

Chart 13: Suppression vs. Mitigation vs. Do Nothing — early on

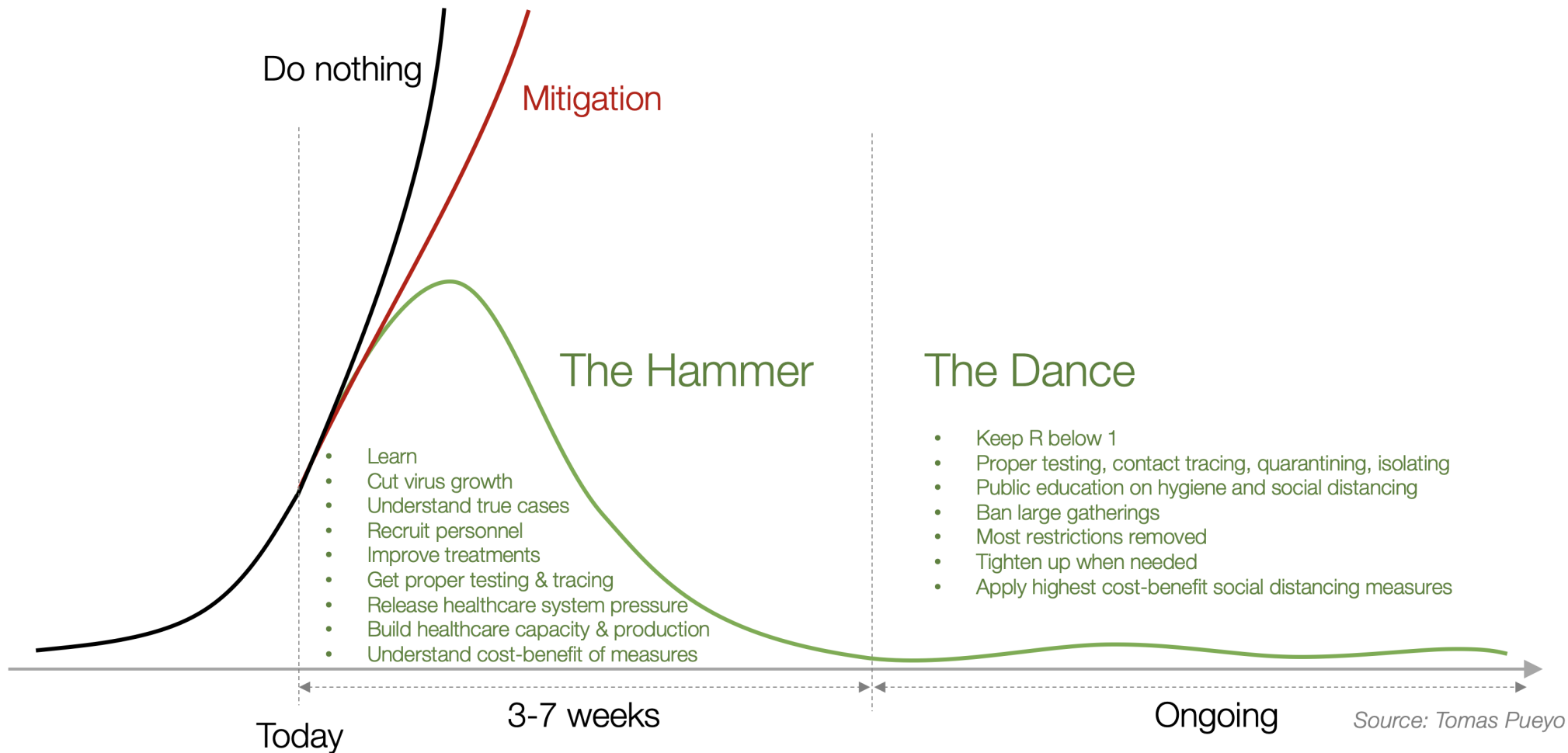
