Living and Working with COVID-19

How to Create a Safe, Healthy, and Functional Work Environment While Protecting Your Employees and Customers from COVID-19

Presented in collaboration by:
UTHealth School Of Public Health &
Houston Area Safety Council

Wednesday, September 16, 2020

ASSP Region VI 2020 Virtual PDC

WELCOME

Today we will discuss creating a safe, healthy, and functional work environment while protecting your employees, clients and customers from COVID-19.

The following information will be shared today:
- Current COVID-19 situation
- Correct use of terminology
- Methods to reduce risk in the workplace
- A review of resources available to you and your employees
- Q & A session with panel of health & safety experts

UTHealth Houston School of Public Health

George Delclos, MD, PhD, MPH – Professor & Medical Director of Employee Health

David Douphrate, PhD, MPT, MBA, CPE, CSP - Associate Professor & Industrial Hygiene Program Director

Robert Emery, DrPH, CHP, CIH, CBSP, CSP, CHMM, CPP, ARM - Vice President of Safety, Health, Environment & Risk Management

Kristi Mena, PhD, MSPH- Associate Professor & El Paso Campus Dean

Janelle Rios, PhD, MPH - Faculty Associate & Director of Prevention, Preparedness, and Response (P2R) Academy

Moderator
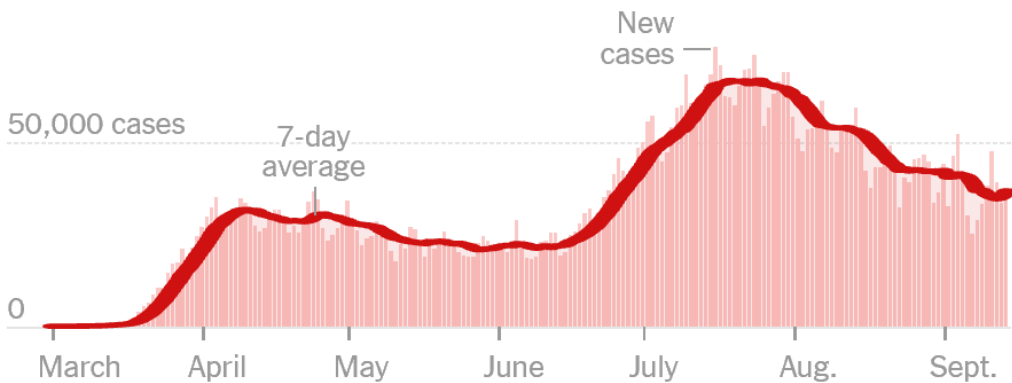Tommy Hysler, MD, MPH - Chief Medical Officer & Vice President of Health Operations, Houston Area Safety Council

Covid in the U.S.: Latest Map and Case Count

By The New York Times   Updated September 15, 2020, 12:25 P.M. E.T.

Leer en español

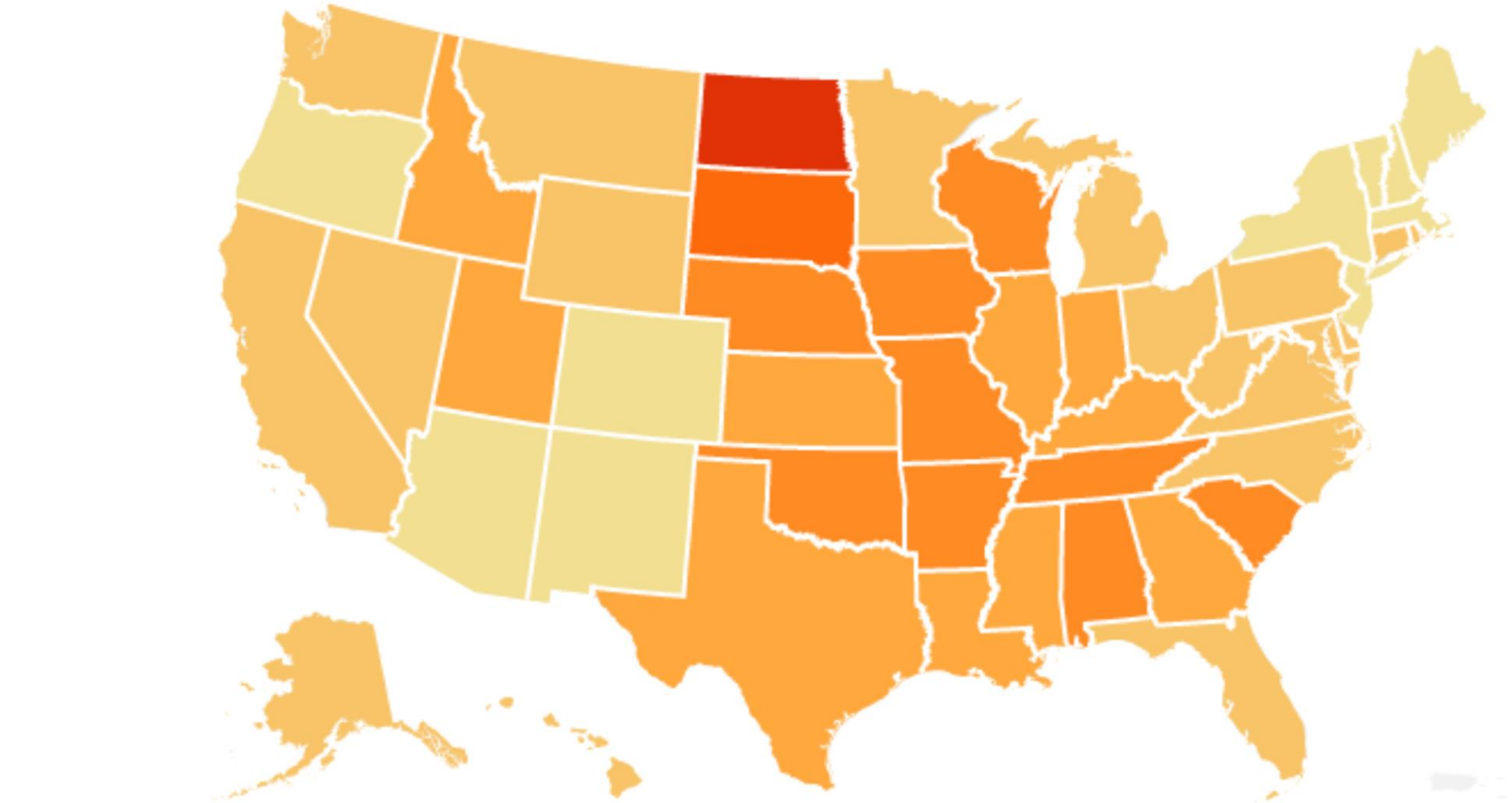WORKD   COUNTRIES ▼ | U.S.A.   STATES ▼   COLLEGES

