



**BLOOMBERG
HARVARD**

| City
Leadership
Initiative



COVID-19

SITUATION REPORT

October 15, 2020 | Joshua Sharfstein, MD

COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Global Cases

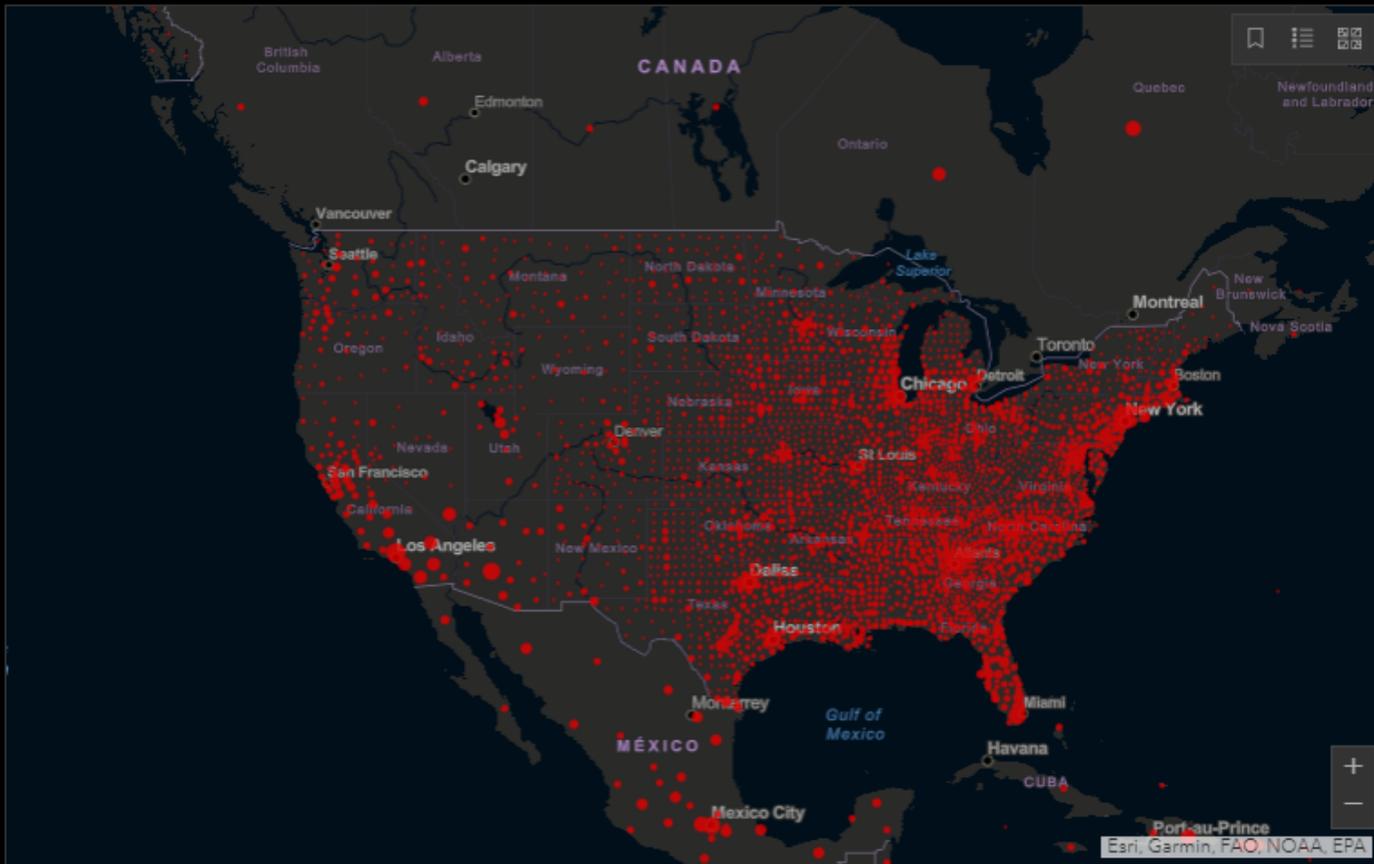
7,917,389

Cases by Country/Region/Sovereignty

7,917,389 US
7,307,097 India
5,140,863 Brazil
1,346,380 Russia
931,967 Argentina
930,159 Colombia
908,056 Spain
853,974 Peru
829,396 Mexico
820,376 France
696,414 South Africa
657,474 United Kingdom
517,835 Iran
485,372 Chile
413,215 Iraq

