Welcome to the Front Lines
of the Fight Against COVID-19

A TOWN HALL CONVERSATION

We will begin at 10 a.m.

HOUSTON Methodist
LEADING MEDICINE

Providing Unparalleled Nursing Care

Liisa Ortegon, DrBA, MAA-OD, BSN

Senior Vice President Operations and Chief Nursing Executive

September 11, 2020

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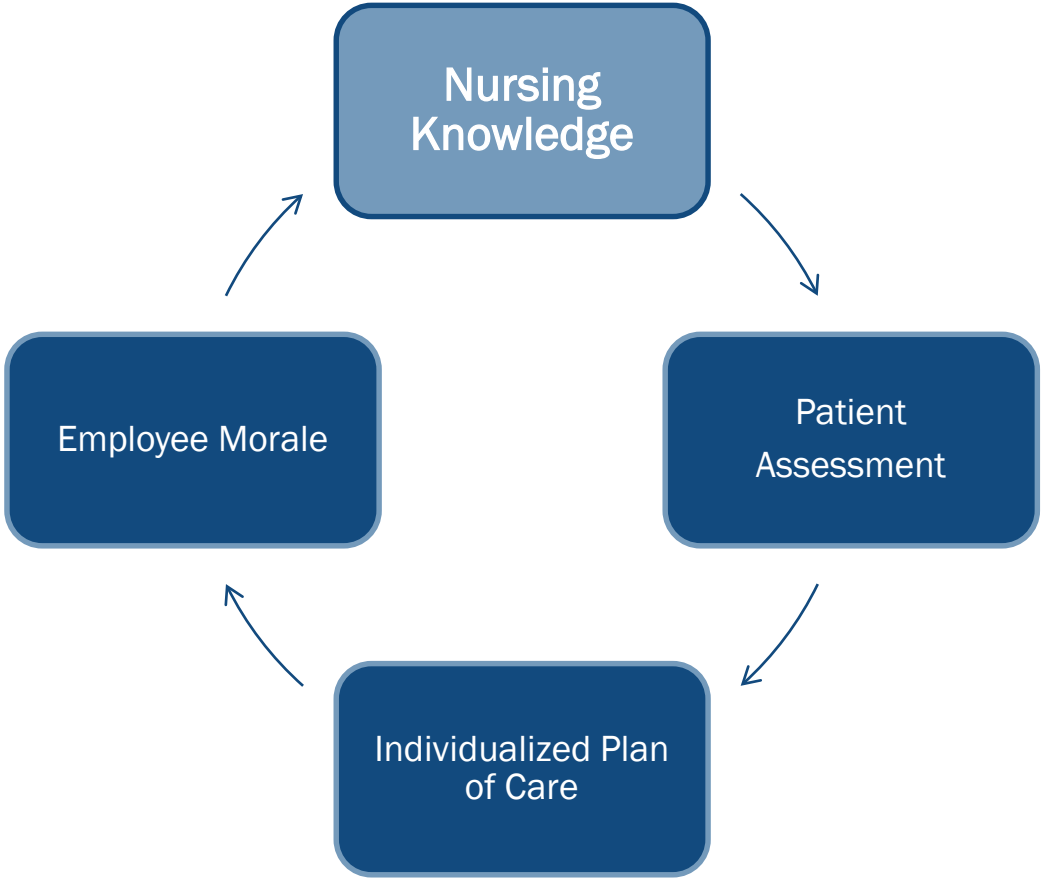
Providing Unparalleled Care



What It Takes to Be An HMH Nurse Today

- The Best and the Brightest
- Bachelor of Science in Nursing (BSN) – Minimum Requirement
- High-Level Critical Thinking and Judgement

HMH Diverse Nursing Team

To Serve Our Diverse Community

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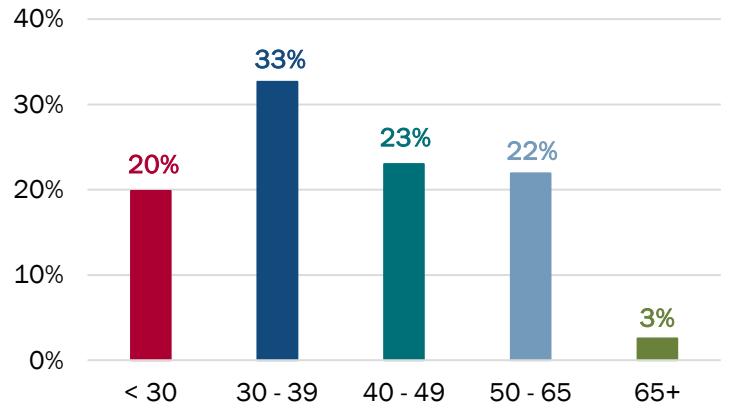
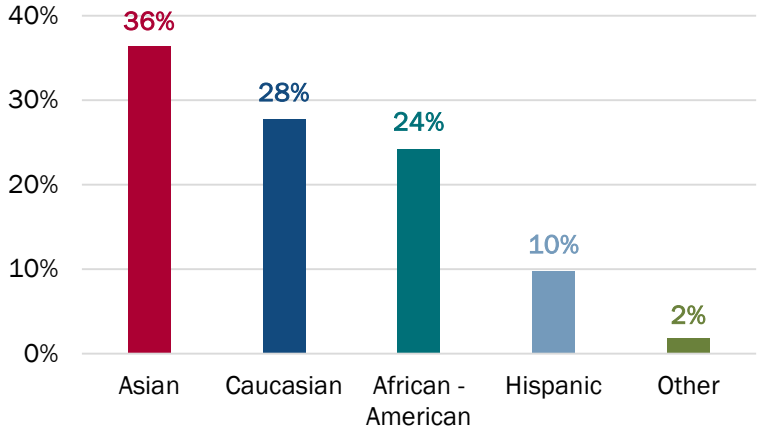
Age of RNs



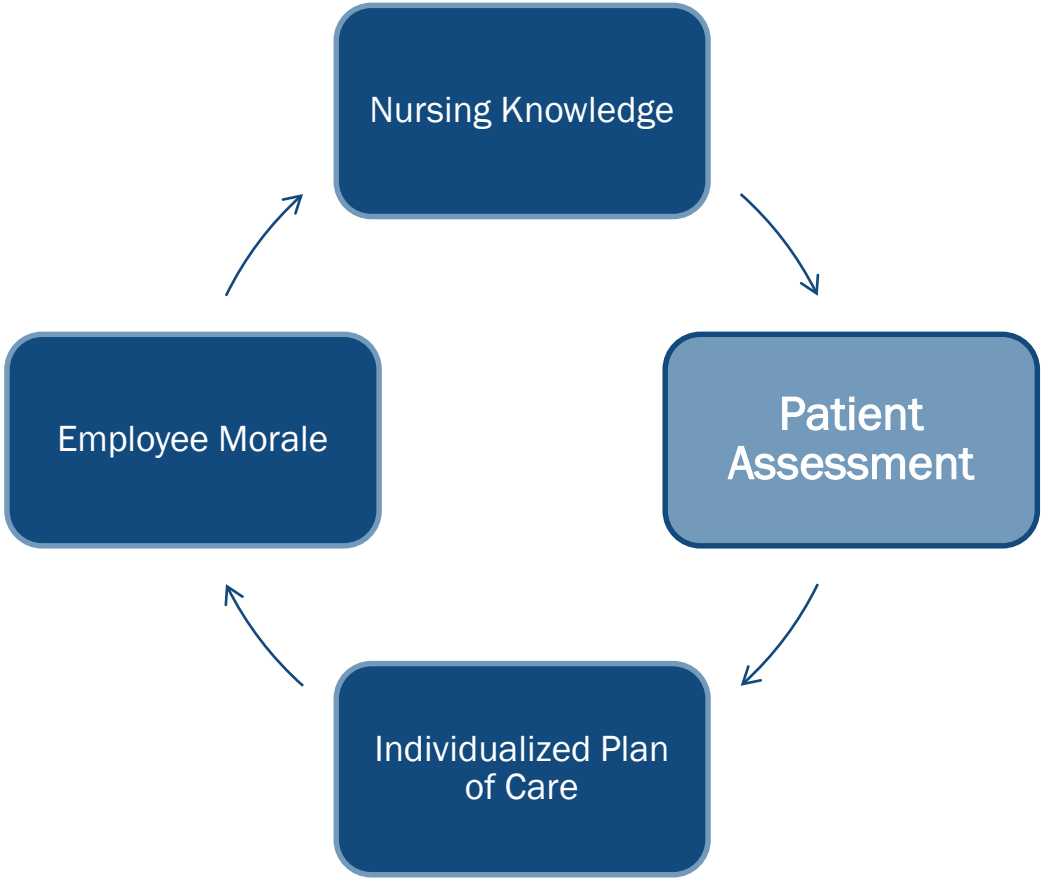
Ethnicity of RNs



Education of RNs

92% have a Bachelor's Degree	*National Benchmark – 71.1%*
7% have a Master/Doctoral Degree	*National Benchmark – 5.1%*

Patient Assessment



Patient Assessment

COVID: Information Overload

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Patient Assessment
Pandemic Reactions and Behavioral Symptoms

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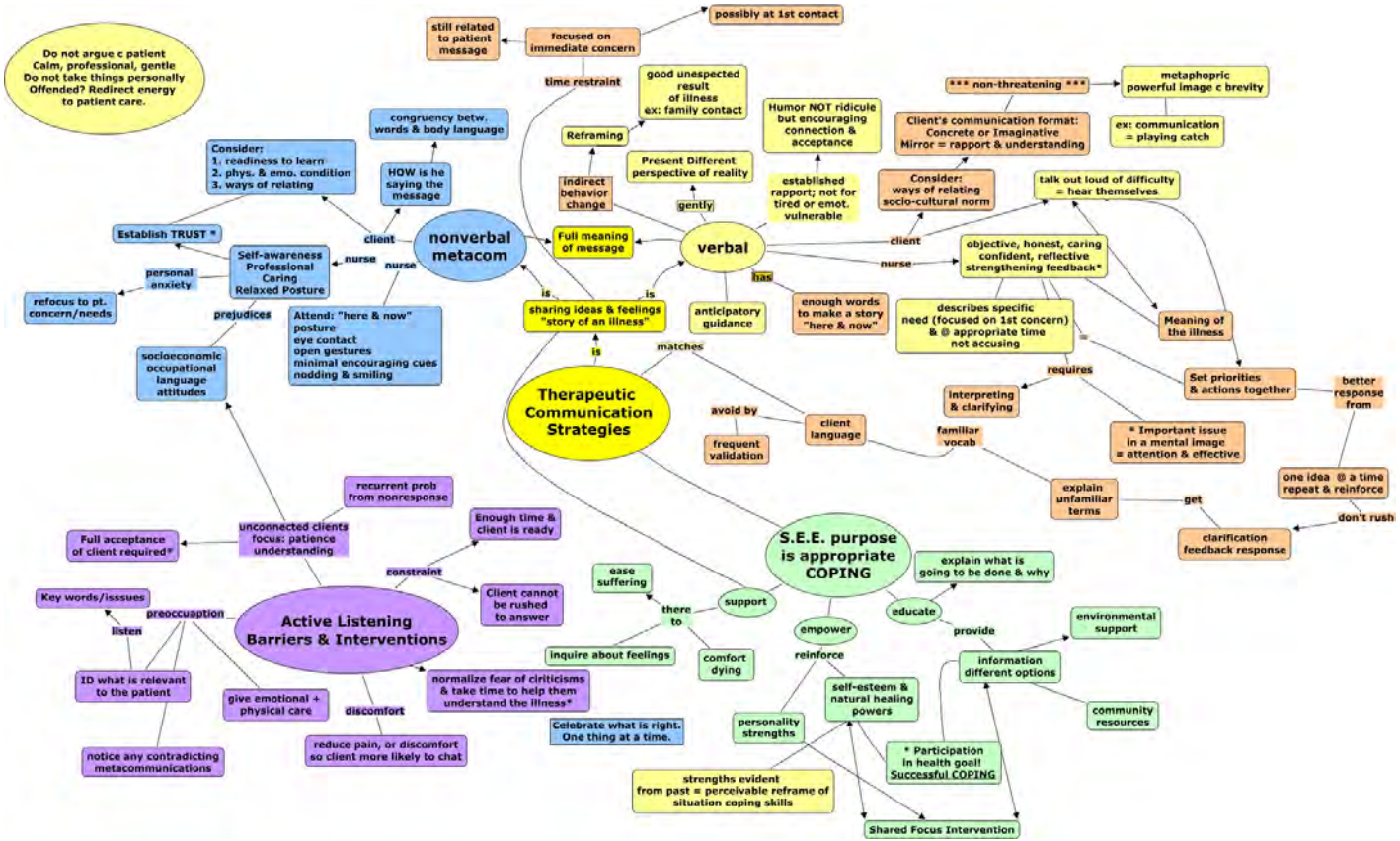
Figure 1: Reactions and Behavioral Symptoms in Disasters

Adapted from the Substance Abuse and Mental Health Services Administration (SAMHSA) [13]

Data from the Washington State Department of Health: COVID-19 Behavioral Health Group Impact Reference Guide (Published June 2020)

Patient Assessment
Communication



Patient Assessment
Communication and Observation

- ☐ Apathetic (Not/Ignore Environment)
- ☐ Moody Facial Expression
- ☐ Does Not Want to Take Care of Themselves
- ☐ Lack of Personal Hygiene
- ☐ Decreased Activity
- ☐ Lack of Self-Esteem

Patient Assessment
Loneliness and Social Isolation

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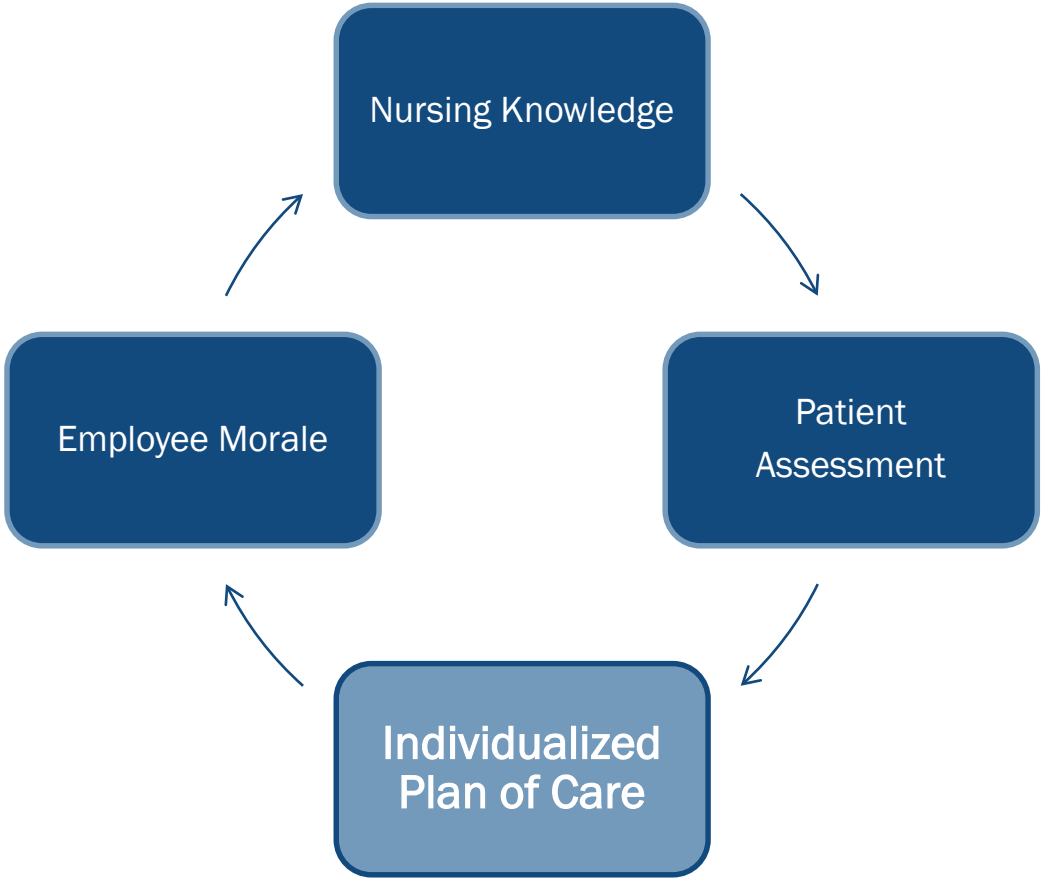
Anxiety

Family Responsibilities

Financial

Home School

Individualized Plan of Care



Individualized Plan of Care
COVID Toolbox

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Understand Plan of Care

- **Telerounding**
  - MD to Patient
- **RN Commit to Sit**
- **Spiritual Care Support**

Connect to Family or Significant Other

- **iPads**
  - Patient/Family Video Calls via Google Duo, Zoom, or WebEx
  - My Chart Bedside
  - Food Ordering Capabilities

Calming Techniques

- **Echo Dots**
  - Musical Entertainment
- **Movies (Personal Device)**
- **Relax Therapy**
- **Pictures of Family/Friends in Room**

