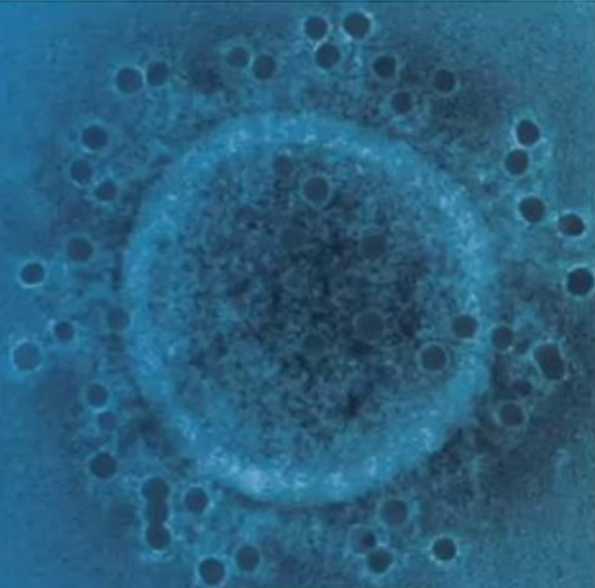
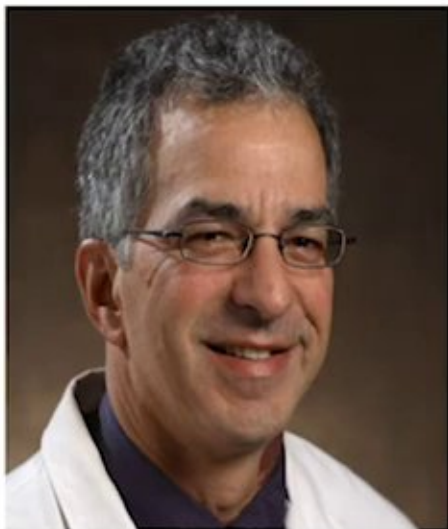


Perspectives on the COVID-19 Pandemic



Today's Presenters



Dr. John Foggie



Dr. Kevin Bardosh



OUR MISSION

Improve the quality of life for vulnerable people through health interventions, training and related activities that build self-reliance

WE ARE

GLOBAL FIRST RESPONDERS



\$3.2 BILLION
IN PROGRAM SERVICES



35 YEARS
OF EXPERIENCE



80+ COUNTRIES



7,000+ STAFF



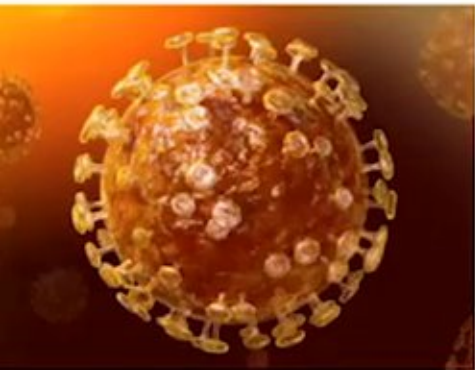
COVID-19: What Do We Think We Know?

*Dr. John Foggie, Associate Professor of Emergency Medicine
Alpert School of Medicine, Brown University*

