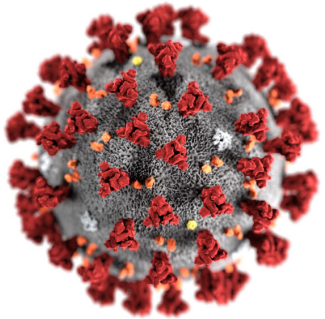


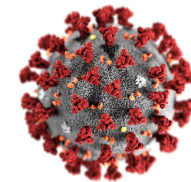
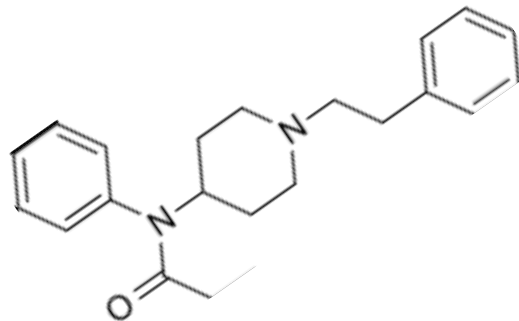
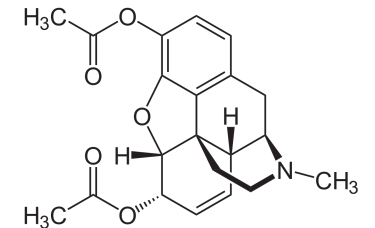
THE CARE CONTINUUM OF THE OPIOID USE DISORDER PATIENT DURING THE COVID-19 CRISIS: AN EMERGENCY DEPARTMENT PERSPECTIVE



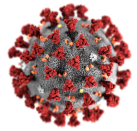
Lindsay Fox, MD

Assistant Professor, Department of Emergency Medicine

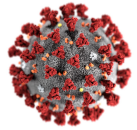
Rutgers New Jersey Medical School



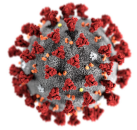
LEARNING OBJECTIVES:



Staff SAFETY is the FIRST priority



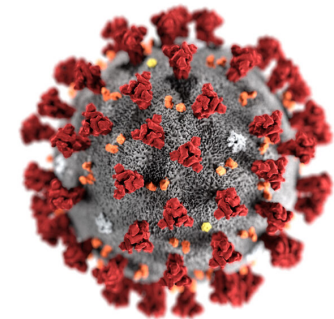
Treatment considerations for individuals with OUD during the COVID-19 public health emergency



Opioid epidemic multiplied by COVID-19 pandemic: public health considerations

BACKGROUND: THE VIRUS

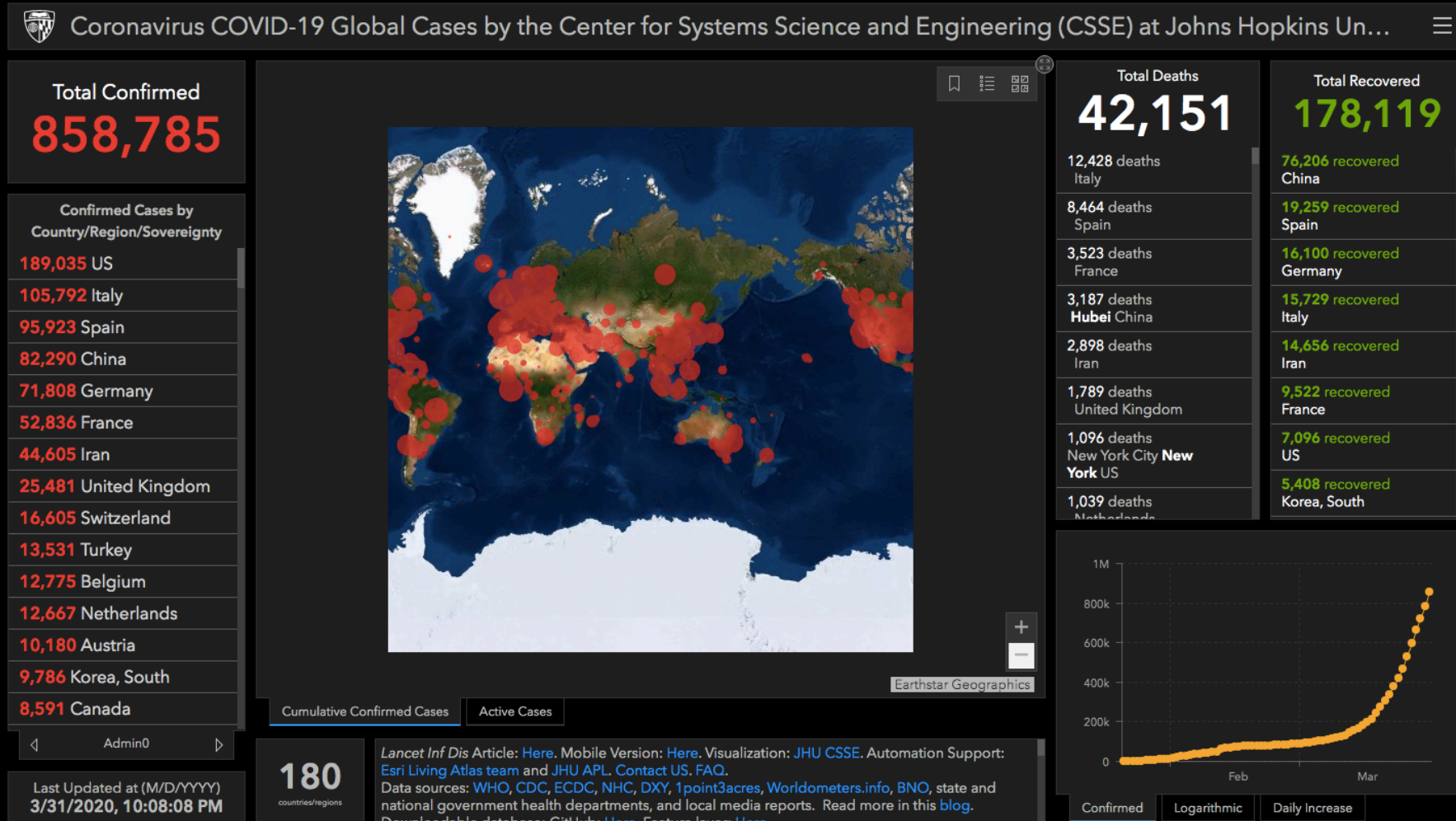
- SARS-COV-2 is the virus that emerged in China in December 2019
- COVID-19 is the disease caused by the SARS-COV-2
- Symptoms include cough, fever, shortness of breath, and GI symptoms