Individualized Plan of Care

COVID Toolbox: End of Life

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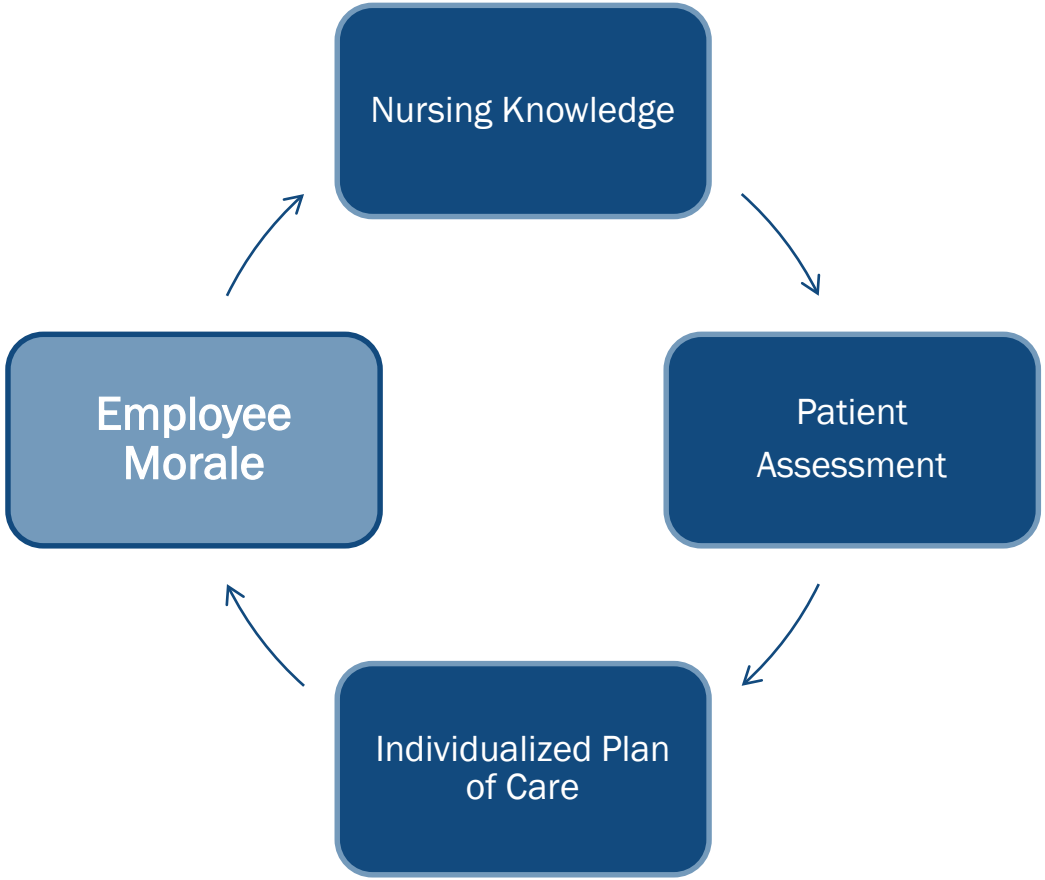
- Early Palliative Care
- Frequent Communication with Healthcare Team
- In-person Visits (Limited)
- Technology
- Music Therapies
- Spiritual Care Support
- Support Groups

Employee Morale



Employee Morale
Interventions

- Leadership Visibility
- Annual Shipt Memberships
- Thank You Cards
- Door Dash DashPasses
- Meal Donations
- Hero Day Bonus

Medical ICU: Wall of Gratitude

Employee Morale

Medical Executive Committee Nursing Proclamation

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For the past 100 years, the Nursing Staff at Houston Methodist Hospital has provided outstanding and empathetic care to all patients on the floors and critical care units. Over the past six months of the coronavirus pandemic, there has been extraordinary uncertainty, fear, stress, and anxiety about the health of your patients, your co-workers, yourselves, and your families. HMH nurses work diligently and selflessly on the frontlines of the COVID-19 pandemic in hand-to-hand combat with the virus. Your contributions to the health and well-being of our patients and our entire community are remarkable and wonderful. The physician staff of HMH wishes to celebrate and recognize the extraordinary women and men who devote themselves to this honorable profession.

Nursing is a special profession devoted to the compassionate service of others, especially in times when the need is the highest. Throughout the 100-year history of HMH, during floods, hurricanes, economic downturns, and epidemics, our nurses have rushed in regardless of danger, discomfort and personal jeopardy to provide help, healing, and comfort to our sickest patients.

At no other time in our history have the ICARE values of our nurses been demonstrated more than during the COVID-19 outbreak. In the midst of this emergency, HMH nurses have exhibited incredible examples of unselfish commitment, sacrifice, and kindness as they have cared for their fellow Houstonians and in many cases have saved lives.

In spite of fatigue and the ever-present danger to their own health, our nurses carry on and persevere in combat against this microscopic enemy. Often the first to touch our patients, nurses provide critical support to doctors, alleviating problems throughout the healthcare system. They are capable of overcoming unbelievable hardships, stress, extended shifts, and emotional exhaustion to alleviate their patients' suffering. Nurses are amazing and truly worthy of our admiration and heartfelt thanks.

Therefore, in recognition of the exceptional, compassionate, and truly miraculous care of our patients and their families, the Medical Executive Committee of Houston Methodist Hospital, on behalf of all the attending physicians, hereby officially recognizes our nursing partners. We call upon all members of the Houston Methodist Hospital family to express their thanks to the nursing staff with declarations of gratefulness and appropriate ceremonies.

Signed on July 28, 2020

Kelly Baker, M.D. Gavin Britz, M.D. Kirk Heyne, M.D. Tristi Muir, M.D.

Peter T. Nguyen, M.D. Robert Phillips, M.D. Mahesh Ramchandani, M.D.

Richard Robbins, M.D. R. Benjamin Saldana, D.O. Roberta Schwartz, Ph.D.

Stuart Solomon, M.D. Mas Takashima, M.D. Apurva Thakkar, M.D. Todd Trask, M.D.


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COVID-19 Impact on Behavioral Health

Ben Weinstein, MD

September 11, 2020

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The Scope of "*Annus Horribilis*"

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The COVID-19 pandemic has massive impact

- 1 in 1700 Americans have died
- 1 in 53 Americans have been infected
- 1 in 13 of American jobs are lost
- 1 in 8 Americans report substance abuse
- 1 in 3 Americans report depression and anxiety
- 1 in 10 Americans have considered suicide
- Calls to local hotlines are up 1600%
- Meadows Mental Health Policy Institute predicts 1500 additional Texans will die from suicide and overdose
- Antidepressant, anxiety medication, and alcohol sales are up 50%

Solus, et de potestate

"Alone, and out of control"

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The recipe for psychological distress…

- Isolation is the enemy of health
  - Live in a virtual world: work from home, schools closed
  - Avoid social gathering
- Fraying of society
  - Economy is unstable
  - Families fear losing loved ones, homelessness, hunger
  - Communities are divided and polarized
  - Lack of trust and faith
  - Information, misinformation, and disinformation
  - When will this end?

Impact on Healthcare workers

- Prior to COVID, 46% of physicians had at least one symptom of burnout
  - emotional exhaustion, cynicism, depersonalization, and low personal accomplishment
- Moral injury due to limited resources
- Fear of infection, fear of transmitting to loved ones, death of peers
- Up to 50% of people taking care of COVID-19 patients show signs of post traumatic stress
- Up to 50% show signs of depression
- Up to 70% report significant distress
- Anecdotal increase in suicide among nurses and physicians

COVID-19 infection's impact on our brain and mind

- Viral infection of brain, hypoxia, inflammation, stroke, medical interventions
- Short term
  - Encephalopathy and Delirium
  - Dysexecutive syndrome
- Intermediate term
  - 1 in 3 with COVID will experience psychological effects
  - "COVID fog," fatigue, traumatic memories, anxiety, depressed mood, irritability, insomnia, cognitive deficits in attention, concentration, and memory
  - Anxiety and mood disorder 15%, PTSD 32%
- Long term unknown

E Pluribus Unum

"Out of many, one"

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- We are in this together
- Restore a sense of unity
- Connect with friends and loved ones even if virtually
- Physical distance NOT social distance
- Re-connect with yourself
  - Who are you?
  - What do you believe?
  - What matters to you?

Opere et veritate

"In action and truth"

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- Slow Down
  - You cannot do everything at the same time
- Be present
  - Use mindfulness to connect to the moment
- Be open
  - To experiences good and bad, accept what we cannot control
- Do what matters
  - Act in accordance with your values
  - Show kindness and gratitude
- Self Care
  - Sleep, eat well, and exercise

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I CARE Values: Integrity, Compassion, Accountability, Respect, Excellence

- Emergency rooms and Inpatient Psychiatry are open
- Hospitalized patients have access to psychiatrists, therapists, and music therapists
- Virtual care for intensive programs of care
- Integrating behavioral health services into primary care clinics
- Working to improve access to care by partnering with the community
- Taking care of our doctors, nurses, and staff
- Actively collecting data on psychological impact following COVID hospitalization – in Houston and internationally
- Planning studies on inflammation and brain function

Cura Personalis

"Care for the whole person"

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If you are a patient or family member or friend in need of immediate assistance:

- **Disaster Distress Helpline**
  Call 800-985-5990 or text TalkWithUs to 66746
- **National Suicide Prevention Lifeline**
  Call 800-273-8255
- **Physician Support Line**
  Call 888-409-0141
- **Crisis Textline**
  Text TALK to 741741
- **Veterans Crisis Line**
  Call 800-273-8255 or text 838255
- **Texas COVID-19 Mental Health Support Line**
  Call 833-986-1919

- ACTMindfully free Mindfulness MP3 downloads
- Doing What Matters in Times of Stress from WHO


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Research in Treatments & Vaccines

H. Dirk Sostman, MD FACR

Town Hall September 11, 2020

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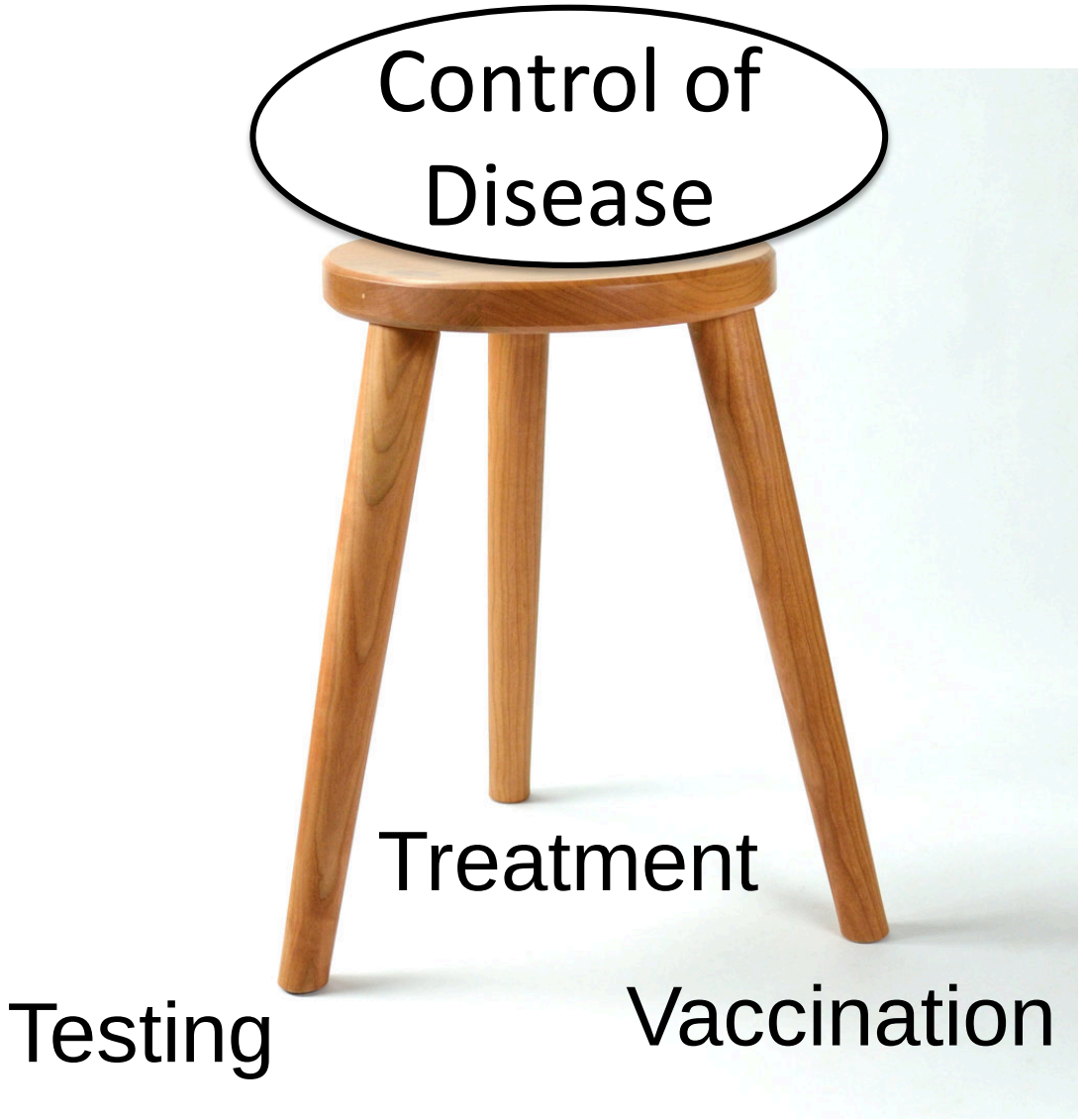
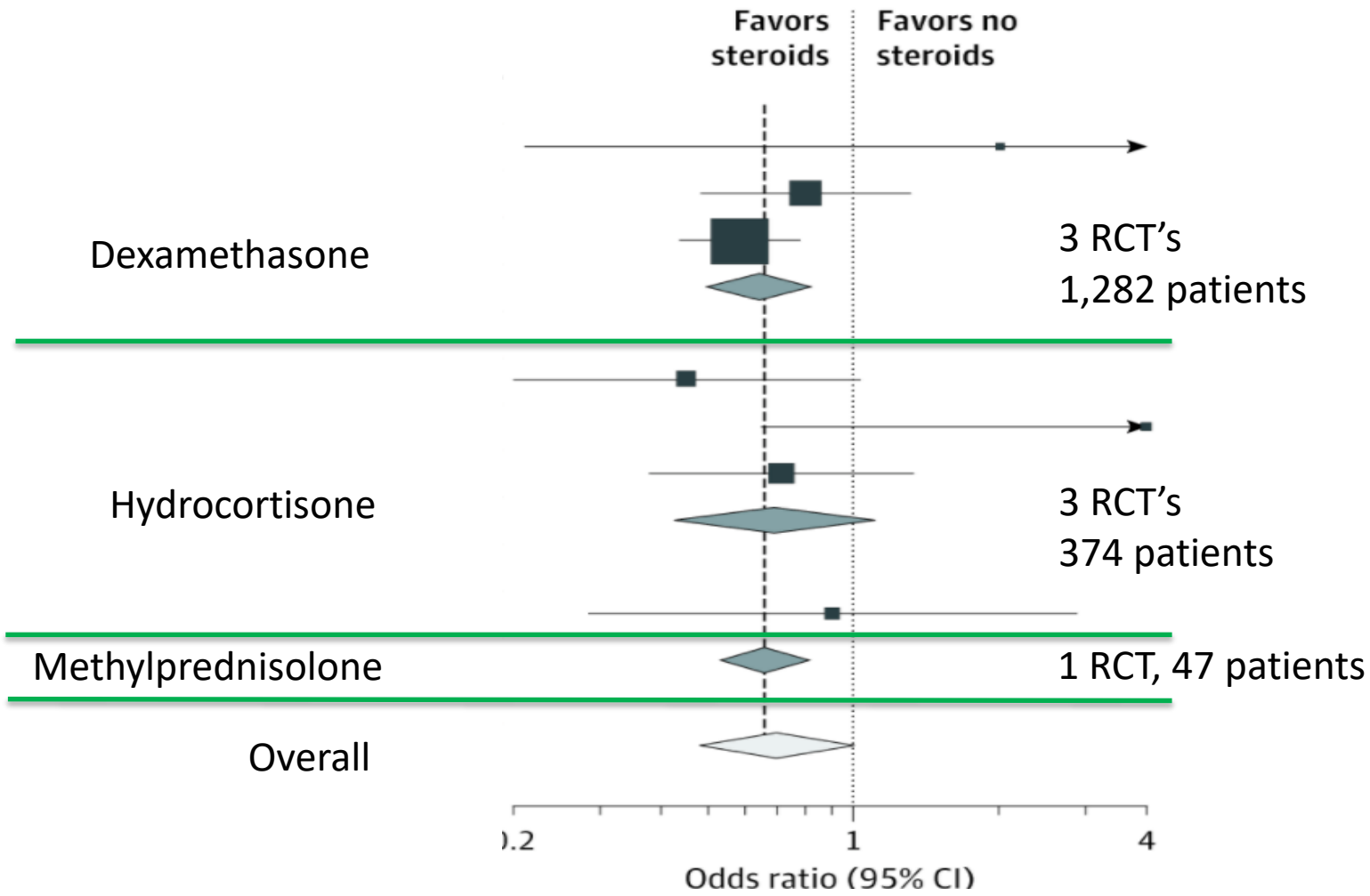
Controlling Infectious Disease



