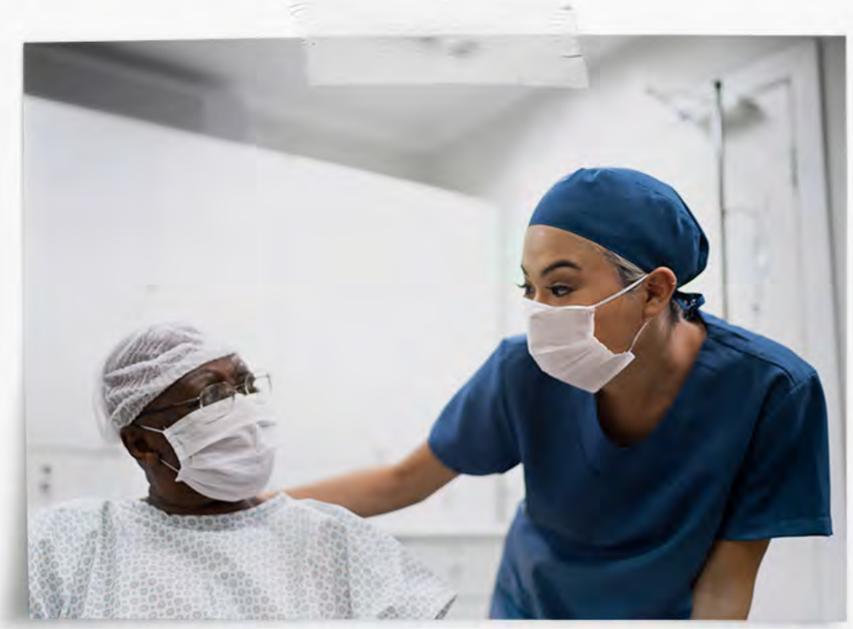

The Front Lines of the Fight Against COVID-19

A TOWN HALL CONVERSATION XIII

We will begin at 10 a.m.

COVID-19 Vaccination and Pregnancy and Lactation

Patricia Bellows, MD

April 8, 2021

HOUSTON Methodist
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Introduction

- Discuss the risks of COVID-19 infection and pregnancy
- Mechanism of vaccine
- Safety of vaccination in pregnancy/breastfeeding
- Vaccine side-effects
- Conclusion

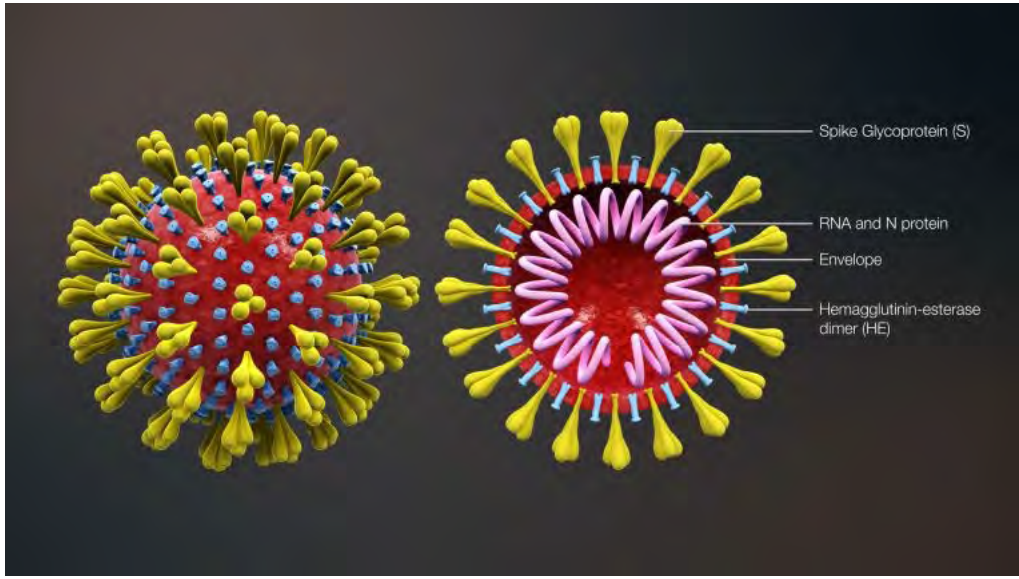
Maternal and Obstetrical Risk of Disease