30 March 2020

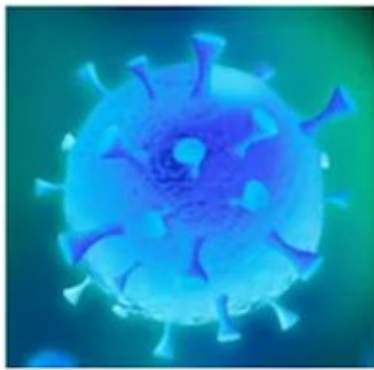
Coronaviruses

SARS



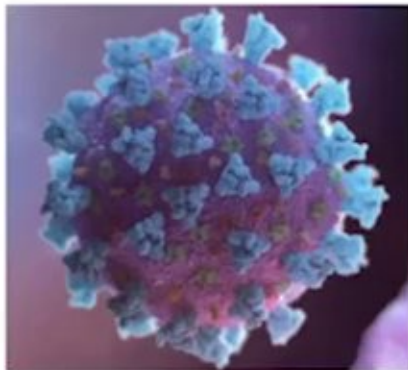
2003

MERS-CoV



2012

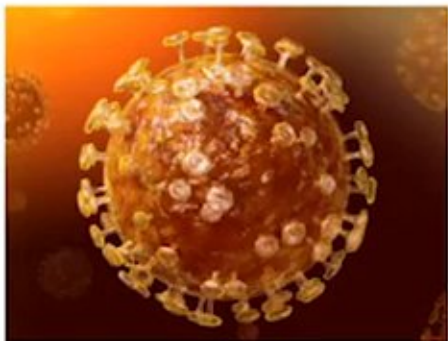
COVID-19



2019

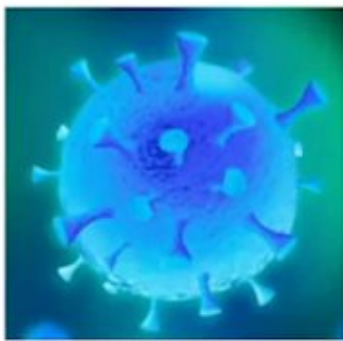
Coronaviruses

SARS



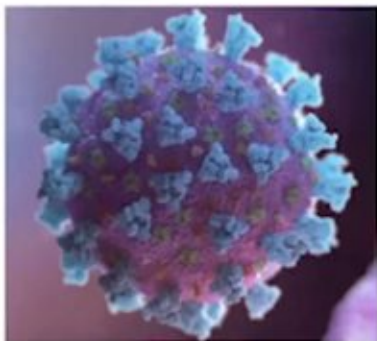
2003

MERS-CoV



2012

COVID-19



2019

Symptoms

FEVER



COUGH



SHORTNESS
OF BREATH

CDC



► Others:

- General: Fatigue
- ENT: Rhinorrhea, **Anosmia**, Sore Throat, **Ageusia**
- Cardiac: Chest Pain, **Cardiac Arrest**
- GI: Nausea/Vomiting/**Diarrhea**

Transmission: Droplet & Contact



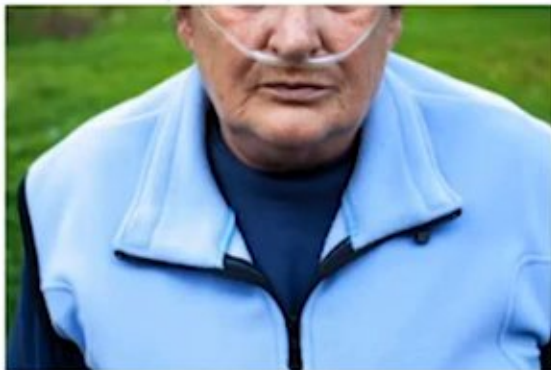
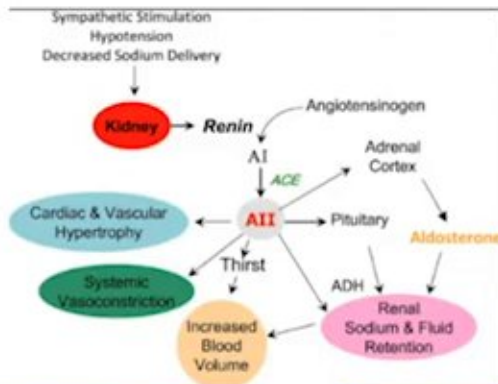
Hand Hygiene