Admin0 Admin1 Admin2

Last Updated at (M/D/YYYY)
10/15/2020, 9:24 AM



Cumulative Cases Active Cases Incidence Rate Case-Fatality Ratio Testing Rate

189 countries/regions

Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#). Data sources: [Full list](#). Downloadable database: [GitHub](#), [Feature Layer](#). Lead by JHU CSSE. Technical Support: [Esri Living Atlas team](#) and [JHU APL](#). Financial Support: [JHU](#), [NSF](#), [Bloomberg Philanthropies](#) and [Stavros Niarchos Foundation](#). Resource support: [Slack](#), [Github](#) and [AWS](#). Click [here](#) to **donate** to the CSSE dashboard team, and other JHU COVID-19 Research Efforts. [FAQ](#). Read more in this [blog](#). [Contact Us](#)

Global Deaths
216,904

216,904 deaths US

US State Level Deaths, Recovered

33,316 deaths, 77,870 recovered New York US
17,188 deaths, 711,438 recovered Texas US
16,760 deaths, recovered California US
16,191 deaths, 35,580 recovered New Jersey US
15,595 deaths, recovered Florida US
9,647 deaths, 118,892 recovered Massachusetts US
0,220 deaths, recovered

Global Deaths

US Deaths, Recovered

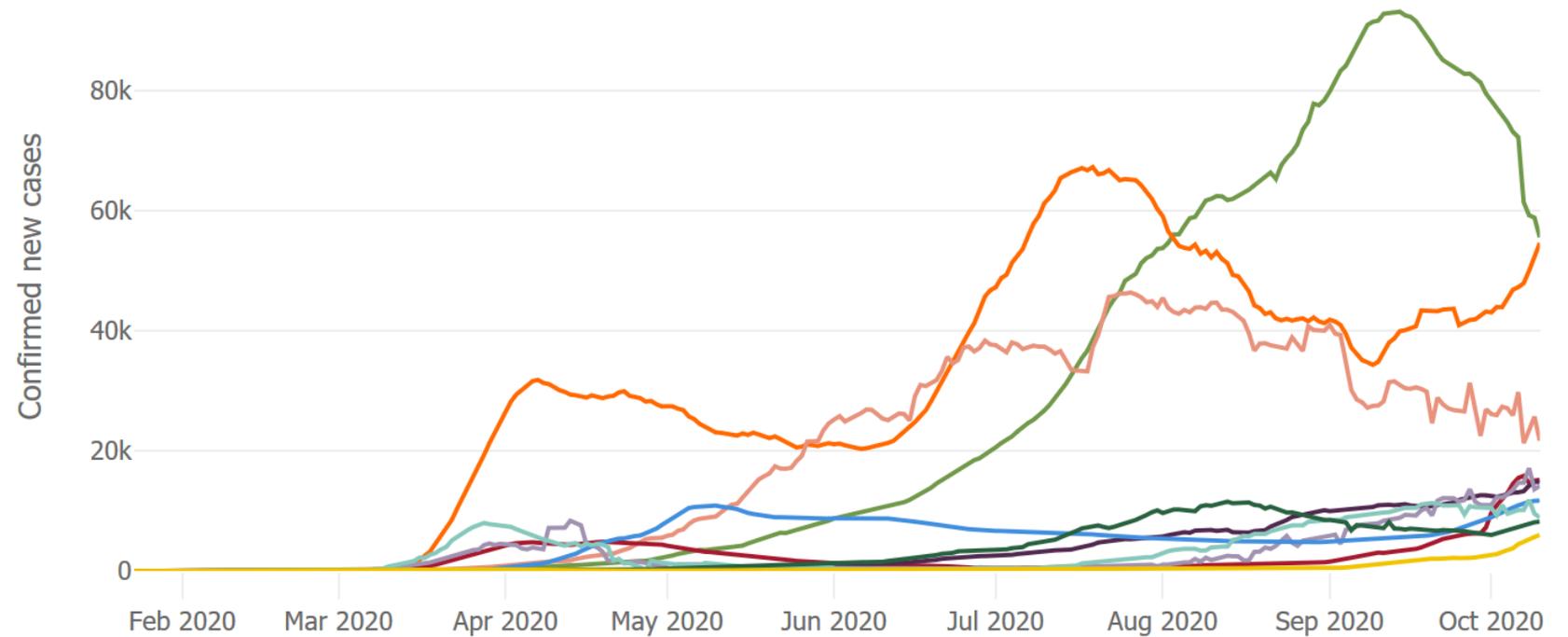


Daily Cases

Here We Go Again

DAILY CONFIRMED NEW CASES (7-DAY MOVING AVERAGE)

Outbreak evolution for the current 10 most affected countries



Click any country below to hide/show from the graph:

- | | | | |