BACKGROUND: THE VIRUS

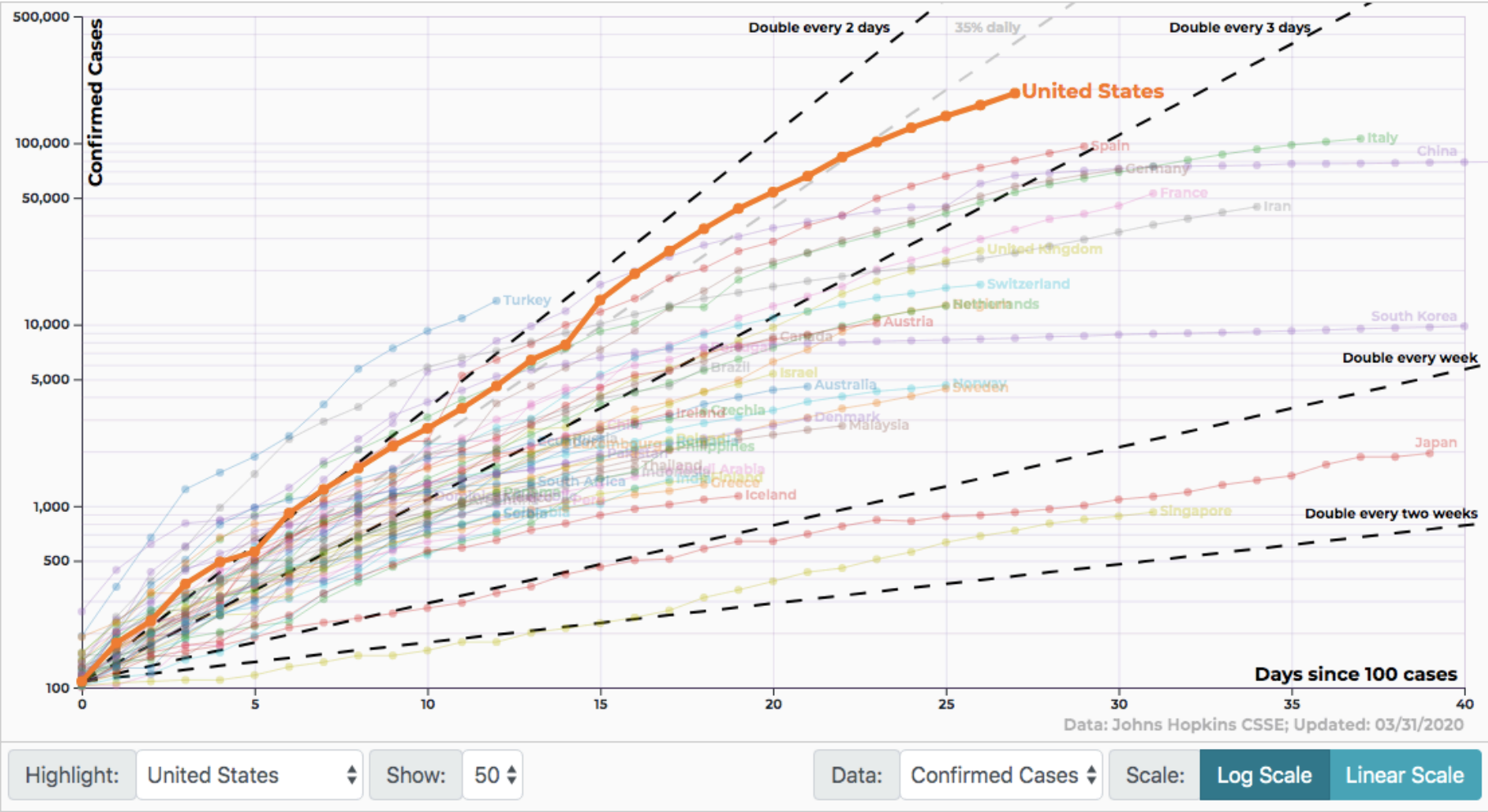
- SARS-CoV-2, can live in the air and on surfaces
- 72 hours on plastics
- 48 hours on stainless steel
- 24 hours on cardboard
- 4 hours on copper
- It is also detectable in the air for three hours