Meta-Analysis: Steroids and 28 Day Mortality

JAMA, August 2020



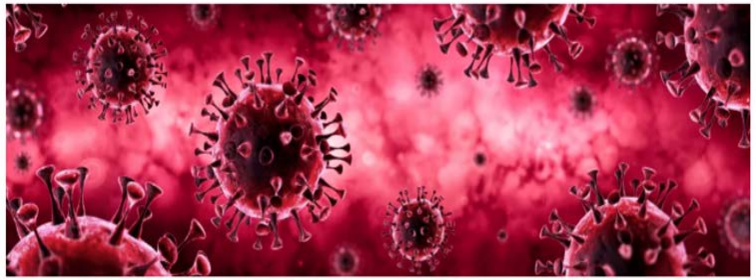
RECOVERY

Randomised Evaluation of COVID-19 Therapy

Low-cost dexamethasone reduces death by up to one third in hospitalised patients with severe respiratory complications of COVID-19

16 June 2020

Statement from the Chief Investigators of the Randomised Evaluation of COVid-19 thERapY (RECOVERY) Trial on dexamethasone, 16 June 2020



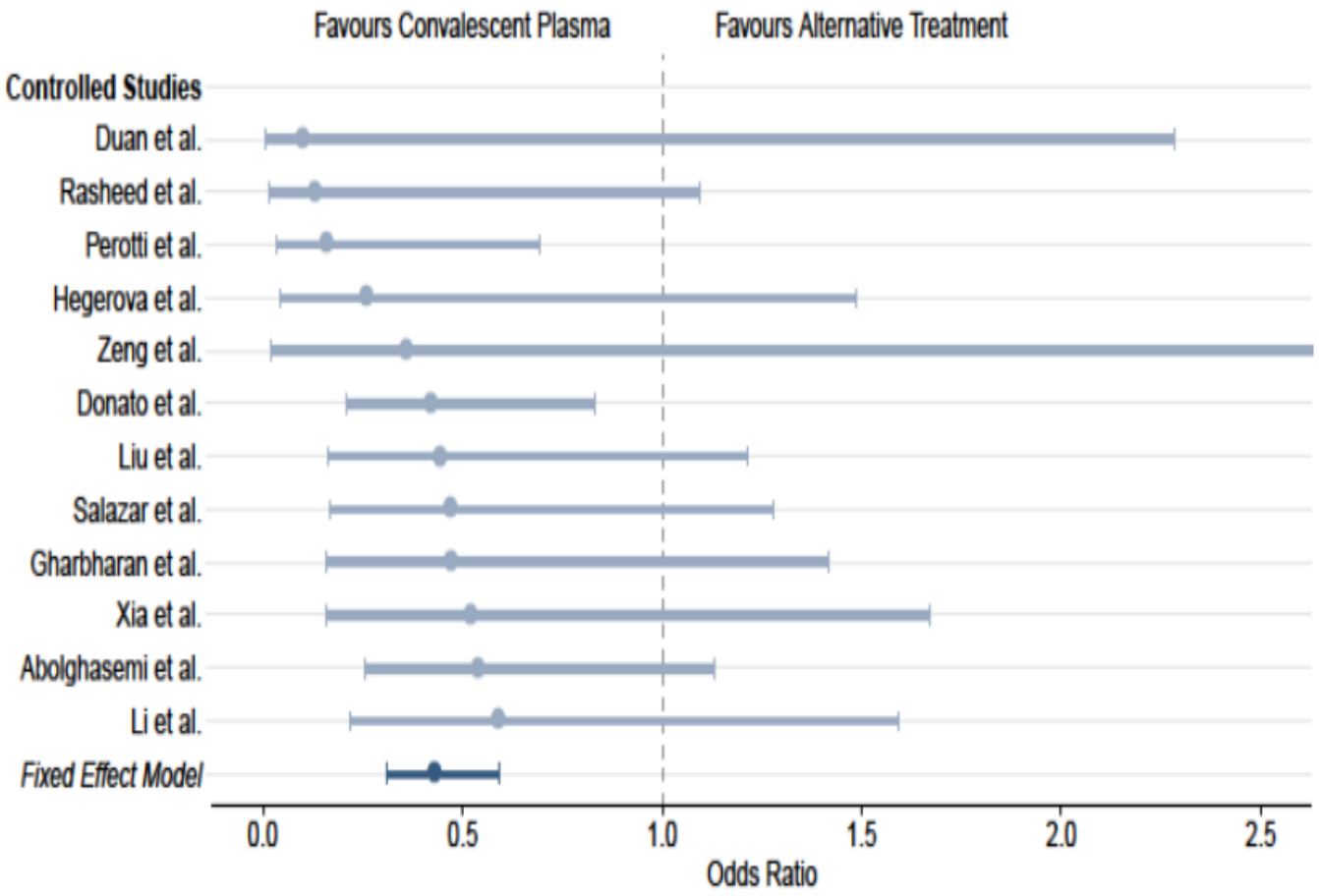
In March 2020, the RECOVERY (Randomised Evaluation of COVid-19 thERapY) trial was established as a randomised clinical trial to test a range of potential treatments for COVID-19, including low-dose dexamethasone (a steroid treatment). Over 11,500 patients have been enrolled from over 175 NHS hospitals in the UK.

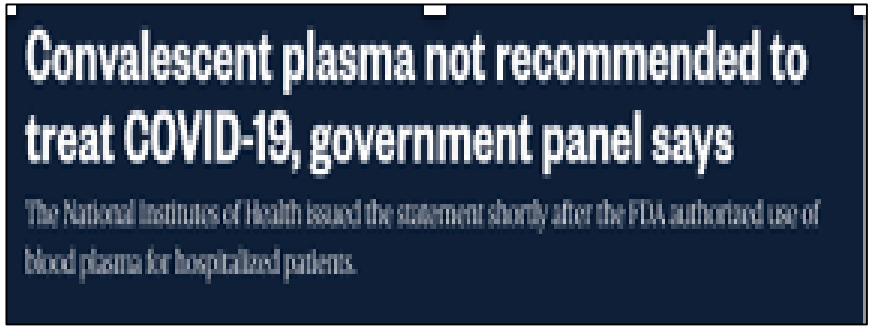
On 8 June, recruitment to the dexamethasone arm was halted since, in the view of the trial Steering Committee, sufficient patients had been enrolled to establish whether or not the drug had a meaningful benefit.

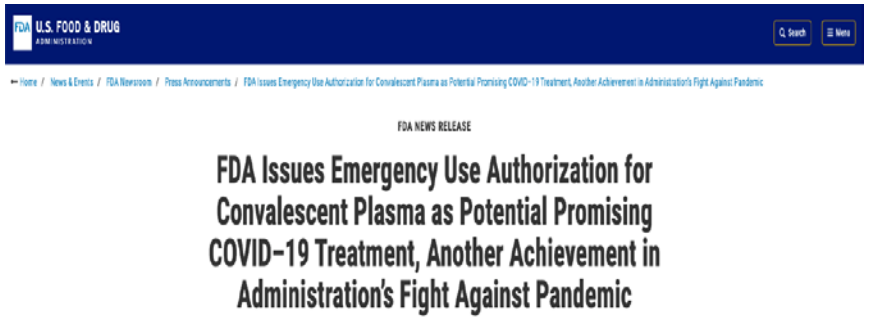
HM Clinical Trials – Anti-Viral Antibodies

Convalescent Plasma Meta-Analysis medRxiv August 2020

2 RCT, 10 cohort trials



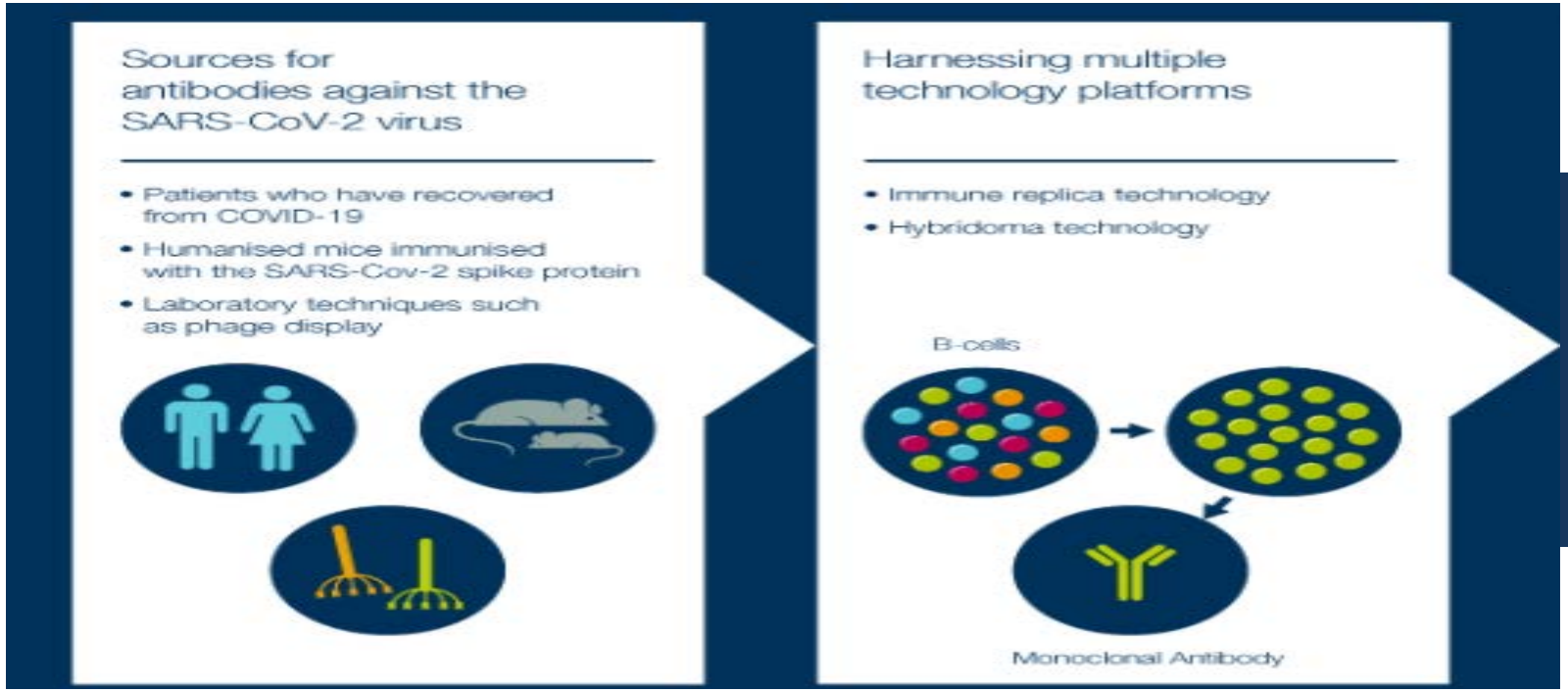




HM Clinical Trials – Anti-Viral Antibodies

- Monoclonal Antibodies
  - Regeneron – inpatient study recruiting, outpatient starting soon
  - Lilly – outpatient study recruiting, inpatient starting soon

Both of these are randomized controlled trials



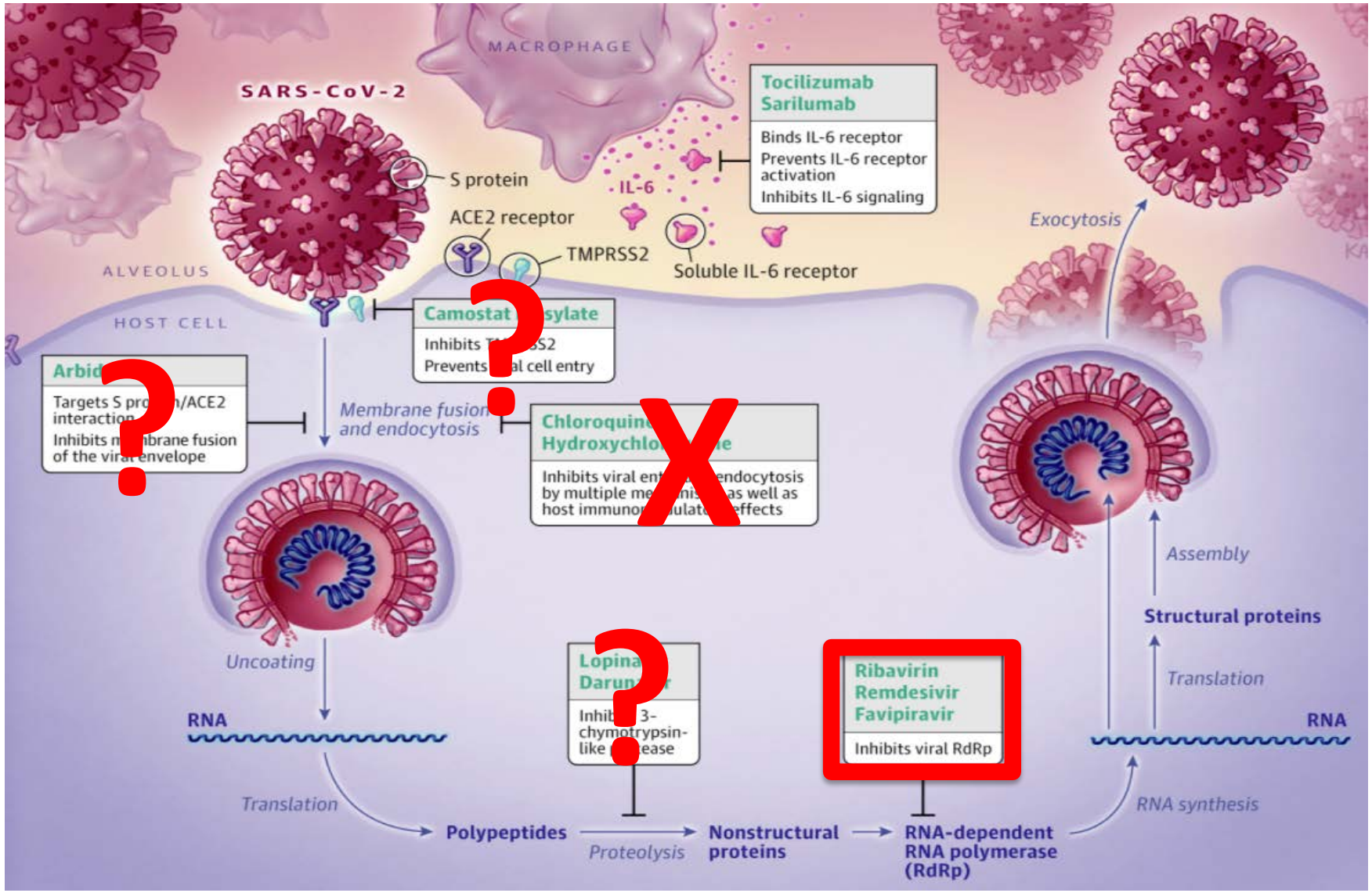
Safety and efficacy trials

HM Clinical Trials – Anti-Viral Drugs

- ACCT3: NIH sponsored RCT
  - remdesivir + beta - interferon
  - Interferons are broad spectrum anti-viral proteins
  - Also used to treat cancer, MS, hepatitis
  - Covid-19 seems to suppress this defense mechanism

HM Clinical Trials – Anti-Viral Drugs

- Favipiravir
- AT-527
- MK-4482 / EID-2801
- All inhibit viral RNA polymerase
- Oral medications – could be given to outpatients; outpatient trials may begin soon
- Lots of other targets yet to explore!



