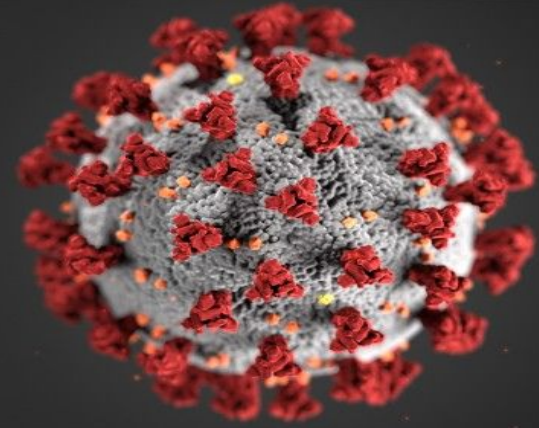


COVID-19 UPDATE

3/14/20

Jason M. Hogan, MD
Gunnison Valley Health
Medical Advisor, Health Branch

Coronavirus Disease Characteristics



- Incubation period estimated at 4 days (2 to 7 days)
- Reported signs and symptoms of patients admitted to hospital:
 - Fever (77–98%)
 - Cough (46%–82%)
 - Myalgia or fatigue (11–52%)
 - Shortness of breath (3-31%)

Symptoms of COVID-19, cold, influenza

Symptoms	COVID-19	Influenza (Flu)	Cold
Dry cough	+++	+++	+
Fever	+++	+++	-
Stuffy nose	-	++	+++
Sore throat	++	++	+++
Shortness of breath	++	--	--
Headache	++	+++	-
Body aches	++	+++	+++
Sneezing	--	--	+++
Exhaustion	++	+++	++
Diarrhea	-	++	--
+++ Frequent ++ Sometimes + Occasionally - Rare -- Not observed			