BACKGROUND: THE PANDEMIC



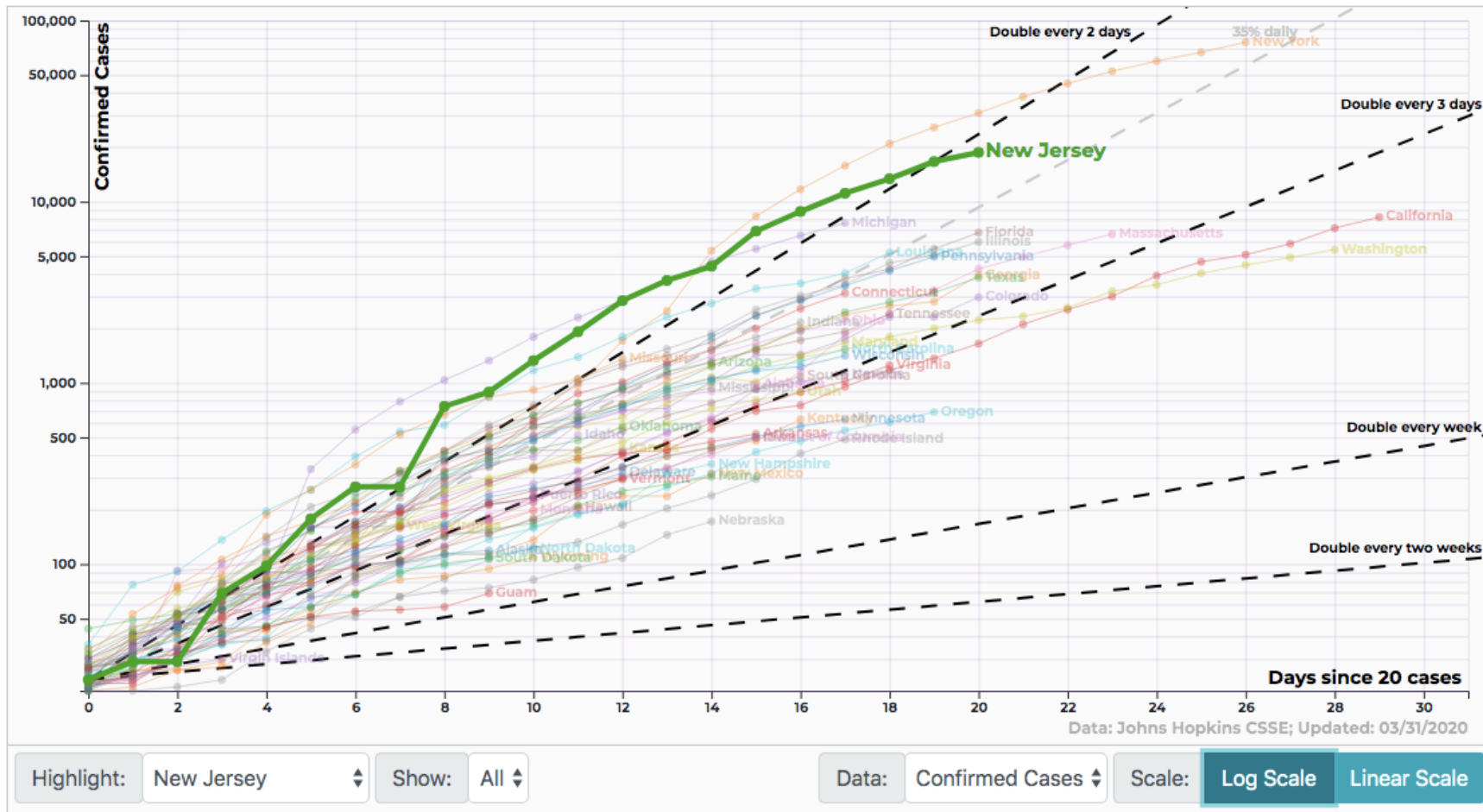
BACKGROUND: THE PANDEMIC

COVID-19 Cases by Country

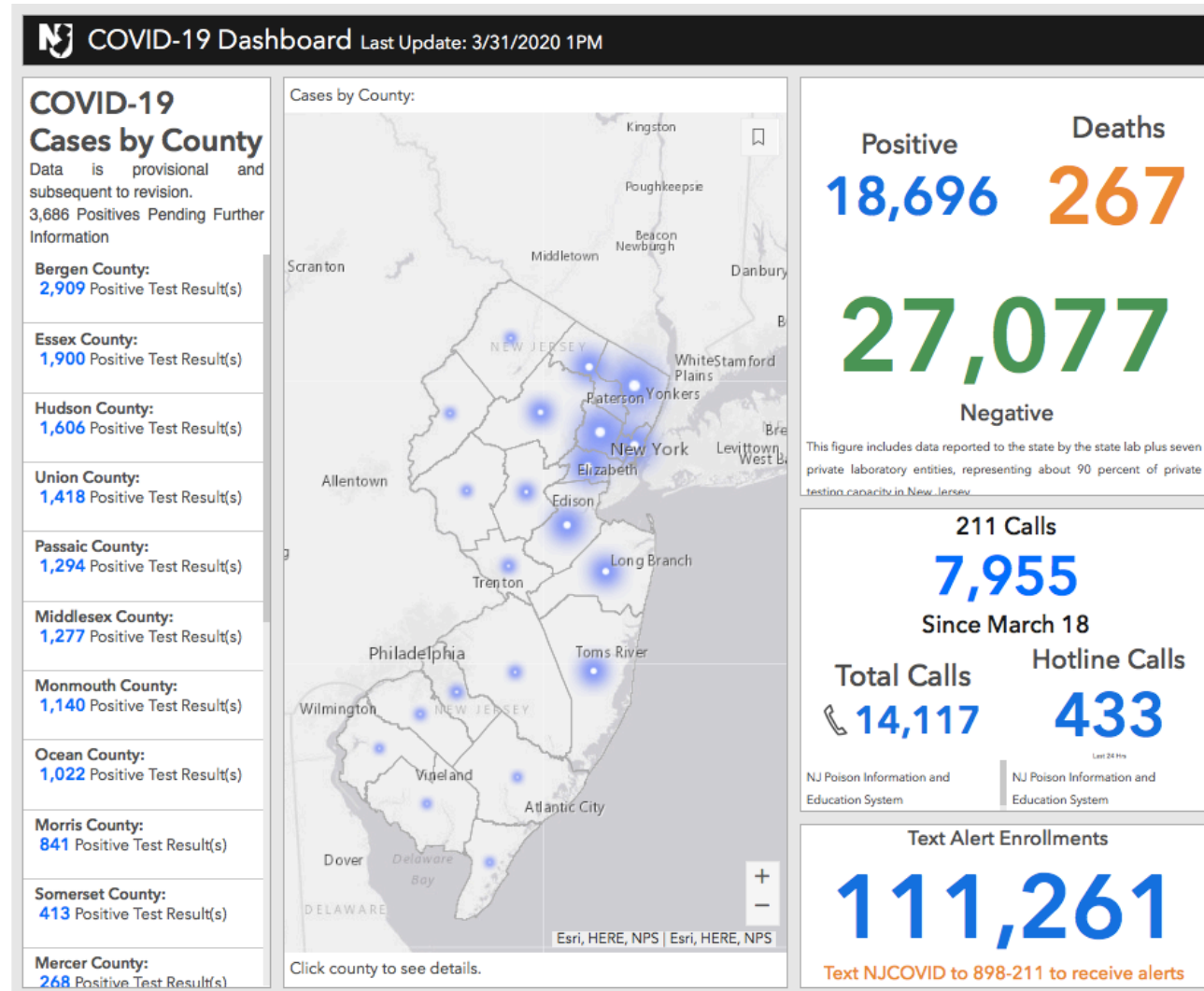


FOREGROUND: NEW JERSEY

COVID-19 Cases by US States/Territories



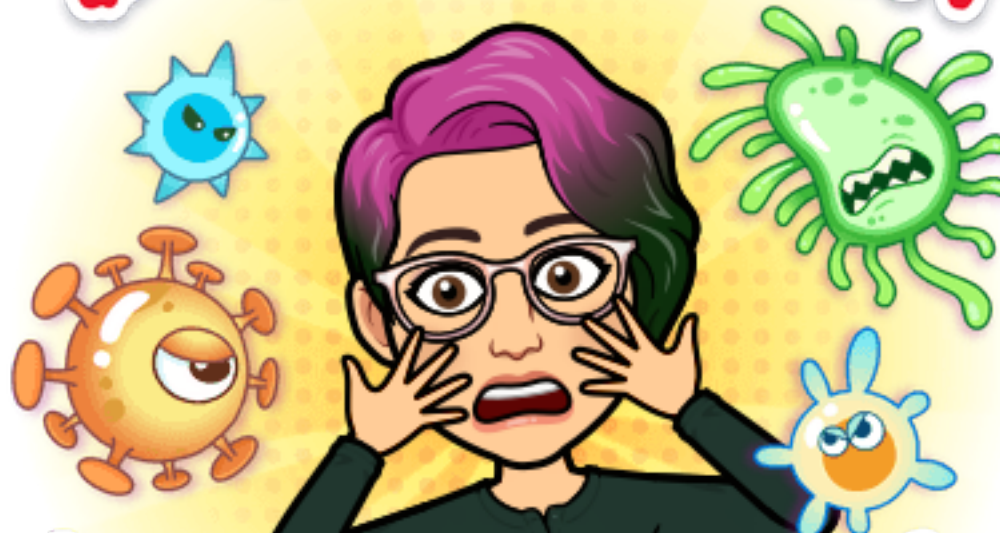
FOREGROUND: NEW JERSEY



staff SAFETY is the FIRST priority



DON'T TOUCH



YOUR FACE!

wash
your
hands!



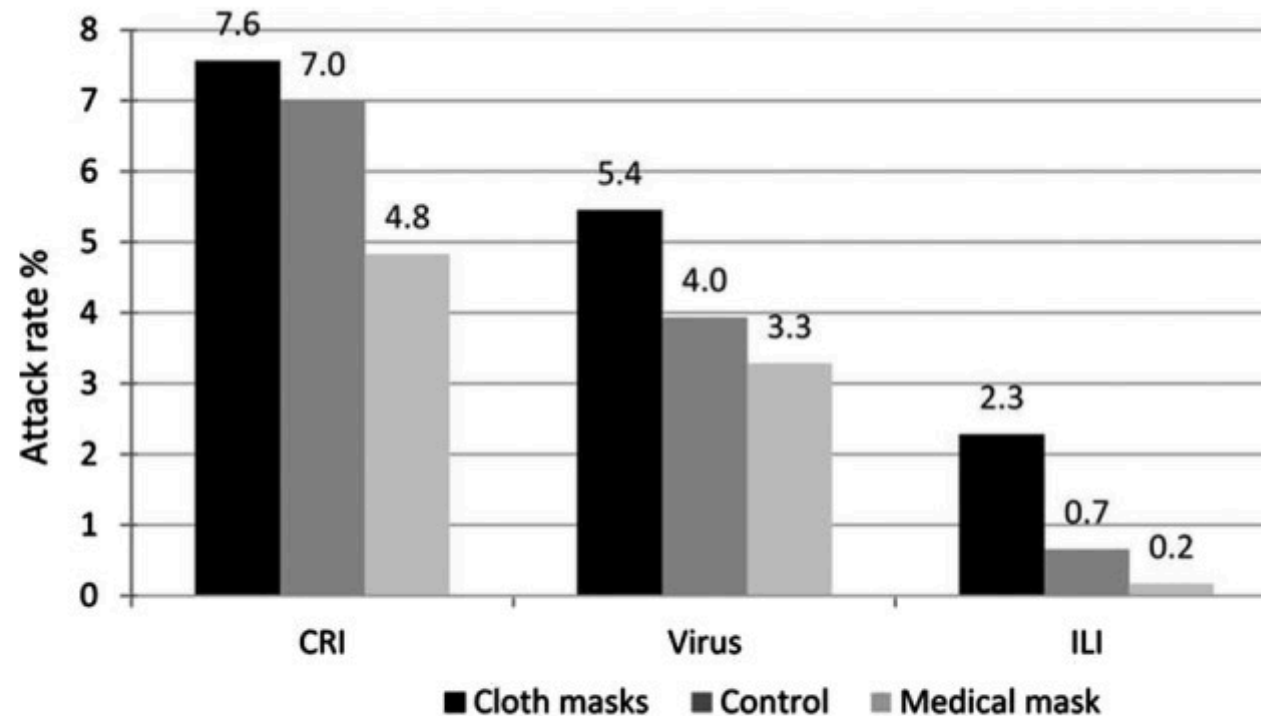
SANITIZE!