|-----------|---------|--------|----------------|
| India | US | Brazil | United Kingdom |
| Argentina | France | Russia | Spain |
| Colombia | Czechia | | |



What's New This Week



Antibodies?

The President touts monoclonal antibodies as a “cure” for COVID-19.



For Mayors

We've been talking about the potential of antibody therapies for months. There are no “cures,” but there is potential benefit. Given the small supply and high cost, there will be distribution issues.



What's New This Week



Mask Mandates

New evidence shows that states that had mask mandates when reopening did much better than those that did not have mask mandates.



For Mayors

The evidence on masks just keeps building. Continuing to inspire vigilance is a critical goal for mayors.



What's New This Week



Vaccine Status

New FDA guidance requires at least 50 percent reduction in COVID-19 and at least 2 months of safety data prior to authorization.



For Mayors

We could start to see applications coming to FDA in the next 2-3 months. Time now to encourage flu vaccine and think about how to reach the populations most at risk for COVID-19 with vaccine.



What's New This Week



Herd Immunity?

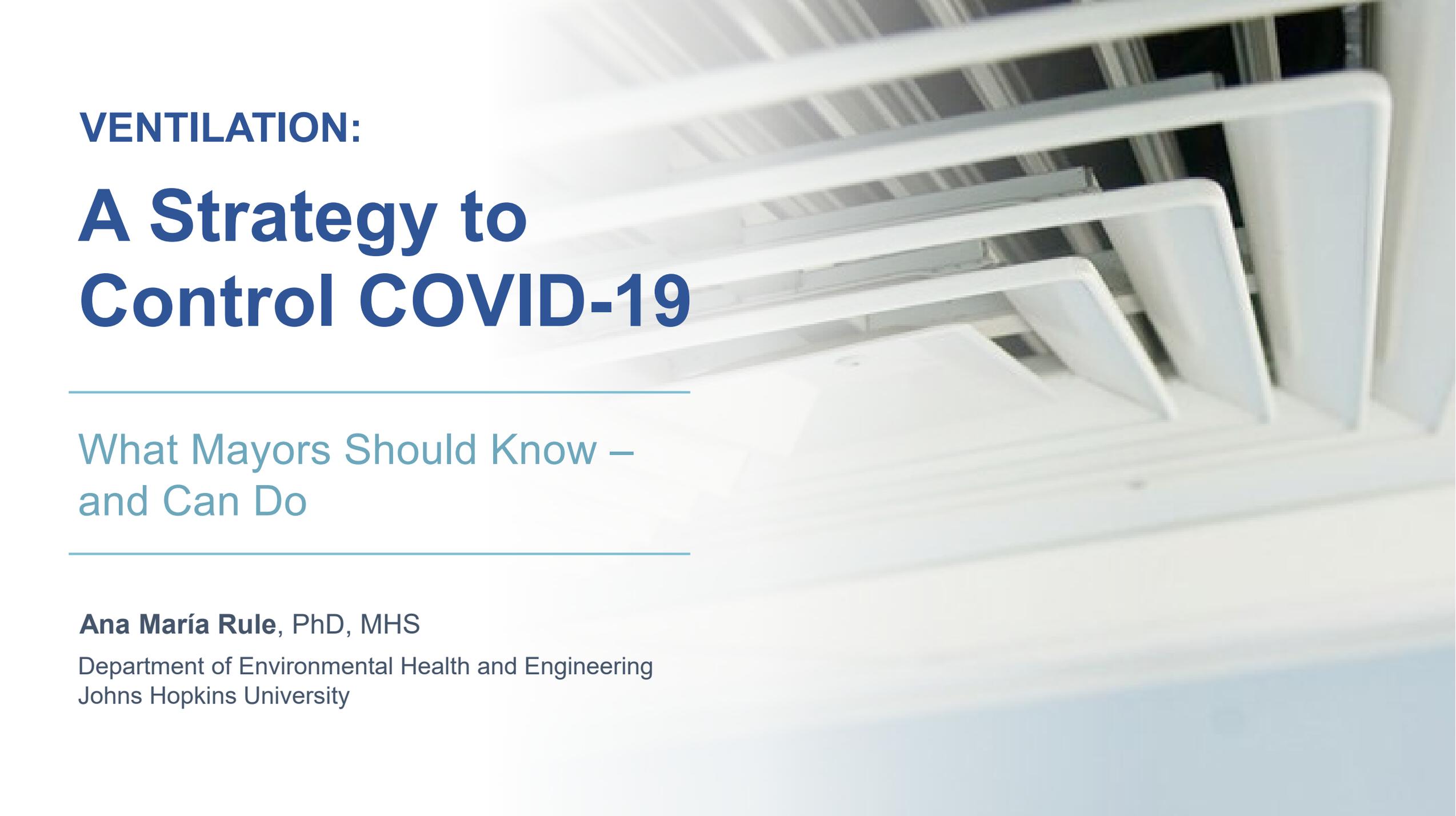
The White House apparently endorsed calls for most people to resume normal life to arrive at herd immunity more quickly.



