

# COVID-19

## COVID-19 MODELING EXERCISE

*A “HOW TO” calculate Rt GUIDE with EpiEstim*

# COVID-19

Calculation of  $R_t$  with *EpiEstim*

→ Go to <https://harvardanalytics.shinyapps.io/covid19/>

# COVID-19

## Step 1:

*Prepare the region/area/country daily incidence in a .csv file*

1. Prepare the data of incidence per day for the region/area/country of study in 2 columns: "dates" and "I";
2. Save the file under a .csv format.

	A	B	C
1	dates	I	
2	28/02/2020	2	
3	29/02/2020	0	
4	01/03/2020	0	
5	02/03/2020	3	
6	03/03/2020	0	
7	04/03/2020	0	
8	05/03/2020	0	
9	06/03/2020	0	
10	07/03/2020	0	
11	08/03/2020	2	
12	09/03/2020	0	
13	10/03/2020	0	
14	11/03/2020	0	
15	12/03/2020	4	
16	13/03/2020	1	
17	14/03/2020	14	
18	15/03/2020	15	
19	16/03/2020	12	
20	17/03/2020	29	
21	18/03/2020	11	
22	19/03/2020	25	
23	20/03/2020	46	
24	21/03/2020	0	
25	22/03/2020	0	
26	23/03/2020	87	
27	24/03/2020	119	
28	25/03/2020	0	
29	26/03/2020	108	
30	27/03/2020	0	
31	28/03/2020	111	
32	29/03/2020	128	
33	30/03/2020	131	
34	31/03/2020	145	
35	01/04/2020	101	

# COVID-19

## Step 2:

*Upload csv file*

Welcome | Graphs | Statistics

### COVID-19 Estimator

... helps countries estimate the rate of transmission of COVID-19 u  
... ally produces the following results:

1. Epidemic curves (number of incidents) as a function of time  $t$
2. Estimated  $R$  (Rate of transmission) as a function of time  $t$  with 95% confidence in  
 $\mu_{si} = 4.8$  and standard deviation  $\sigma_{si} = 2.3$

COVID-19 Estimator is available for all countries to use. It is part of the World Health Org  
addressing the COVID-19 epidemic.

**1<sup>st</sup> . Browse and upload the .csv file**

**2<sup>nd</sup> . When the upload is complete, the following bar will be displayed:**

Choose CSV File

Browse... No file selected

Toggle Settings for uploading CSV

Header

**Separator**

Comma

Semicolon

Tab

**Quote**

None

Double Quote

Single Quote

Toggle Settings for viewing results

**Display**

Head

All

Choose CSV File

Browse... country timeseries.csv

Upload complete

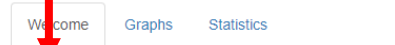
# COVID-19

## Step 3:

Check “welcome” tabs



## COVID-19 Estimator



### COVID-19 Estimator

This is an interface that helps countries estimate the rate of

This interface dynamically produces the following results:

1. Epidemic curves (number of incidents) as a function of time
2. Estimated  $R$  (Rate of transmission) as a function of time  
 $\mu_{st} = 4.8$  and standard deviation  $\sigma_{st} = 2.3$

COVID-19 Estimator is available for all countries to use. It is addressing the COVID-19 epidemic.

#### Getting Started

To begin, simply click [Browse...](#) and upload a CSV file (coronavirus\_data.csv)

Note that the CSV must contain dates in the first column and the format can be downloaded below.

[Download Sample COVID-19 CSV File](#)

#### Uploaded File

dates	1
28/02/2020	2
29/02/2020	0

The “welcome” tab will display the assumptions and the sample uploaded

PAHO



Pan American  
Health  
Organization



World Health  
Organization  
REGIONAL OFFICE FOR THE  
Americas

BE AWARE. PREPARE. ACT.