No Touch Policy



Risk Factors



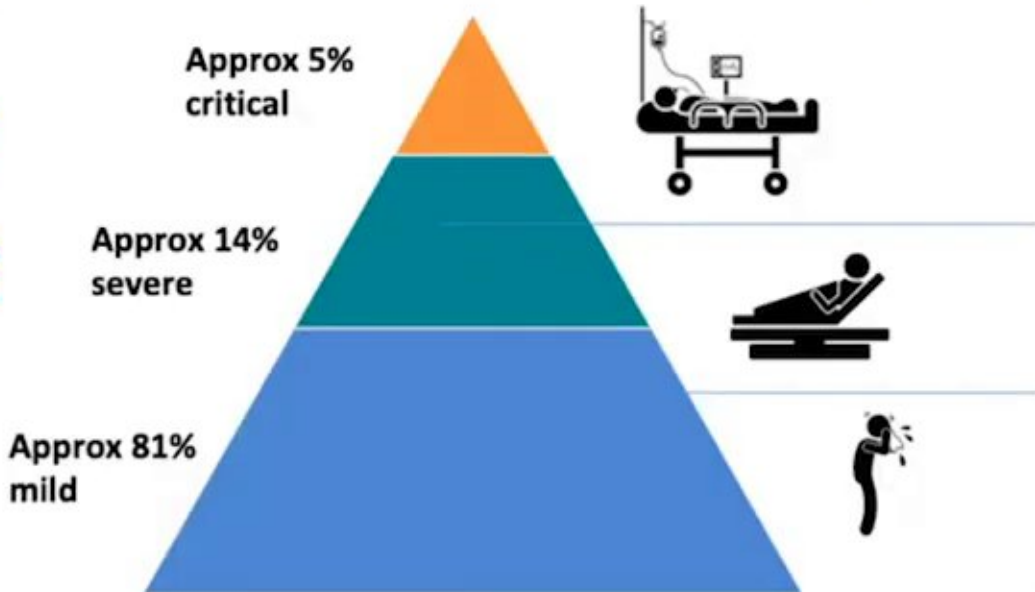
Timeline: December 2019 / January 2020

- ▶ Dec. 1: Presumed first case
- ▶ Dec 31: **Wuhan China** presents with dozens of new pneumonia cases
- ▶ Jan. 7: New **coronavirus** identified as cause
- ▶ Jan. 11: China reports **first death**
- ▶ Jan. 20: **Spread** to Japan, South Korea, Thailand
- ▶ Jan. 21: First case in **U.S.** (Washington state)
- ▶ Jan. 23: China locks down Wuhan
- ▶ Jan. 30: WHO **declares global health emergency**
- ▶ Jan. 31: First cases confirmed in **Italy**



Clinical Severity Estimates

Significant
variability
based
population
health and
country
capacity



WHO Case Definition: February 2020

Have you or someone you know travelled to China?



- Do you have flu-like symptoms, a fever or acute respiratory illness?

AND

- Have you travelled in the past 14 days to Wuhan, China?

OR

- Have you been in close physical contact with someone with a confirmed case of Coronavirus (COVID-19)?

If you answered yes:

- 
Put on a face mask
- 
Use the hand gel provided
- 
Let the nurse/receptionist know immediately

Thank you for helping us keep our patients and staff safe



Tonga

HEALTH WARNING 

NOVEL CORONAVIRUS

IF YOU HAVE

COUGH FEVER DIFFICULTY BREATHING

AND

have travelled in the last 14 days to an area affected by novel coronavirus

Tell an airport health officer or other airport official now 

If you experience these symptoms after your travels, understanding that even if the conditions below are not met, please seek medical advice.

Canberra 22299605 Sydney 22299606
Wellington 22299607 Auckland 22299608

 Ministry of Health
New Zealand Health Services

Fiji

Timeline: February 2020

- ▶ Feb. 2: First death outside China (Philippines)
- ▶ Feb. 5: **Diamond Princess** cruise ship quarantined (Japan)
- ▶ Feb 6: Chinese whistleblower dies
- ▶ Feb. 10: China's death toll surpasses SARS
- ▶ Feb. 11: WHO changes name to **COVID-19**
- ▶ Feb. 14: First death outside of Asia (**France**)
- ▶ Feb. 19: Spreads to **Iran**
- ▶ Feb. 26: First case in South America (**Brazil**)
- ▶ Feb. 28: First case Sub-Saharan Africa (**Nigeria**)



Dr. Li Wenliang

Screening in the PICs

► Plan:

- Specialized roster of healthcare workers
- Screening outside of hospitals
- Suspected patients go elsewhere

► Rationale:

- Keep hospitals free of COVID patients
- Save on all resources
- Minimize preventable deaths





Are We Protecting Healthcare Workers?

- ▶ **China:** >3,400 healthcare workers COVID+
- ▶ **Italy:** >20 doctors dead
- ▶ **Spain:** 12% of cases are healthcare workers

The Boston Globe

**More than
160 Boston
hospital
workers test
positive for coronavirus**

March 27, 2020



WHO Mask Guidelines



World Health
Organization

How to **put on, use,
take off and dispose**
of a mask



Replace the mask with a new one as soon as it is damp and do not re-use single-use masks





NYC



Philippines



Coronavirus COVID-19 Global Cases by Johns Hopkins CSSE



Total Confirmed

78,971

Confirmed Cases by
Country/Region

76,936 Mainland China

691 Others

602 South Korea

155 Italy

135 Japan

89 Singapore

74 Hong Kong

43 Iran

35 Thailand

35 US

Country/Region

Last updated at 06:07:17

2/24/2020, 11:03:08 AM



Lancet Article: [Here](#), Mobile Version: [Here](#), Visualization: JHU CSSE, Automation Support: [Esri Living Atlas team](#).

Data sources: [WHO](#), [CDC](#), [ECDC](#), [NHC](#) and [DXY](#). Read more in this [blog](#). [Contact US](#).