What is appropriate PPE?



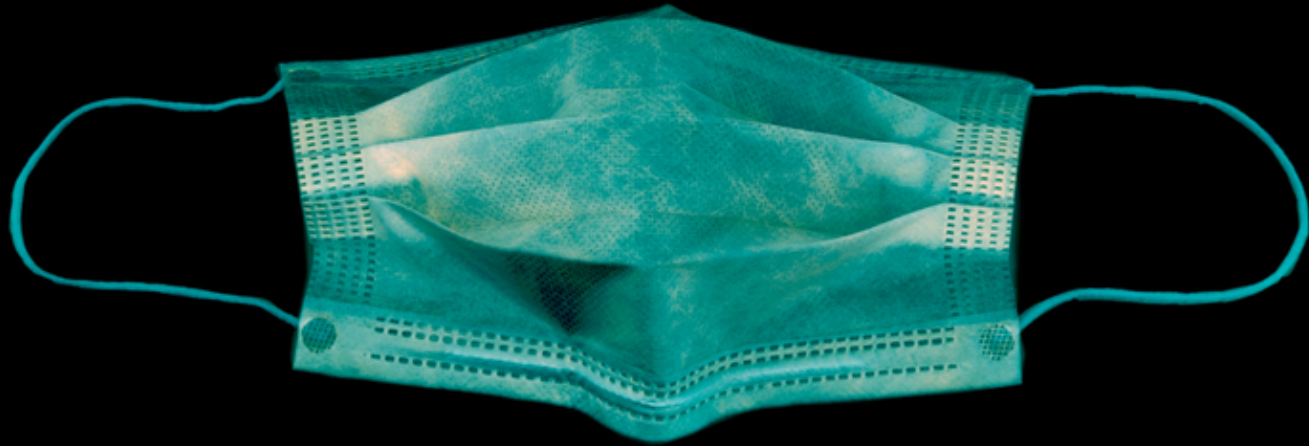
Cloth masks are not effective in preventing infection



Outcomes in trial arms (CRI, clinical respiratory illness; ILI, influenza-like illness; Virus, laboratory-confirmed viruses).

MacIntyre CR, Seale H, Dung TC, et al. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open*. 2015;5(4):e006577-e006577. doi:10.1136/bmjopen-2014-006577

Surgical masks vs N95 masks

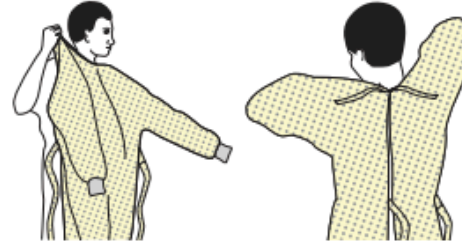


SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



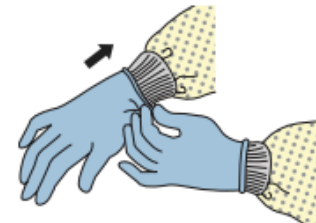
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown

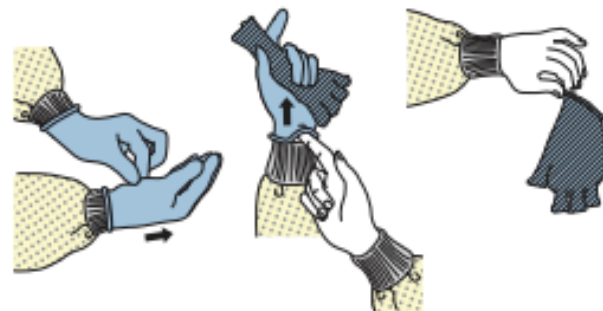


HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



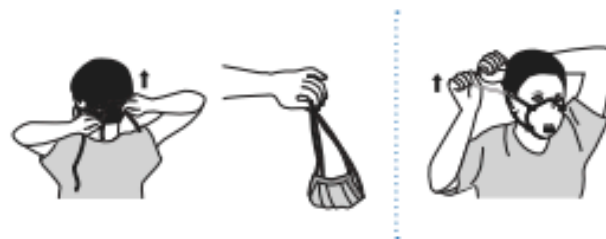
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — **DO NOT TOUCH!**
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



WASH YOUR HANDS

- Wash hands before donning PPE
- Remove gloves and wash hands before removing mask
- Wash hands after removing mask

Can N95 facial masks be used after disinfection? And for how many times?

Authors: Dr. Lei Liao, Wang Xiao, Xuanze Yu, Haotian Wang, Dr. Mervin Zhao, Dr. Qiqi Wang
(4C Air, Inc., Sunnyvale, California)

Professor Steven Chu (Department of Physics, Stanford University)

Professor Yi Cui* (Department of Materials Science and Engineering, Stanford University)

*Corresponding Author: Yi Cui, email: yicui@stanford.edu

Table 1. One-time disinfection treatment on a N95-level meltblown fabric

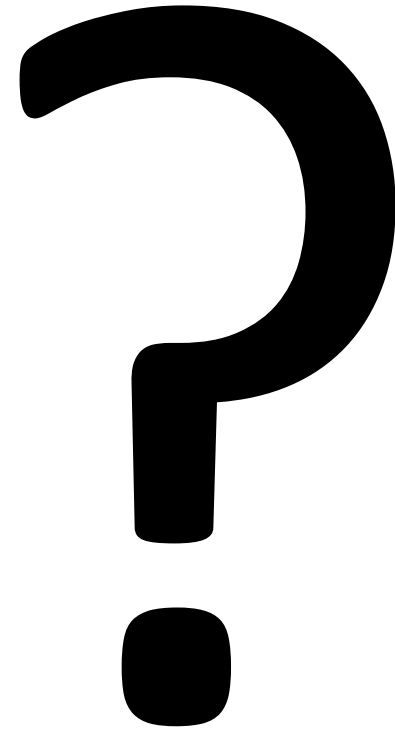
We remind readers that this preliminary data is a materials science report and did not evaluate the fit of masks after disinfecting treatment(s). **It is mandatory that face masks be fit tested using OSHA-accepted fit-testing protocols prior to use. OSHA does not currently have any PPE standards for disinfecting N95 masks.**

In this materials science study of N95 face masks, two disinfection methods which do not reduce the filtration efficiency of the meltblown layer after an appreciable number of treatment cycles were found:

- Method 1: 75°C Hot Air (30 mins) for 20 cycles
- Method 2: UV (254 nm, 8W, 30 min) for 10 cycles

Steam treatment causes filtration efficiency to drop to ~85% after 5 cycles, and ~80% after 10 cycles.