The Majority of Infections are Mild

Seriousness of symptoms

80.9%



MILD
Like flu, stay at home

13.8%



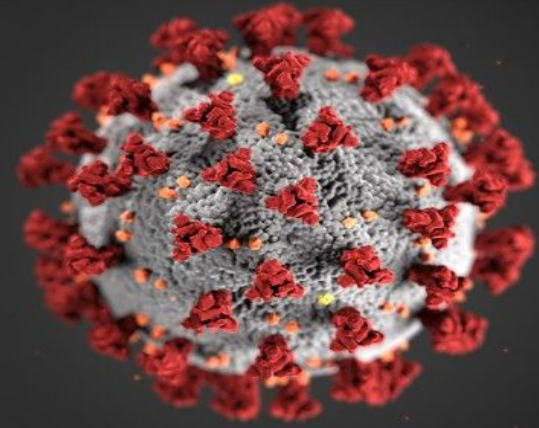
SEVERE
Hospitalization

4.7%



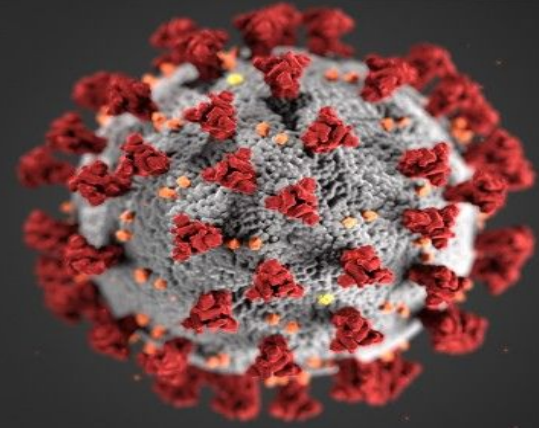
CRITICAL
Intensive care

Coronavirus Disease Characteristics

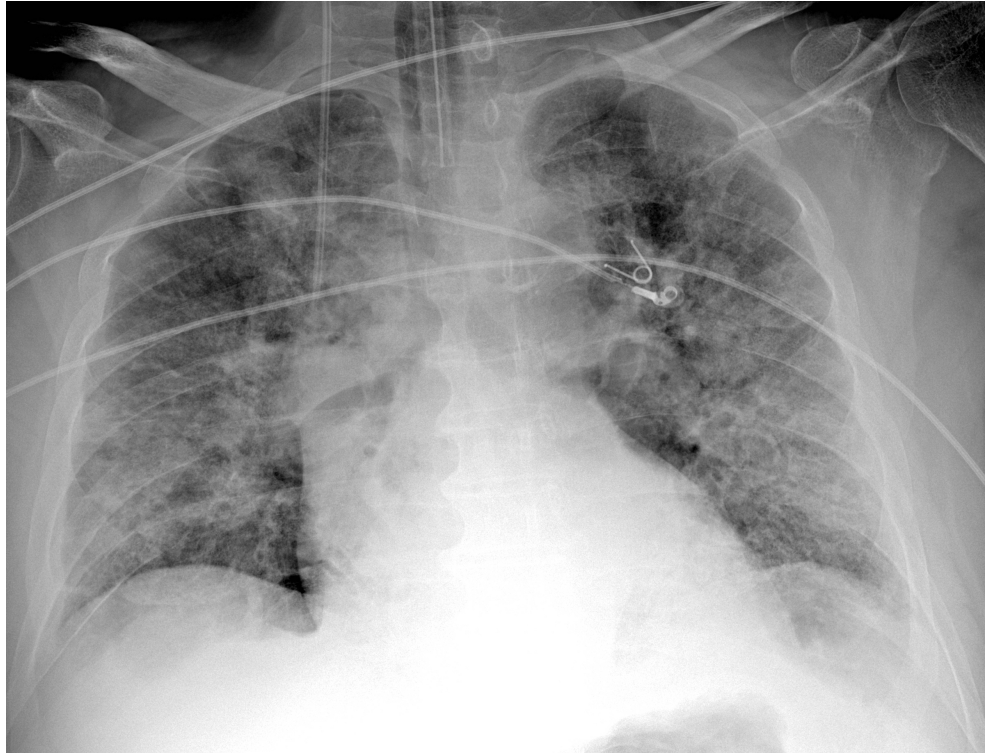
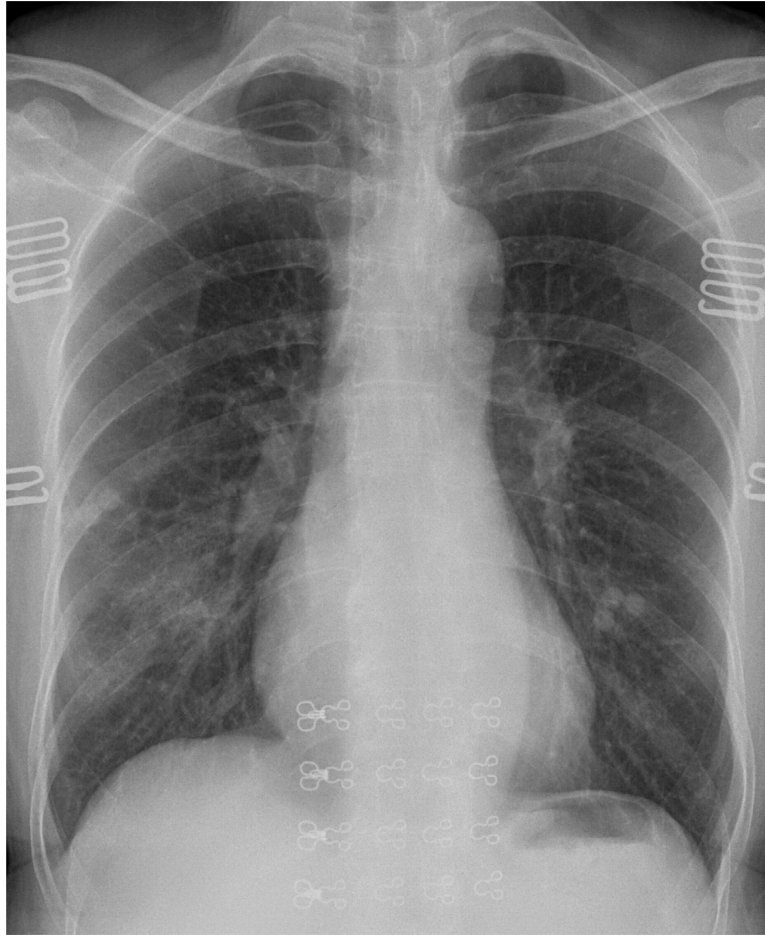


- Majority of cases occurring in patients aged 30–69 years (77.8%)
- Case-fatality proportion among cases aged:
 - 60-69 years: 3.6%
 - 70-79 years: 8%
 - ≥ 80 years: 14.8%
- Additional risk factors:
 - Cardiovascular disease, diabetes, chronic respiratory disease, hypertension, cancer

Coronavirus Disease Characteristics



- Longer duration of illness:
 - Mean time from illness onset to hospital admission with pneumonia 9 days
- Approximately 20-30% of hospitalized patients have required intensive care for respiratory support



Gunnison Valley Hospital Resources & At Risk Individuals

- **Ventilators**

- Current ventilators in ED: 1
- Purchased 2 additional vents
- Attempting to rent more