Total Deaths

2,468

2,346 deaths
Hubel Mainland China

19 deaths
Henan Mainland China

12 deaths
Heilongjiang Mainland China

8 deaths
Iran

6 deaths
Anhui Mainland China

6 deaths

Total Recovered

23,384

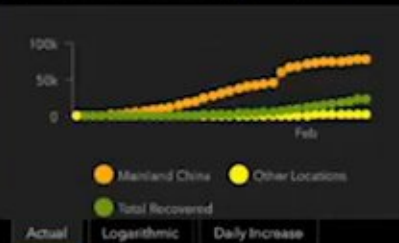
15,343 recovered
Hubel Mainland China

868 recovered
Henan Mainland China

760 recovered
Zhejiang Mainland China

755 recovered
Guangdong Mainland China

714 recovered





Total Confirmed

737,929

Confirmed Cases by
Country/Region/Sovereignty

143,055 US
97,689 Italy
85,195 Spain
82,198 China
62,435 Germany
41,495 Iran
40,747 France
19,788 United Kingdom
15,069 Switzerland
11,899 Belgium

Admin0

Last updated at (MM/DD/YYYY):

3/30/2020, 8:29:44 AM

177

Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#). Visualization: JHU CSSE. Automation Support: [Esri Living Atlas team](#) and [JHU APL](#). Contact [US](#). [FAQ](#).
Data sources: [WHO](#), [CDC](#), [ECDC](#), [NHC](#), [DXY](#), [1point3acres](#).



Total Deaths

35,019

10,779 deaths
Italy

7,340 deaths
Spain

3,186 deaths
Hubel China

2,757 deaths
Iran

2,606 deaths
France

1,228 deaths
United Kingdom

Total Recovered

156,507

75,916 recovered
China

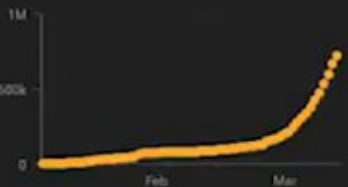
16,780 recovered
Spain

13,911 recovered
Iran

13,030 recovered
Italy

9,211 recovered
Germany

7,236 recovered
France



Confirmed

Logarithmic

Daily Increase

<https://coronavirus.jhu.edu/map.html>

Timeline: March 2020

- ▶ Mar. 5: WHO states death rate is **3.4%**
- ▶ Mar. 11: WHO declares COVID-19 a **pandemic**
- ▶ Mar. 23: **177 countries** and territories
- ▶ Mar. 26: Worldwide cases tops **½ million**
- ▶ Mar. 27: **>25K deaths**
- ▶ Mar. 28-29: Italy and Spain pass China
- ▶ Mar. 30: Worldwide cases near **¾ million**
- ▶ Mar. 30: **>35K deaths**



Tedros Adhanom Ghebreyesus
(Director-General)

Timeline: United States

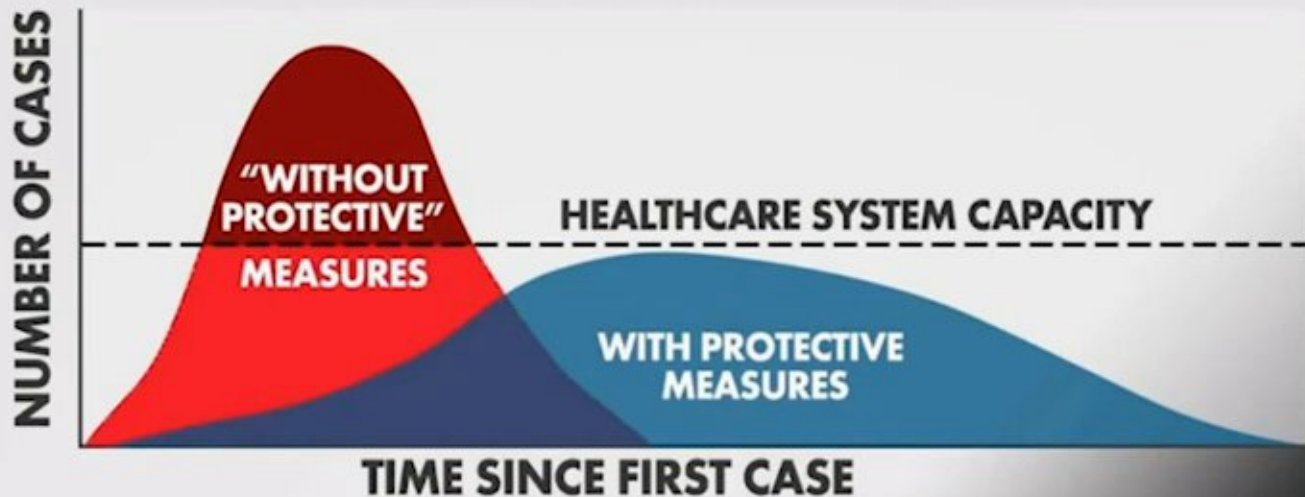
- ▶ Jan. 21: First case in U.S. (**Washington** state)
- ▶ Feb. 28: First U.S. death
- ▶ Feb. 29: U.S. bans all travel to Iran
- ▶ Mar. 11: **Rudy Gobert** tests positive
- ▶ Mar. 27: **U.S. becomes epicenter** of pandemic
- ▶ Mar. 30: U.S. with 75% more cases than China



The US now has more confirmed cases of coronavirus than any other country.