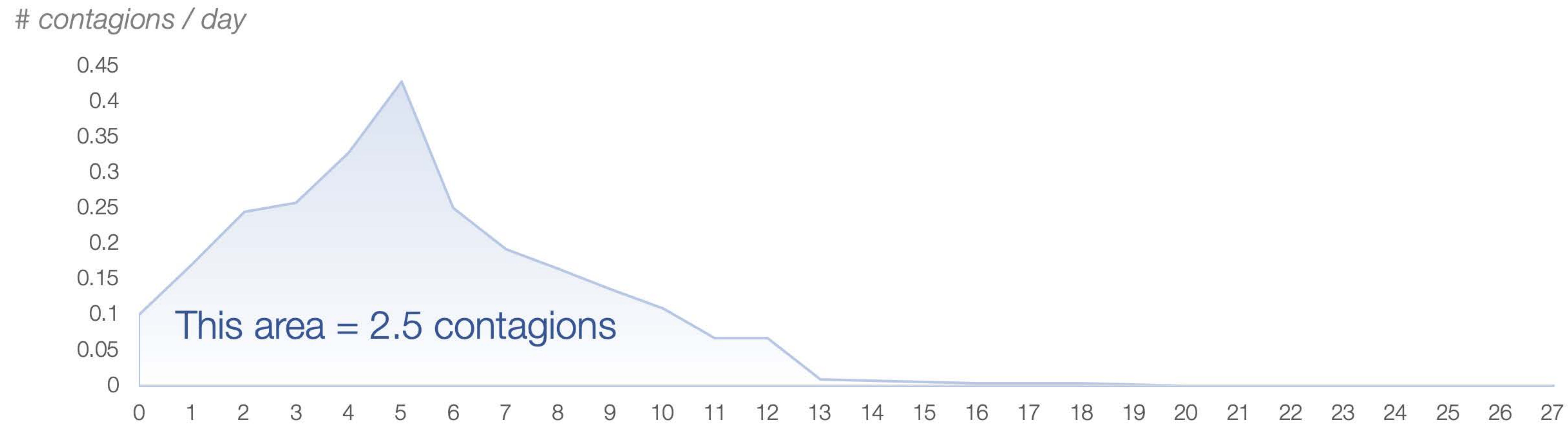
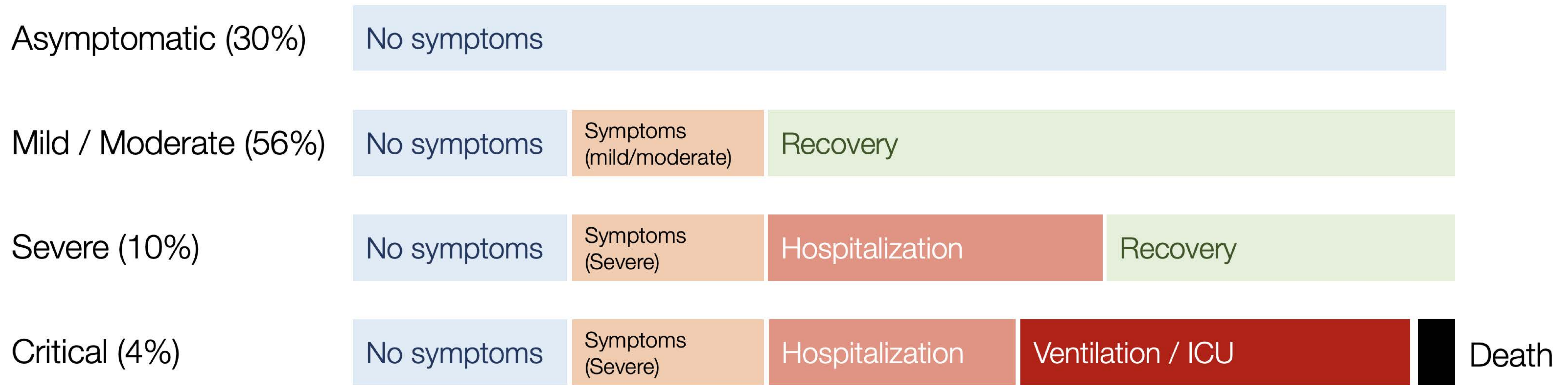
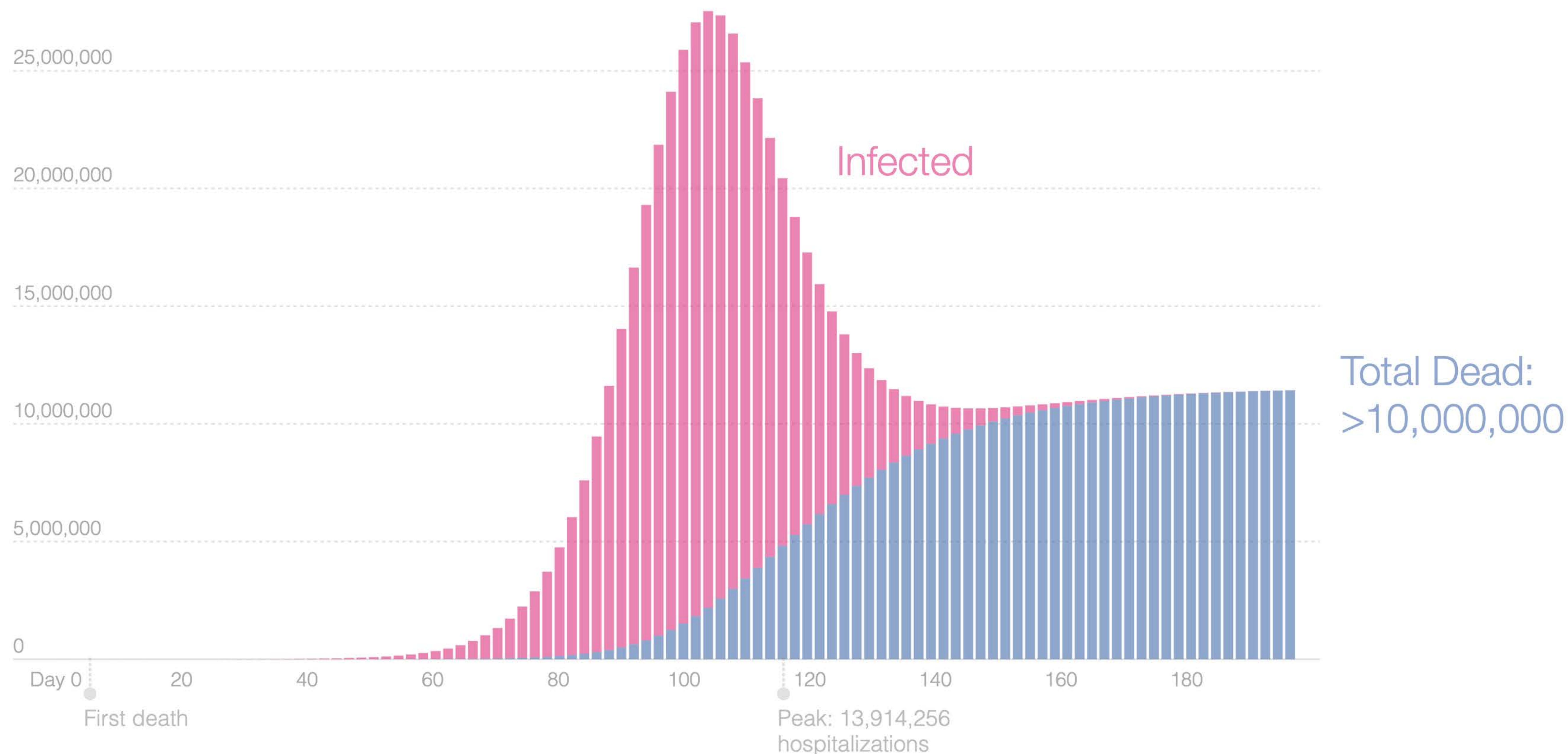