-Society for Maternal Fetal Medicine 3/3/2021

- Pregnancy is an independent risk factor for COVID-19 disease severity
  - 3-fold increased risk for ICU admission
  - 2.4-fold increased risk for needing ECMO
  - 1.7-fold increased risk of death
  - Increased risk of blood clot formation
  - Increased risk of preterm labor, stillbirth
- People with comorbidities and older-aged have a particularly elevated risk of adverse maternal outcomes

Vaccine Mechanism

- mRNA vaccines: NOT live vaccines; NO risk for insertional mutagenesis – mRNA does not enter the cell's nucleus
  - Pfizer-BioNTech BNT162b2
  - Moderna mRNA 1273
- Adenoviral-vector vaccine: Viral DNA enters the host nucleus to be transcribed but is not integrated into the host's DNA
  - Janssen Biotech Ad26.COV2.S



Safety of the Vaccines

- Pregnant and lactating people excluded in initial vaccine trials
  - No Clinical trial data on safety of COVID-19 vaccines in pregnant people
  - Multiple trials are underway now
- CDC is also currently enrolling pregnant individuals in a pregnancy registry
- V-Safe (CDC self-reported registry) – Over 30,000 pregnant people
  - No concerning pregnancy outcomes, complications or neonatal outcomes compared to background data
- Antibodies cross the placenta and provide some fetal protection

Vaccination Side Effects

- Vaccination can be performed in any trimester
- Postvaccination signs and symptoms are typically mild to moderate in severity and occur within the first 3 days of vaccination and resolve within 1-2 days
  - Acetaminophen, Benadryl can be taken as needed

Conclusions

- Women are at increased risk of severe disease in pregnancy
- Pregnant and lactating women were excluded from the initial vaccine trials but data is accumulating on a weekly basis and multiple trials are underway
- The mRNA vaccines are not live virus vaccines and do not alter DNA
- Adenovirus vector vaccine has been studied during pregnancy in other vaccines including Ebola, HIV and RSV with no adverse pregnancy outcomes
- Vaccination should be offered to all pregnant patients regardless of history of prior symptomatic or asymptomatic SARS-CoV-2 infection

Conclusions

ACOG and SMFM strongly recommend that pregnant and lactating people have access to the COVID-19 vaccines and that they engage in a discussion about potential benefits and unknown risks with their healthcare provider regarding receipt of the vaccine

CDC recommended priority groups for vaccine distribution including pregnant people

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mRNA THERAPEUTICS

John P. Cooke, MD, PhD
Medical Director, RNA Therapeutics Program
Professor and Chair, Dept. of Cardiovascular Sciences
Chief Translational Officer, Houston Methodist Academic Institute

April 8, 2021

HOUSTON Methodist℠
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mRNA Vaccines against SARS-CoV-2

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mRNA vaccines against SARS-CoV-2 are highly effective and safe

Pfizer BIONTECH

90% Effective

moderna

94.5% Effective


The New York Times

Early Data Show Moderna's Coronavirus Vaccine Is 94.5% Effective

Moderna is the second company to report preliminary results from a large trial testing a vaccine. But there are still months to go before it will be widely available to the public.

mRNA Vaccines: How do they work?