Samples	Meltblown		Static-charged cotton		E. Coli. disinfection (%)
	Filtration efficiency (%)	Pressure drop (Pa)	Filtration efficiency (%)	Pressure drop (Pa)	
Hot air (oven) 70 °C, 30 min	96.60	8.00	70.16	4.67	>99
UV (sterilizing cabinet) 30 min	95.50	7.00	77.72	6.00	>99
75% alcohol solution soaking and drying	56.33	7.67	29.24	5.33	>99
Chlorine-based solution 5 min	73.11	9.00	57.33	7.00	>99
Steam (hot water vapor) 10 min	94.74	8.00	77.65	7.00	>99
Initial samples before treatment	96.76	8.33	78.01	5.33	



**As of April 1, 2020,
66 physicians have died
from COVID19 in Italy**

THERE IS NO EMERGENCY IN A PANDEMIC

You as a healthcare worker are a force multiplier. Your training and experience is invaluable moving into this crisis. So, you're going to be faced with some very difficult moments.

You're going to have to put your needs first.

I'm speaking specifically about PPE and your safety.

If you're an ICU nurse, or an ICU doc, and you become infected, not only are you out of the game for potentially weeks (or killed). But your replacements could be people without your expertise. Your remaining co-workers are short staffed now, more likely to make mistakes and become ill themselves. You stop being a force multiplier and start using healthcare resources.

You going in may save the patient, it may not. But you can't save any patients in the weeks you're laying in a hospital bed or using a vent yourself.

People are going to die. Do not become one of them.

There is no emergency in a pandemic.

-Aaron Mishler, Army Medic and Ebola Responder



NEW JERSEY COVID-19 Information Hub

Call (General COVID-19 Questions): [2-1-1](tel:212) (7a-11p)
Call (Medical COVID-19 Questions): [1-800-962-1253](tel:18009621253) (24/7)
Text NJCOVID to [898-211](tel:898211) to receive alerts

[Select a Language](#) ▾



Testing Centers in NJ ✕

ALL **TESTING CENTERS** RESOURCES STATUS NJ INFORMATION **⋮ MORE**

📍 TESTING CENTERS

NJ Location

1 PNC Bank Arts Center

116 Garden State Pkwy
Holmdel, NJ 07733

Community-Based Testing Sites are for individuals who are experiencing symptoms of respiratory illness. In order to be eligible for testing, individuals must be current New Jersey residents and experiencing symptoms of respiratory illness. Priority will be given to symptomatic individuals experiencing cough, fever (99.6F or above) and shortness of breath.

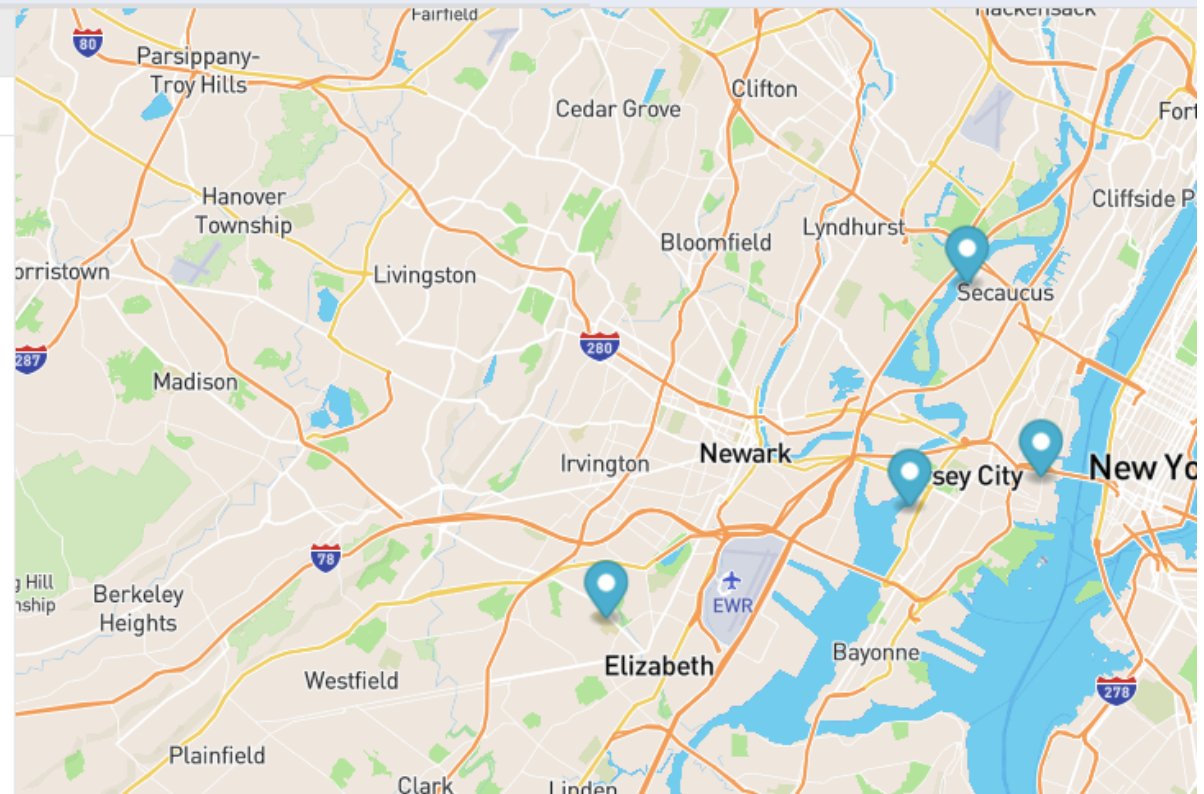
On Saturdays starting March 28, this center will be open to symptomatic health care workers and first responders (police, fire, EMS) only.

This week, the PNC Bank Arts Center site will open at 8:00am on the following days:

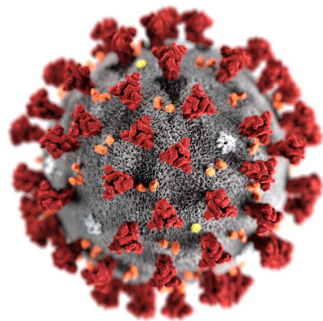
- Monday, March 30
- Wednesday, April 1
- Saturday, April 4 (first responders ONLY)

[COMPLETE SELF-ASSESSMENT](#)

[DIRECTIONS](#)