Flattening the Curve

FLATTENING THE CURVE



SOURCE: CDC, THE ECONOMIST, @CT_BERGSTROM

My Emergency Department

Age	Complaint
51 y.o.	Fall
20 y.o.	Alcohol Intoxication
5 y.o.	Exposure to Covid-19 (w/vent)
3 y.o.	Exposure to Covid-19 (abd.)
37 y.o.	Influenza
33 y.o.	Cough
32 y.o.	Covid-19 Testing for Exposure
30 y.o.	Covid-19 Testing for Exposure
5 y.o.	Covid-19 Testing for Exposure
3 y.o.	Covid-19 Testing for Exposure
2 y.o.	Covid-19 Testing for Exposure
16 y.o.	Dental Jaw Pain, Abnormal Test
4 y.o.	Exposure to COVID-19, Hoarse
66 y.o.	Jaw Pain with EKG Changes
51 y.o.	Lightheaded, Chest Discomfort
31 y.o.	Pneumonia, Fever, Cough, Pleur
48 y.o.	Possible exposure to Covid-19
30 y.o.	Possible exposure to Covid-19
3 y.o.	Possible exposure to Covid-19
4 y.o.	Possible Exposure to Covid-19
34 y.o.	Tongue Laceration, Lip Bleeding

March 8



Negative Airflow Pod



ED Radiology

Case Fatality Rate (CFR)



30%



5-10%



0.01%



10%



50%



35%

COVID-19 CFR (as of March 27)



4.0%



10.2%



7.5%



3.4%
March 5



1.5%



1.4%



1.5%

Treatment

- ▶ Symptomatic without hypoxia
 - Go home
 - Possibly test (NP swab)
 - OTC meds
- ▶ Hypoxic or septic
 - Labs/CXR/admit
 - NP swab
 - False negatives up to 1/3
 - WARNING: Co-infection can occur
 - Early broad-spectrum antibiotics



Critical Care

- ▶ Things to avoid:
 - BiPAP and CPAP
 - BVM pre-oxygenation
 - Nebulizer Rx
- ▶ Delayed-sequence endotracheal intubation:
 - Full PPE or PAPR
 - Negative-pressure room
 - Two people in the room
 - Video-assisted
 - High-flow O₂ pre-oxygenation
 - Ketamine + Rocuronium
 - ETT/In-line suction/viral filter



Toronto Star
March 17, 2020

The Ultimate Triage: ICU Beds and Ventilators

- ▶ Not enough ICU beds
 - 95K in the U.S.
- ▶ Not enough ventilators
 - 3 in Tonga (population 100K)
- ▶ Not enough healthcare workers
- ▶ Triage criteria and ethics
 - Age?
 - Co-morbidities?
 - Frailty score?
 - Societal value?

***N.Y. May Need 18,000 Ventilators
Very Soon. It Is Far Short of That.***



New York Times

March 17, 2020

Future

- ▶ Experimental meds:



+



?

- ▶ Immunization:
 - 12 to 18 months away
- ▶ An endemic disease?

5 Take-Home Points

- ▶ Assume everyone is COVID+
- ▶ Wash your hands
- ▶ Use the 6-foot rule
- ▶ Droplet precautions = a surgical mask
- ▶ Invasive respiratory procedures = an N95 (or PAPR)

AREN'T YOU GOING TO DO
SOMETHING TO FIGHT THE
CORONAVIRUS?!

I'M
DOING
IT.

NEWS
STAY
HOME!