For Mayors

Not only would some young people die, but those most vulnerable would not be protected. There is no legitimate public health support for this approach.





VENTILATION:

A Strategy to Control COVID-19

What Mayors Should Know –
and Can Do

Ana María Rule, PhD, MHS

Department of Environmental Health and Engineering
Johns Hopkins University

How is COVID-19 transmitted?

WHAT WE KNOW:

- ✓ That the virus is transmitted person-to-person
- ✓ That the virus is transmitted by respiratory droplets of many size that are emitted when a person **talks, coughs, or sneezes**

HOW IT'S TRANSMITTED: 3 MECHANISMS



Droplet: Some of the larger droplets can travel a few feet in the air and infect someone that is close by



Fomite: Some of the larger droplets deposit on surfaces and can remain infectious for up to several days

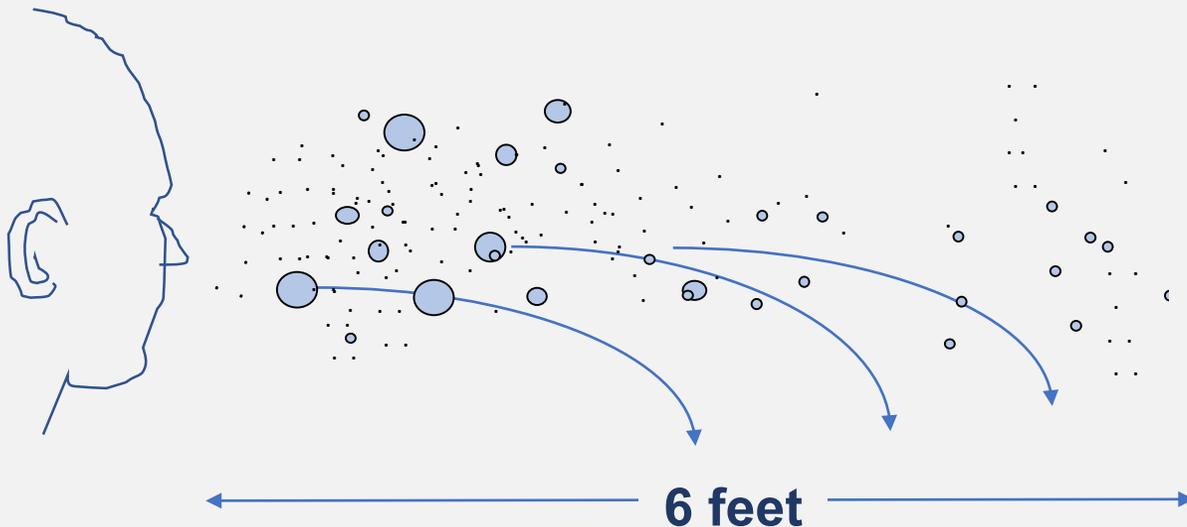


Aerosol: The smallest droplets can stay suspended in the air, and if they contain virus, they can be infectious for several hours at long distances