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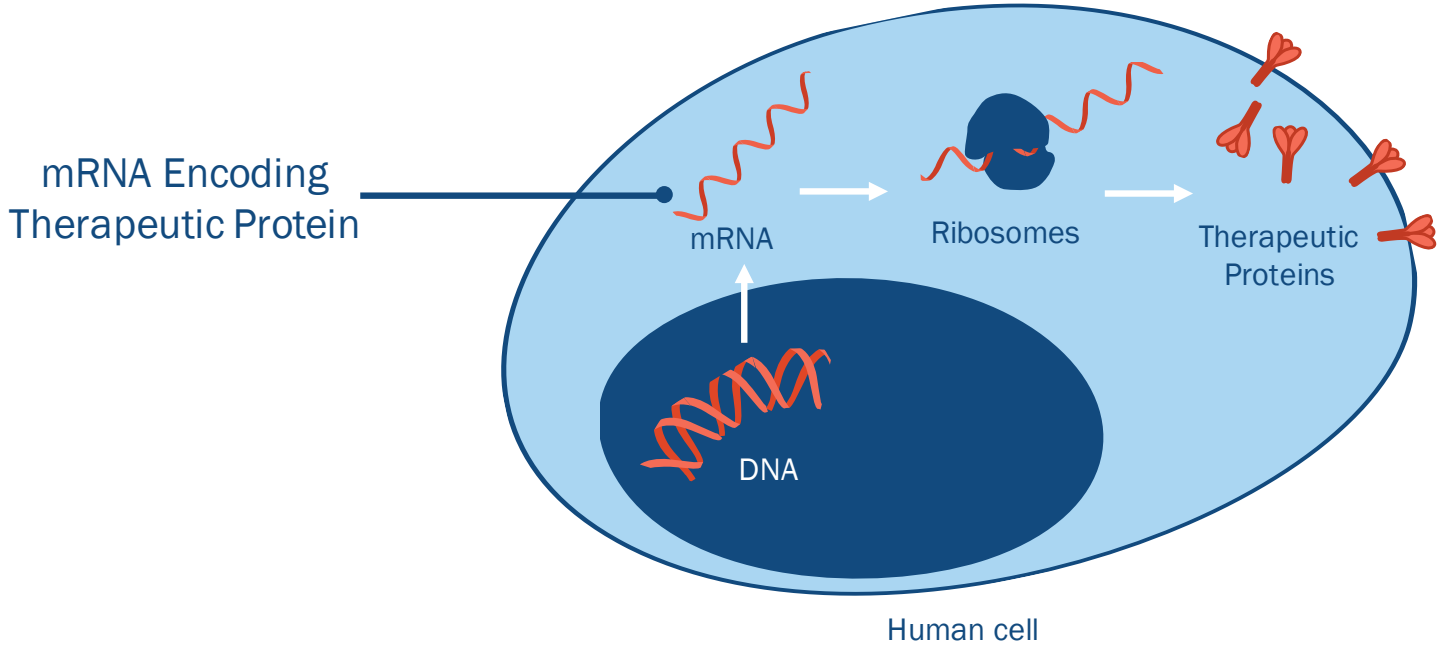
RNA is biological software, cellular instructions to make any protein



Differences between the two RNA Vaccines

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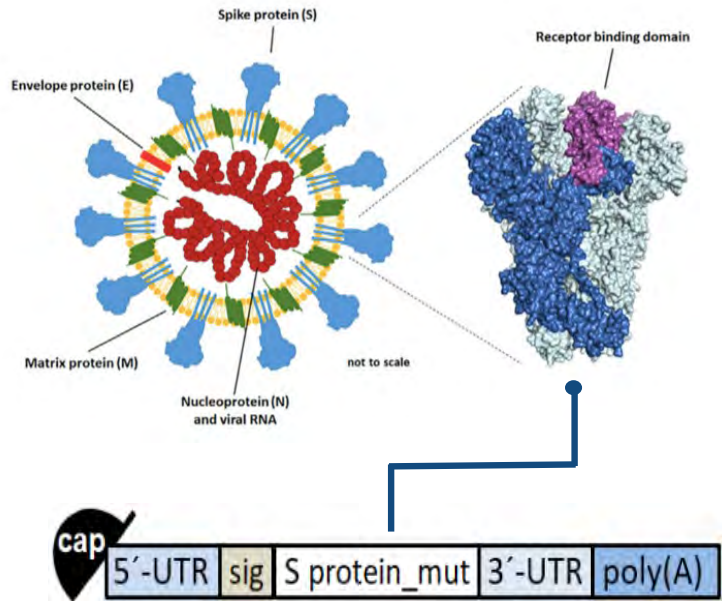
Both mRNA vaccines encode Spike protein. Small differences.