New cases

50,000 cases

7-day average

0

March   April   May   June   July   Aug.   Sept.

	TOTAL REPORTED	ON SEPT. 14	14-DAY CHANGE
Cases	6.5 million⁺	36,836	−12% ⟶
Deaths	194,713	447	−15% ⟶

Includes confirmed and probable cases where available. 14-day change trends use 7-day averages.
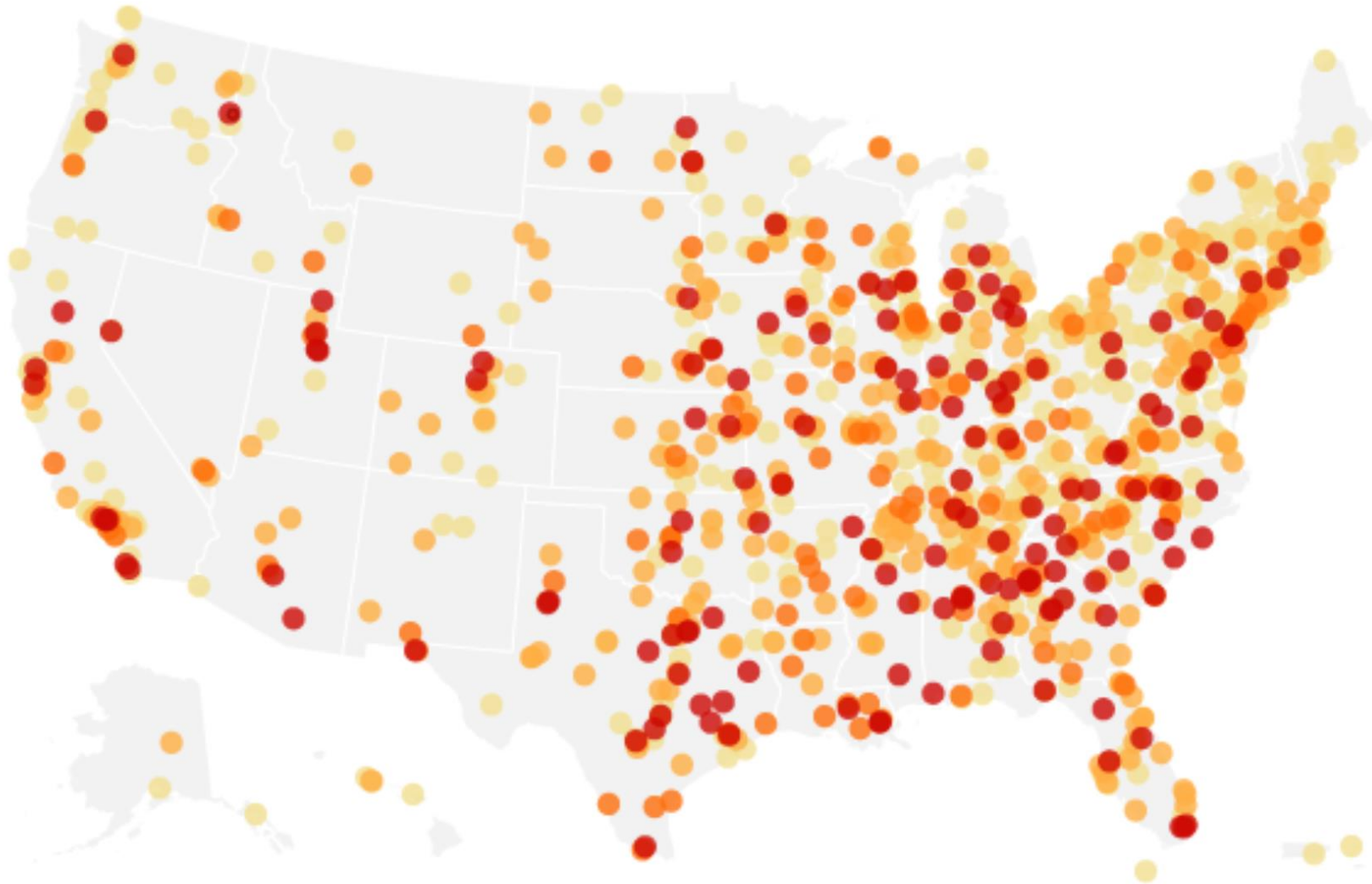
U.S. hot spots ›