A Few Words About Immunity & Vaccines

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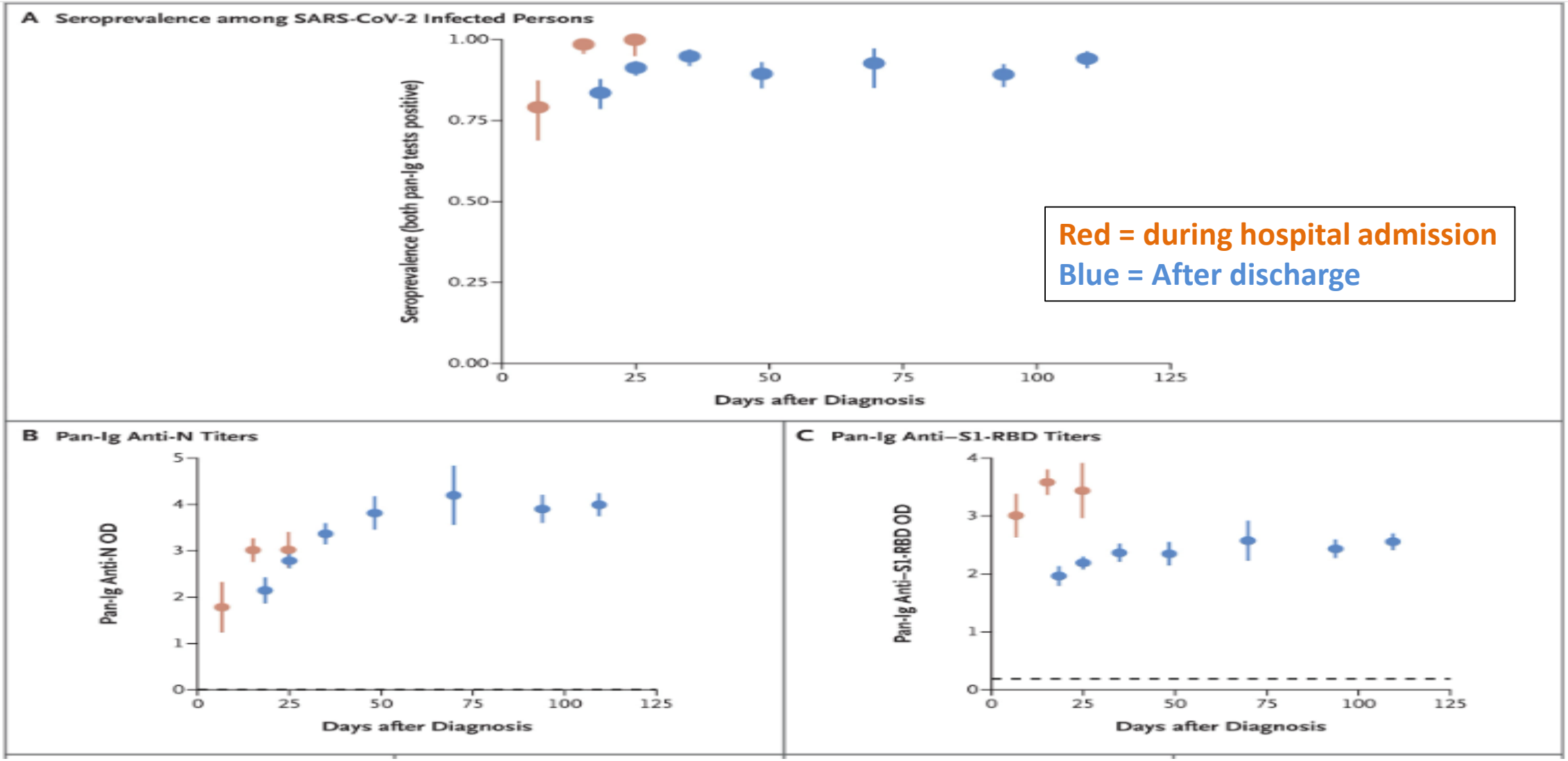
Herd Immunity

- Fraction needed to be immune depends upon Rt of virus
  - H = (1 – 1/Rt)
  - Measles: Rt = 18
    - H = (1 – 1/18) = 94%
  - Covid-19: Ro = 3
    - H = (1 – 1/3) = 67%
  - Covid-19: Rt = 1.1
    - H = (1 – 1/1.1) = 8%
- Rt depends upon many factors – especially behavior
- Ro is a special case, when
  - no one has been vaccinated
  - no one has had the disease before
  - there's no way to control the spread of the disease

Antibodies After Covid-19 Infection

Humoral Immune Response to SARS-CoV-2 in Iceland; NEJM 2020



Immunity without Infection or Vaccination?

- Karolinska Covid-19 Study Group
  - Patients with asymptomatic or mild Covid-19
  - Antibody negative or antibody positive – had robust T cell immunity
- Mateus et al Science 2020
  - 24% of SARS-CoV-2 patients had T cells reactive to endemic HCoV (human common cold coronaviruses)
  - HCoV-OC43, HCoV-HKU1, HCoV-NL63, HCoV-229E
- Le Bert et al Nature 2020
  - T cell reactivity in 100% of recovered Covid-19 and 100% of SARS patients
  - T cell cross-reactivity to SARS-CoV-2 in 53% of non-exposed individuals
- Grifoni et al Cell 2020
  - CD4+ and CD8+ T cells in 100% and 70% of convalescent COVID patients
  - T cell cross-reactivity to SARS-CoV-2 also detected in 36% of non-exposed individuals

Vaccine Progress – Antibody and T Cell Responses

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Vaccine	Antibody Response	T Cell Response	Species	N of Doses	Protection (Monkeys)	EUA Target
Moderna	100% (2x – 8x CP)	100%	Human	2	Infection	December 2020
Pfizer / BioNTech	100% (5x – 30x CP)	94%	Human	2		October 2020
J & J	100%	83%	Monkeys	1	Infection	Q1 2021
Oxford / Astra Zeneca	100% (= CP)	100%	Human	2	Disease	September 2020 **PAUSED**
Novavax	100% (2x CP)	100% (subgroup)	Human	2		December 2020

CP = convalescent plasma

Vaccine Scenarios

- Scenario 1
  - Vaccine 90% effective, few side effects
  - “Silver Bullet”
- Scenario 2
  - Vaccine 50% - 60% effective, few side effects
  - Useful, but need to pair with testing, treatment, precautions
- Scenario 3
  - Vaccine < 50% effective
  - Need to wait for next generation of vaccines
  - Need to pair with testing, treatment, precautions
- Scenario 4
  - Vaccine has side effects
  - Need to wait for next generation of vaccines
  - Safety testing will take **much** longer
  - Need to pair with testing, treatment, precautions

Winter is Coming

TIPS: Covid-19 in Winter

- Humidify indoor air (40% - 60% relative humidity at 70 - 75 F)
- Ventilation of indoor air
- Wear face mask to keep nose warm and moist
- Vitamin D supplements if levels low (Meltzer et al, JAMA September 2020)
- Wash hands to prevent indirect contact transmission
- Get plenty of sleep
- **Get your flu shot!**


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COVID-19 Update

September 11, 2020

HOUSTON Methodist
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TMC Early Warning Signs Dashboard

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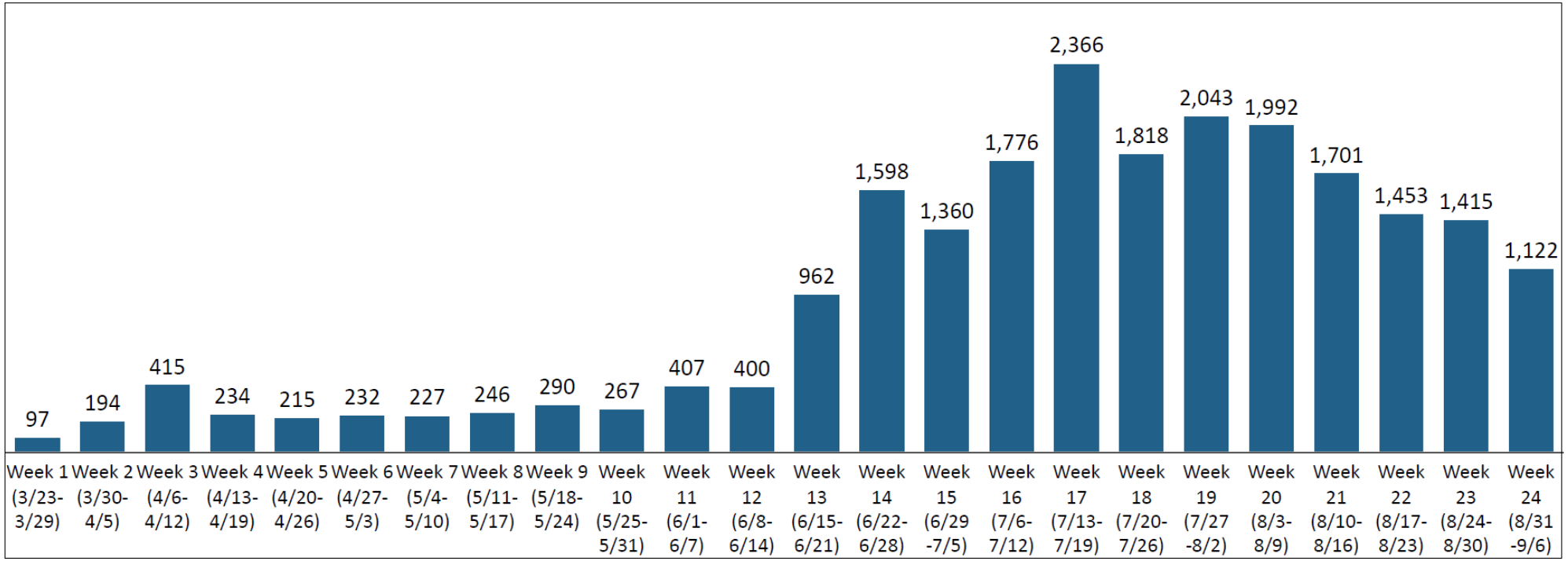
1 COVID-19 CASE GROWTH TREND

September 9, 2020

AVERAGE DAILY NEW COVID-19 POSITIVE CASES BY WEEK (MONDAY-SUNDAY)

 # Daily average new cases in Greater Houston Area[1]



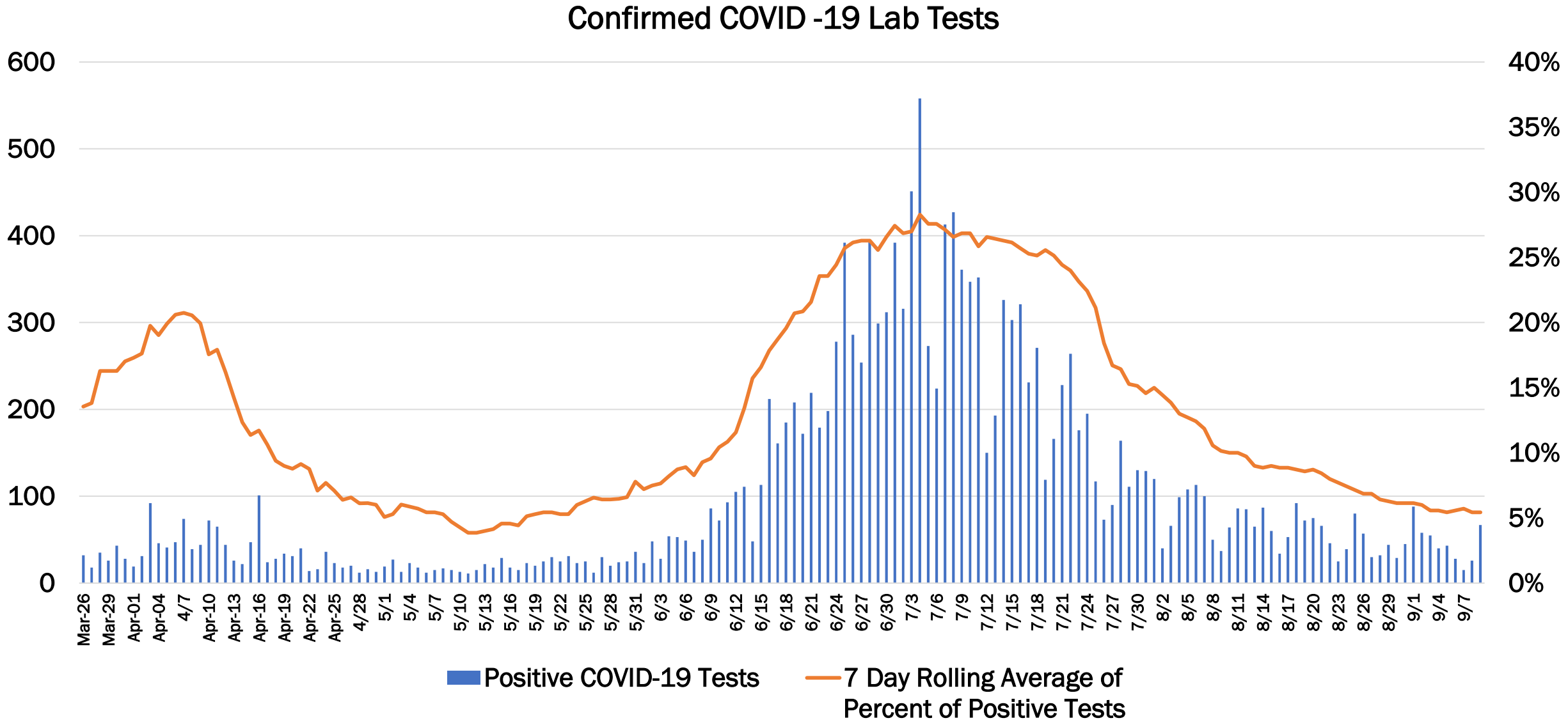
1. Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller

TMC | TEXAS MEDICAL CENTER

"TMC" refers to the group of systems that make up Texas Medical Center

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

Houston Methodist Testing Trend



TMC Dashboards

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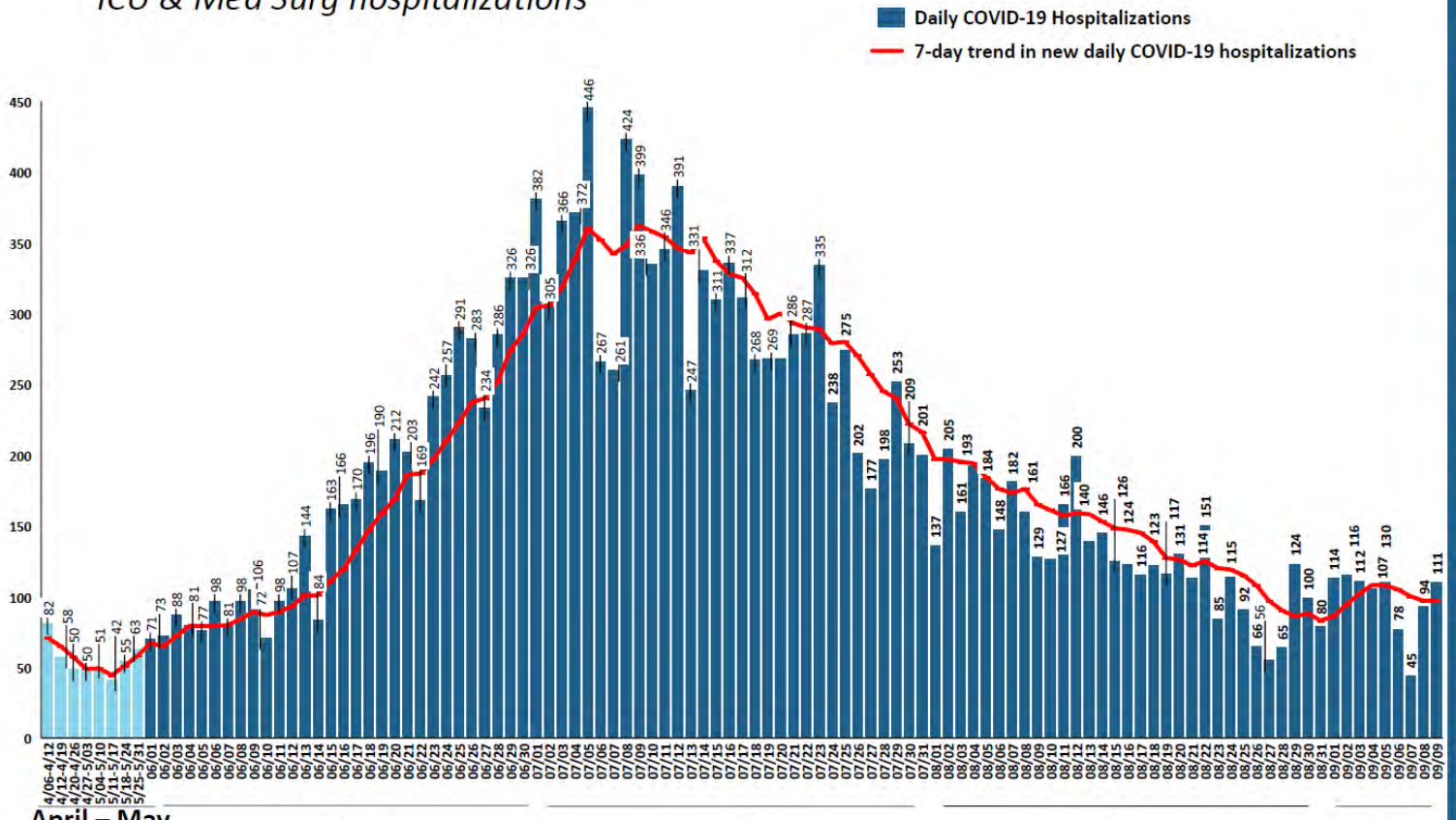
1 DAILY NEW HOSPITALIZATIONS

TMC DAILY NEW COVID-19 HOSPITALIZATIONS

ICU & Med Surg hospitalizations



TMC TEXAS MEDICAL CENTER Source: TMC institution clinical census

"TMC" refers to the group of systems that make up Texas Medical Center

September 9, 2020

Monitoring threshold:

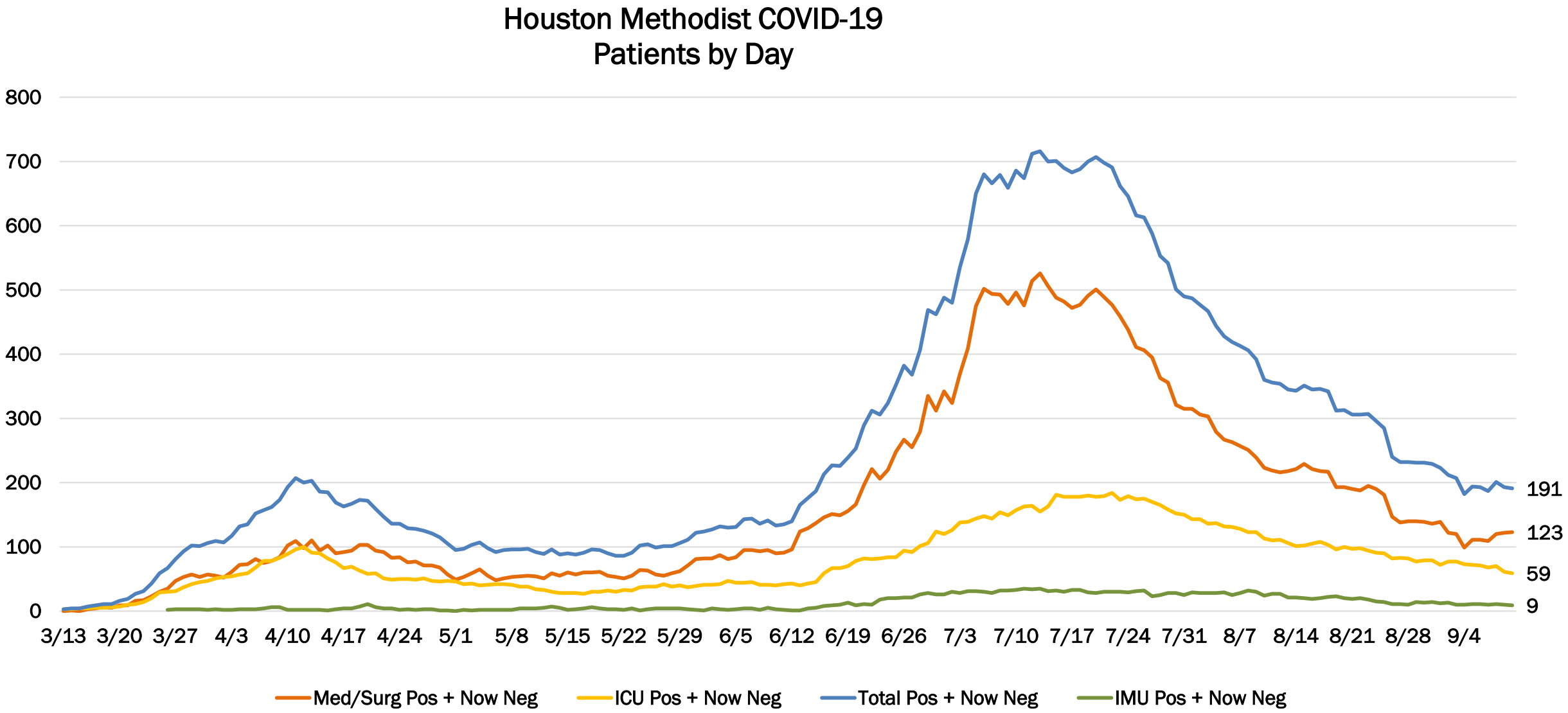
Threshold is exceeded by the occurrence of a positive daily growth rate, averaged over 7 days

Current status: 1.5% daily growth rate (averaged over 7 days) in the COVID-19 daily hospital admissions trend

Notes:

While new daily cases may fluctuate for a variety of reasons (e.g., testing), the daily hospitalization trend shows an objective view of how COVID-19 impacts hospital systems

Houston Methodist COVID-19 Cases by Day



Houston Methodist Current COVID-19 Stats

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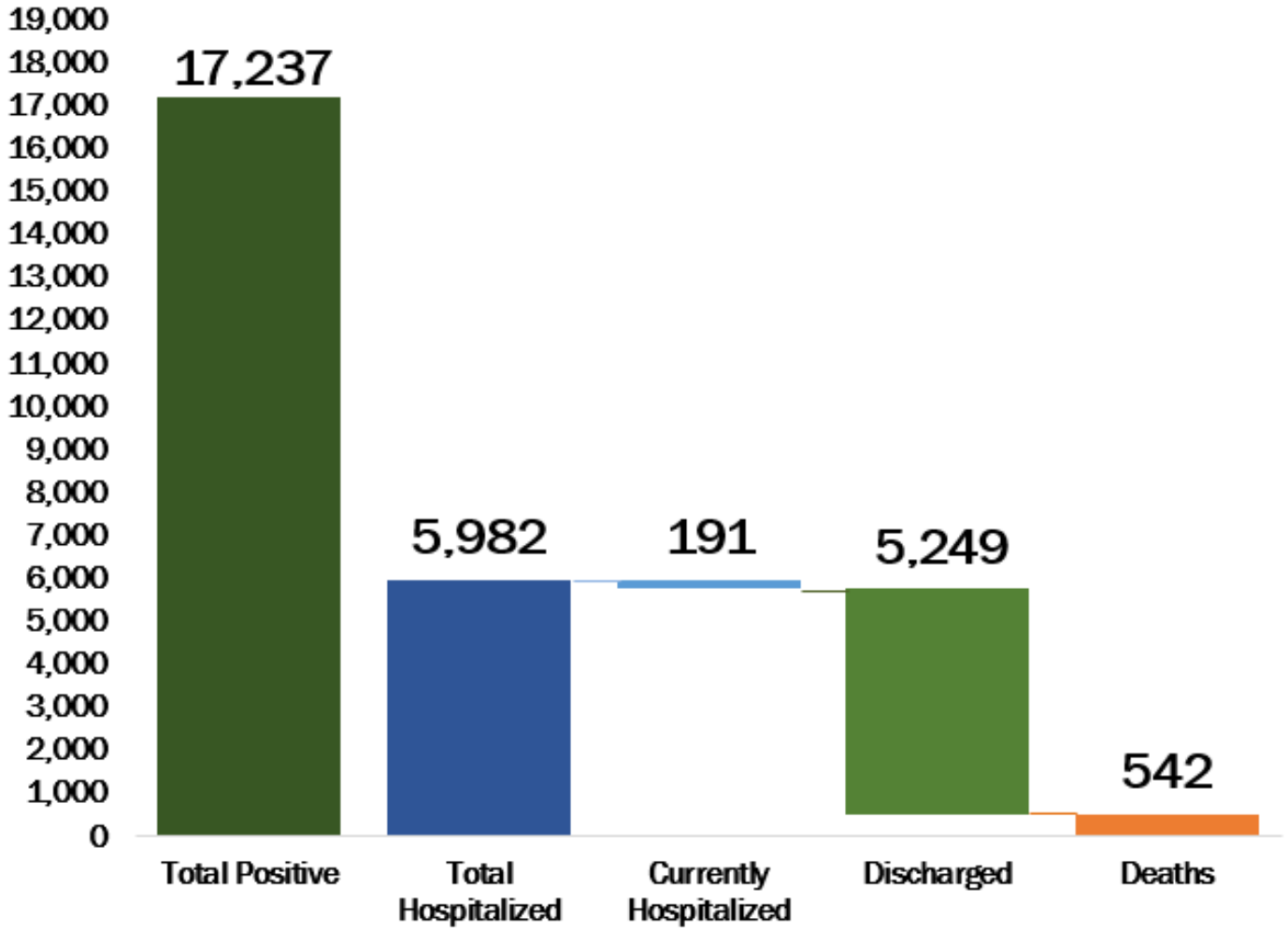
COVID-19 related patients through Houston Methodist as of September 10, 2020



Key Messages

- Houston Methodist has served 5,982 COVID-19 related in-patients to date.
- 5,249 patients have been successfully discharged.

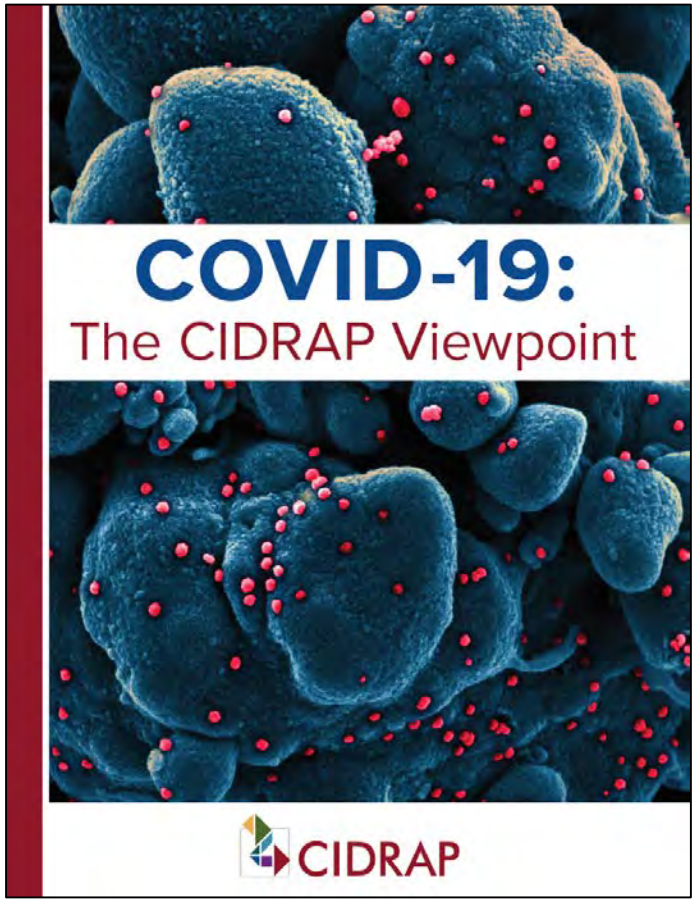
Data as of Sept. 10, 2020 at 7:00 pm

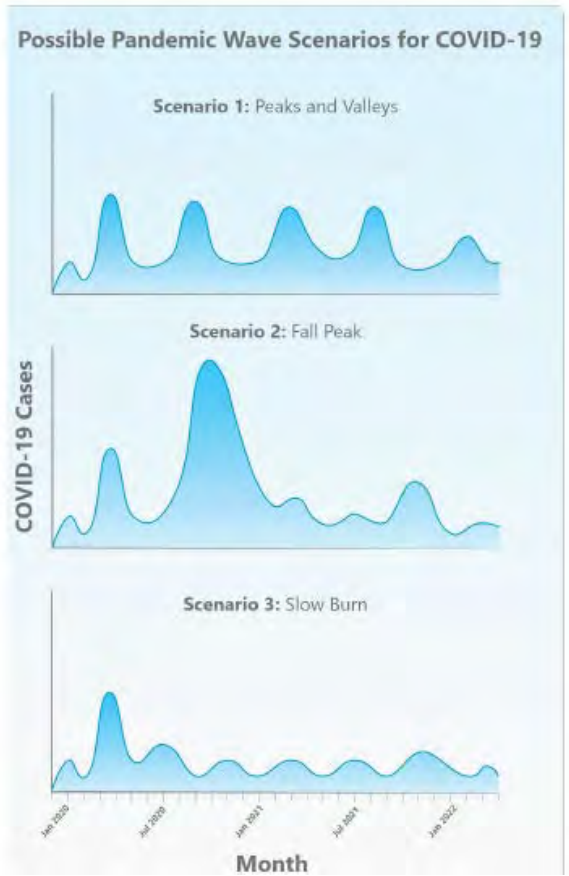
Is it conceivable that the COVID spike in hospitalizations that we saw in July represented the second peak that was predicted to come in the fall, and it just came earlier, and, therefore, there may be hope for the future?

How worried are you about a resurgence of COVID in the fall of 2020?

If or when there is another wave of the virus, will we have the necessary capacity? I'm interested to know about beds, equipment and PPE, but am very concerned that we may have burned out our highly dedicated and professional health care providers, the people and expertise that are essential to making it all work.

Possible Pandemic Scenarios





- 1918-1919 Flu
- 1957-1958 Flu
- 2009-2010 H1N1 Flu

"Whichever scenario the pandemic follows (assuming at least some level of ongoing mitigation measures), we must be prepared for at least another 18 to 24 months of significant COVID-19 activity, with hot spots popping up periodically in diverse geographic areas."

https://www.cidrap.umn.edu/sites/default/files/public/downloads/cidrap-covid19-viewpoint-part1_0.pdf

Can you clarify the current CDC conversation about 94% of COVID deaths involving co-morbidity and only 6% being "COVID only"?

What are your thoughts about the CDC announcement that of the 182,000 plus deaths, only 6% of the death certificates list it as the cause of death, and that 94% show other health conditions as factors? If this is accurate, why is this the case?

Will you speak to the recent CDC restatement in the # of COVID deaths from 180K to 9.5K? I have heard from a lot of people that this reinforces the COVID hoax theory. I believe I understand what they are doing but believe that the general audience needs to hear it from someone like Houston Methodist that can speak to the facts.

Is there any way to estimate how many COVID deaths were inevitable because of other conditions? That is, would 100,000 of the 180,000 COVID deaths, for instance, have died within a year because of their underlying conditions? Could this be an opportunity to highlight how important diet and exercise are? Could this be a great opportunity to highlight wellness as a lifestyle?

Cause of Death – COVID 19

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How Death Certificates Work

When a person dies, the cause of death is determined by the certifier – the physician, medical examiner, or coroner who reports it on the death certificate. States register all death certificates and send them to the National Center for Health Statistics (NCHS), where they are used to produce the nation's official death statistics.

Certifiers are asked to use their best medical judgment based on the available information and their expertise. When a definitive diagnosis cannot be made, but the circumstances are compelling within a reasonable degree of certainty, certifiers may include the terms "probable" or "presumed" in the cause-of-death statement.

Cause of Death and COVID-19

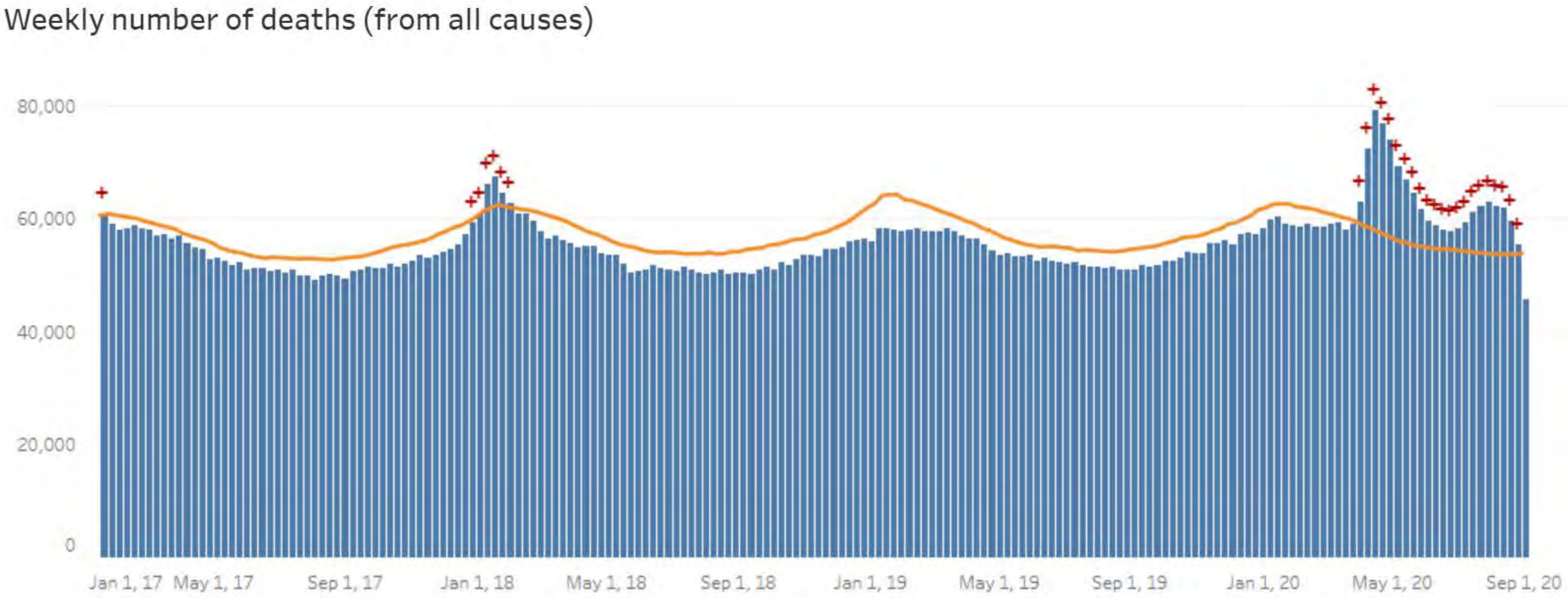
When COVID-19 is reported as a cause of death on the death certificate, it is coded and counted as a death due to COVID-19. **COVID-19 should not be reported on the death certificate if it did not cause or contribute to the death.**

"Two-thirds of death certificates contain more than one cause of death which can be used to explore disease interactions. Chronic diseases such as Diabetes and Hypertension have the most number of multiple causes of death."

"If COVID-19 contributed to the death, it should be listed on the death certificate and counted as a COVID-19 death, even if there were other factors associated with the death."