Chart 14: Transmission Rate during Coronavirus Stages in Patients



Source: Tomas Pueyo, John Hsu, WHO, Eurosurveillance, Medrxiv, ECDC, The Lancet, Impact of non-pharmaceutical interventions (NPIs) to reduce COVID19 mortality and healthcare demand, The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application, Mixing patterns between age groups in social networks.

Chart 3: Infections and Deaths If We Do Nothing in the US



Transmission Dynamics

Population Inputs

Size of population.



Number of initial infections.



Basic Reproduction

Number \mathcal{R}_0

Measure of contagiousness: the number of secondary infections each infected individual produces.



Transmission Times

Length of incubation period, T_{inc} .



Duration patient is infectious, T_{inf} .



Clinical Dynamics

Morbidity Statistics

Case fatality rate.



Time from end of incubation to death.



Recovery Times

Length of hospital stay



Recovery time for mild cases



Care statistics

Hospitalization rate.

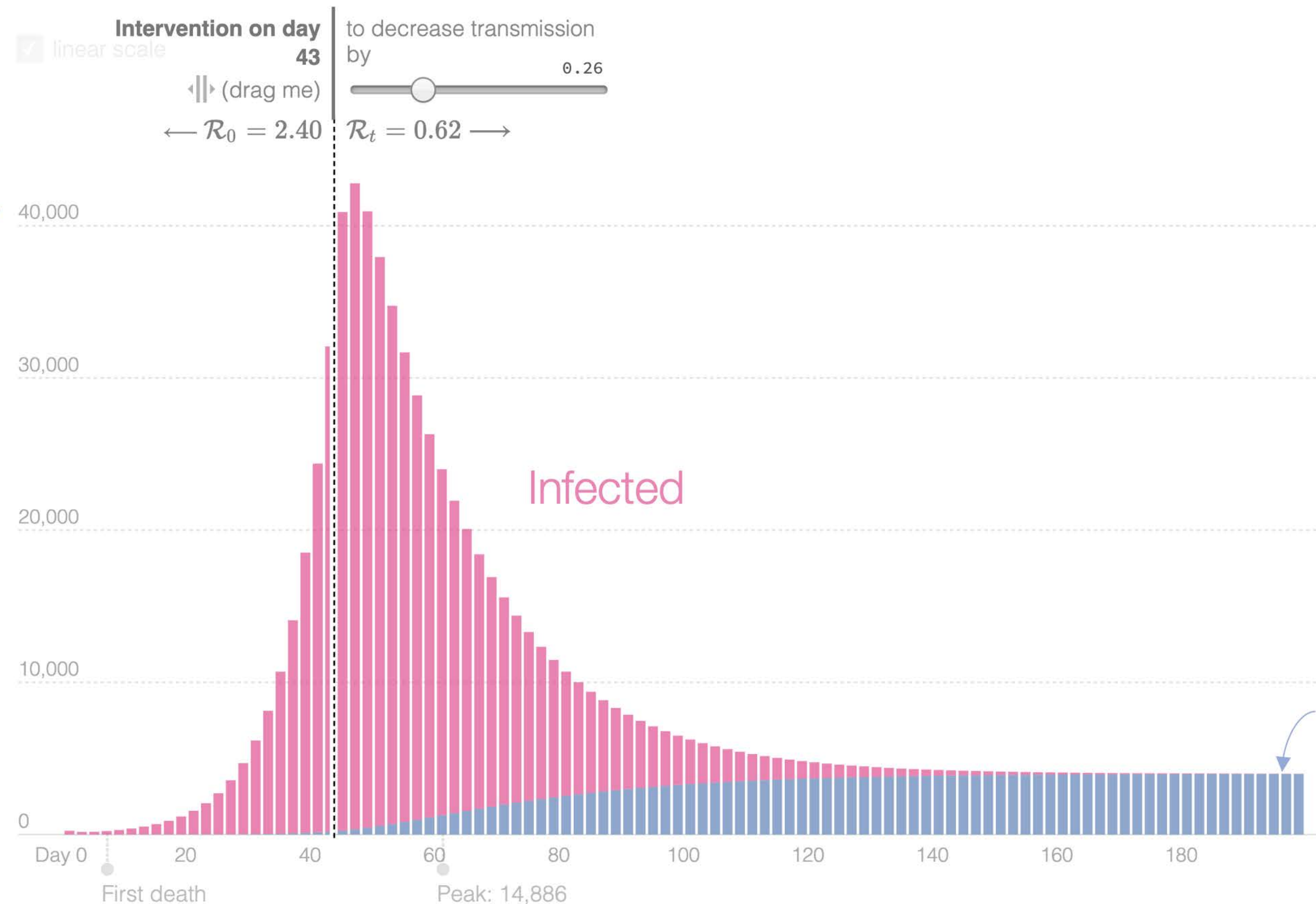


Time to hospitalization.



Chart 7: Coronavirus Cases and Deaths under Suppression Strategy

Notice the axis has changed:
it's not in the tens of millions
anymore, it's in the tens of
thousands!



Transmission Dynamics

Population Inputs

Size of population.

328,484,431

Number of initial infections.

246

Basic Reproduction Number \mathcal{R}_0

Measure of contagiousness: the number of secondary infections each infected individual produces.

2.4

Transmission Times

Length of incubation period, T_{inc} .

5.20 days

Duration patient is infectious, T_{inf} .

2.9 Days

Clinical Dynamics

Morbidity Statistics

Case fatality rate.

0.90 %

Time from end of incubation to death.

21.3 Days

Recovery Times

Length of hospital stay

10 Days

Recovery time for mild cases

11.1 Days

Care statistics

Hospitalization rate.