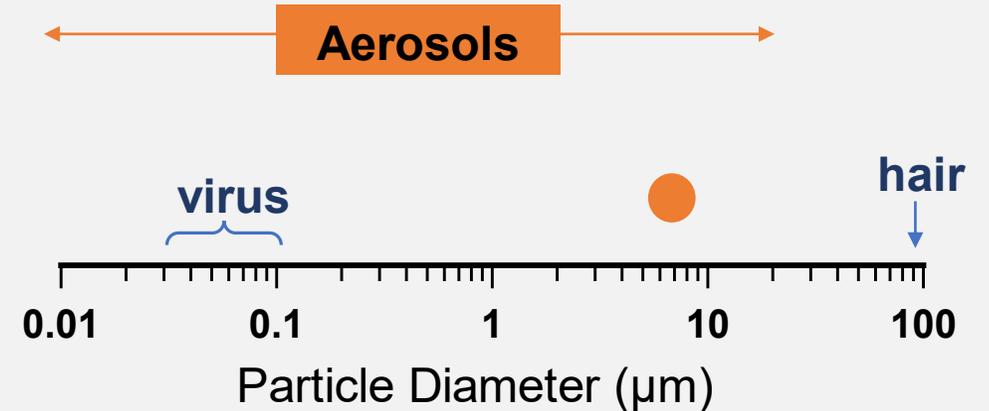
There is still some controversy about the relative importance of each of these mechanisms, **but controlling for aerosol is the most protective**

Relevance of Aerosols (the smallest droplets)

Small humid droplets from the respiratory tract (wide size range) that remain suspended in the air