Pfizer BIONTECH (BNT162b2)

- mRNA encodes the spike protein
- Nucleoside-modified, and “2P” mutation
- Encapsulated in lipid nanoparticles for IM administration

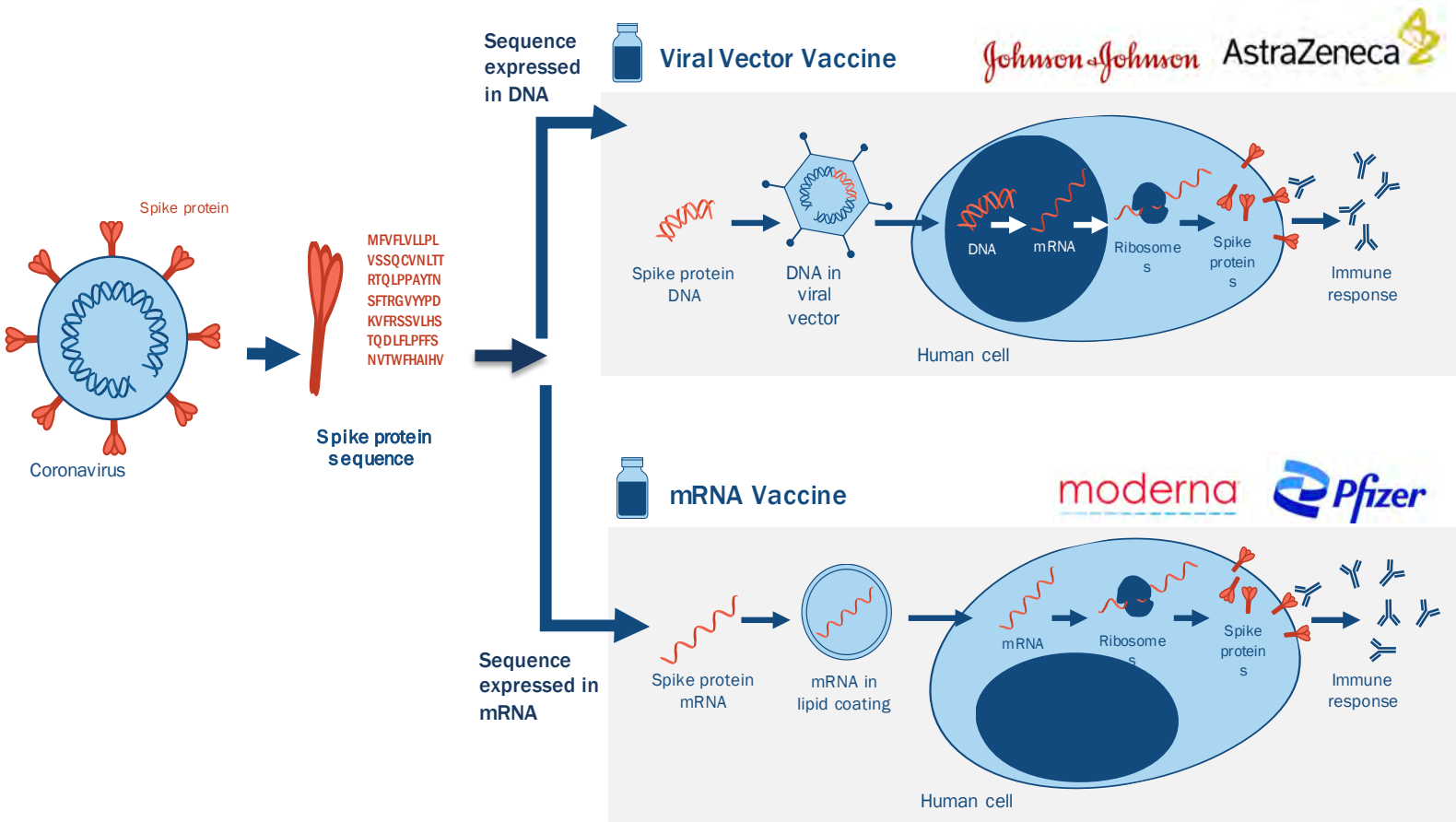
moderna™ (mRNA-1273)