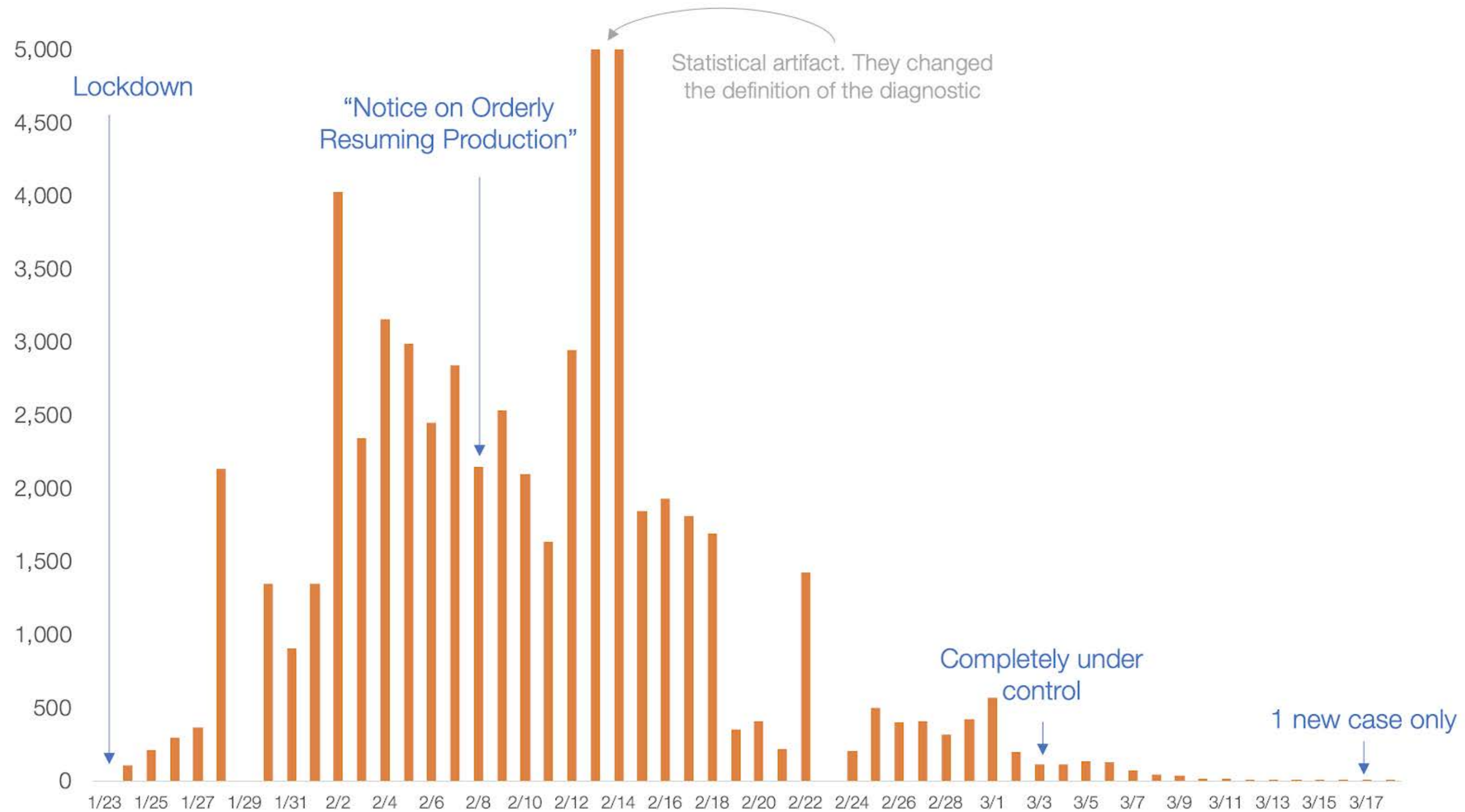
14.00 %

Time to hospitalization.

5 Days

Source: Tomas Pueyo et. All Analysis, Epidemic Calculator, Gabriel Goh, <http://gabgoh.github.io/COVID/index.html>.

Chart 12: Cases in Wuhan and Infection Evolution



Source: Tomas Pueyo analysis from primary data from Johns Hopkins uploaded to Github by Ryan Lau:

https://github.com/CSSEGISandData/COVID-19/blob/master/csse_covid_19_data/csse_covid_19_time_series/time_series_19-covid-Confirmed.csv