Aerosols easily follow airstreams / move with air

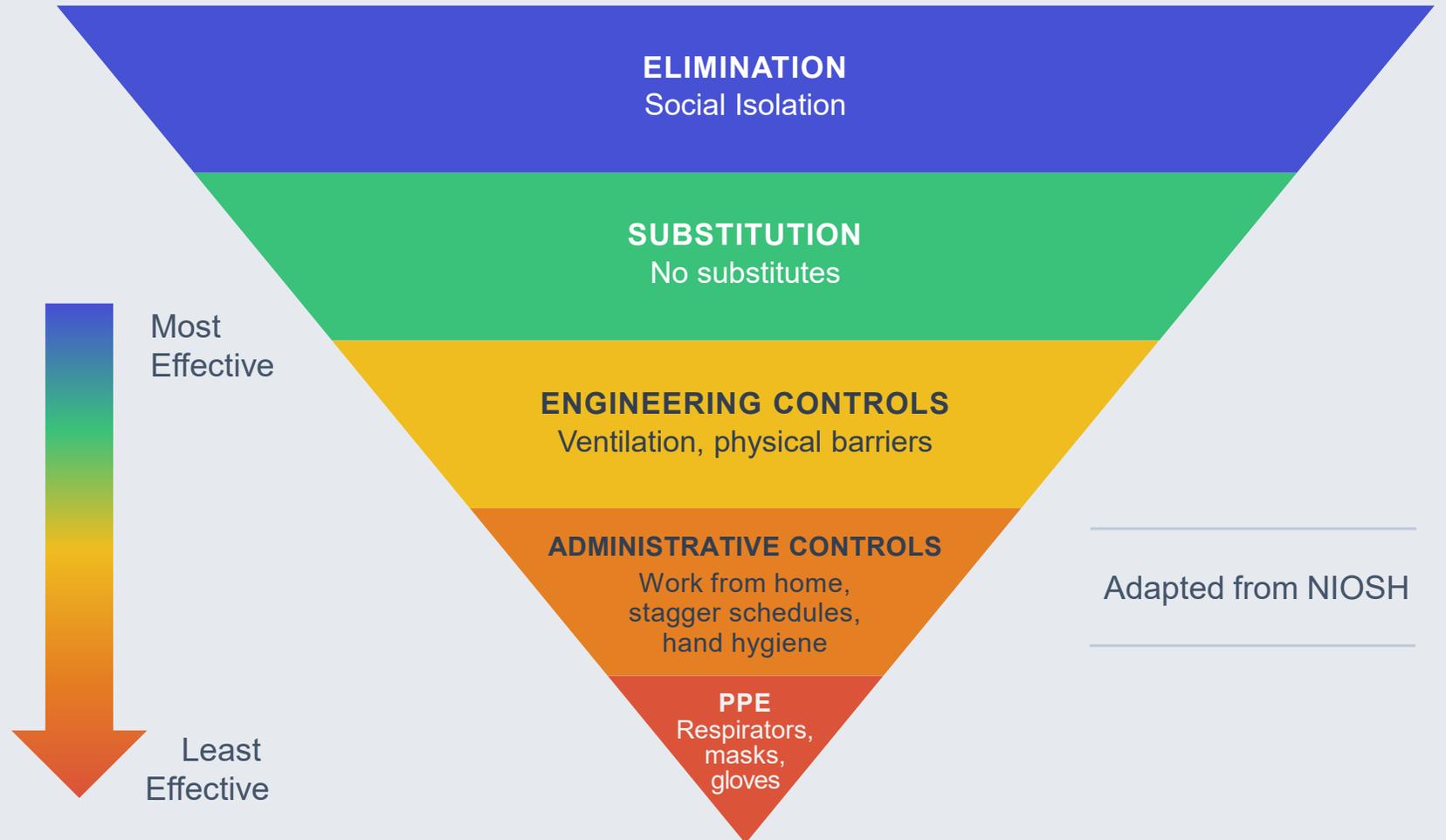


Controlling Aerosol Transmission Indoors

APPLYING THE HIERARCHY OF CONTROLS FOR COVID-19

THE HIERARCHY OF CONTROLS FOR COVID-19

a framework used in occupational health to protect workers with the most effective controls, and applies well for controlling exposures to novel coronavirus