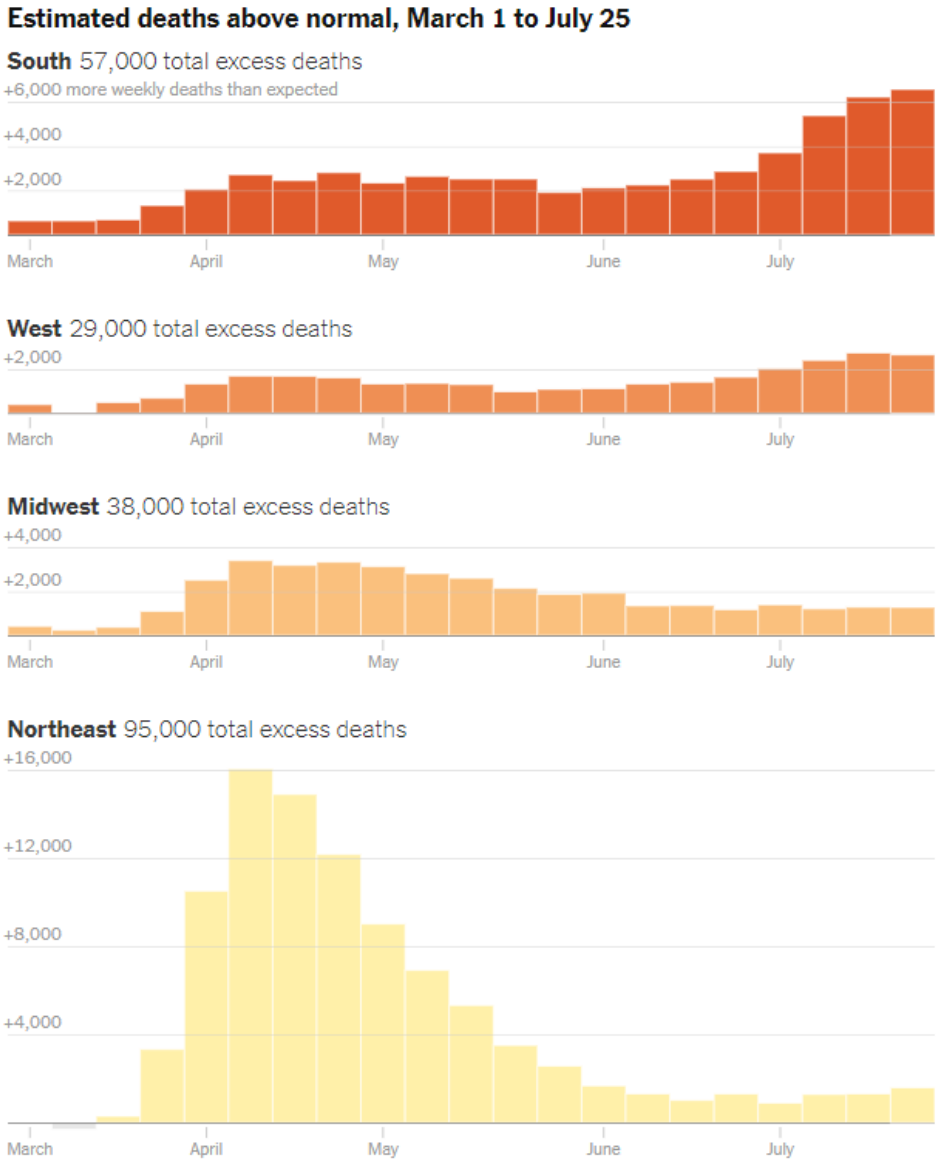
https://www.cdc.gov/nchs/nvss/covid-19.htm#understanding-death-data-quality

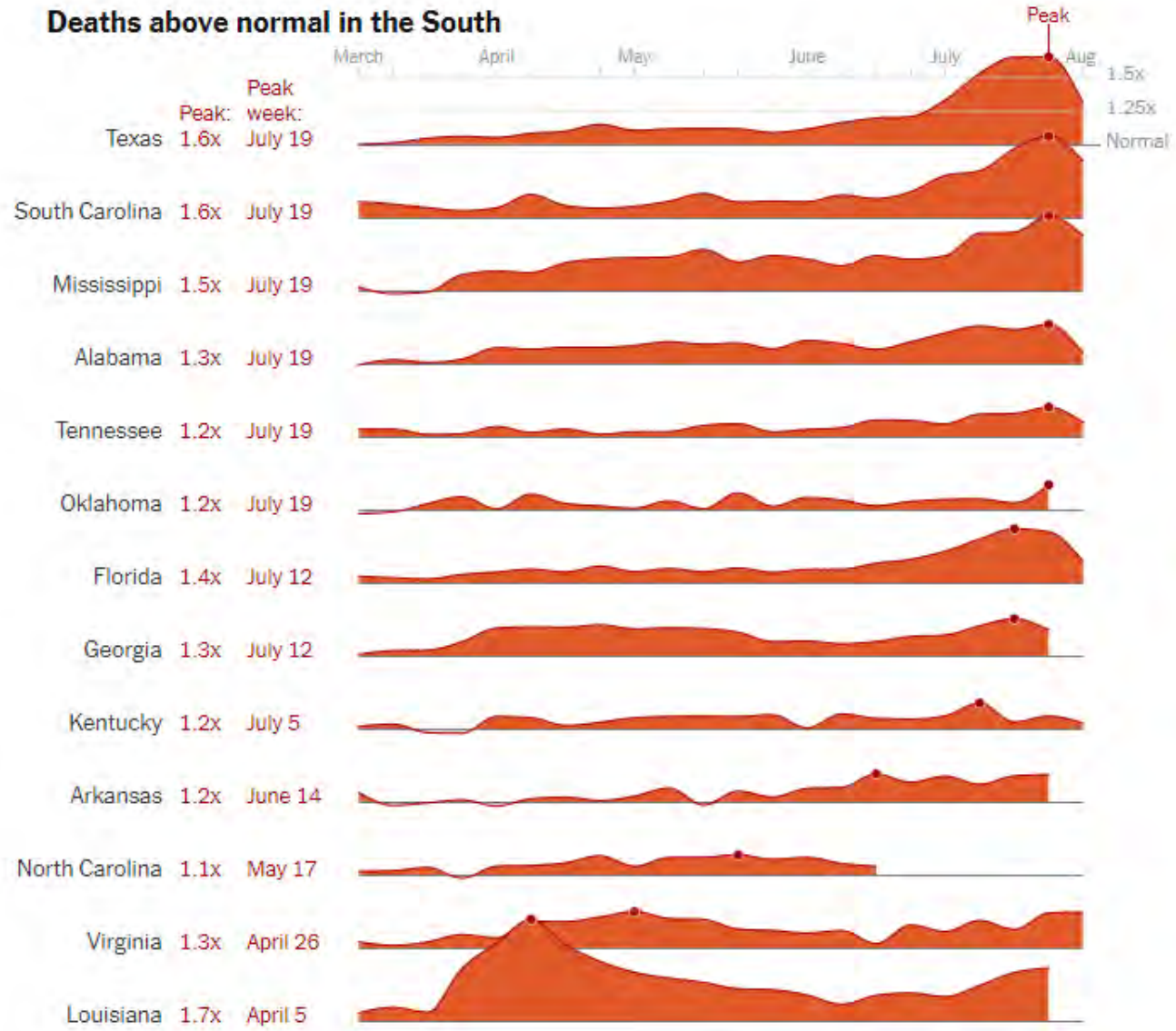
Excess Deaths from All Causes



https://www.cdc.gov/nchs/nvss/vsrr/covid19/excess_deaths.htm

Excess Deaths from All Causes





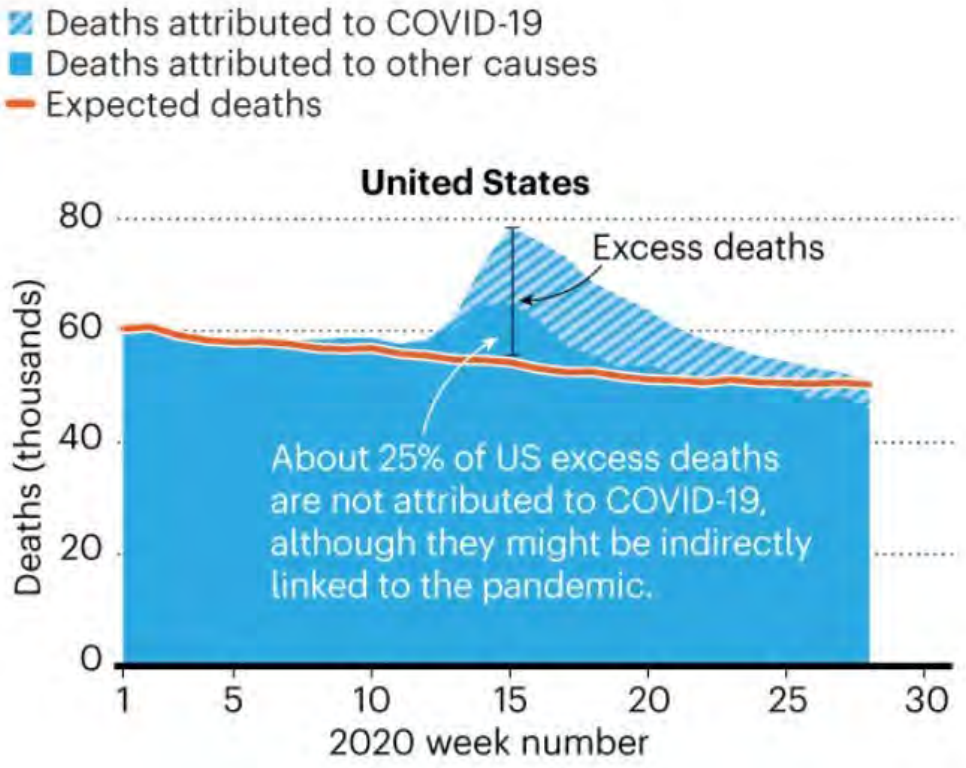
https://www.nytimes.com/interactive/2020/08/12/us/covid-deaths-us.html

Excess Deaths from All Causes

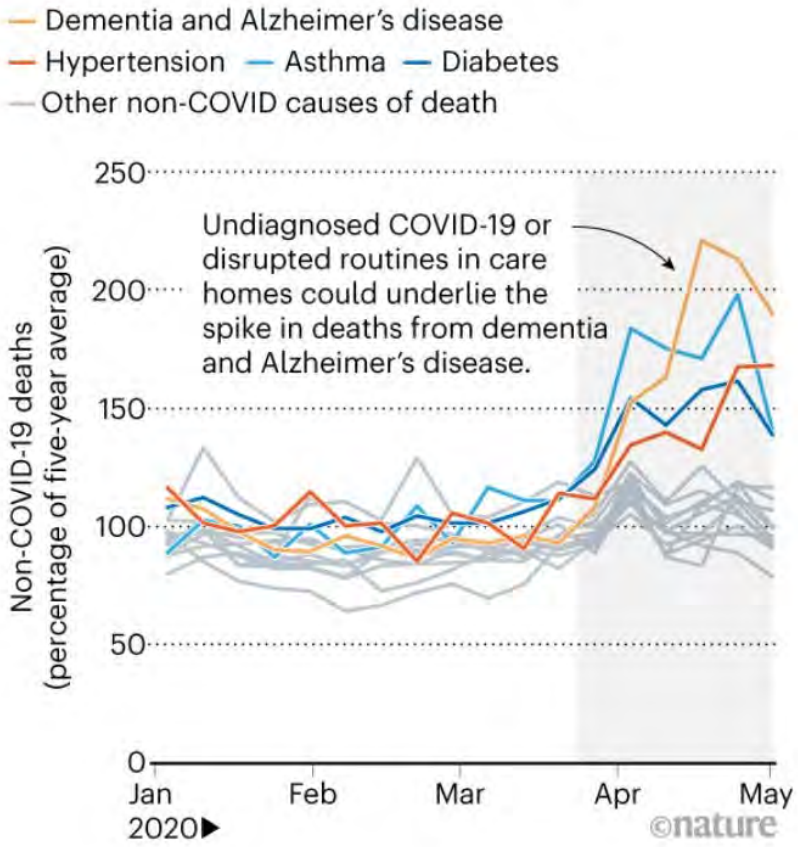
HOUSTON Methodist LEADING MEDICINE

MORE THAN EXPECTED

One way to gauge the toll of the coronavirus pandemic is to count the number of deaths that exceed what is seen in typical years. This metric, called excess deaths, varies by country and hints strongly that lockdowns had a significant impact on deaths from COVID-19 and other causes.



nature
International journal of science



https://www.nature.com/articles/d41586-020-02497-w

“I wanted to thank you for publicly encouraging people to do their routine medical appointments and that it was safe to visit HM facilities to do them.

After hearing you speak, I went ahead and scheduled my mammogram — which was about a month late.

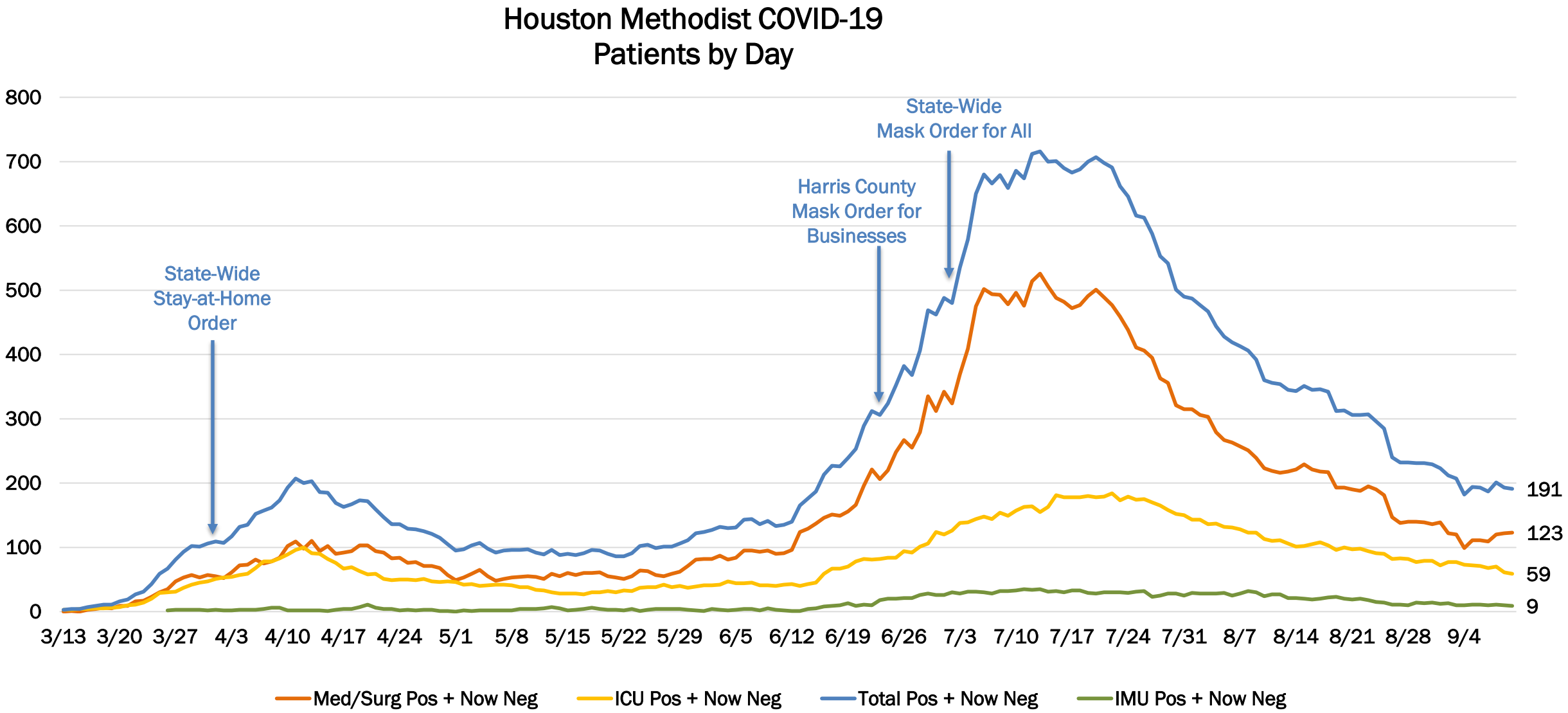
Turns out I have breast cancer — which was caught early because you said disease doesn’t wait.

I am so lucky to be part of the Houston Methodist family as I was able to get in quickly with great doctors and have all the confidence in them.

I wanted you to know that you helped save my life by encouraging me to do the routine mammogram.”

Hospitalizations and deaths from COVID-19 apparently peaked in Texas in late July and have fortunately fallen off quite dramatically since then by approx. 50-60%. What, if anything, did we do right in Texas/Houston to get control of this explosion of the virus or did we just get lucky?

Houston Methodist COVID-19 Cases by Day



Are face shields alone sufficient or should masks be worn under a face shield?