Coronavirus Cases

Do nothing

Mitigation

The Hammer

The Dance

Today

3-7 weeks

Ongoing

Source: Tomas Pueyo

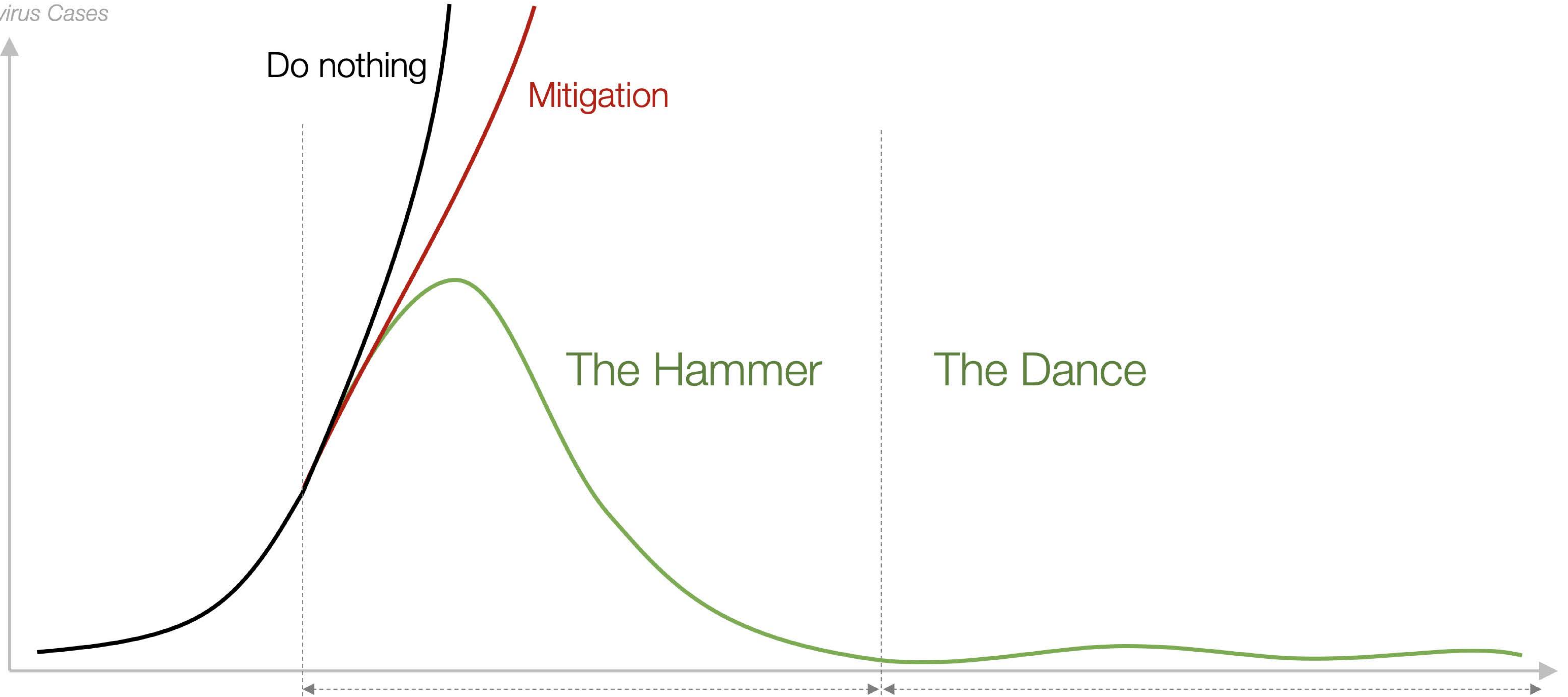
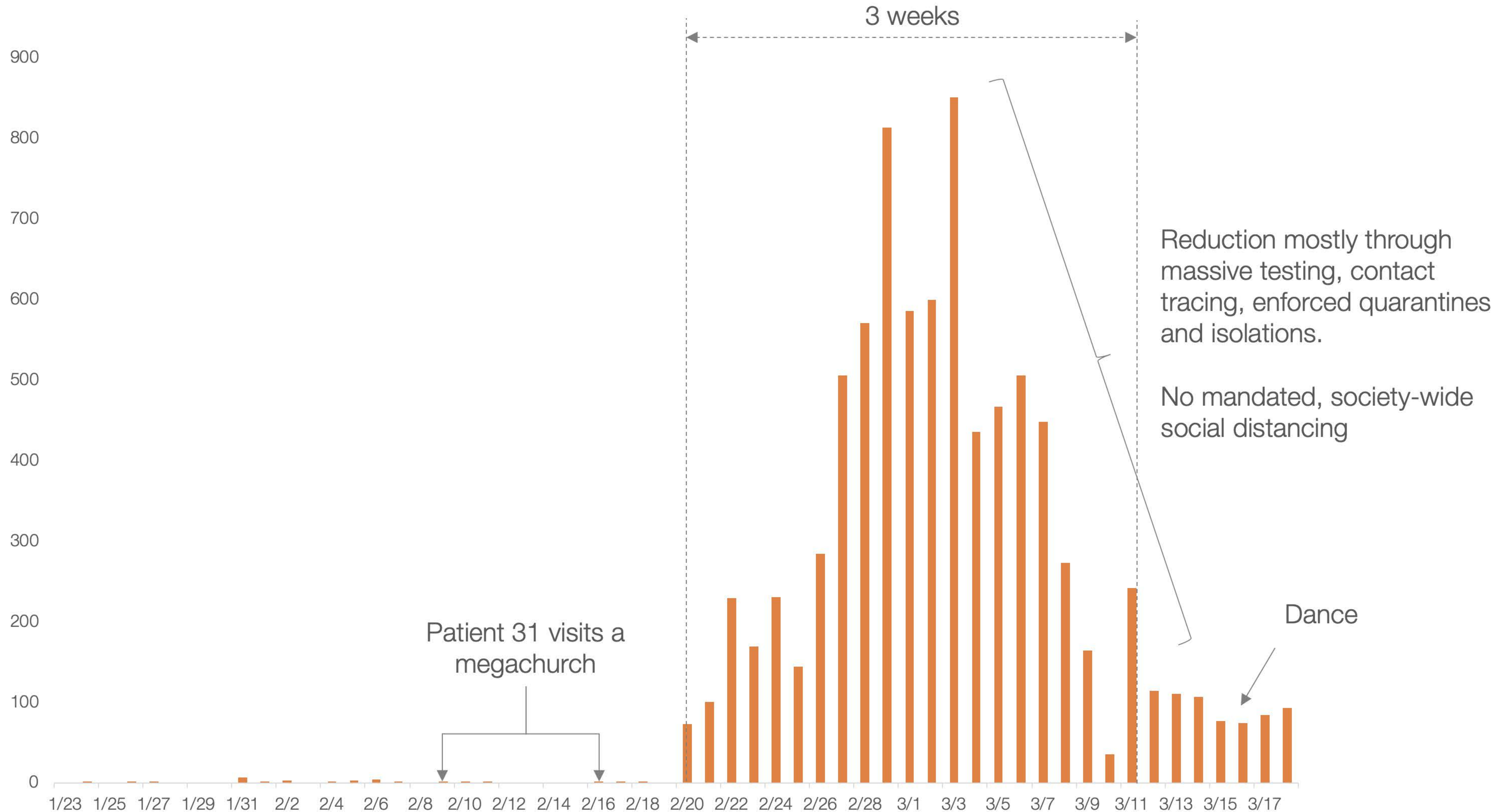
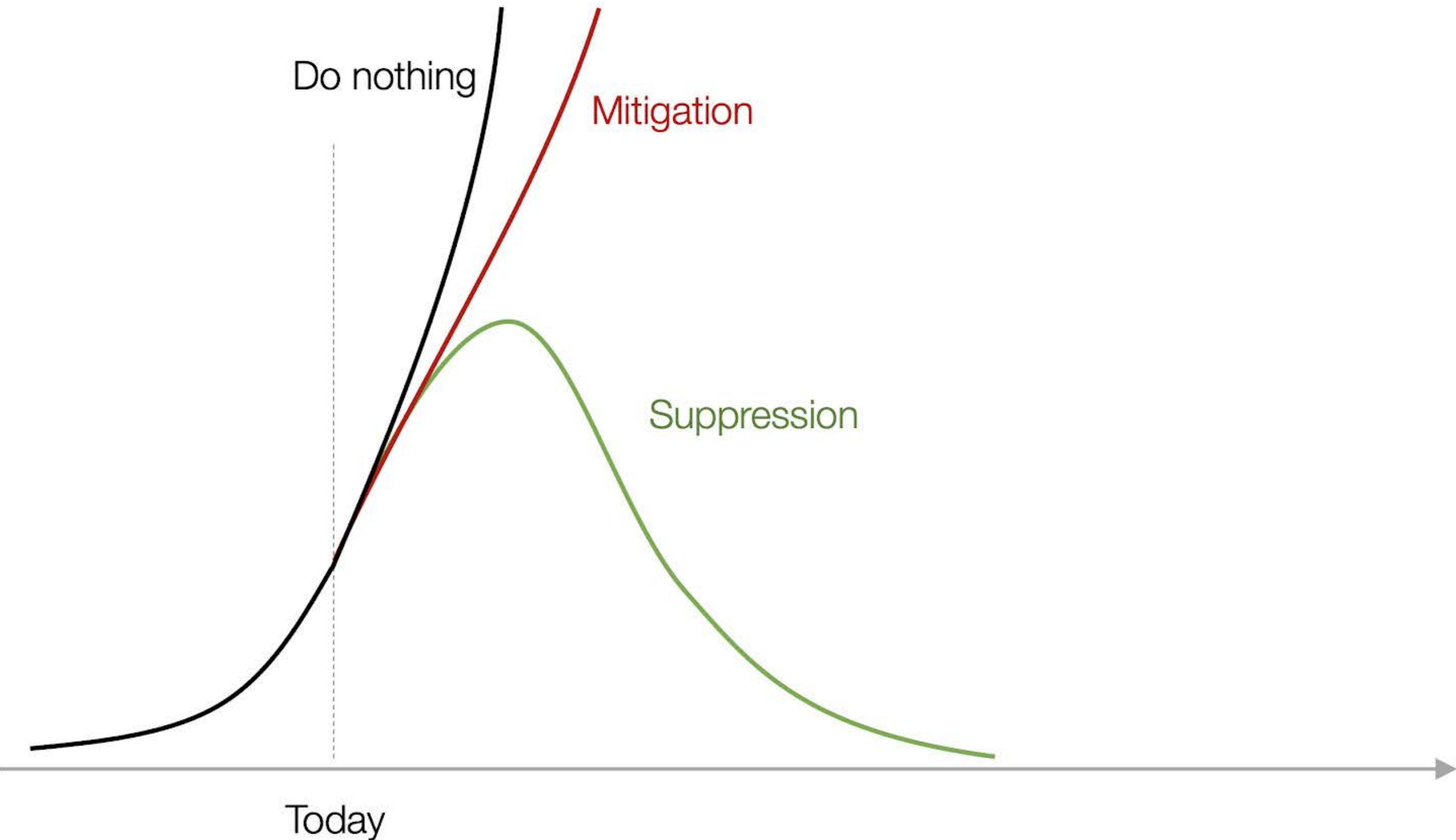