Average daily cases per 100,000 people in the past week

Few or no cases

College cases ›

**Colleges with coronavirus cases since the pandemic began**

● 100 or more cases   ● 50-99 cases   ● 10-49 cases   ● Fewer than 10 cases

Source: New York Times, Sept. 15, 2020

Note: Data is as recent as Sept. 10. Only schools with known cases are shown.

Daily Cases Trend

This graph shows a daily number of new COVID19 Cases (dots) over time in **Texas**. The graph also shows the moving average in daily number of Cases (line) over time. In the past week, there has been a **3.37% increase** in cumulative Cases. Since Phase I reopening, there has been a **2169.82% increase** in cumulative Cases. Since Phase II reopening, there has been a **1262.51% increase** in cumulative Cases.
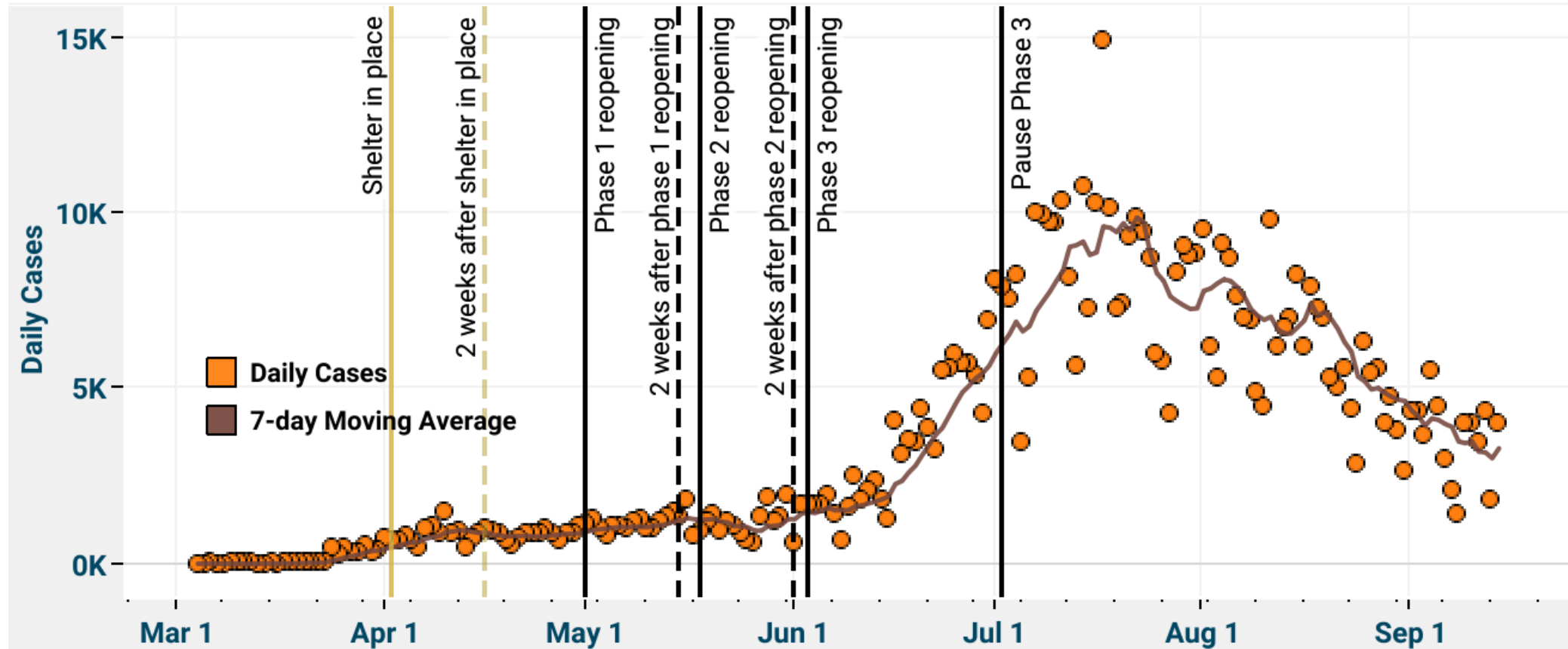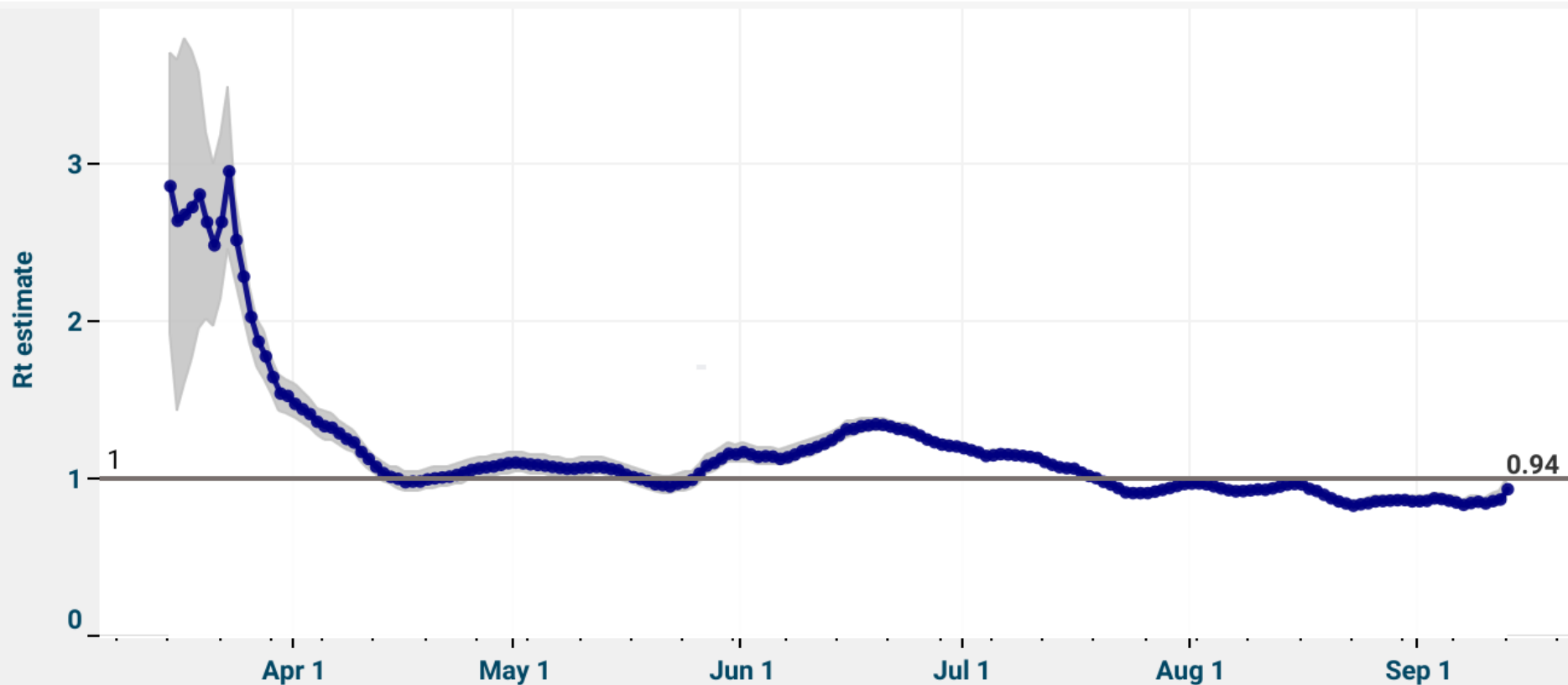