- **ICU capabilities**

- Lack of resources, staff, and training

- **Other factors:**

- Saturation of referral centers
- High altitude
- Physical space

- **At risk population:**

- 2,300 - 3,000 individuals
 - 10% hospitalized: 230
 - 30% ICU: 69

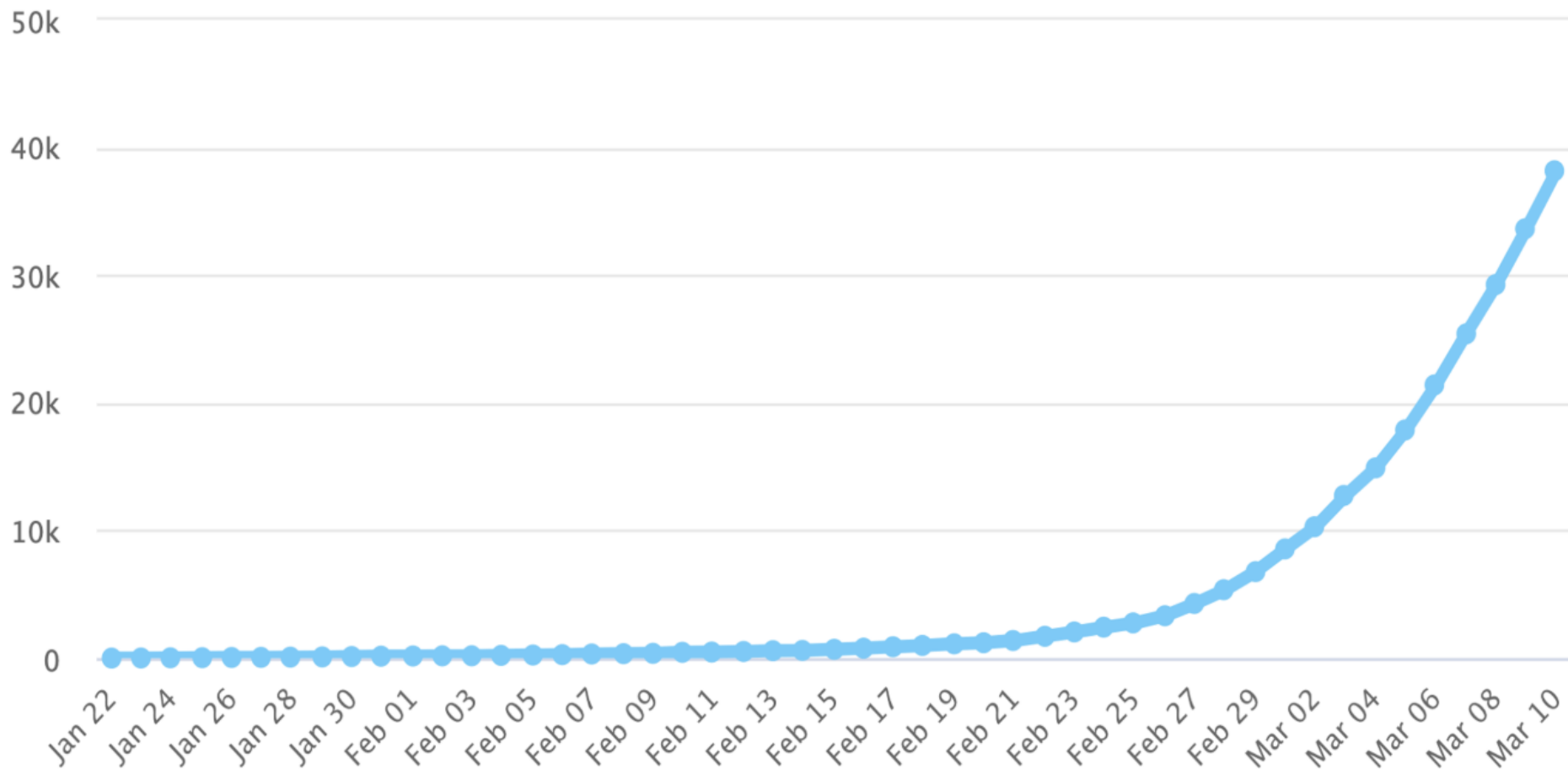
Gunnison Valley Case

- Patient presents to GVD ED with fever x2 weeks & feeling short of breath
- Arrives to ED on 3/8/20
- Arrived back to Gunnison Valley area around 2/20/20, start of symptoms
- Reported travel to Hawaii x 3 weeks prior to feeling ill but no other high risk travel or exposures
- 17 days between symptom onset and presentation to the ED
- Of note, significant other sick with brief fever and cough for several days