- Virtually identical sequence for spike
- Some differences in non-coding 3’ and 5’ ends
- Different LNP for IM administration

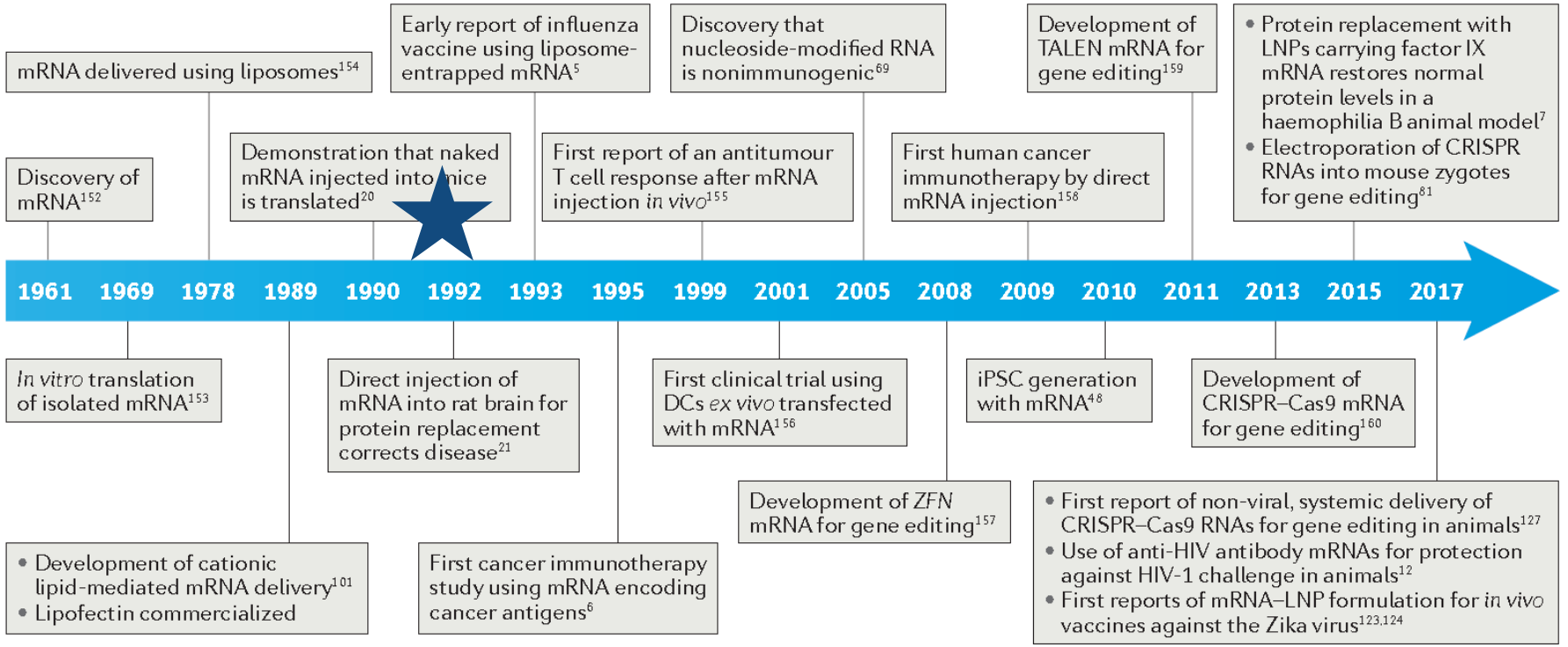


Jeong DE et al, Virological.org 3-23-21

mRNA Vaccines vs. Viral Vector Vaccines



Why mRNA? Why Now?