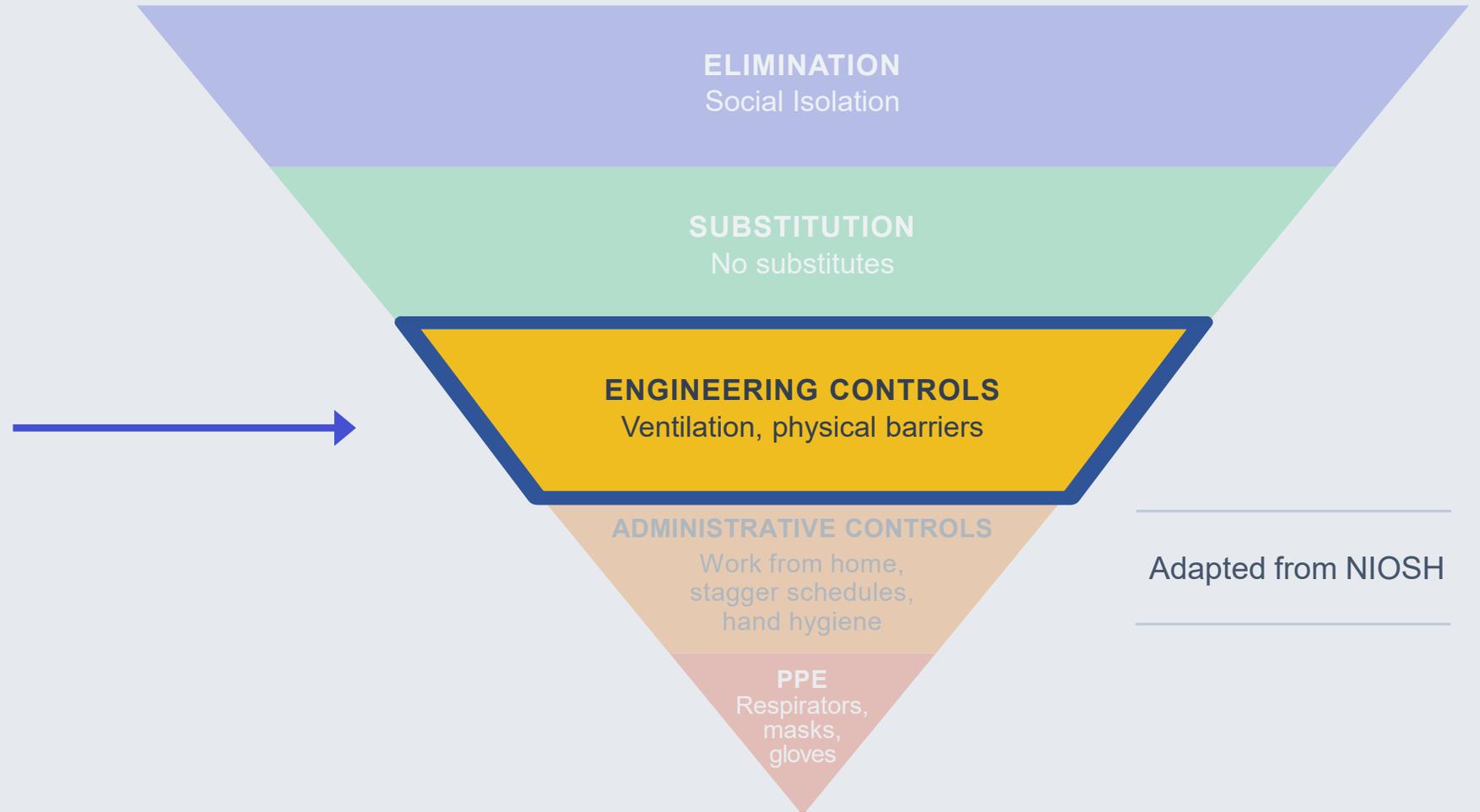
Adapted from NIOSH

Controlling Aerosol Transmission Indoors

APPLYING THE HIERARCHY OF CONTROLS FOR COVID-19

ENGINEERING CONTROLS

in public spaces, like restaurants, offices, schools, buses, and trains, reduce the likelihood of transmission of COVID-19



Adapted from NIOSH

VENTILATION

is the most effective control for removing airborne hazards indoors

WHAT IS VENTILATION?

- ▶ Replacing contaminated air with clean air
- ▶ Filtering outside and recirculating air
- ▶ Increasing fresh clean air (diluting contaminated air)

VENTILATION

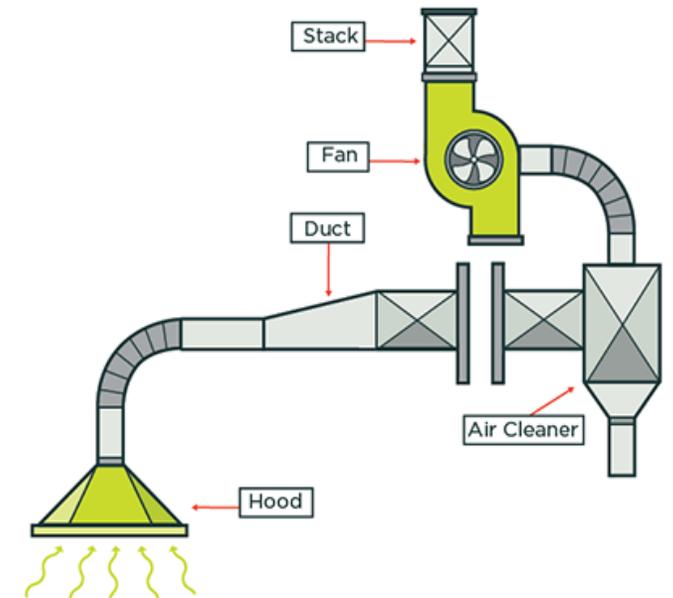
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VENTILATION IS CRITICAL IN PUBLIC BUILDINGS

- * Air is typically provided by a **Heating, Ventilating and Air Conditioning (HVAC)** system
- * HVAC system control strategies can usually be modified to increase ventilation with relatively little additional cost