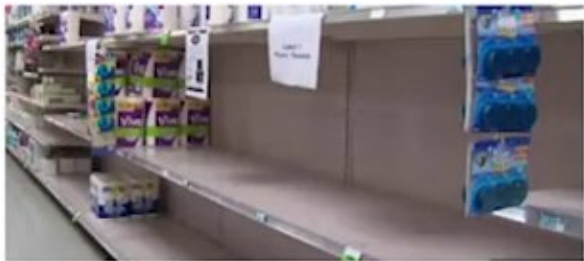
COVID-19: Social, cultural and political realities and their implications

*Dr. Kevin Bardosh, Center for One Health Research
School of Public Health, University of Washington*

March 30, 2020

What Is Going On? “An *Emergency in Slow Motion*”

- ▶ Epidemics/pandemics are *exceptional* events
- ▶ They are *experienced* differently by different people
- ▶ They *reflect*, and *re-create*, social, cultural, economic and political life



The “War Metaphor” and Its Alternatives

Pandemics are often experienced as “wars” and “battles,” fought by “soldiers” on the “frontlines”

Rushing into war: what kind of war?



Xinyan Yu @xinyanyu · Mar 23

After a 2-month lockdown, #Wuhan is slowly restoring daily routines. Inspection teams issue back-to-work permits to companies after required procedures are in place. Pictures from my friend. Notice how you need to keep 1m distance and face different directions in the elevator.



3

25

52



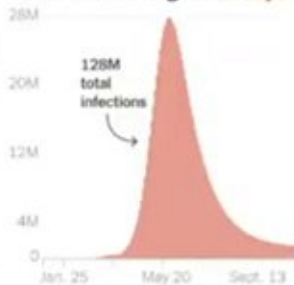
Other mental models:

#FlattenTheCurve

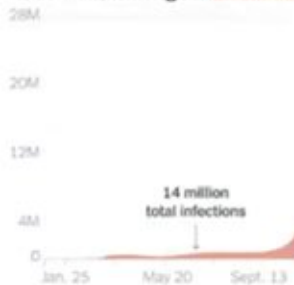
#Caremongering

At the New York Times, @NickKristof, @stuartathompson et al let you play with one! It's amazingly instructive.

Social distancing for 14 days



Social distancing for 2 months



Opinion | Trump Wants to 'Reopen America.' Here's What Happens if ...
Many could die if we ease up too soon.

nytimes.com

From War to Race: Policy Responses in Times of Uncertainty

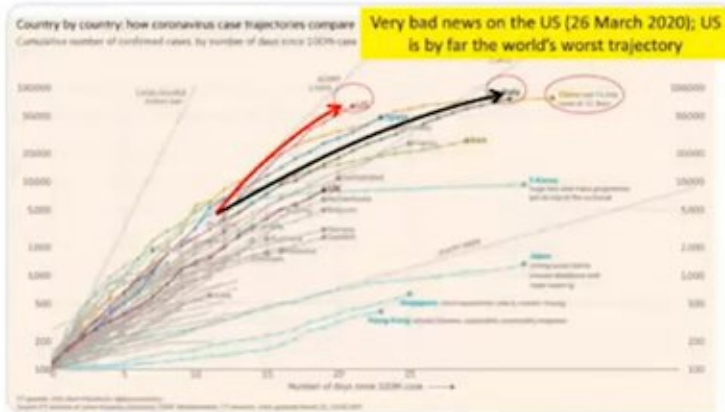
Different approaches:

- ▶ Lockdowns (China, Italy, Spain, France, USA)
- ▶ Contact tracing (South Korea, Hong Kong, Singapore)
- ▶ Herd immunity (Dutch, Sweden)



Laurie Garrett @Laurie_Garrett · 1m

The trajectory of the U.S. #COVID19 epidemic just couldn't be worse, especially compared to other nations. We've outpaced China and we're racing to hell at a clip well beyond Italy or Spain.



1

25

21



Scientific Expertise: COVID models

- ▶ A "map" of the world that relies heavily on their assumptions
- ▶ #AnActualEpidemiologist
- ▶ Testing was centralized in CDC/ FDA red tape
- ▶ Imperial College of London model led to the *15 Days to "Slow the Spread"* campaign

The New York Times

The Epic Failure of Coronavirus Testing in America

China and South Korea offer lessons in how to curb this pandemic.

By The Editorial Board



neil_ferguson @neil_ferguson · Mar 22

I'm conscious that lots of people would like to see and run the pandemic simulation code we are using to model control measures against COVID-19. To explain the background - I wrote the code (thousands of lines of undocumented C) 13+ years ago to model flu pandemics...