Chart 12.b: New Daily Cases in South Korea



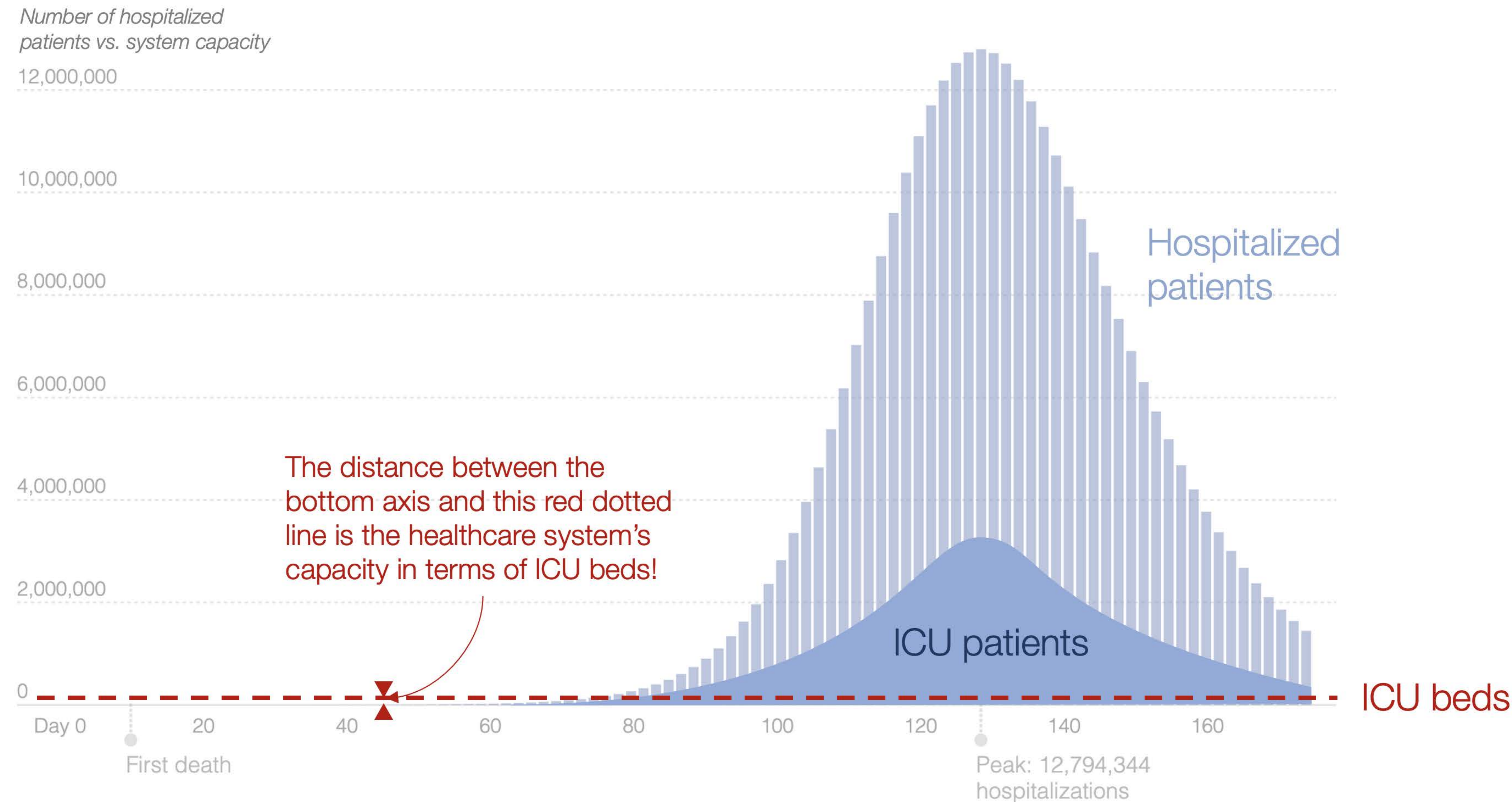
Source: Tomas Pueyo analysis from primary data from Johns Hopkins uploaded to Github by Ryan Lau:
https://github.com/CSSEGISandData/COVID-19/blob/master/csse_covid_19_data/csse_covid_19_time_series/time_series_19-covid-Confirmed.csv

