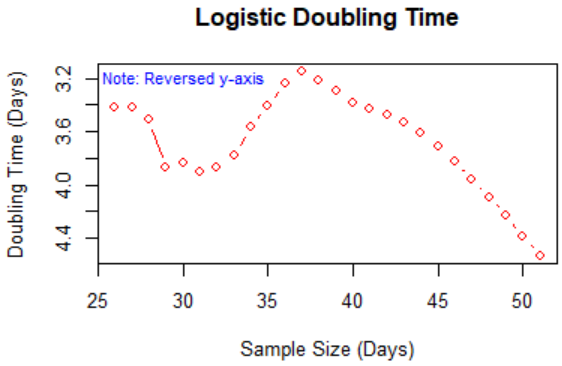
The code will automatically download the latest data from my github account.

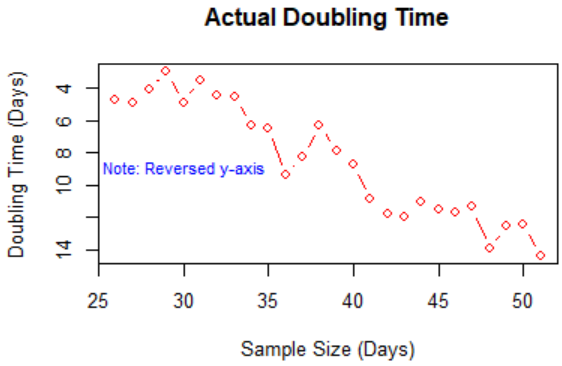
The chart below shows results based on *data from 2 March to 21 April inclusive*.




Estimated Inflection Date
Inflection (Day)
40
60
80
120
25
30
35
40
45
50
Sample Size (Days)


Area Under Logistic / Area Under Actual
Ratio
0.990
1.000
1.010
25
30
35
40
45
50
Sample Size (Days)


Logistic Doubling Time
Doubling Time (Days)
Note: Reversed y-axis
3.2
3.6
4.0
4.4
25
30
35
40
45
50
Sample Size (Days)


Actual Doubling Time
Doubling Time (Days)
Note: Reversed y-axis
4
6
8
10
14
25
30
35
40
45
50
Sample Size (Days)