283

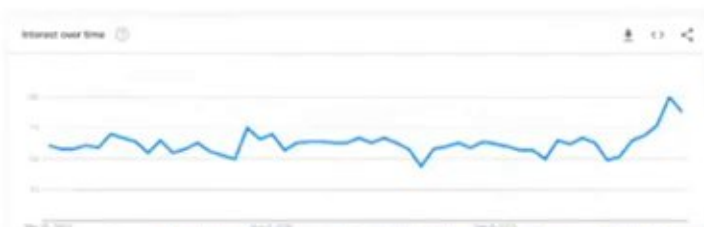
1.3K

4.8K



A Pandemic of Fear in an Age of Chronic Disease

- ▶ Collective risk denial, followed by collective panic
- ▶ People are anxious = unconstructive, extreme behavior
- ▶ People with chronic disease are justifiably scared
- ▶ Many are not able to manage uncertainty



Source: <https://trends.google.com/trends/explore?q=US&q=panic%20attack%20symptoms>

Number of deaths by cause, World, 2017



Our World in Data

Gregg Gonsalves @gregggonsalves - Mar 24
My mother is 86 years old. I have HIV. My sister-in-law has cancer. We're all at risk. #whyistayathome Why do you? #coronavirus



Source: WHO, Global Burden of Disease

CC BY

Social Vulnerability: Reflecting the American Dream?



Bernie Sanders @BernieSanders · 15h
.@McDonalds give your workers paid sick leave.



Ad Age @adage · Mar 21

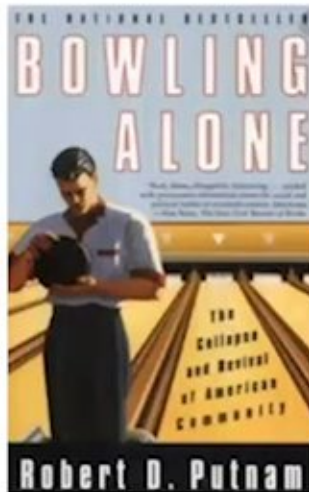
McDonald's separates its golden arches in an act of coronavirus solidarity ow.ly/agd050yRzzo



2.8K

55.1K

355.7K



That Girl @whoulooknat · Mar 13
So young kids are hoping their parents and grandparents die?
[#BoomerRemover](#)
Is that so they can finally move out of the basement and upstairs?

245

262

1.5K



[Show this thread](#)

In the Time of Shortages: Medical Capacity vs. Jobs

- ▶ Taking care of the medical system?
- ▶ Taking care of the economy?



A Deadly “Infodemic” in a Post-Truth Age

- ▶ Words and language matter (“China virus”)
- ▶ Rumors = anxieties in post-truth age (i.e., 5G)
- ▶ Panic and fear proliferate in a vacuum of facts, trust, dialogue and acknowledgment of uncertainty
- ▶ Who determines what is “mis/dis-information”?



Eric Feigl-Ding @DrEricDing · Mar 23
Bring out the Fauci. Bring out the best. #COVID19 #WhereIsFauci



Josh Kraushaar @HotlineJosh · Mar 23
No Dr. Fauci at today's briefing.

50

142

668



The coronavirus 5G conspiracy theory ...
thetab.com

What Is the Public Being Asked to Do?

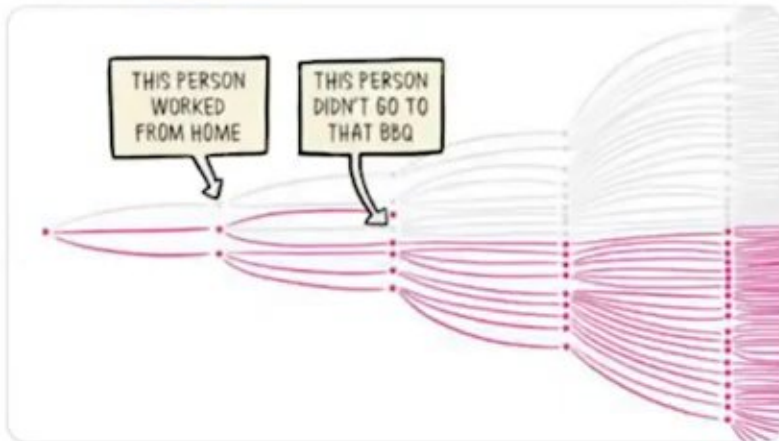
Suspend Connections

- ▶ Social distancing =
- ▶ Physically distant but socially close =
- ▶ Social solidarity



Robin Davis @RobinD100 · Mar 21

Nice Graphic from NZ.... everyone can make a decision to make a difference. [#StayAtHome](#)



44

7.9K

11.3K



#StayatHome: Solidarity at a Distance



- ▶ Solidarity with health workers
- ▶ But what does staying at home mean?
- ▶ Who cannot (easily) stay at home?