View Daily Cases Trend for multiple Counties, TSAs, PHRs or Metro/non >

Source: www.texaspandemic.org

Rt estimate

This graph shows the R(t) over time. R(t) is a measure of contagiousness or how many people one COVID19 person infects. If R(t)>1, the epidemic is increasing. If R(t)< 1, the epidemic is declining. There is higher alert if the whole interval is above the horizontal line at 1. For **Texas**, the rate of contagiousness is **0.94**; the epidemic is **decreasing**.

View Rt estimate for multiple Counties, TSAs, PHRs or Metro/non >

Prediction of number of new cases in the next 10 days with 95% confidence intervals

Source: www.texaspandemic.org

September 13, 2020

AVERAGE DAILY COVID-19 TESTING METRICS BY WEEK ACROSS GREATER HOUSTON AREA

Data from Texas Department of State Health Services

Note: Public testing data for this chart may lag several weeks

— 7-day trend of % test positivity for COVID-19   ■ 7-day trend of daily # of tests performed
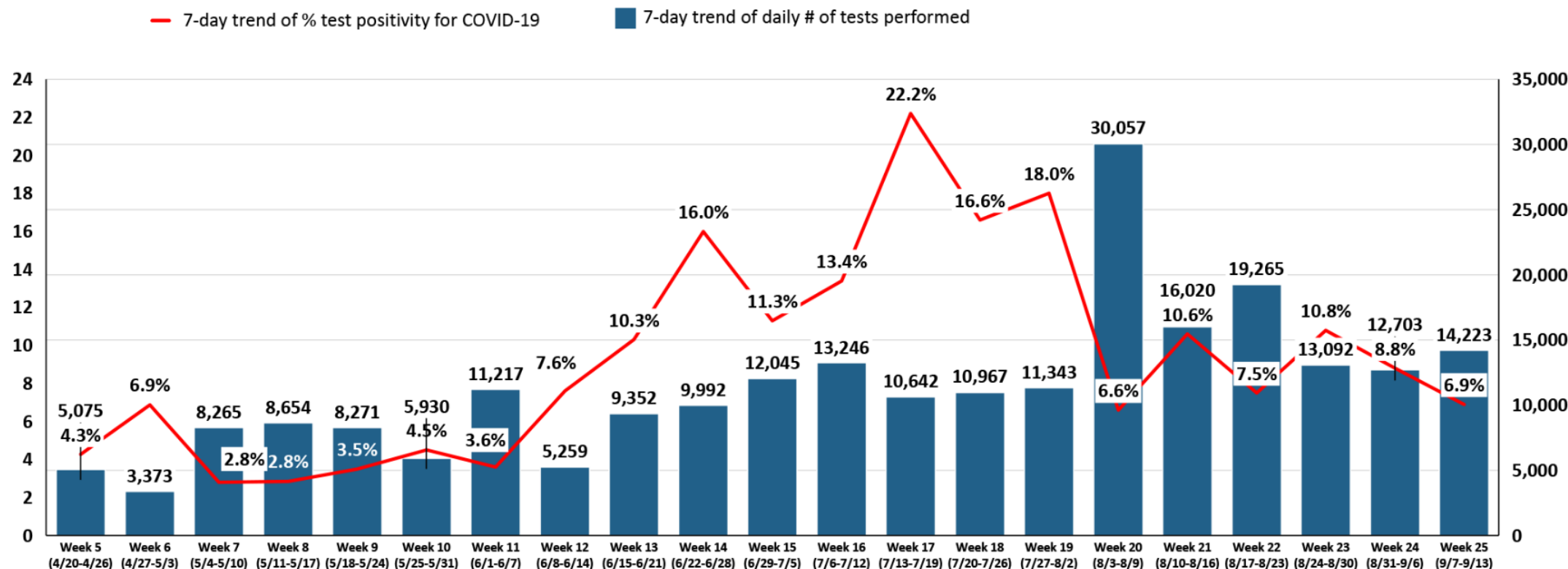
Source: TX Health and Human Services (https://dshs.texas.gov/coronavirus/AdditionalData.aspx)
Note: Excludes days with no tests reported
1. Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller

TMC | TEXAS MEDICAL CENTER
"TMC" refers to the group of systems that make up Texas Medical Center

Reflects retroactive changes in testing data made by Texas Department of Health and Human Services on 6/9/2020

This document is solely intended to share insights and best practices rather than specific recommendations. Individual institution data is shown as reported and has not been independently verified

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WE ARE WATCHING A SET OF EARLY WARNING SIGNALS TO INFORM FACT-BASED CONVERSATIONS ABOUT THE NEED FOR ADDITIONAL MITIGATION ACTIONS

🟢 No concern
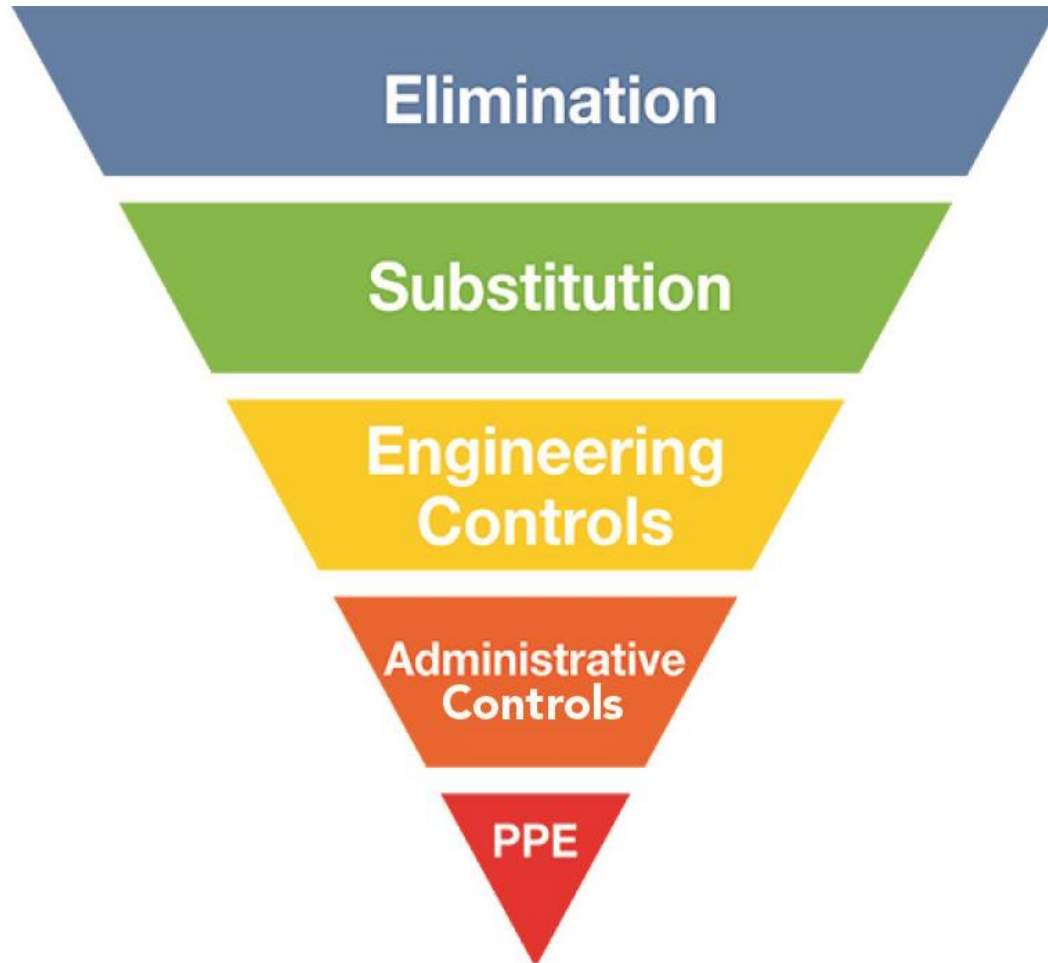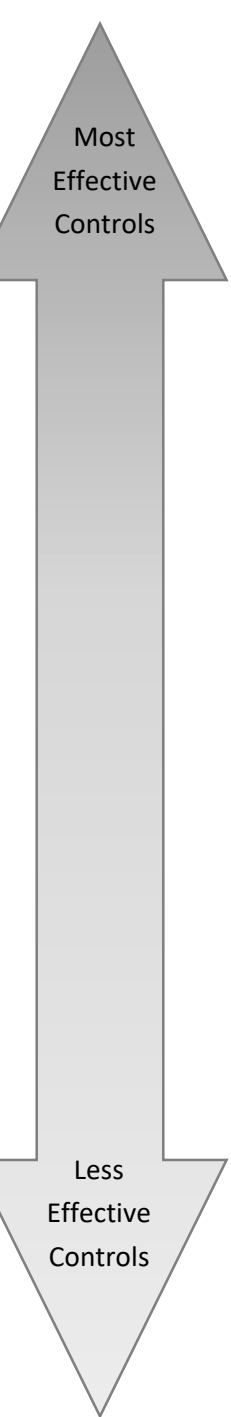🟡 Moderate concern
🔴 Warning