Chart 11: Suppression vs. Mitigation vs. Do Nothing — early on



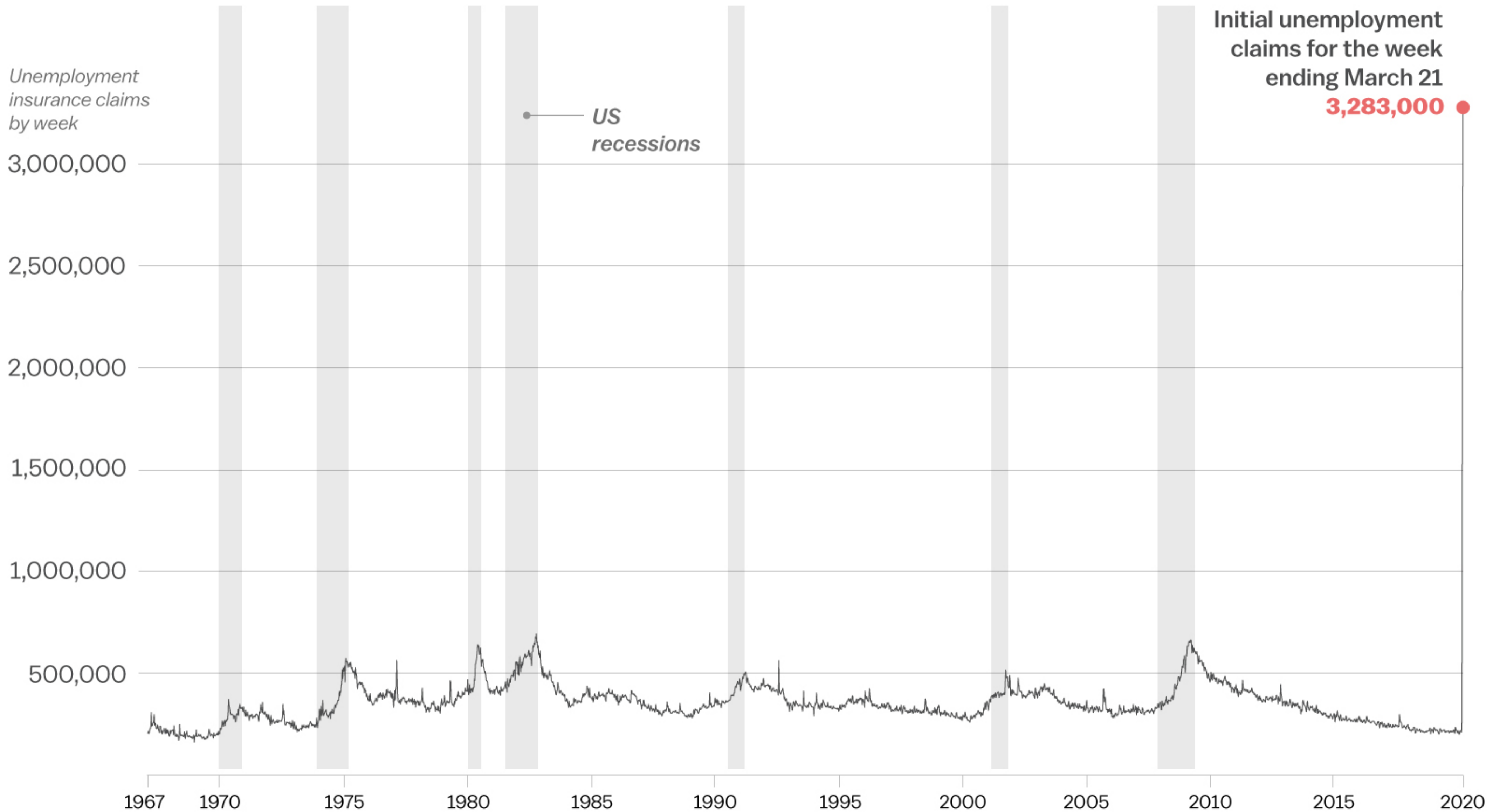
Source: Tomas Pueyo

Chart 4: Hospitalized Coronavirus Patients vs. System Capacity

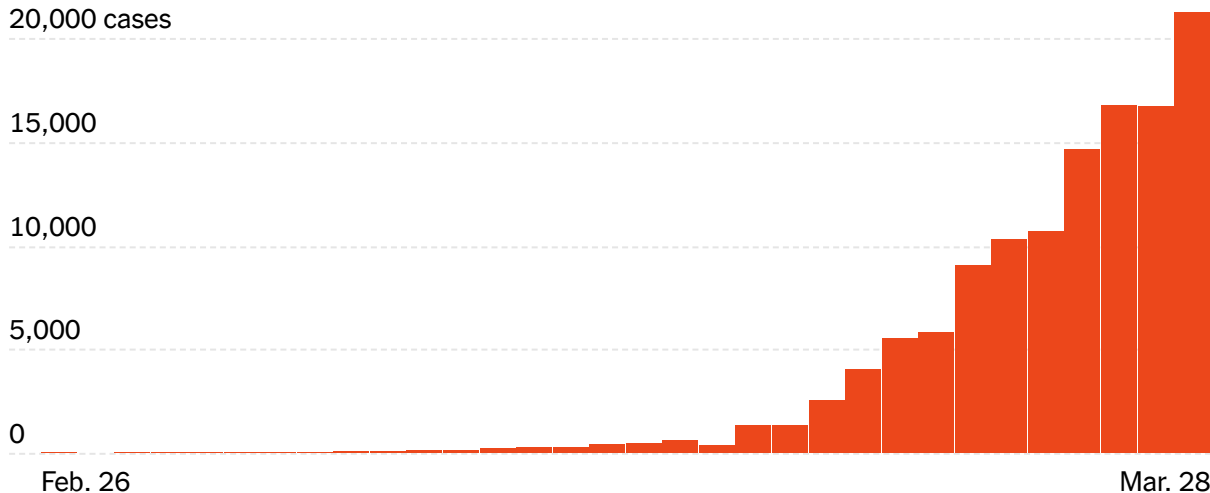


Source: Tomas Pueyo analysis
Epidemic Calculator, Gabriel Goh, <http://gabgoh.github.io/COVID/index.html> for Hospitalized patients
ICU patients using ~25% of hospitalizations that require ICU support, from China CDC
Number of current + repurposed ICU beds = ~100,000 (Johns Hopkins, <http://www.centerforhealthsecurity.org/cbn/2020/cbnreport-02272020.html>