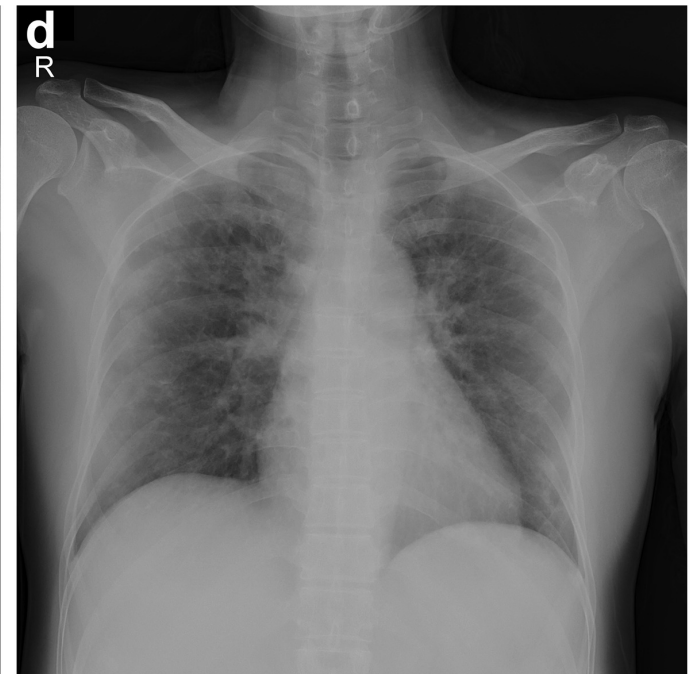
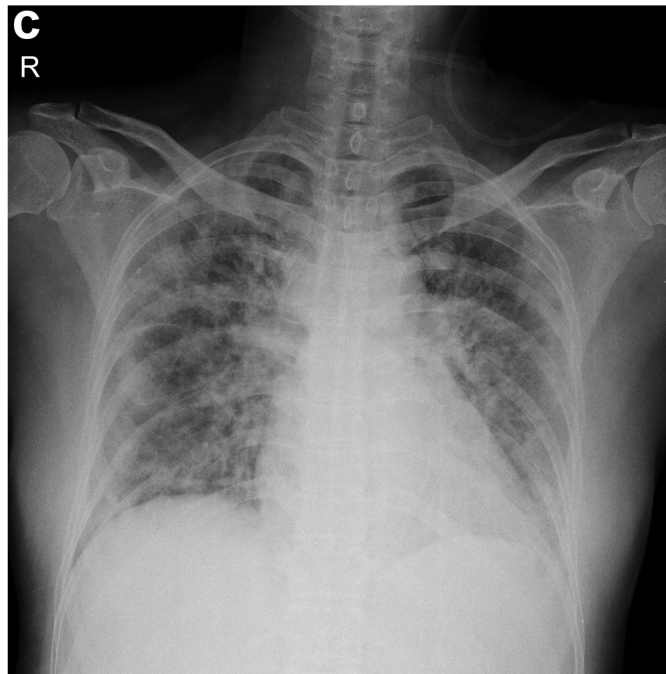
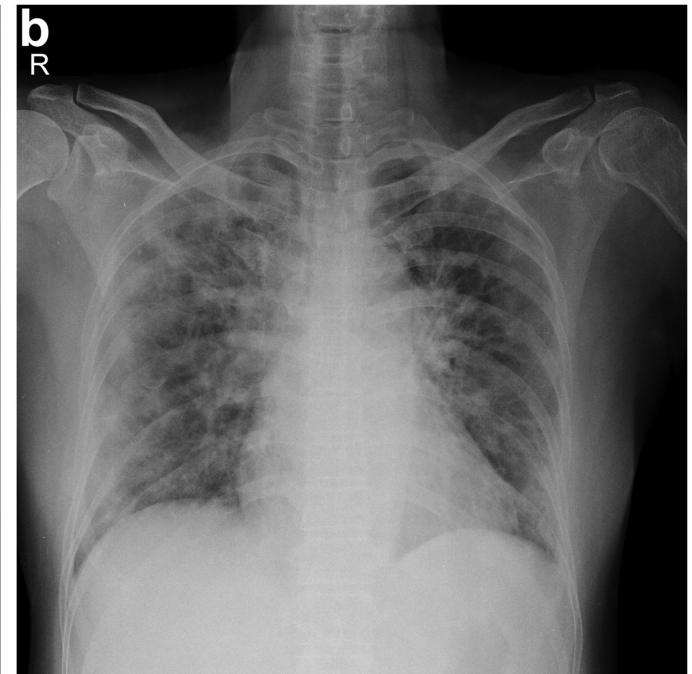
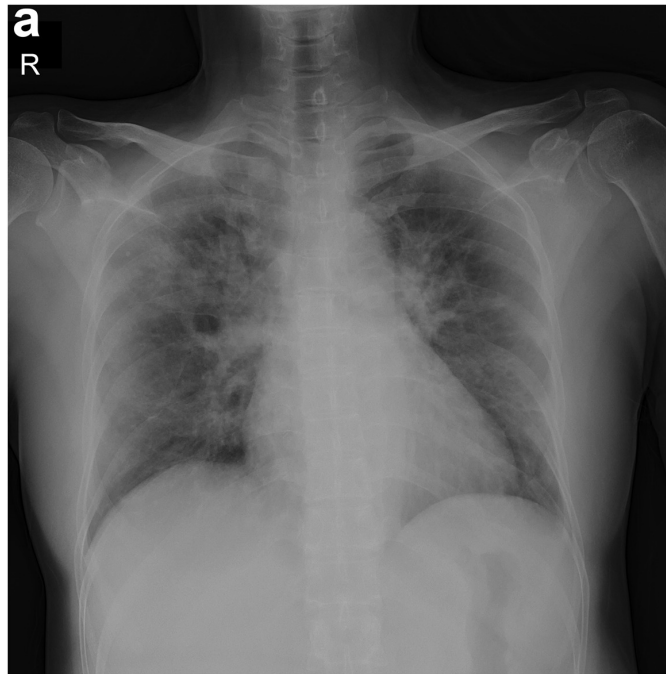
Visits for complications of opioid use
during the COVID19 pandemic:
assume everyone is infected