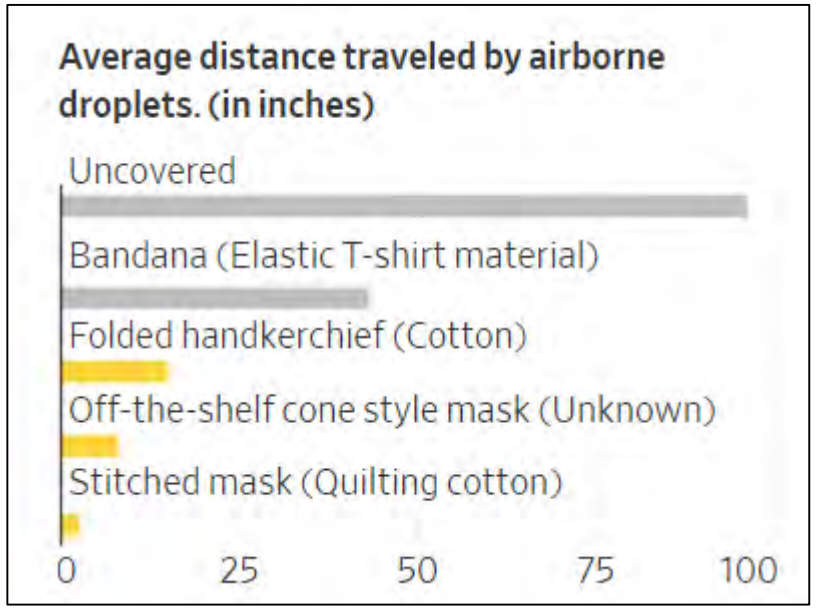
Efficacy of Masks

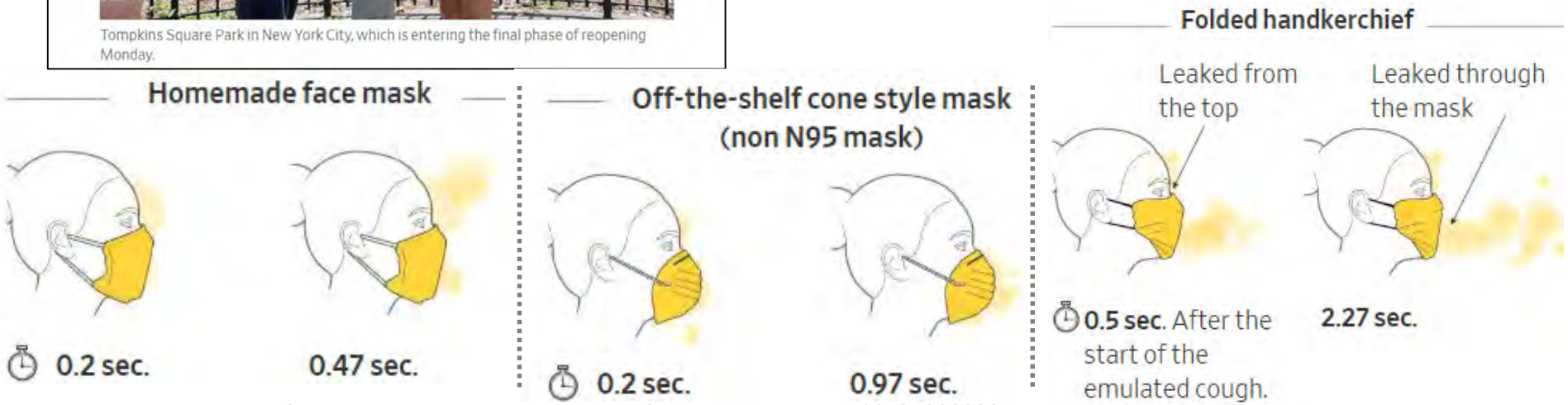
THE WALL STREET JOURNAL.

Face Masks Really Do Matter. The Scientific Evidence Is Growing.

New research suggests that face coverings help reduce the transmission of droplets, though some masks are more protective than others

Tompkins Square Park in New York City, which is entering the final phase of reopening Monday.





https://www.wsj.com/articles/face-masks-really-do-matter-the-scientific-evidence-is-growing-11595083298

Efficacy of Face Shields

HOUSTON Methodist LEADING MEDICINE

Moving Personal Protective Equipment Into the Community
Face Shields and Containment of COVID-19

On March 19, 2020, California became the first state to issue a stay-at-home order in response to the evolving coronavirus disease 2019 (COVID-19) pandemic. It was quickly recognized that widespread diagnostic testing with contact tracing, used successfully in countries such as South Korea and Singapore, would not be available in time to significantly contain the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).[1,2] Over the following month, additional nonpharmaceutical mitigation strategies, including school closures, bans on large in-person gatherings, and partial closures of restaurants and retail stores, were applied to "flatten the epidemic curve" and limit the peak effects of a surge of patients on health care systems. Yet, even as the benefits of mitigation bundles have not fully been realized, there are widespread calls to reopen businesses, given the immense economic and social consequences of extreme physical distancing strategies.

Recently, public health, infectious disease, and policy experts have outlined recommendations for gradually reopening society using combinations of containment and mitigation strategies.[3,4] Proposed containment strategies have followed the South Korean model and include rapidly expanding public health infrastructure for widespread testing and data-driven contact tracing, while ensuring that safe medical care is delivered by health care workers wearing adequate personal protective equipment (PPE), such as N95 respirators, medical masks, eye protection, gowns, and gloves. However, there is growing recognition that containment strategies that rely on testing will be inadequate because the necessary testing capacity may not be available for weeks to months, and in the US the ability to track, trace, and quarantine is unclear. In addition, countries where testing was not limited and containment was achieved, eg, Singapore, have seen substantial second waves of infection and mandated extreme distancing interventions that the US and other countries are trying to scale back.

Face shields, which can be quickly and affordably produced and distributed, should be included as part of strategies to safely and significantly reduce transmission in the community setting.

that most of their infections are acquired in the community where PPE is typically not worn.[5] Thus, it becomes important to know if practice from occupational safety can be used in the community as a bridge to longer-lasting measures, such as vaccines. Could a simple and affordable face shield, if universally adopted, provide enough added protection when added to testing, contact tracing, and hand hygiene to reduce transmissibility below a critical threshold?

COVID-19 Transmission in the Community

The mode of transmission of respiratory viruses has long been a subject of debate. Evidence to date suggests that SARS-CoV-2 is spread like other respiratory viruses: by infectious droplets emitted in close proximity (ie, within 6 feet) to the eyes, nose, or mouth of a susceptible person, or by direct contact with those droplets (eg, touching a contaminated surface and then touching the eyes, nose, or mouth).[6] Although droplet vs airborne transmission is likely to be a continuum, with smaller droplets able to be propelled further than 3 to 6 feet and remaining airborne longer after certain respiratory emissions,[7] the implications of limited aerosol spread are most important in health care settings after aerosol-generating procedures, such as open suctioning of airways and endotracheal intubation or extubation.

Contact investigations for SARS-CoV-2 have confirmed community transmission rates that are consistent with droplet and contact spread (household attack rates of 10%, health care and community attack rates of <1%, and R_0 [the effective reproduction number, or average number of new infections caused by an infected individual during their infection] of 2-3),[8] and much different than for airborne viral pathogens, such as varicella zoster virus or measles (household attack rates of 85%-90% and R_0 of 10-18).

This implies that simple and easy-to-use barriers to respiratory droplets, along with hand hygiene and avoidance of touching the face, could help prevent community transmission when physical distancing and stay-at-home measures are relaxed or no longer possible. The 2 major options for such barriers are face masks and face shields.

https://jamanetwork.com/journals/jama/fullarticle/2765525

JAMA®
The Journal of the American Medical Association

"...no studies have evaluated the effects or potential benefits of face shields on source control, ie, containing a sneeze or cough, when worn by asymptomatic or symptomatic infected persons."

Journal of Occupational and Environmental Hygiene

J Occup Environ Hyg. 2014; 11(8): 509–518.
Published online 2014 Jun 27. doi: 10.1080/15459624.2013.877591
PMCID: PMC4734356
NIHMSID: NIHMS744519
PMID: 24467190

Efficacy of Face Shields Against Cough Aerosol Droplets from a Cough Simulator

William G. Lindsley,[1] John D. Noti,[1] Francoise M. Blachere,[1] Jonathan V. Szalajda,[2] and Donald H. Beezhold[1]

Author information · Copyright and License information Disclaimer

Associated Data

Supplementary Materials

Abstract

Go to:

Health care workers are exposed to potentially infectious airborne particles while providing routine care to coughing patients. However, much is not understood about the behavior of these aerosols and the risks they pose. We used a coughing patient simulator and a breathing worker simulator to investigate the exposure of health care workers to cough aerosol droplets, and to examine the efficacy of face shields in reducing this exposure. Our results showed that 0.9% of the initial burst of aerosol from a cough can be inhaled by a worker 46 cm (18 inches) from the patient. During testing of an influenza-laden cough aerosol with a volume median diameter (VMD) of 8.5 μm, wearing a face shield reduced the inhalational exposure of the worker by 96% in the period immediately after a cough. The face shield also reduced the surface contamination of a respirator by 97%. When a smaller cough aerosol was used (VMD = 3.4 μm), the face shield was less effective, blocking only 68% of the cough and 76% of the surface contamination. In the period from 1 to 30 minutes after a cough, during which the aerosol had dispersed throughout the room and larger particles had settled, the face shield reduced aerosol inhalation by only 23%. Increasing the distance between the patient and worker to 183 cm (72 inches) reduced the exposure to influenza that occurred immediately after a cough by 92%. Our results show that health care workers can inhale infectious airborne particles while treating a coughing patient. Face shields can substantially reduce the short-term exposure of health care workers to large infectious aerosol particles, but smaller particles can remain airborne longer and flow around the face shield more easily to be inhaled. Thus, face shields provide a useful adjunct to respiratory protection for workers caring for patients with respiratory infections. However, they cannot be used as a substitute for respiratory protection when it is needed.

[Supplementary materials are available for this article. Go to the publisher's online edition of *Journal of Occupational and Environmental Hygiene* for the following free supplemental resource: tables of the experiments performed, more detailed information about the aerosol measurement methods, photographs of the experimental setup, and summaries of the experimental data from the aerosol measurement devices, the qPCR analysis, and the VPA.]

Keywords: airborne particulate matter, health care workers, infectious disease transmission, protective devices, respiratory infections/prevention, universal precautions

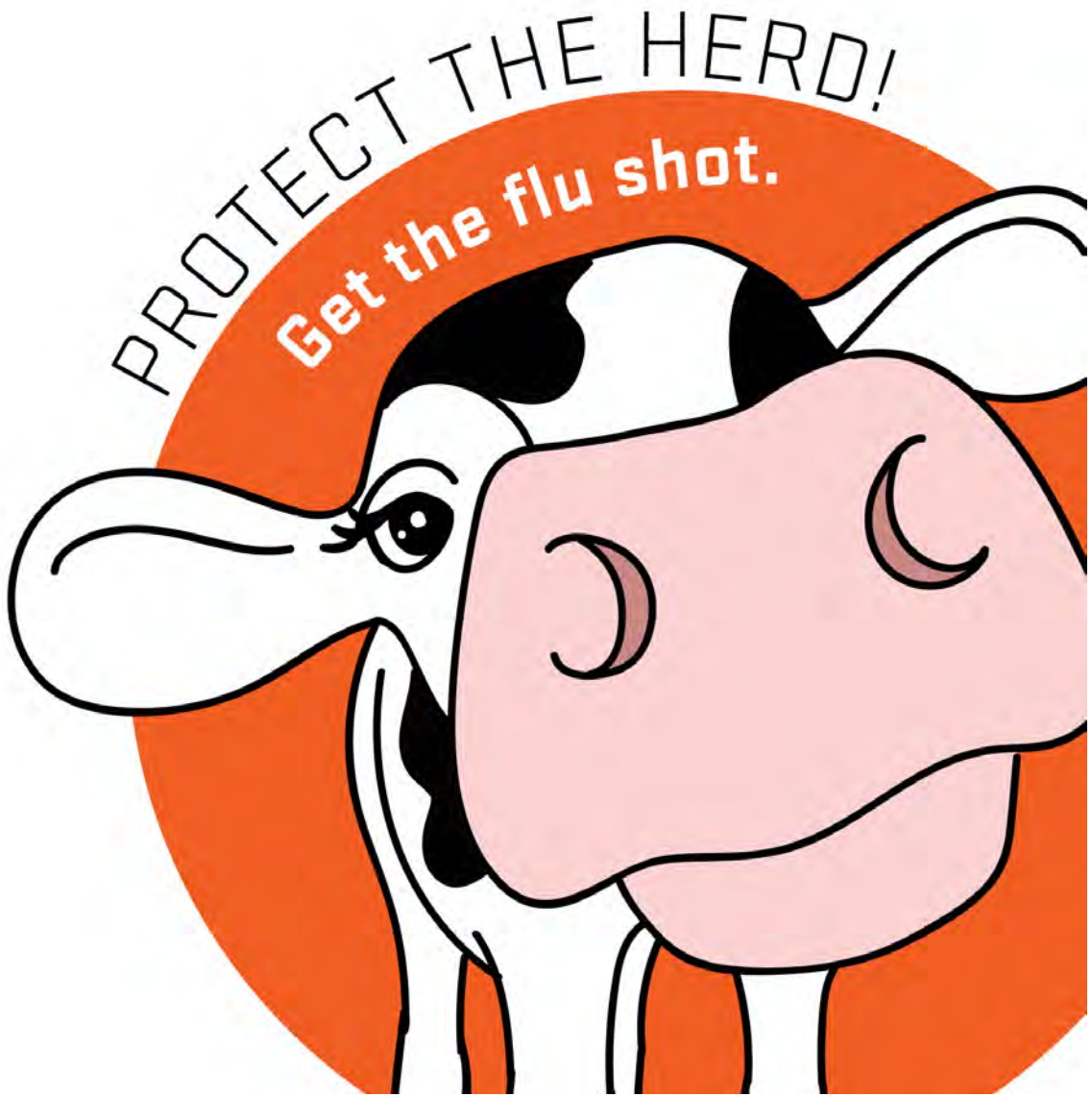
"The use of face shields can substantially reduce the short-term exposure of health care workers to larger infectious aerosol particles and can reduce contamination of their respirators. They are less effective against smaller particles, which can remain airborne for extended periods and can easily flow around a face shield to be inhaled."

As flu season is approaching, is it possible to get the flu and COVID-19 at the same time? I can sense people will begin to panic.

With respect to the flu, might there be a silver lining in all this, i.e. could our coronavirus precautions help suppress the progression of the 2021 flu season? Assuming we do not see a drop off in flu vaccinations compliance.

Does having taken the pneumonia shots give any additional protection against COVID?

GET YOUR FLU SHOT!!!!!



When should schools open in-person?

Any further guidance on in-person schooling and youth sports since last town hall?

How are COVID cases in children from school openings compared to what the expectations were? Is it skewed toward certain ages of children?

Returning To School

HOUSTON Methodist LEADING MEDICINE

COVID-19 Planning Considerations: Guidance for School Re-entry

Critical Updates on COVID-19 / **Clinical Guidance** / COVID-19 Planning Considerations: Guidance for School Re-entry

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

"...the AAP strongly advocates that all policy considerations for the coming school year should start with a goal of having students physically present in school."

https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/covid-19-planning-considerations-return-to-in-person-education-in-schools/#:~:text=Universal%20cloth%20face%20coverings%20at,teachers%20to%20the%20extent%20possible.

TMC Control Metrics

HOUSTON Methodist LEADING MEDICINE

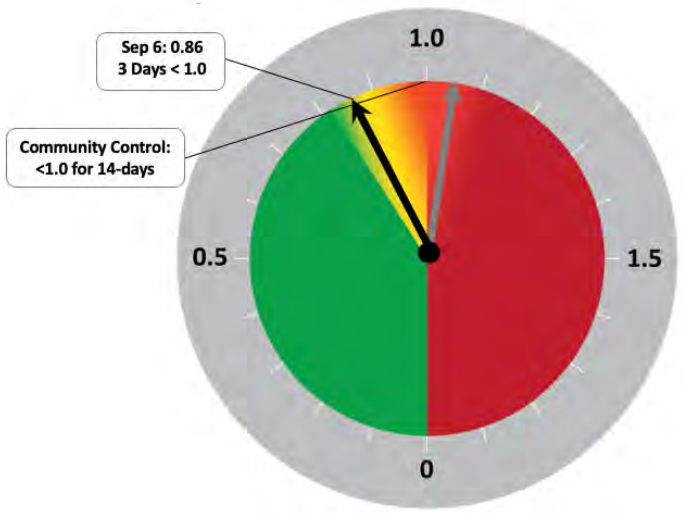
THREE METRICS TO GAUGE OUR PROGRESS

September 9, 2020

- Community Control for 14-days
- Community Spread
- Indicates Last Week's Position

R(t): Effective Reproduction Rate[1]

Harris County

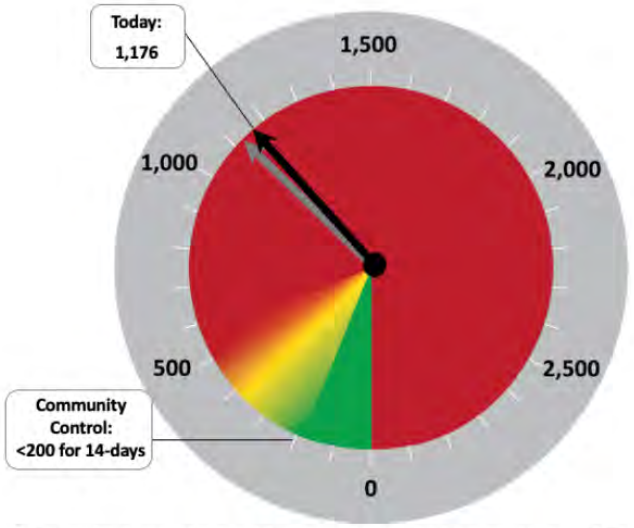


Rt measures how effective our collective behaviors (e.g., social distancing and mask wearing) are in slowing the growth of the virus. If R(t) is above 1.0, the virus spread is increasing; if R(t) is below 1.0, the virus spread is slowing.