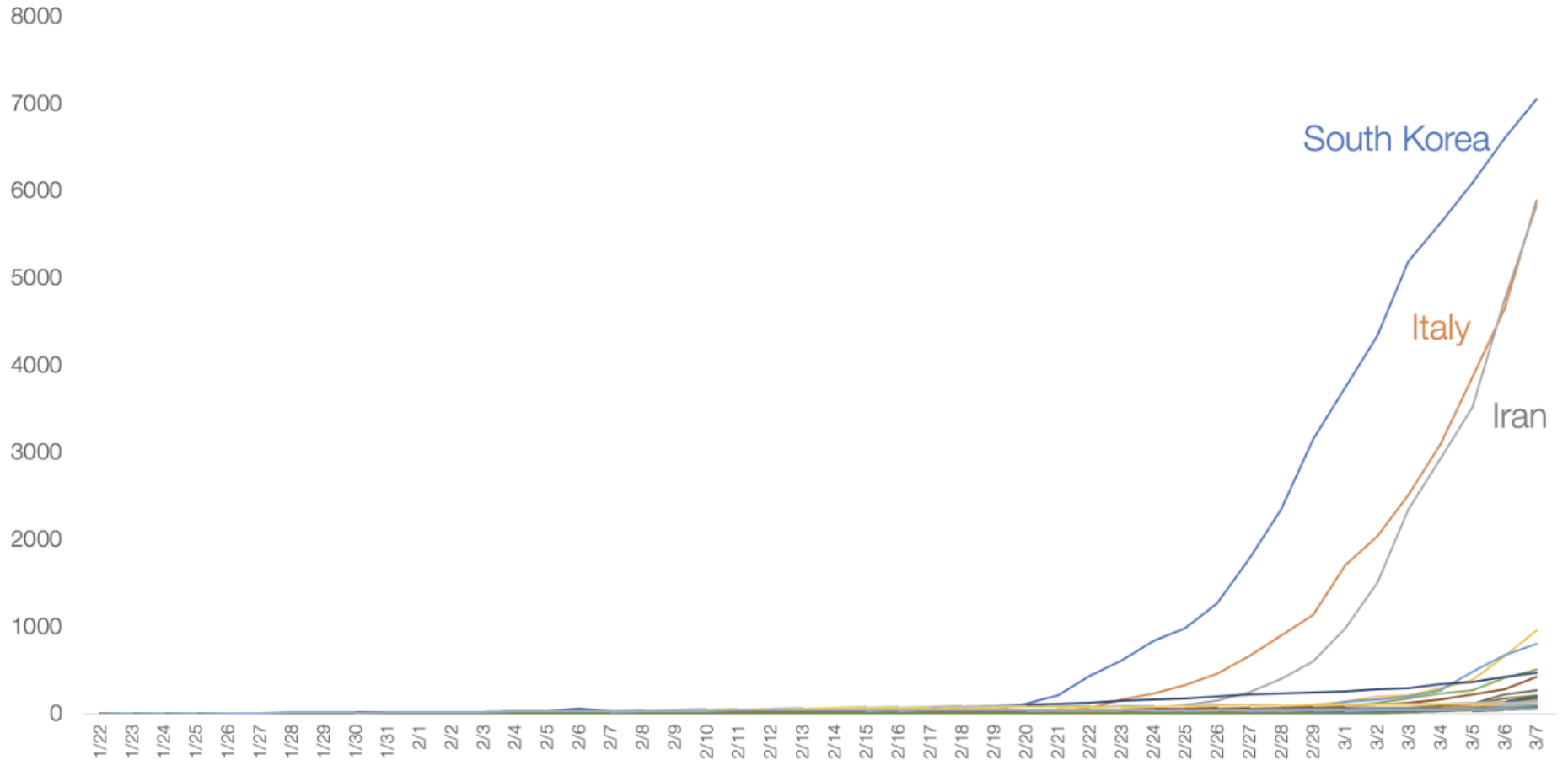
Gunnison Valley Cases → Limitations of Testing

- Gunnison Tested = 25
 - Positive = 6*
 - Negative = ***
-
- Hospitalized presumed positive: 2
 - Mobile Screening Site March 13:
 - Evaluated ~55 patients
 - Sampled for COVID testing: 10
 - Unable to sample ~35 people due to lack of testing kits