♥ Daniel PLEASE STAY HOME Choi, MD liked
Mark Elliott @markmobility · 4h
Holy freaking hell. A nursing manager at Mt Sinai Hospital in NYC just died from coronavirus. Nurses at the hospital have been wearing trash bags because of the lack of protective gear. nypost.com/2020/03/25/wor/



686

8.9K

11.3K





Applaud our Front Line 8pm



ex Brit
@philleehh

I live in Germany, where they applaud their health service by funding it

Goodnight

3:18 PM · Mar 26, 2020 · [Twitter for Android](#)

50K Retweets 271K Likes

#MakeAJoyfulNoise #SeattleTogether

#covidiot: Shaming and Blaming

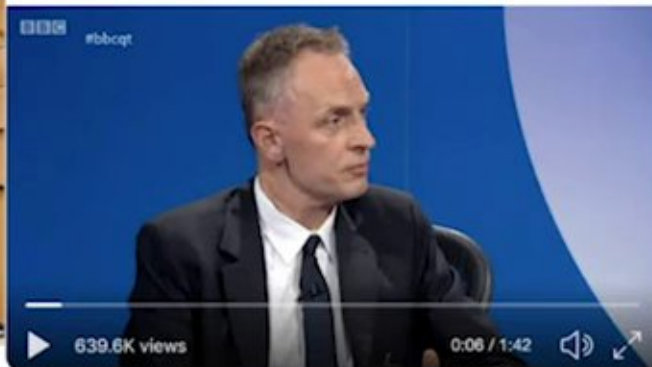
Population Health Ethics & Law @PH_ethics_Jaw · Mar 18
Price gouging, hoarding, and profiteering in times of emergency

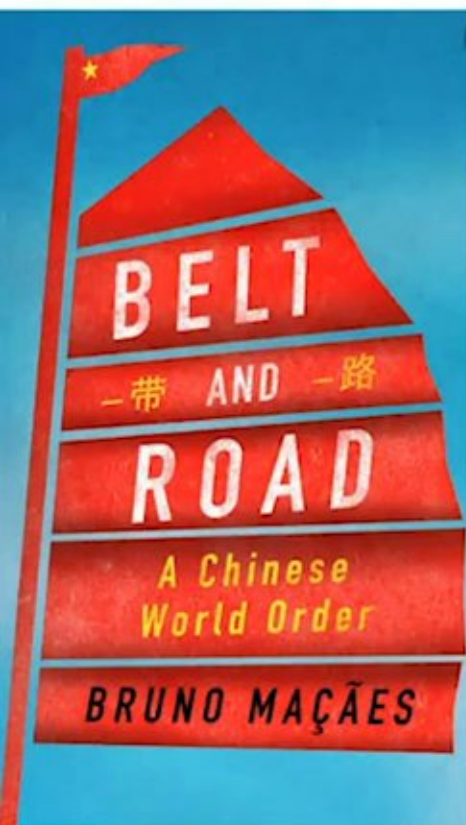


He Has 17,700 Bottles of Hand Sanitizer and Nowhere to Sell Them
Amazon cracked down on coronavirus price gouging. Now, while the rest of the world searches, some sellers are holding stockpiles of ...
[nytimes.com](#)

end of daves @davemacladd · 10h
The Lancet's Richard Horton brilliant takedown of the Government's handling of #coronavirus as a "national scandal"

#bbcqt





How Will COVID-19 Influence the World Beyond 2020?



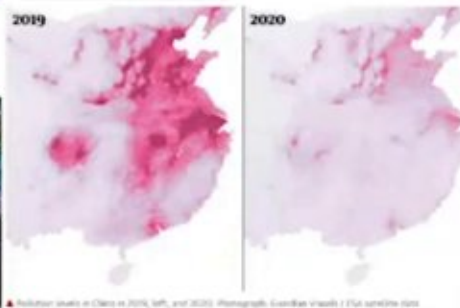
The age of extinction
Evan Levinson

'Tip of the iceberg': is our destruction of nature responsible for Covid-19?

As habitat and biodiversity loss increase globally, the coronavirus outbreak may be just the beginning of mass pandemics



Read the author's
John Vidal
Wed 10 Mar 2020
10:00 AM GMT



Resolution scales in China in 2019, left, and 2020. Photograph: Guardian via satellite 2020

Q&A



International
Medical Corps

For more information visit

www.InternationalMedicalCorps.org/COVID19

Upcoming Webinar Sessions

THURSDAY, APRIL 2

Mental Health Considerations for Healthcare Workers

MONDAY, APRIL 6

Personal Protective Equipment (PPE) and Monitoring

THURSDAY, APRIL 9

Isolation and Quarantine

MONDAY, APRIL 13

Medical Surge



For more information visit

www.InternationalMedicalCorps.org/COVID19