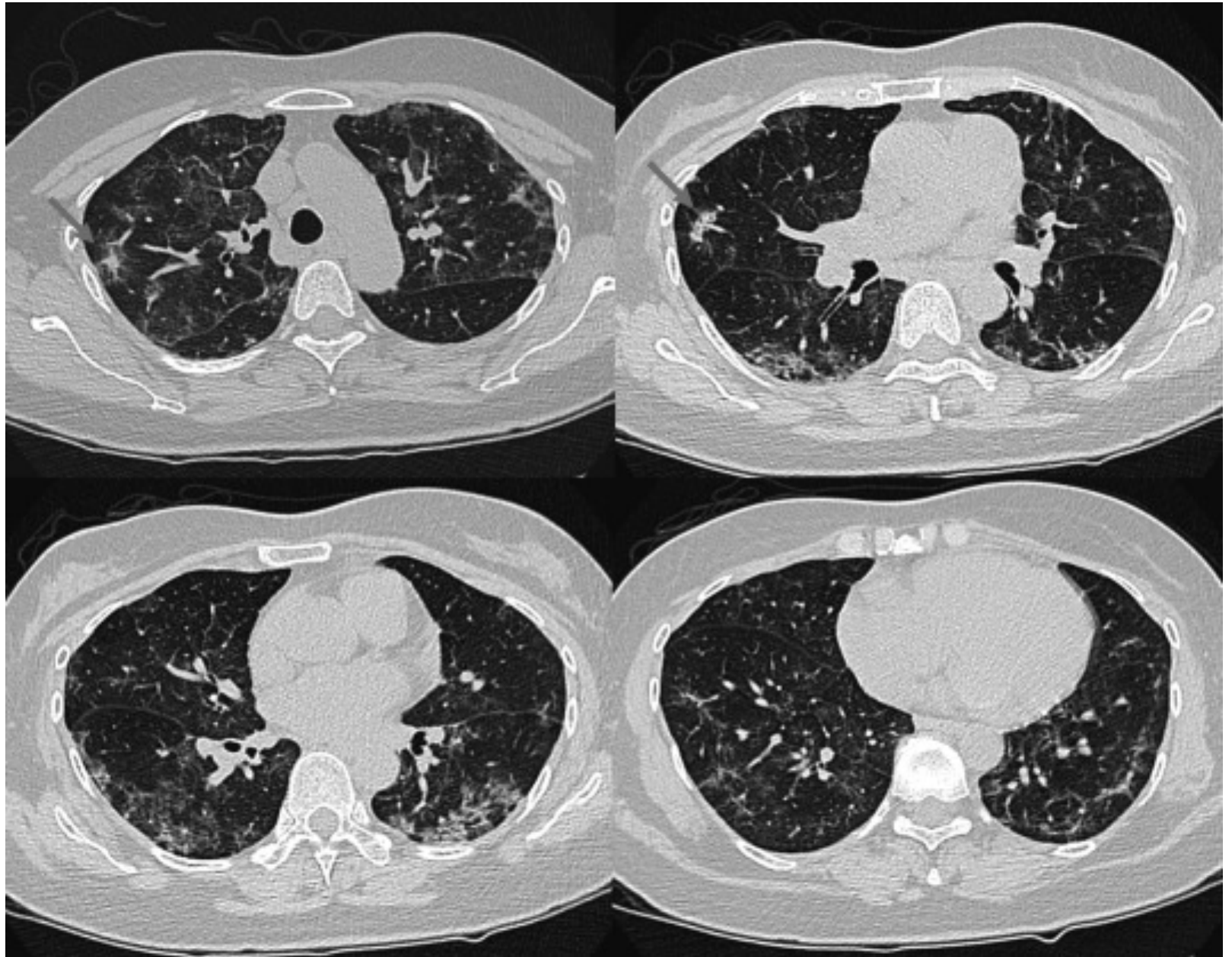
OUD: risk for poor pulmonary outcomes

- Individuals with opioid dependence have been shown to be more likely to develop COPD when compared with non-opioid-dependent smokers (Grischott et al, 2019)
 - Among individuals with COPD, those that use opioids are more likely than non-opioid users to visit the ED for exacerbations, to be hospitalized for pneumonia, and to die from pneumonia. (Vozoris et al 2015)
 - Individuals with OUD can be more difficult to wean from ventilators when compared to non-OUD individuals. (Sayal 2018)
- Grischott T, Falcato L, Senn O, Puhan MA, Bruggmann P. Chronic obstructive pulmonary disease (COPD) among opioid-dependent patients in agonist treatment. A diagnostic study. *Addiction*. 2019;114(5):868-876. doi:10.1111/add.14559
 - Vozoris NT, Wang X, Fischer HD, et al. Incident opioid drug use and adverse respiratory outcomes among older adults with COPD. *Eur Respir J*. 2016;48(3):683-693. doi:10.1183/13993003.01967-2015
 - Sayal P, Bateman BT, Menendez M, Eikermann M, Ladha KS. Opioid Use Disorders and the Risk of Postoperative Pulmonary Complications: *Anesth Analg*. 2018;127(3):767-774. doi:10.1213/ANE.0000000000003307

COVID CXR



COVID CT



Opioid withdrawal: a risk for transmission



COVID19 can present with GI symptoms



ED OUD patient care during COVID19

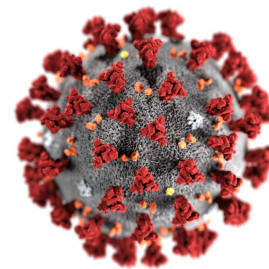
- Those with OUD are expected to be at increased risk for COVID19 infection due to social issues that may limit social distancing
- OUD expected to pose risk for poor COVID19 pulmonary outcomes
- Treat withdrawal aggressively in order to limit body fluid exposure and risk for transmission, emphasizing opioid agonist therapy

ED OUD patient discharge during COVID19

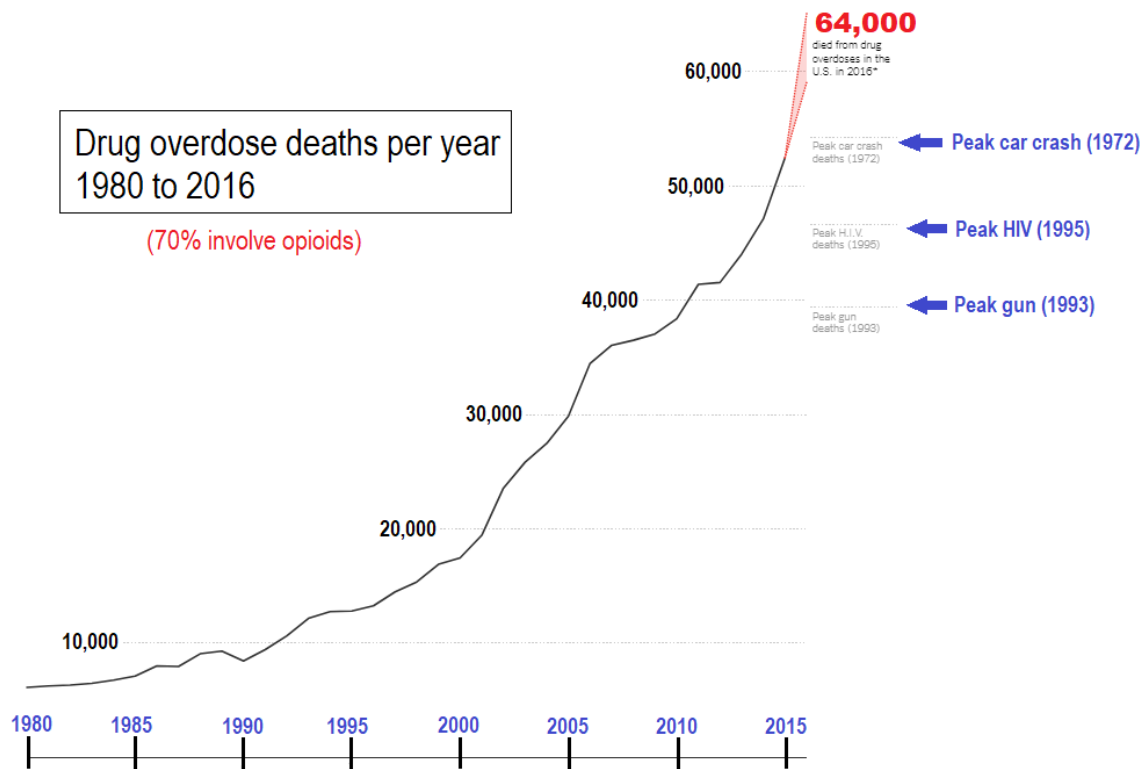
- Prescribe longer duration of buprenorphine to reduce repeat visits to ED or other healthcare settings
- Emphasize the importance of addiction follow-up and MAT ****especially in quarantine****
- Screen for homelessness if discharging with recommendations to isolate, inability isolate in suspected/confirmed COVID19 is a public health risk

DEA relaxing telemedicine regulations

“For the duration of the public health emergency (unless DEA specifies an earlier date), OTPs should feel free to dispense, and DATA-waived practitioners should feel free to prescribe, buprenorphine to new patients with OUD for maintenance treatment or detoxification treatment following an evaluation via telephone voice calls, without first performing an in-person or telemedicine evaluation.”