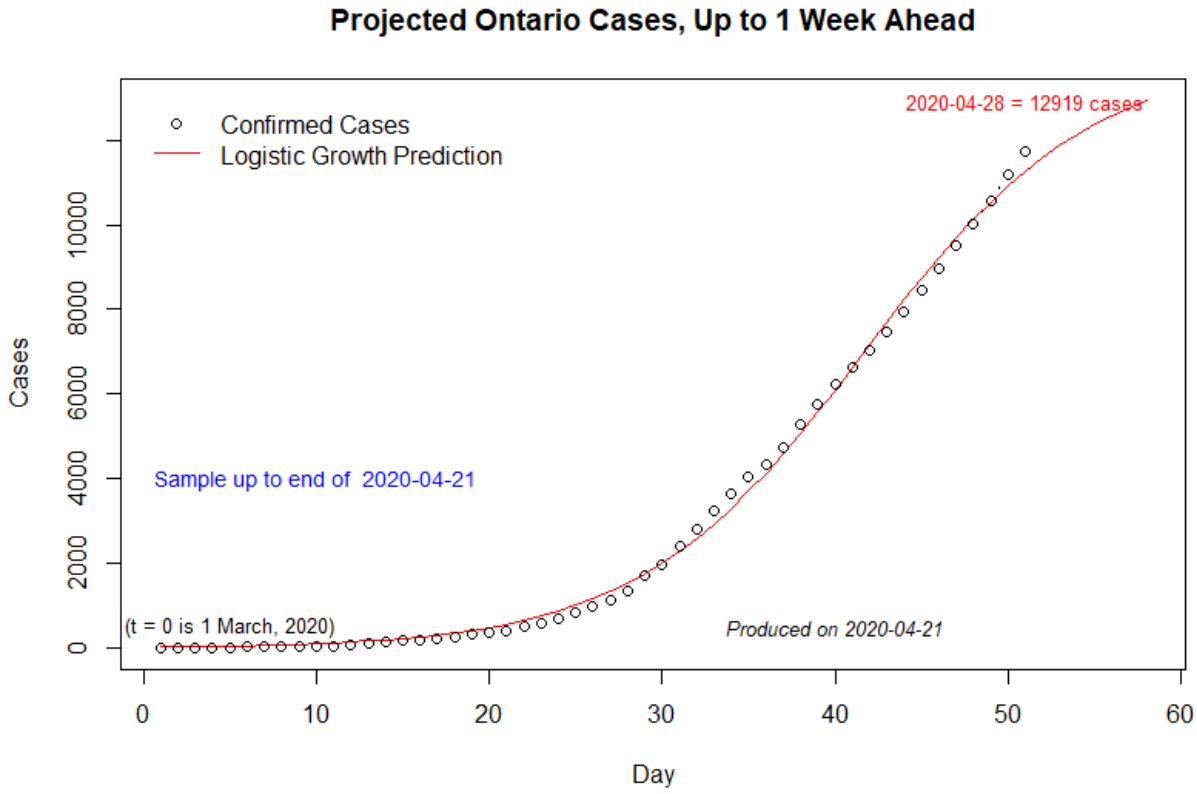

Projected Ontario Cases, Up to 1 Week Ahead
Confirmed Cases
Logistic Growth Prediction
2020-04-28 = 12919 cases
Sample up to end of 2020-04-21
(t = 0 is 1 March, 2020)
Produced on 2020-04-21
Cases
0
2000
4000
6000
8000
10000
0
10
20
30
40
50
60
Day

Table 3: Projected Covid-19 Cases in Ontario

(Projections are in Blue; Actual Values are in Brackets)