Coronavirus Cases Outside of China



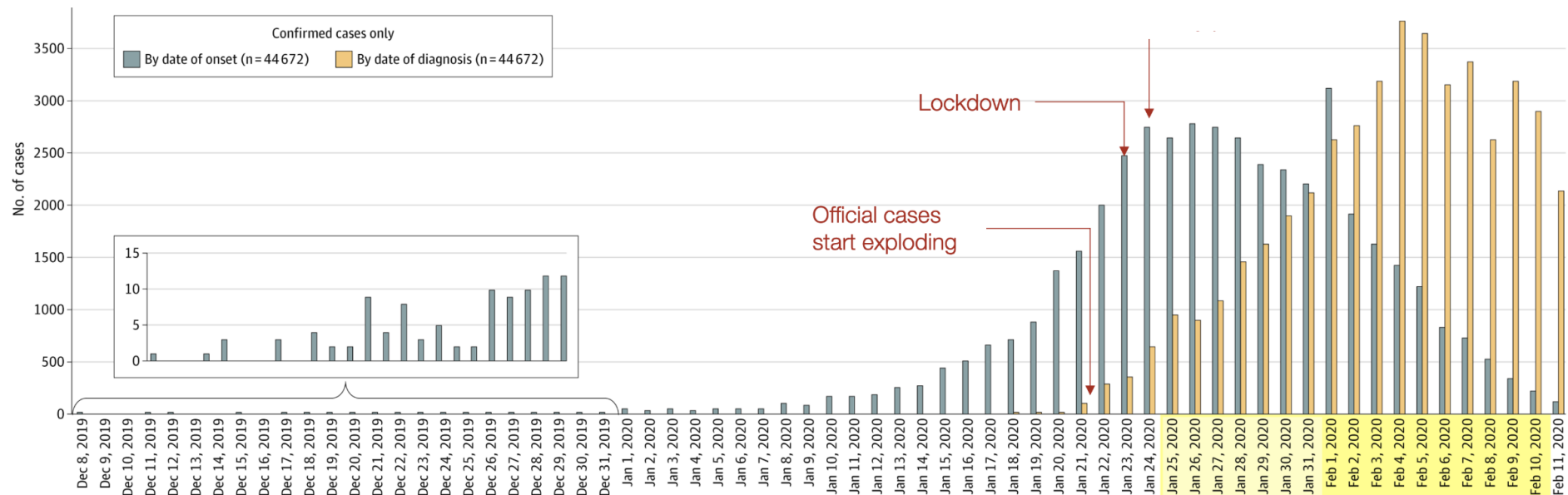
Coronavirus Cases Per Country



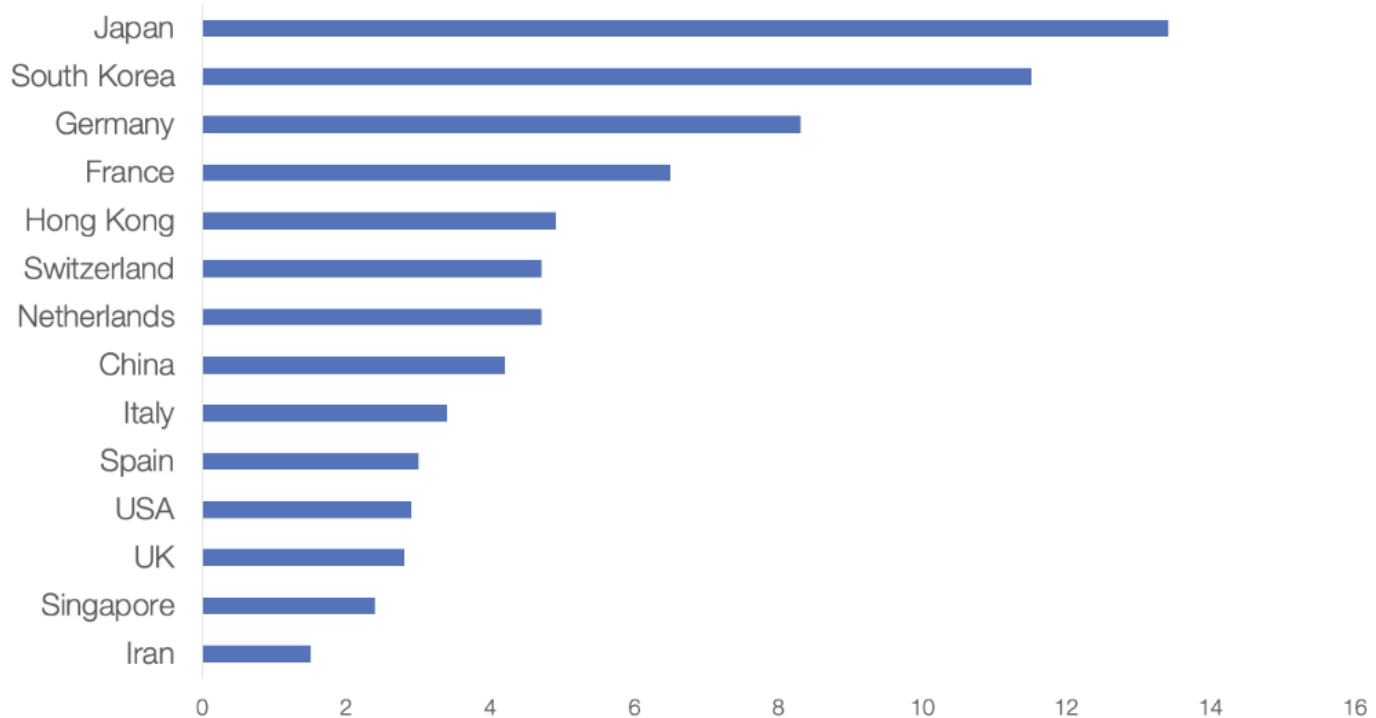
Daily Growth Rate of Cases 3/5 to 3/6



Timeline of Events in Hubei, China

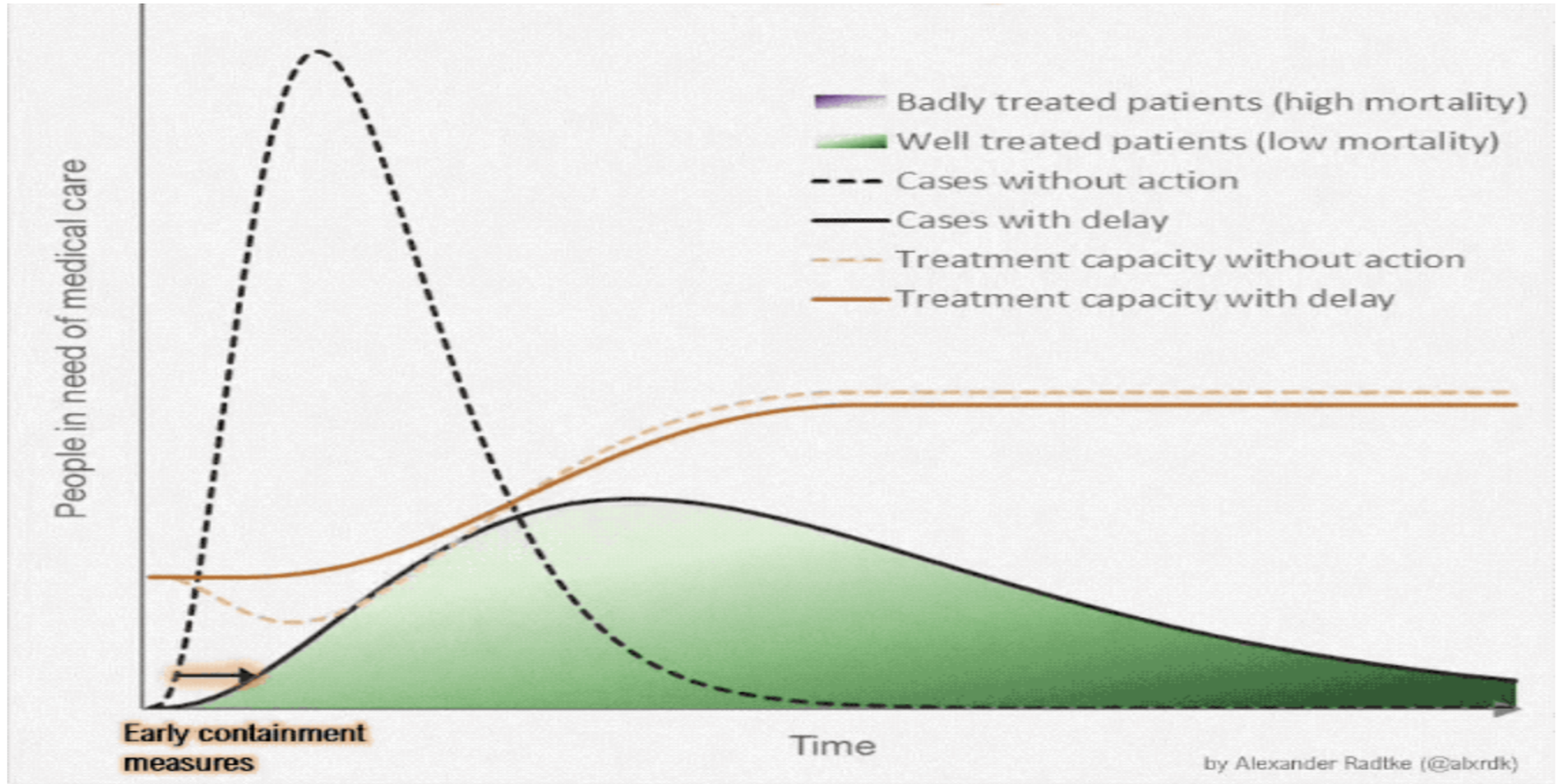


Beds / 1,000 People in Different Countries

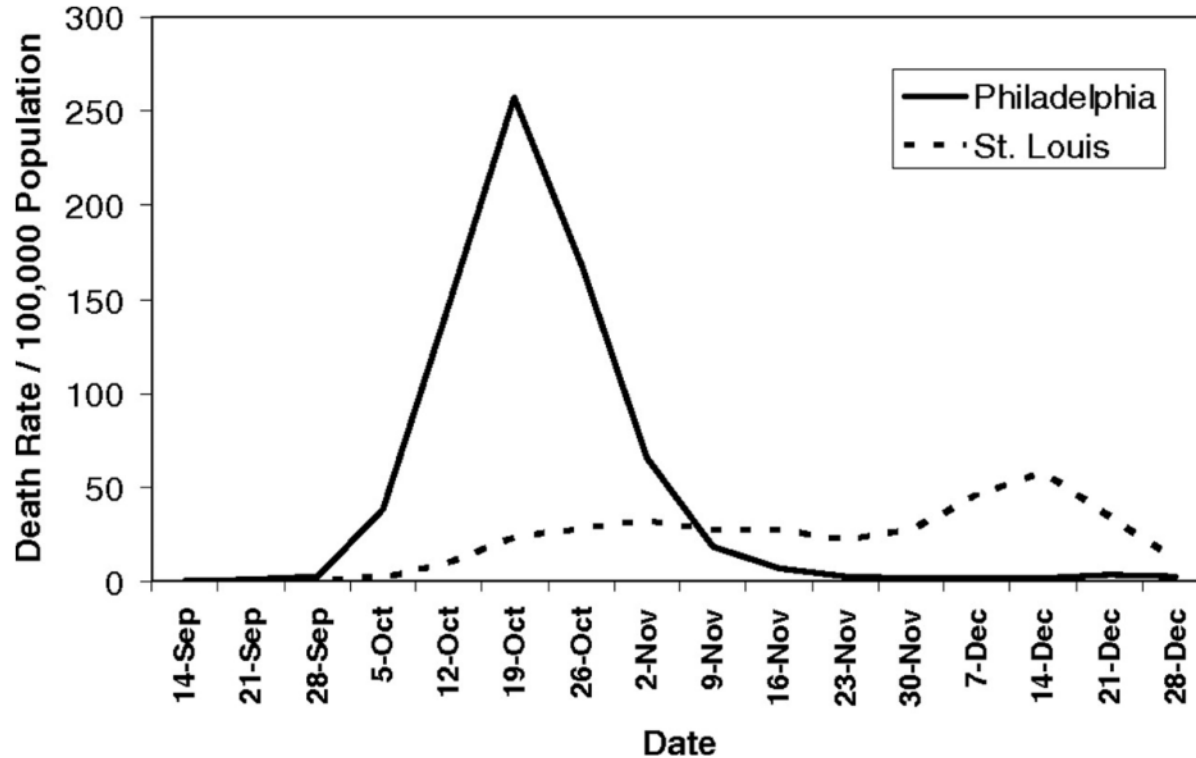




Early Containment Measures



Death Rate of 1918 Flu Pandemic in Cities with Different Social Distancing Measures