Community Control: R(t) < 1.0 for 14-days

Daily New Cases[2]

Greater Houston 9-County Area

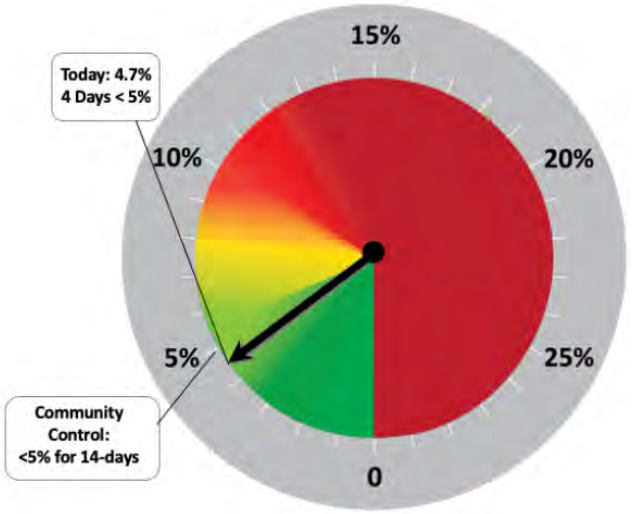


When the number of new daily cases is over 200, it is difficult to effectively trace and help isolate further spread of the virus.

Community Control: < 200 cases/day for 14-days

Test Positivity Rate (%)[3]

TMC Hospital Systems



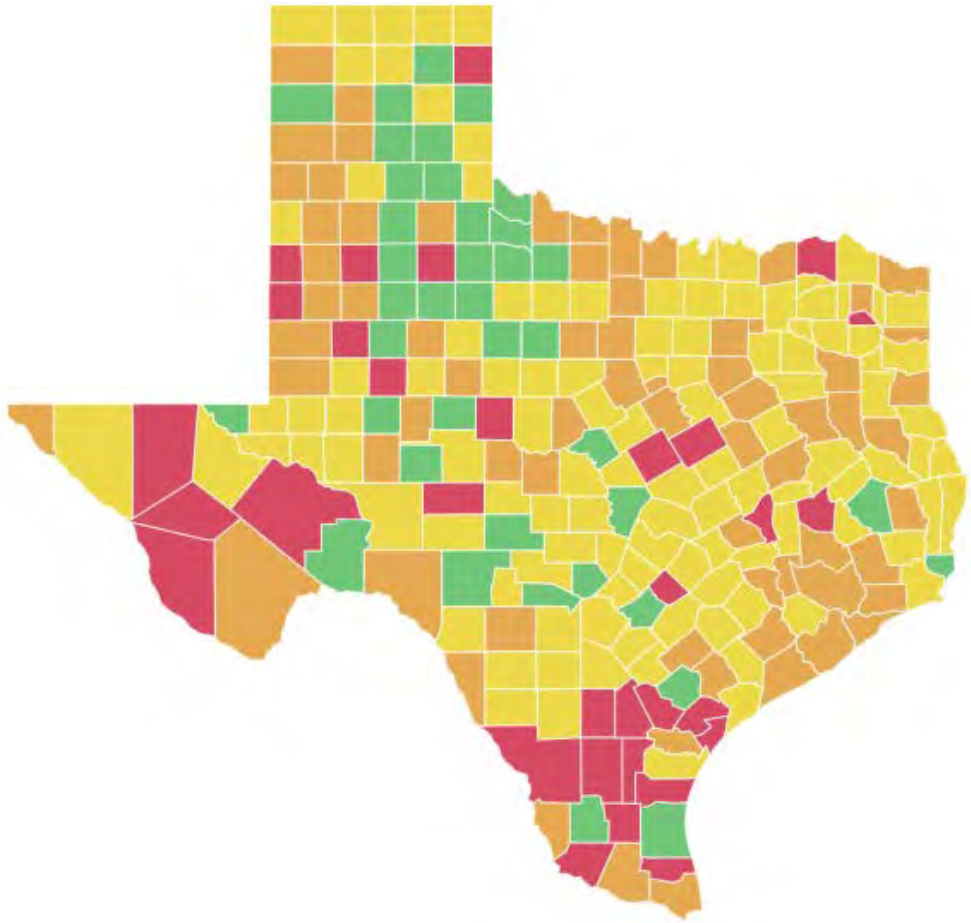
A low positivity rate may indicate declining spread of the virus.

Community Control: < 5% for 14-days

TMC | TEXAS MEDICAL CENTER

1. https://sph.uth.edu/dept/bads/covid19-dashboard
2. Source: TX Health and Human Services (https://www.dshs.texas.gov/coronavirus/): Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller
3. Testing data includes: CHI Texas Division, Harris Health System, Houston Methodist, MD Anderson Cancer Center, Memorial Hermann, and UT Health

County Risk Level Assessment



COVID RISK LEVEL: **GREEN**

LESS THAN ONE CASE PER 100,000 PEOPLE

ON TRACK FOR CONTAINMENT

MONITOR WITH VIRAL TESTING AND CONTACT TRACING PROGRAM

#THEPATHTOZERO

COVID RISK LEVEL: **YELLOW**

1-9 CASES PER 100,000 PEOPLE

COMMUNITY SPREAD

RIGOROUS TEST AND TRACE PROGRAMS ADVISED

#THEPATHTOZERO

COVID RISK LEVEL: **ORANGE**

10-24 CASES PER 100,000 PEOPLE

ACCELERATED SPREAD

STAY-AT-HOME ORDERS AND/OR RIGOROUS TEST AND TRACE PROGRAMS ADVISED

#THEPATHTOZERO

COVID RISK LEVEL: **RED**

25+ CASES PER 100,000 PEOPLE

TIPPING POINT

STAY-AT-HOME ORDERS NECESSARY

#THEPATHTOZERO

https://globalepidemics.org/key-metrics-for-covid-suppression/

School District Reopening Plans

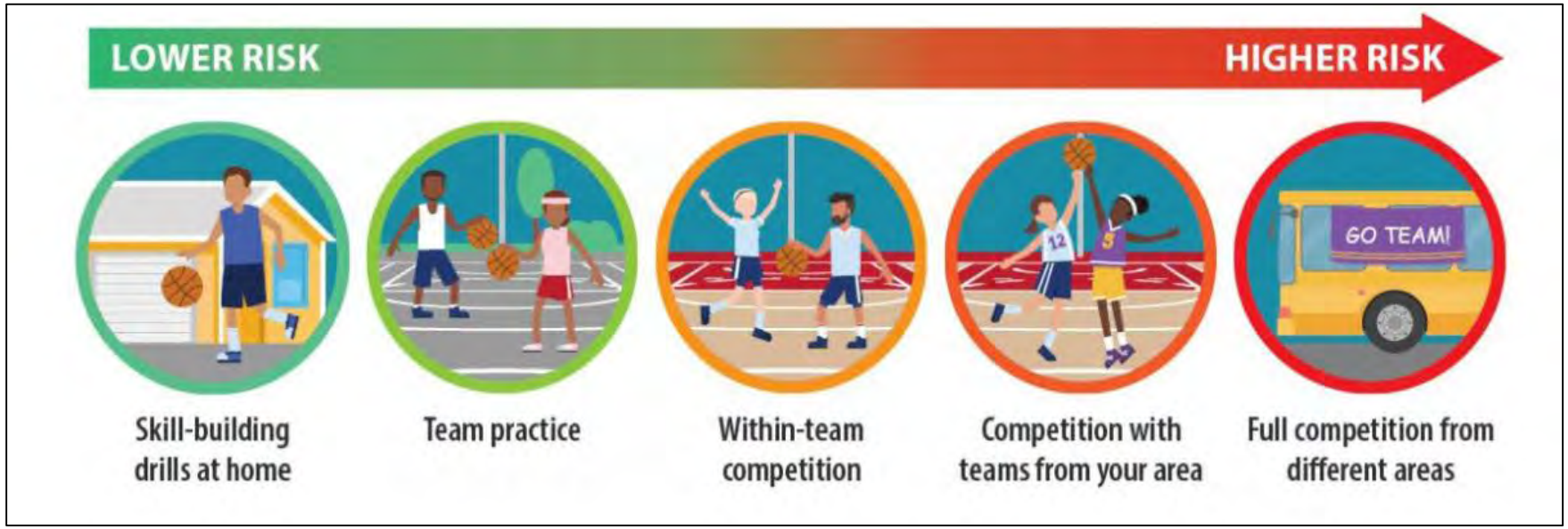
School Districts	Reopening Date	In-Person Reopening Date	Student Population
HISD	September 8	October 19	213,528
CyFair	September 8	September 8	116,138
Katy	August 19	September 8	77,331
Fort Bend	August 17	October 12	74,957
Aldine	August 17	Staggered September 21	67,234
Conroe	August 12	September 8	61,323
Pasadena	August 18	September 8	54,520
Klein	August 19	September 8	52,896
Alief	August 6	TBD	46,223
Humble	August 11	Phased August 17 – August 24	42,301
Clear Creek	August 24	Phased August 31 – Sept. 14	42,008
Spring	August 17	September 14	36,079
Spring Branch	August 24	September 8	34,975
Lamar	August 24	August 24	32,051
Alvin	August 24	August 24	24,755

https://www.houston.org/houston-area-school-reopening

Resuming Youth Sports

HOUSTON Methodist LEADING MEDICINE

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION



Keep space between players in practice areas

Wear masks when able

Encourage players to bring their own equipment

Encourage players to focus on building individual skills

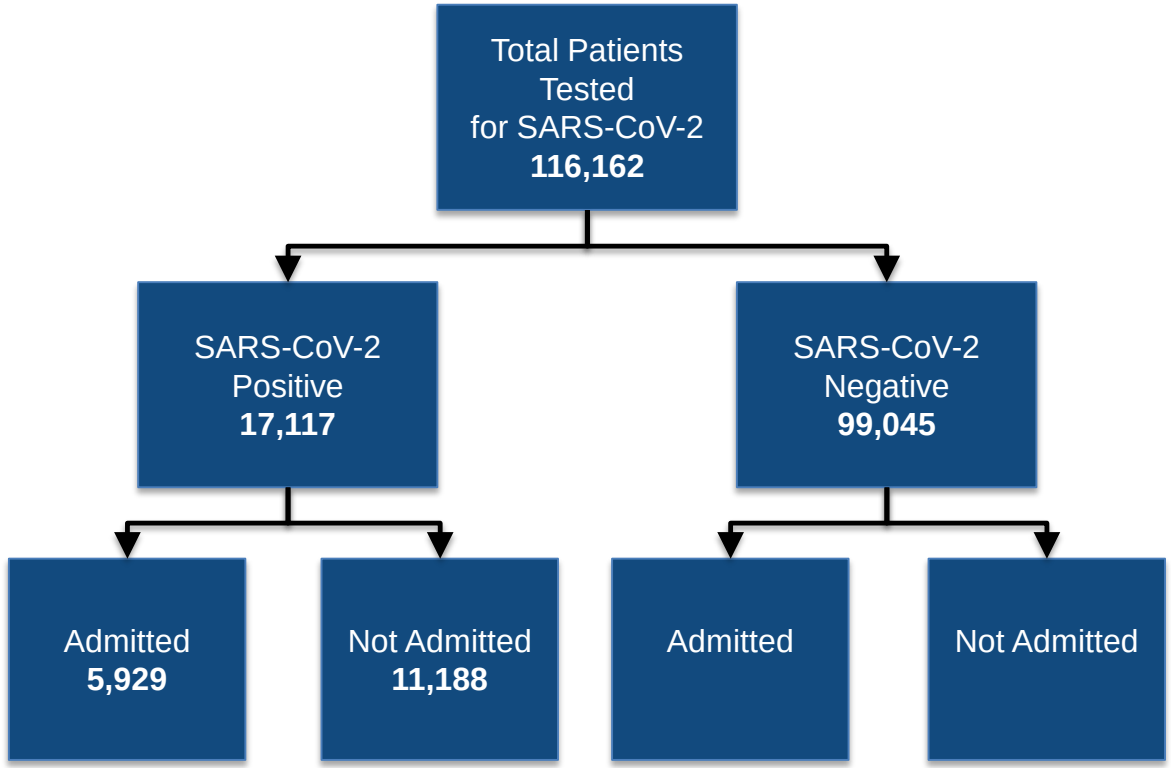
https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/playing-sports.html

How often are you seeing long lasting health effects in people who have recovered from COVID ? A recent interview stated 1 in 3 people who have had COVID still fight existing health issues they believe are results from having had the virus including blood clotting, brain fog, depression, numbness in body parts, etc. This seems like a very high percentage so I just wanted to know what the medical community is noticing thus far.

My wife and I both tested positive for COVID-19 in mid-March. It's been almost 6 months and we both continue to have side-effects with physical and mental issues that we did not have previously. As "long haulers," does Methodist have any plans to establish "long term" or "post-COVID-19" treatment centers within or outside of its existing facilities?

COVID-19 Surveillance & Outcomes Registry (CURATOR)

All Patients Tested for SARS-CoV-2 within Houston Methodist System
(Inpatient and Outpatient)

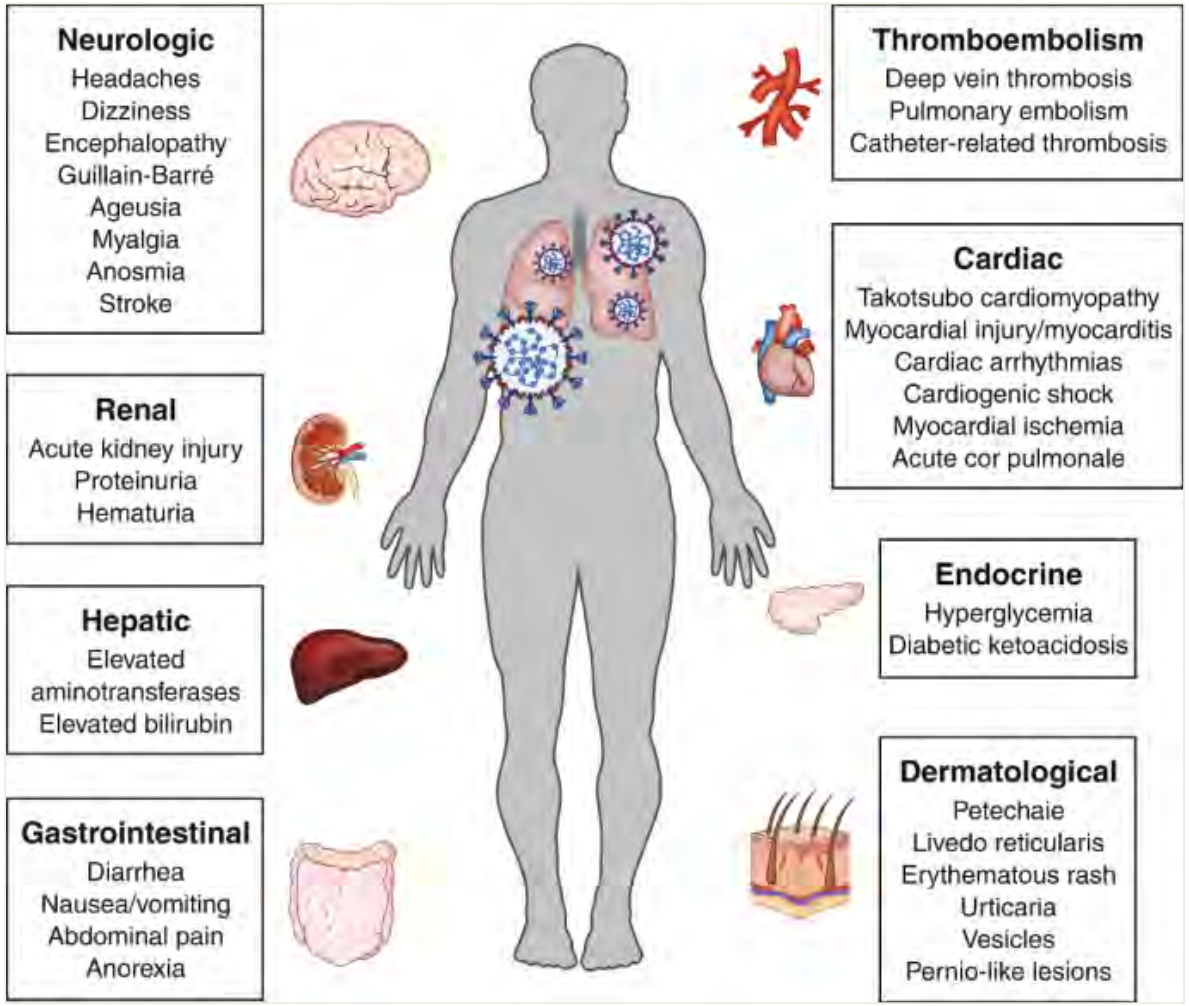


Data Elements

Demographics, Vitals, Lab Values, Medications, Procedures, Outcomes

Managing & Studying COVID-19 Recovery

HOUSTON Methodist LEADING MEDICINE



INTEGRATED COVID CLINICAL AND RESEARCH PROGRAM

- **SURVEYS**
  - RECOVERY
  - SOCIAL DETERMINANTS OF HEALTH
  - QUALITY OF LIFE
- **COVID RECOVERY CLINIC**
  - LUNG FUNCTION
  - COGNITIVE TESTING
  - IMAGING (HEART/BRAIN)
- **BIOBANKING**

https://www.vox.com/2020/7/29/21327317/symptoms-of-covid-19-coronavirus-fever-cough-toes-rash-loss-of-taste-smell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THANK YOU FOR ATTENDING OUR TOWN HALL CONVERSATION

If you would like more information about Nursing, Behavioral Health, or The Society for Leading Medicine, please contact foundation@houstonmethodist.org

Take care and be well

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