Sample end (projection made): 20 April

21 Apr	*22 Apr*	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*
11037 [11735]	11318	11569	11793	11991	12165	12318

Sample end (projection made): 21 April

22 Apr	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*	*28 Apr*
11591	11879	12139	12370	12576	12759	12919

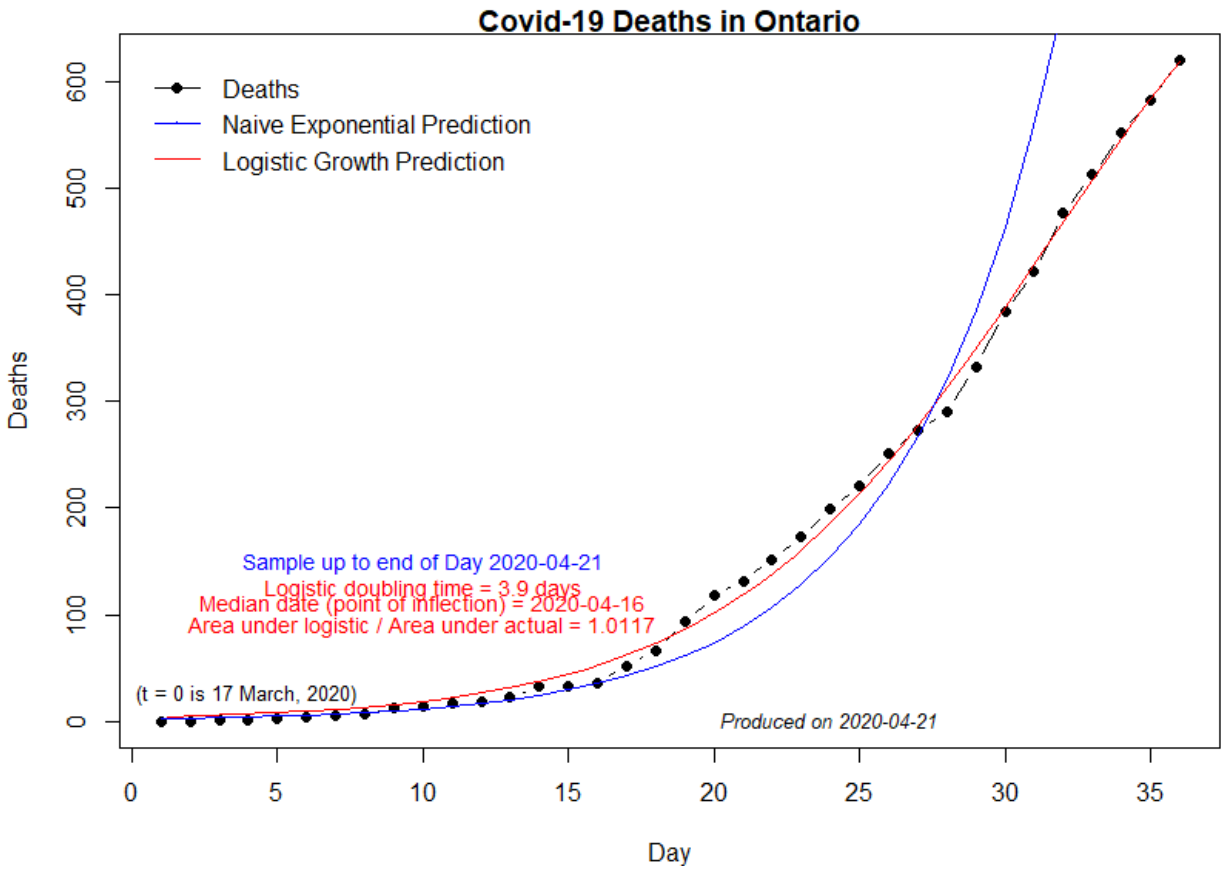
2. Total Number of Deaths

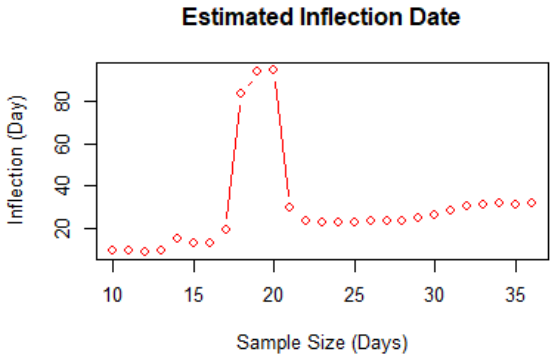
My R code for Covid-19 modelling is at

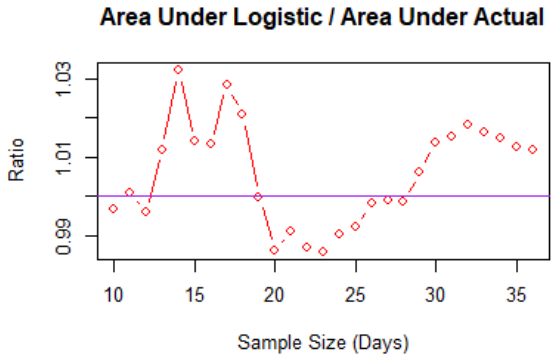
https://raw.githubusercontent.com/DaveGiles1949/r-code/master/Ontario_Covid-19_Deaths.R

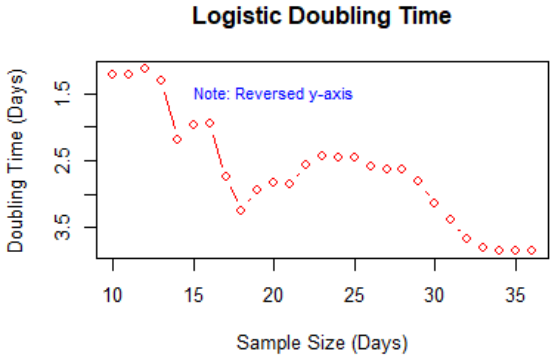
The code will automatically download the latest data from my github account.

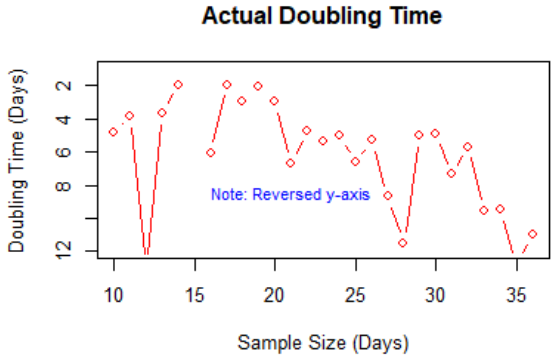
The chart below shows results based on *data from 17 March to 21 April inclusive*.