Recommendation

Ensure HVAC systems are functional by providing ventilation guidelines to staff and constituents

HVAC SYSTEMS

HVAC systems have many parts that need to be checked to ensure that they are operating efficiently

WHO YOUR TEAM COULD CONTACT

Building Manager, Building Mechanic, Service Manager, Furnace Operator, Custodian, Facilities Management

QUESTIONS TO ASK :

- ✓ Are the most efficient filters possible installed?
- ✓ Is it running properly?
- ✓ What service does it need?
- ✓ Does anything need to be cleaned?
- ✓ Can anything be done to make the system work more effectively?
- ✓ Are the plans and specifications available for review, just in case?

MAY 29, 2020

Back-to-Work Ventilation-Related Checklist for Occupational Environmental Health and Safety (OEHS) Professionals

D. Jeff Burton, MS, PE, FAIHA, (CIH and CSP, VS)

We and those we work with will be going back to work or school sometime in the future. This checklist can help OEHS professionals provide safer workplaces and schools for those who will inhabit the buildings.

- Check in with the person in charge of the day to day running of the heating, ventilating and air conditioning (HVAC) system, usually the "Building Manager," the "Building Mechanic," the "Service Manager," the "Furnace Operator," or whatever title is given to the person. Ask about the status of the HVAC system. For example: Is it running properly? What service does it need? Are all of its parts clean? Does anything need to be cleaned? Does anything need to be done to make the system work more effectively? Are the Plans and Specifications available for review, just in case? Is there anything else I should know?
- Be sure the HVAC system is on and running whenever someone is present in the building.
- Be sure the system fan is on and air is being moved through the HVAC system at all times people are present, even when the thermostats are not calling for heating or cooling.
- If necessary, set the fan to "On" or "Circulate" at the thermostat if the HVAC system does not provide a constant airflow all the time people are present.
- Check thermostats to be sure they are operating properly and set to the correct temperatures. Typical indoor temperatures are 68-74°F in the winter, and about 75-80°F in the summer.
- Check all supply and return grilles and registers to be sure they are open, operating properly and that air is flowing through them when the system fan is on.
- Set the outdoor air (OA) intakes or controls to the maximum level of fresh outdoor the system is capable of handling or providing. (This usually depends on weather, season, operating costs, etc.)
- Check OA intakes to assure that they are clean, open and not blocked by bushes, defective louvers, etc.
- Check system filters: Are they clean? Are they rated at the highest efficiency the system is capable of handling?
- Check and clean air supply and return louvers and registers regularly.
- When using free-standing fan (e.g., pedestal fans, floor fans, wall fans, desk fans) to cool a person or to help mix the air in the space, try to avoid having the fan blow from one person directly past another.
- Check system humidifiers to be sure they are clean, operating properly and providing an in-room relative humidity of about 40-60%.
- Check to be sure there are no water leaks or standing water in the building or in the HVAC system, e.g., in OA inlet plenums and return air plenums above ceilings.

AIR PURIFIERS in public buildings

WHAT ARE AIR PURIFIERS?

- ▶ Devices that remove contaminants from the air to improve indoor air quality
- ▶ Efficiency depends on size of room and filter type
- ▶ In areas where it is difficult to improve ventilation, portable HEPA air filtration systems may be a cost-effective **approach to improve ventilation**



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RECOMMENDATION:

Promote the use of air purifiers in public buildings as a supplement to other measures



Recommendations for Mayors

USING VENTILATION TO MINIMIZE RISK OF INFECTION:

Ventilation is one tool, along with at least 6 feet separation, masks, handwashing, and the use of air purifiers, to reduce infection

- ✓ **Communicate** importance of engineering controls, including ventilation and air purifiers, to your team and share with public
- ✓ Ensure that **public buildings are using proper filtration systems** with adequate filters
- ✓ **Recommend written notice to landlords** of how to ensure HVAC systems are operating properly
- ✓ **Provide online resources to residents** that list the necessary requirements of HVAC systems and the questions they should ask their landlords to ensure they are operating properly
- ✓ **Supplement existing ventilation systems with air purifiers** in public buildings with heavy traffic



OCTOBER 15, 2020

QUESTIONS?

Joshua Sharfstein, MD

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