[www.paho.org/coronavirus](http://www.paho.org/coronavirus)

# COVID-19

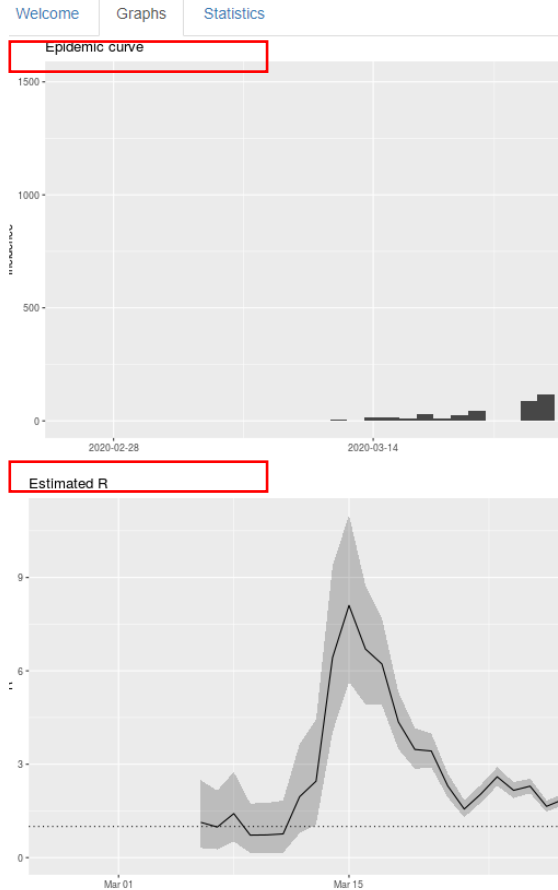
Welcome

Graphs

Statistics

## COVID-19 Estimator

In the “graphs” tab the Epicurve and the plot of the Rt fluctuation will be displayed



**Step 4:**

*Check “graphs” tabs*

# COVID-19

## Step 5:

Welcome

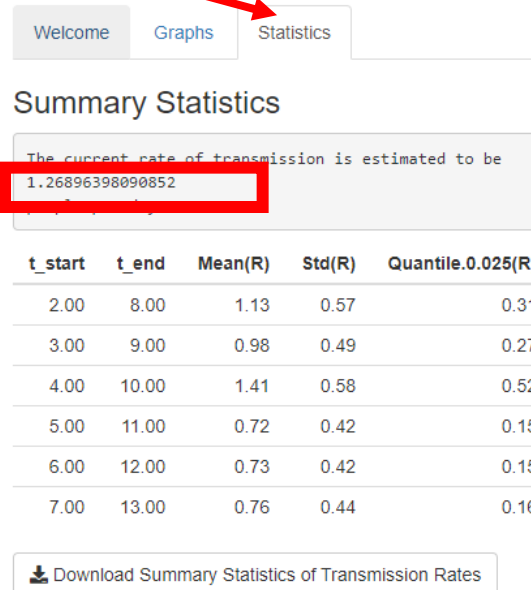
Graphs

Statistics

## COVID-19 Estimator

Check "statistics" tabs

- In the "statistics" tab the  $R_t$  will be displayed.
- This is the number you need to use of the CovidSIM projections



# COVID-19

harvardanalytics.shinyapps.io/covid19/

## World Health Organization

**Choose CSV File**

Browse... Mexico\_timeseries.csv

Upload complete

Toggle Settings for uploading CSV

Header

**Separator**

Comma

Semicolon

Tab

**Quote**

None

Double Quote

Single Quote

Toggle Settings for viewing results

**Display**

Head

All

Welcome Graphs Statistics

## COVID-19 Estimator

This is an interface that helps countries estimate the rate of transmission of COVID-19 using the number of reported cases on specific dates.

This interface dynamically produces the following results:

1. Epidemic curves (number of incidents) as a function of time  $t$
2. Estimated  $R$  (Rate of transmission) as a function of time  $t$  with 95% confidence intervals. This is calculated using sliding weekly windows, with a parametric serial interval based on a mean of  $\mu_{SI} = 4.8$  and standard deviation  $\sigma_{SI} = 2.3$

COVID-19 Estimator is available for all countries to use. It is part of the World Health Organization's efforts to help countries successfully monitor transmission rates and prescribe public policies addressing the COVID-19 epidemic.

### Getting Started

To begin, simply click **Browse...** and upload a CSV file (comma-separated values) in the sidebar panel on the left.

Note that the CSV must contain dates in the first column and number of incidents in the second column. Note that dates must be written in the order of **Day/Month/Year**. A sample CSV in a correct format can be downloaded below.

[Download Sample COVID-19 CSV File](#)

### Uploaded File

dates	I
28/02/2020	2
29/02/2020	0
01/03/2020	0
02/03/2020	3
03/03/2020	0
04/03/2020	0

# Thank you

PAHO



Pan American  
Health  
Organization



World Health  
Organization  
REGIONAL OFFICE FOR THE  
Americas

BE AWARE. PREPARE. ACT.

www.paho.org/coronavirus