The first cases of disease among civilians in Philadelphia were reported on September 17, 1918, but authorities downplayed their significance and allowed large public gatherings, notably a city-wide parade on September 28, 1918, to continue. School closures, bans on public gatherings, and other social distancing interventions were not implemented until October 3, when disease spread had already begun to overwhelm local medical and public health resources.

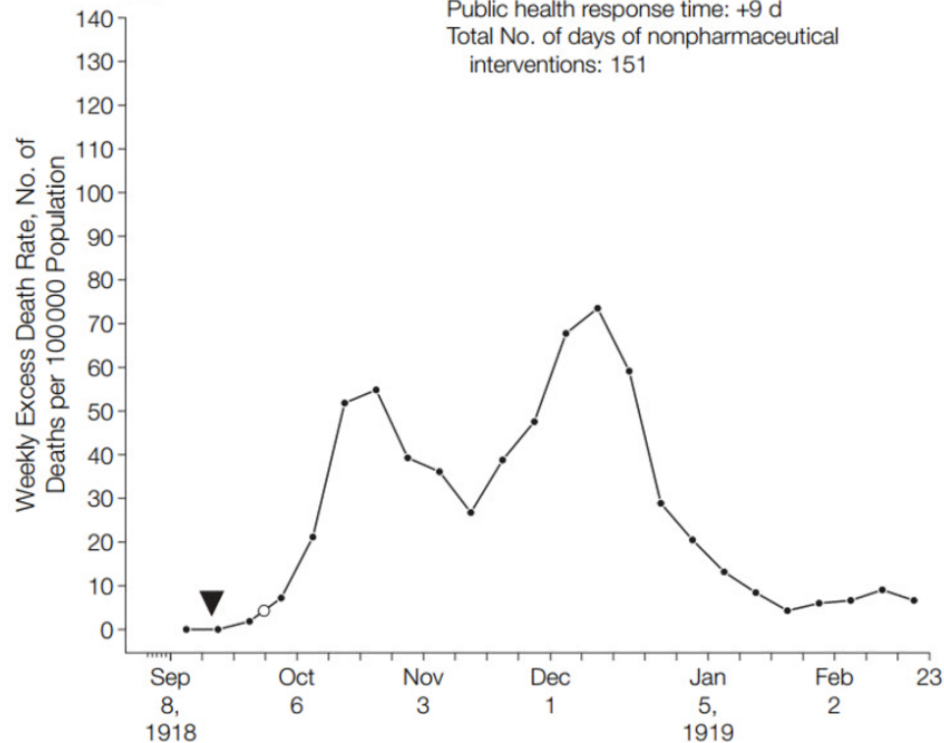
In contrast, the first cases of disease among civilians in St. Louis were reported on October 5, and authorities moved rapidly to introduce a broad series of measures designed to promote social distancing, implementing these on October 7.

The difference in response times between the two cities (≈ 14 days, when measured from the first reported cases) represents approximately three to five doubling times for an influenza epidemic.