Monitoring metrics	Warning signals for Houston MSA	Current status
1 COVID-19 case growth trend	**Case growth trend can be used to suggest future peaks, focused on 7-day trend of:** • Upward trajectory of new daily cases • Upward trajectory of positive tests as a % of total tests	🟢 **0 days** of positive average growth in daily case trend 🟢 **0 days** of positive average growth in % tested positive for COVID-19 [2]
2 COVID-19 ICU census growth	**Recent growth of COVID-19 patients admitted to ICUs supports future ICU resource planning**	🟢 **-2.5% daily growth rate (averaged over 7 days)** in new COVID-19 positive patients requiring intensive care. Currently TMC institutions are able to serve all patients requiring intensive care • Today we are in **Phase 1** Intensive Care capacity
3 COVID-19 testing capacity (daily)	**At least 5,000-10,000 PCR tests per day** available for hospital patients and healthcare worker surveillance (with <48 hour turnaround)	🟢 **15,329** PCR tests per day (maximum) • **~2-48 hour** turnaround time
4 TMC System equipment & PPE needs	**30 days estimated based on current burn rate:** • **300K** N95 masks • **28M** gloves • **1.8M** gowns	🟢 **2.1M** N95 masks 🟢 **48.6M** gloves 🟢 **11.0M** gowns (disposable + reusable)