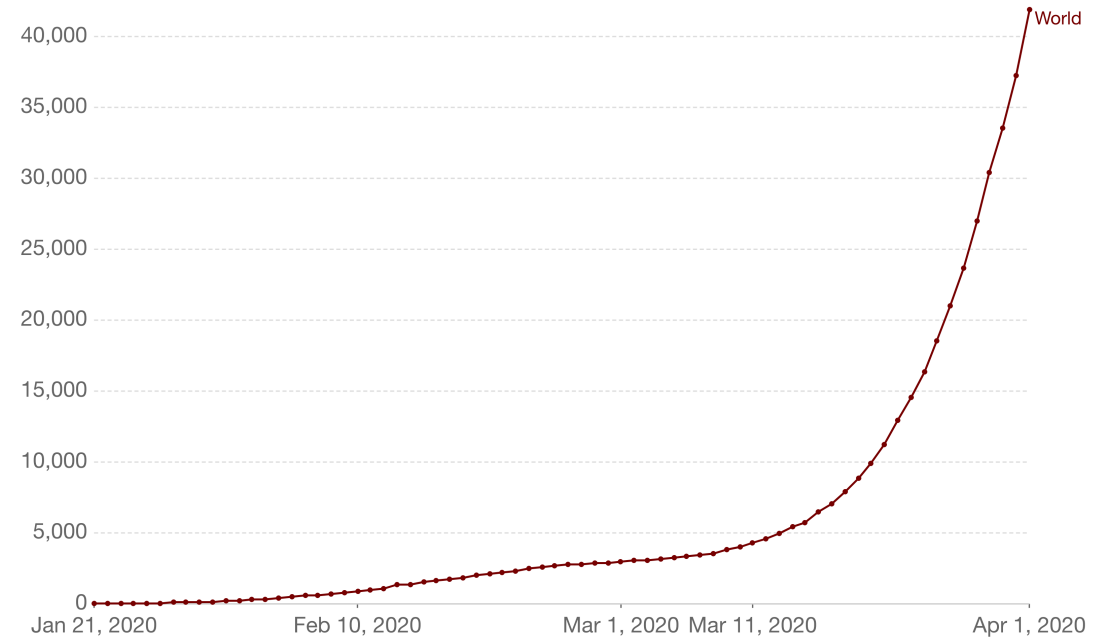
Epidemic multiplied by a pandemic



Total confirmed deaths due to COVID-19

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

Our World in Data



Source: European CDC - Situation Update Worldwide - Last updated 1st April, 12:30 (London time) OurWorldInData.org/coronavirus • CC BY

During COVID19, your safety is my safety



Images show homeless having to sleep in grids on concrete

The city of Las Vegas was forced to offer the homeless a parking lot after a coronavirus case closed a major shelter.

<https://abc7.com/tag/homeless/>

Hospitals, Jails, Homeless Shelters



Recommended measures to flatten the curve

- PPE for health care workers is vital
- Hygiene and social distancing for general population
- Increased testing
- Isolation/quarantine of suspected/confirmed cases
- Increased telemedicine encounters to decrease in-person encounters
- Pray for a vaccine asap

Flatten the curve for vulnerable populations

- HOUSING FOR ALL that allows distancing/quarantine, cohorted by suspected/confirmed COVID19 status
- Address risk of jails, shelters in accelerating transmission in high-risk population
- Longer buprenorphine rx from ED, or reliable tele follow-up for MAT
- Consider providing phones to facilitate follow-up

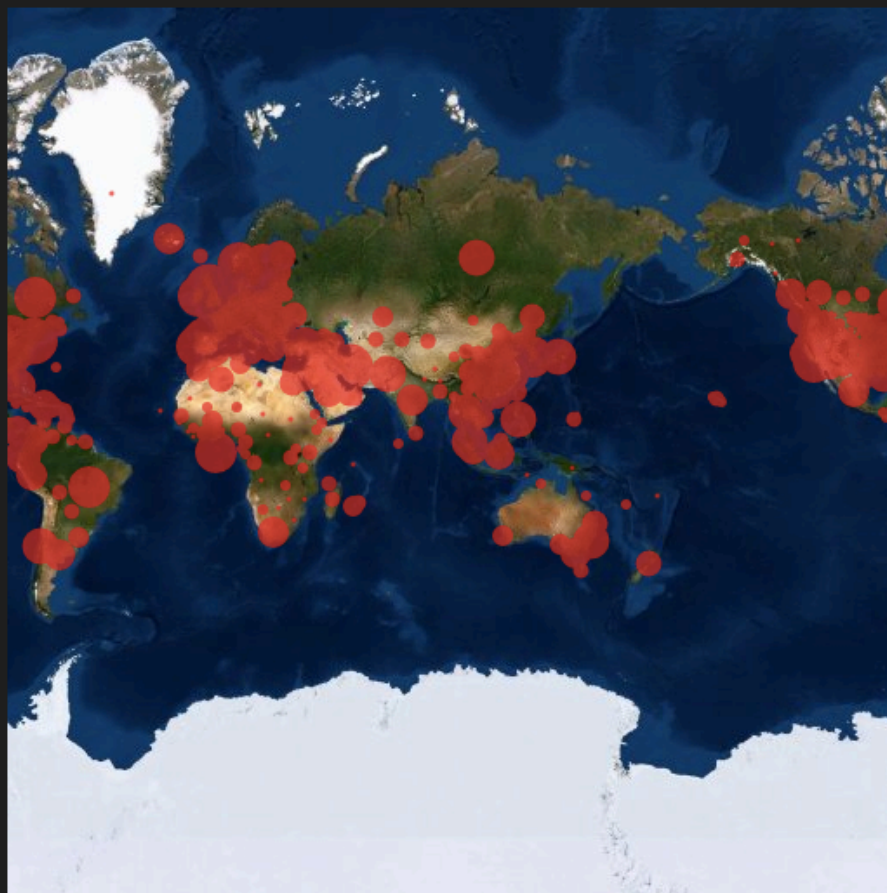


Total Confirmed

858,785

Confirmed Cases by Country/Region/Sovereignty

- 189,035 US
- 105,792 Italy
- 95,923 Spain
- 82,290 China
- 71,808 Germany
- 52,836 France
- 44,605 Iran
- 25,481 United Kingdom
- 16,605 Switzerland
- 13,531 Turkey
- 12,775 Belgium
- 12,667 Netherlands
- 10,180 Austria
- 9,786 Korea, South
- 8,591 Canada



Earthstar Geographics

Cumulative Confirmed Cases

Active Cases

180

countries/regions

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, Worldometers.info, BNO, state and national government health departments, and local media reports. Read more in this [blog](#).

Downloadable databases: GitHub: [Here](#). Feature layer: [Here](#).

Total Deaths

42,151

12,428 deaths
Italy

8,464 deaths
Spain

3,523 deaths
France

3,187 deaths
Hubei China

2,898 deaths
Iran

1,789 deaths
United Kingdom

1,096 deaths
New York City
New York US

1,039 deaths
Netherlands

Total Recovered

178,119

76,206 recovered
China

19,259 recovered
Spain

16,100 recovered
Germany

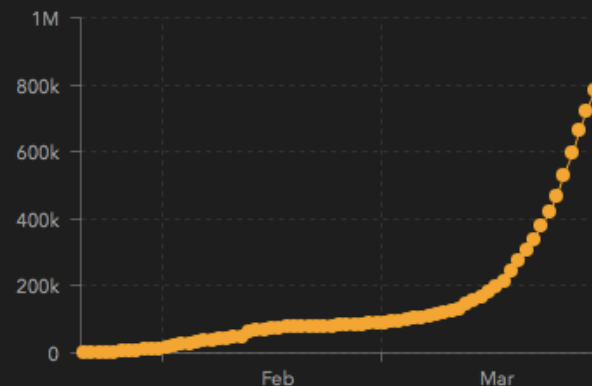
15,729 recovered
Italy

14,656 recovered
Iran

9,522 recovered
France

7,096 recovered
US

5,408 recovered
Korea, South



Confirmed

Logarithmic

Daily Increase

Admin0

Last Updated at (M/D/YYYY)
3/31/2020, 10:08:08 PM