Estimated Inflection Date
Inflection (Day)
20
40
60
80
10
15
20
25
30
35
Sample Size (Days)


Area Under Logistic / Area Under Actual
Ratio
0.99
1.01
1.03
10
15
20
25
30
35
Sample Size (Days)


Logistic Doubling Time
Doubling Time (Days)
Note: Reversed y-axis
1.5
2.5
3.5
10
15
20
25
30
35
Sample Size (Days)


Actual Doubling Time
Doubling Time (Days)
Note: Reversed y-axis
2
4
6
8
12
10
15
20
25
30
35
Sample Size (Days)

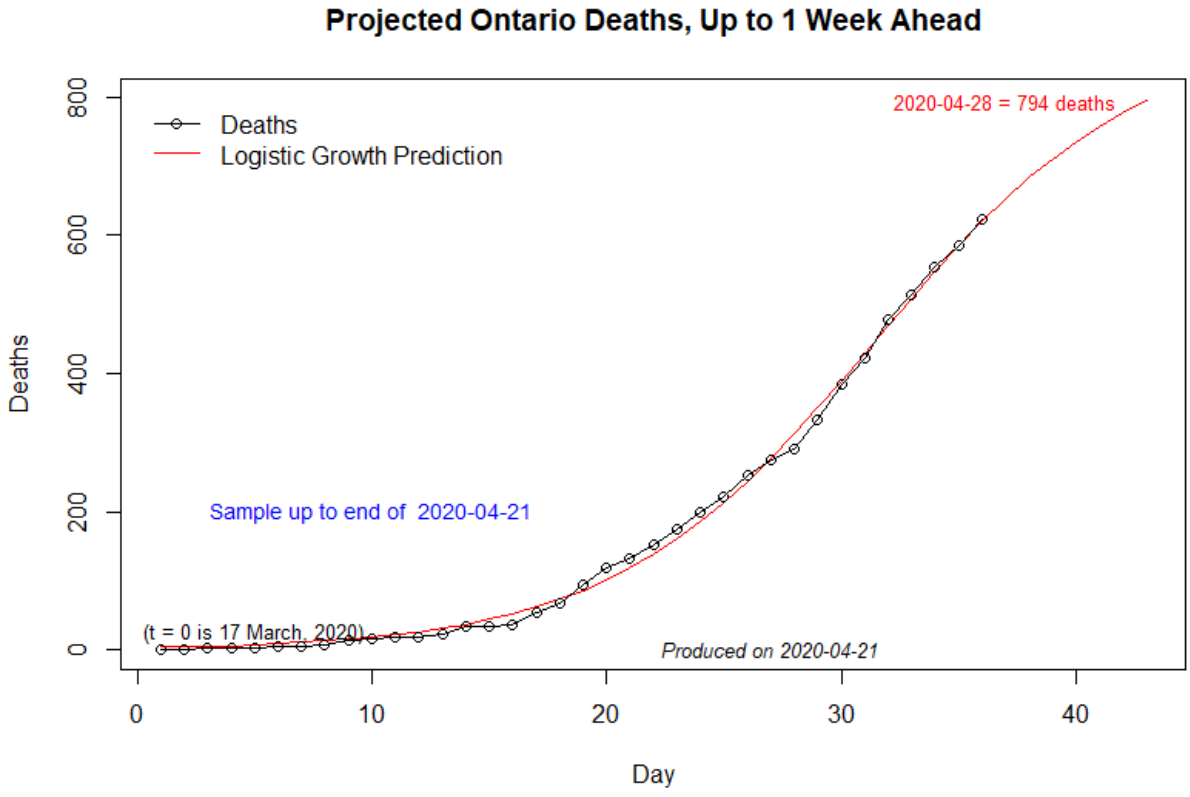

Projected Ontario Deaths, Up to 1 Week Ahead
Deaths
Logistic Growth Prediction
2020-04-28 = 794 deaths
Sample up to end of 2020-04-21
(t = 0 is 17 March, 2020)
Produced on 2020-04-21
Deaths
0
200
400
600
800
0
10
20
30
40
Day

Table 4: Projected Covid-19 Deaths in Ontario

(Projections are in Red; Actual Values are in Brackets)

Sample end (projection made): 20 April

21 Apr	*22 Apr*	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*
619 [622]	651	681	709	733	755	774

Sample end (projection made): 21 April

22 Apr	*23 Apr*	*24 Apr*	*25 Apr*	*26 Apr*	*27 Apr*	*28 Apr*
653	683	711	735	758	777	794