Note: These warning signals are focused on TMC care of patients and healthcare workers and should be viewed in full context of testing and tracing efforts from public health officials
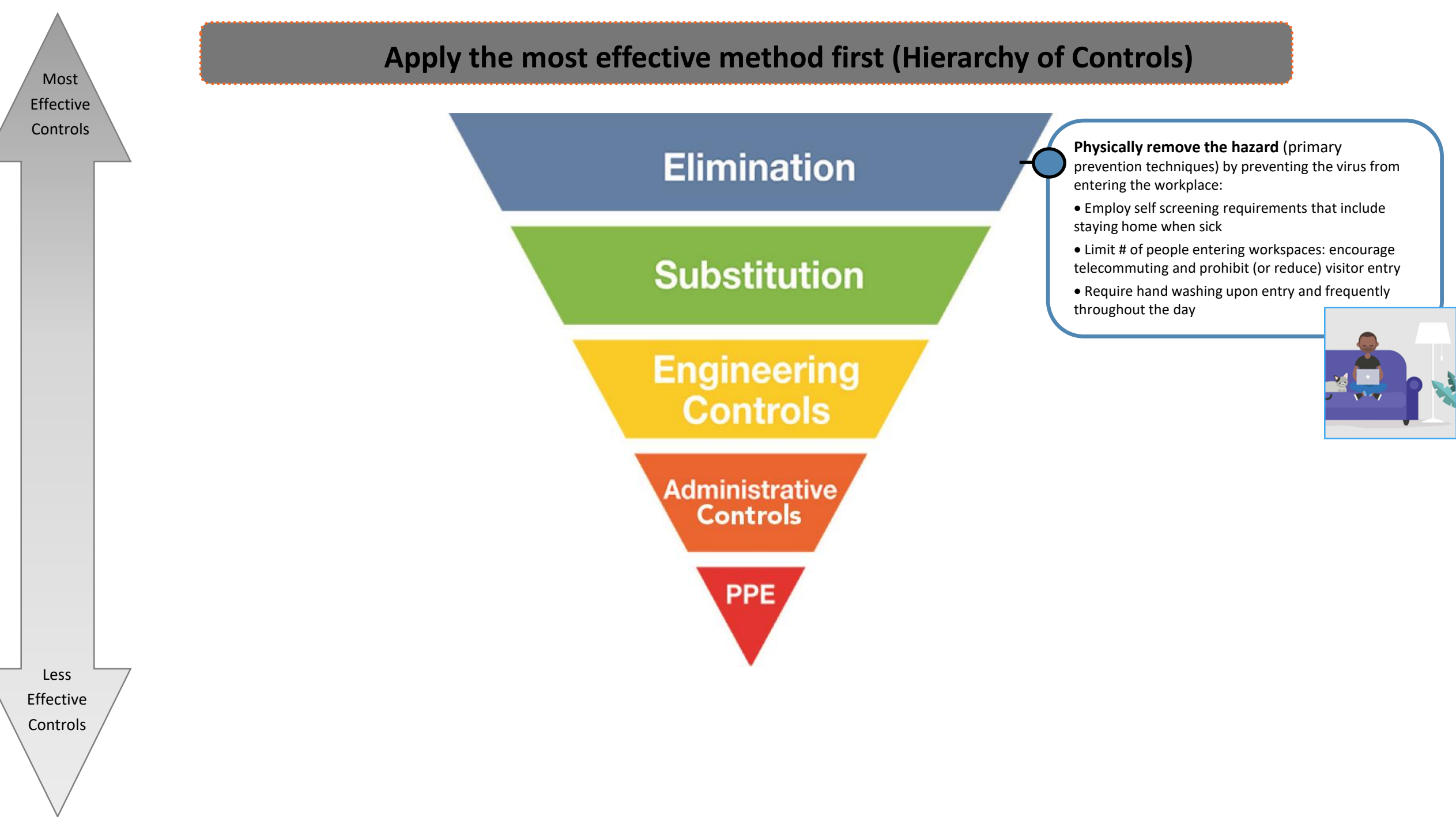1. Source: https://gov.texas.gov/news/post/governor-abbott-issues-executive-relating-to-hospital-capacity
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Apply the most effective method first (Hierarchy of Controls)

Most Effective Controls

Less Effective Controls

Elimination

Substitution

Engineering Controls

Administrative Controls

PPE

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Physically remove the hazard (primary prevention techniques) by preventing the virus from entering the workplace:

• Employ self screening requirements that include staying home when sick

• Limit # of people entering workspaces: encourage telecommuting and prohibit (or reduce) visitor entry

• Require hand washing upon entry and frequently throughout the day

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Isolate people from the hazard:

• Install physical barriers where possible, e.g., plexiglass screens

• Clean and disinfect surfaces, especially frequently touched surfaces, with an EPA-registered disinfectant (see EPA List N) and use according to the manufacturer's instructions

• Consider using HVAC technologies, e.g., increasing number of air exchanges per hour (fresh air), using in-line UV lights (remember maintenance costs)

EPA List N Tool

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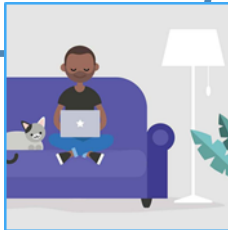
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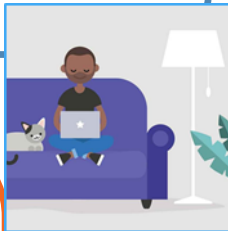
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Change how work is performed:

• Offer training: self-screening, telecommuting technology, hand hygiene, and resilience

• Practice social distancing: separate action stations at least 6 feet, use signage as reminders

• Organize in-person activities to minimize physical interactions

  • Stagger shifts

  • Create teams (pods)

• Limit the sharing of physical supplies and equipment, e.g., tools, equipment, toys, and other items

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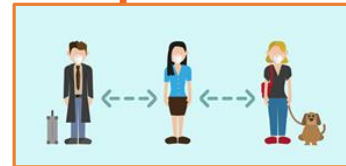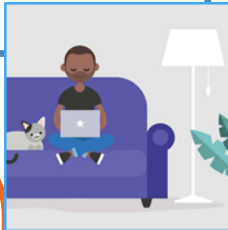• Require hand washing upon entry and frequently throughout the day

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Protect the worker from the hazard by using personal protective equipment (PPE)

• Designed to protect the wearer

• Learn to use, reuse, clean, disinfect, discard PPE

• Examples: respirators, gloves, eye protection

Apply the most effective method first (Hierarchy of Controls)

Most Effective Controls

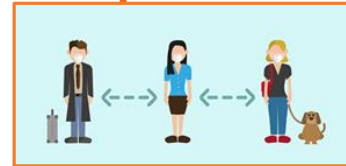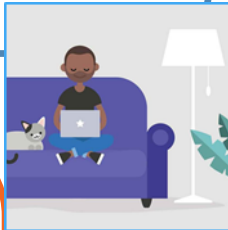**Less Effective Controls**
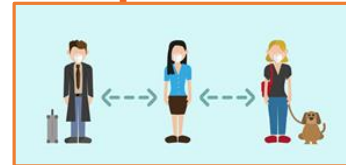
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PPE