An unprecedented rise in unemployment

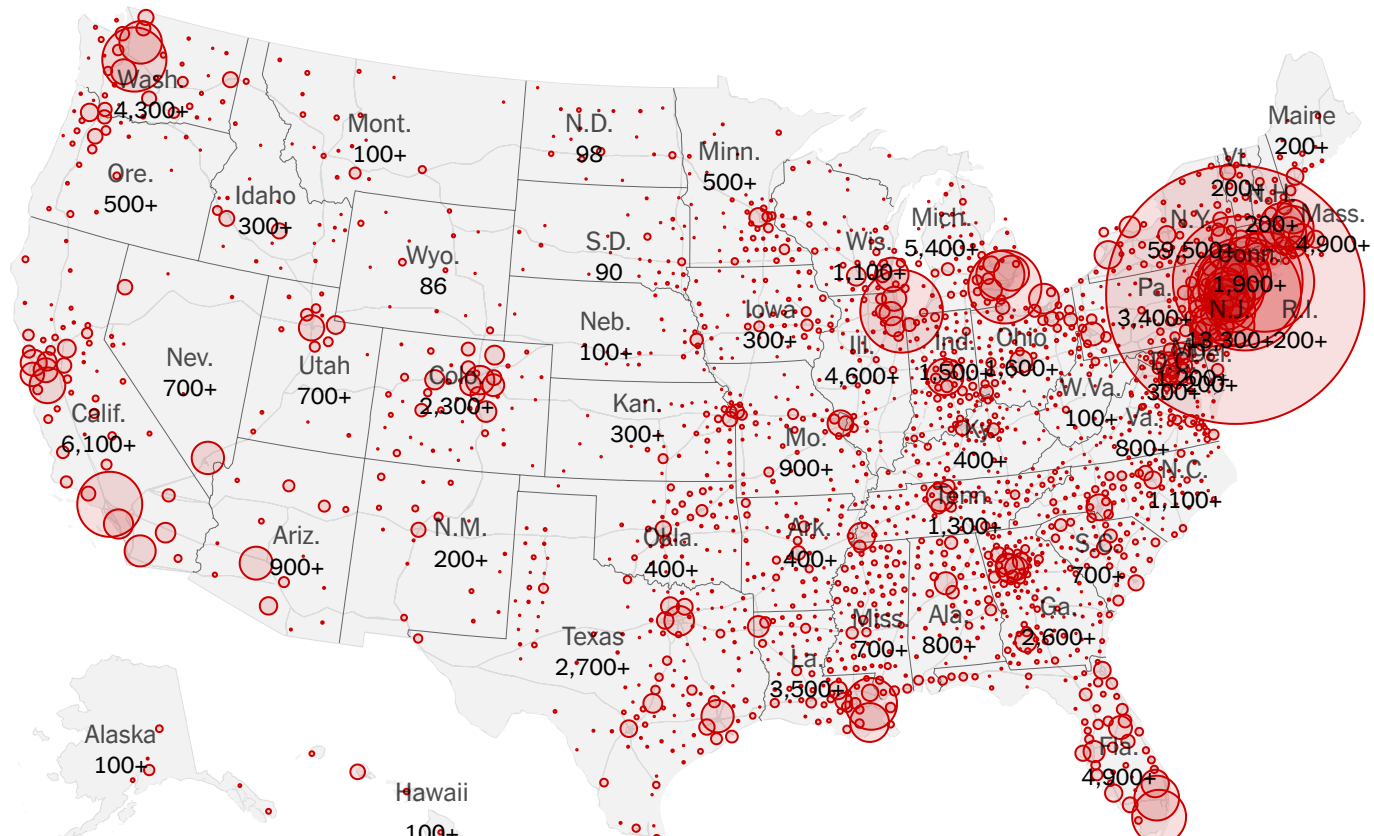


New coronavirus cases announced in the U.S. each day

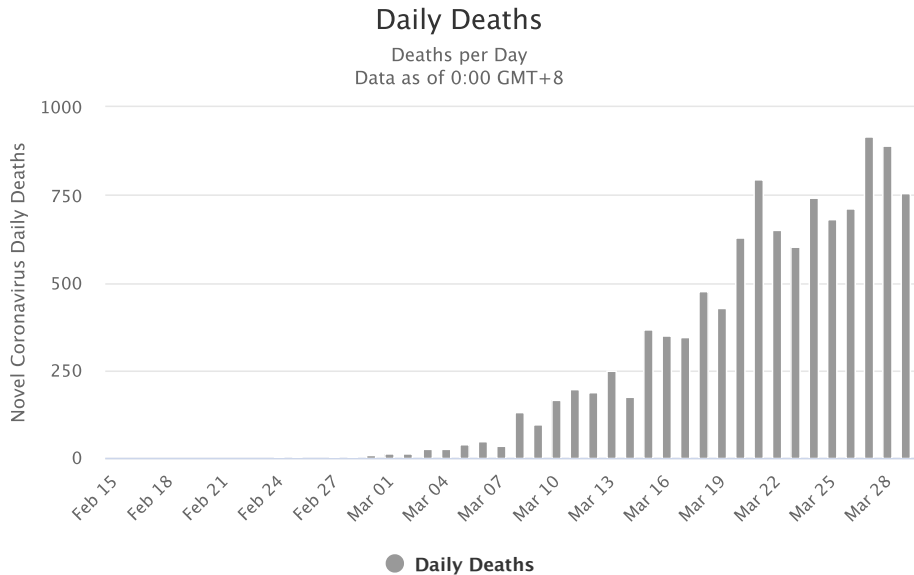


Source: C.D.C., state and local health agencies, hospitals.

Where cases have been reported



Daily New Deaths in Italy



Daily New Cases in Italy

Daily New Cases

Cases per Day

Data as of 0:00 GMT+0