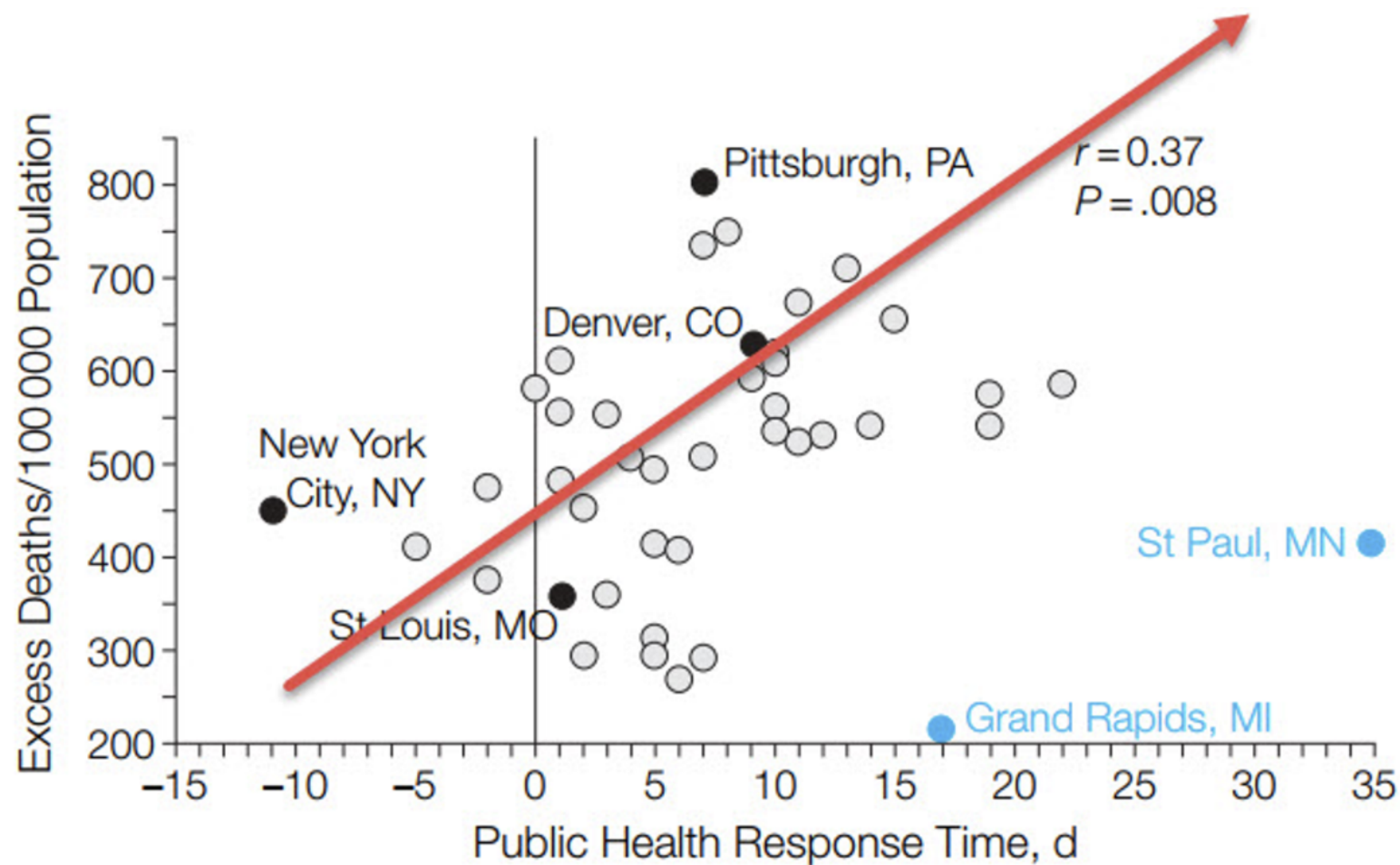
Source: Public health interventions and epidemic intensity during the 1918 influenza pandemic, *Proceedings of the National Academy of Sciences of the USA*
<https://www.pnas.org/content/104/19/7592>

C Denver, CO

Total excess death rate: 631/100 000 population
Public health response time: +9 d
Total No. of days of nonpharmaceutical
interventions: 151



Source: Marginal Revolution,
<https://marginalrevolution.com/marginalrevolution/2020/03/what-worked-in-1918-1919.html>



Source: Marginal Revolution, <https://marginalrevolution.com/marginalrevolution/2020/03/what-worked-in-1918-1919.html>

Model of Daily New Cases of Coronavirus with Social Distancing Measures Taken One Day Apart

Daily new cases

30,000

25,000

20,000

15,000

10,000

5,000

-

No social
distancing

Social distancing one
day later (n+21)

Social distancing
starts on day n+20

Number of days

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32



IDEAS

The Extraordinary Decisions Facing Italian Doctors

There are now simply too many patients for each one of them to receive adequate care.

MARCH 11, 2020

Yascha Mounk

Contributing writer at *The Atlantic*



**RACCOMANDAZIONI DI ETICA CLINICA
PER L'AMMISSIONE A TRATTAMENTI INTENSIVI
E PER LA LORO SOSPENSIONE,
IN CONDIZIONI ECCEZIONALI
DI SQUILIBRIO TRA NECESSITÀ
E RISORSE DISPONIBILI**



SIAARTI

PRO VITA CONTRA DOLOREM SEMPER