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• Designed to protect the wearer

• Learn to use, reuse, clean, disinfect, discard PPE

• Examples: respirators, gloves, eye protection

CPE

Use community protective equipment (CPE)

• Designed to protect others from the wearer

• Learn to use, reuse, clean, disinfect, discard CPE

• Examples: cloth masks, scarves, disposable cloth masks

TESTING OPTIONS

Viral

➢PCR/Molecular

➢Antigen

Antibody

TESTING OPTIONS

✓ PCR

   ✓ Nasal swab test sent to a lab

   ✓ Checks for the actual virus in your body at the time of testing

✓ Antigen

   ✓ A point-of-care/in clinic quick test

   ✓ Checks for proteins found on the virus

TESTING OPTIONS

✓ Antibody

✓ A blood sample

✓ Checks for past exposure to the virus

✓ Indicates if you have antibodies as a result of the infection

PROS AND CONS

✓ PCR

✓ Deep nasal test (uncomfortable)

✓ Can take several days to get back

✓ Highly sensitive

PROS AND CONS

✓ Antigen

✓Deep nasal test (uncomfortable)

✓Less sensitive than a PCR test, but highly specific to positives

✓Results back within minutes to hours

PROS AND CONS

✓ Antibody

   ✓ Does NOT tell you if you have the virus at the time of testing

   ✓ May reflect immunity, but duration unknown

   ✓ Immunity may decrease or disappear over time

Considerations for Workplace Safeguards
Potential Drivers of Infection Risks

Role of
Environmental
Sources

Role of
Improper
Implementation
of Controls

Role of
Client
Interactions

Four Key Points for Today's Discussion

1. **Novel coronavirus: the term "novel" is really important**
   - Novel means <u>new</u>, so there are aspects about this virus that <u>are</u> known and that <u>are not</u> known
     - Example: transmissibility without exhibiting symptoms – hence the need for community masking
   - R_0 value is an important public health aspect to monitor – currently estimated to be 2.2
2. **Defining "screening"**
   - Screening actually begins at home
3. **"Masking" versus PPE**
   - Barriers to transmission
     - Face coverings
     - Surgical masks
   - Protection for the wearer (PPE)
     - N95s, P100s
     - PAPRs
4. **Cleaning/disinfection and environmental persistence**
   - This virus shown to be viable on stainless steel and plastic surfaces up to 72 hours
   - Ensure use EPA registered disinfectants

References

- **Surfaces Outdoor**

- Duan, S., 2020. *Stability Of SARS Coronavirus In Human Specimens And Environment And Its Sensitivity To Heating And UV Irradiation. - Pubmed - NCBI*. [online] Ncbi.nlm.nih.gov. Available at: https://www.ncbi.nlm.nih.gov/pubmed/14631830

- **Surfaces Indoor**

- Morris, Bushmaker and van Doremalen, 2020. *Aerosol And Surface Stability Of SARS-Cov-2 As Compared With SARS-Cov-1 | NEJM*. New England Journal of Medicine. Available at: https://www.nejm.org/doi/full/10.1056/NEJMc2004973

- **Cleaning Surfaces**

- Centers for Disease Control and Prevention. 2020. *Communities, Schools, Workplaces, & Events*. Available at: https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

- **Incubation Period and Infection**

- The National Academic Press. 2020. *Rapid Expert Consultation On SARS-Cov-2 Surface Stability And Incubation For The COVID-19 Pandemic*. Available at: https://www.nap.edu/read/25751/chapter/1

- https://www.medrxiv.org/content/10.1101/2020.03.05.20030502v1

- https://www.medrxiv.org/content/10.1101/2020.04.04.20053058v1

- **Additional Resources for Businesses**

- https://www.centerforhealthsecurity.org/our-work/publications/operational-toolkit-for-businesses-considering-reopening-or-expanding-operations-in-covid-19

- https://www.osha.gov/Publications/OSHAFS-3747.pdf

OSHA Enforcement

- ## Recordable
  - COVID-19: respiratory illness & should be coded as such on the **OSHA 300**
    - **Confirmed by:**
      - 1) one positive test; 2) work-related; 3) medical treatment beyond first aid, results in lost work days or restricted duty, **or** loss of consciousness or death
    - **Work-relatedness:**
      - *reasonableness of the employer investigation*
      - *evidence available to the employer*
      - *evidence that a COVID-19 illness was contracted at work*

- ## Reportable
  - Employer must report <u>any worker fatality</u> within 8 hours and any amputation, loss of an eye, or <u>hospitalization of a worker within 24 hours</u>

- ## Enforcement
  - Enforcement Response Plan
    - https://www.osha.gov/memos/2020-05-19/updated-interim-enforcement-response-plan-coronavirus-disease-2019-covid-19
  - Response Summary
    - https://www.osha.gov/enforcement/covid-19-data

Thank You!

www.SWCOEH.org   www.p2racademy.org   www.hasc.com