Hajj and Whitehead Nature Reviews Materials 2017

Why mRNA? Why Now?

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Obstacles are being overcome

Systemic Delivery

Requires carrier that protects mRNA integrity and preferentially delivers to target cell

Intracellular Delivery

Requires carrier to cross cytoplasmic membrane

mRNA Toxicity

Innate immune activation

Short Half-life

RNAases are ubiquitous

Great Potential of mRNA Therapeutics

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The Big 3: Market Cap (4.3.21)

CUREVAC $17B

BIONTECH $27.5B

moderna™ messenger therapeutics $53B

Rapid therapeutic development

- ✓ Writing code….like software
- ✓ New chemical entity to clinic……15 years

  RNA vaccine to clinic…..1y

Superior safety versus DNA drugs

- ✓ No integration into the host genome
- ✓ Simpler regulatory roadmap

Potential to replace a $200B+ recombinant protein industry

- ✓ Simpler manufacturing process than recombinant proteins
- ✓ Endogenous post-translational modifications

Personalized RNA molecules

- ✓ Manufacturing process is rapid

mRNA Therapeutics: Moderna Pipeline and Partners

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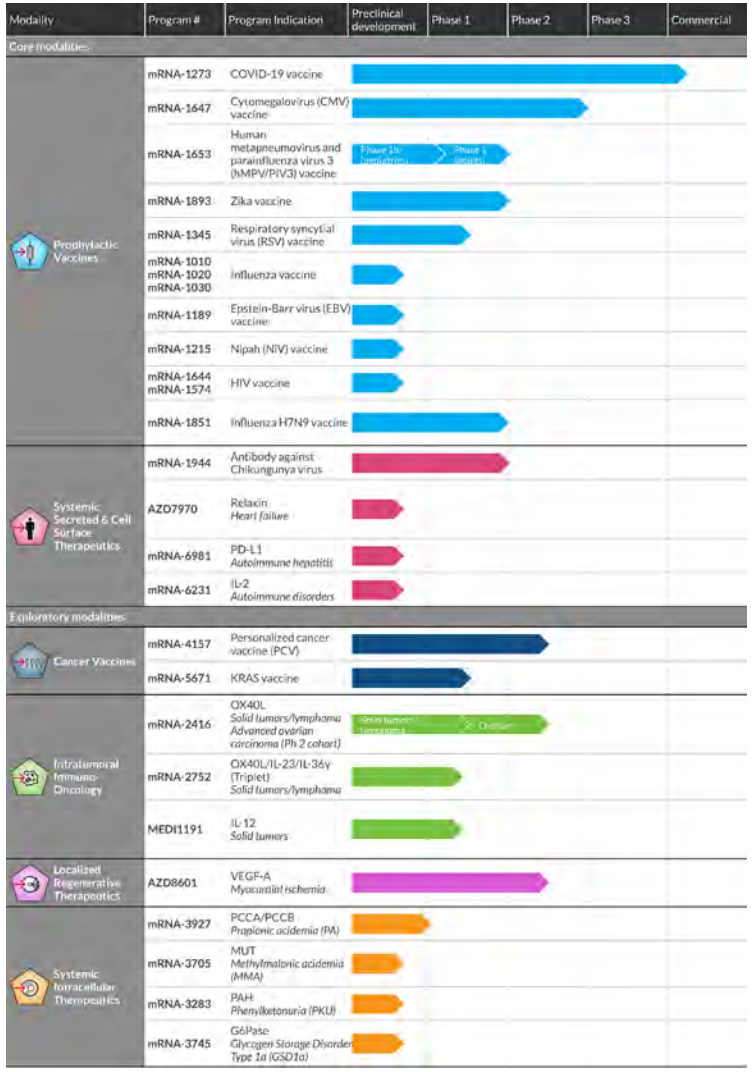
moderna®

- Founded in 2010
- Now ~30 products
- 3 Major Pharma partners
- ~$50B valuation

MERCK

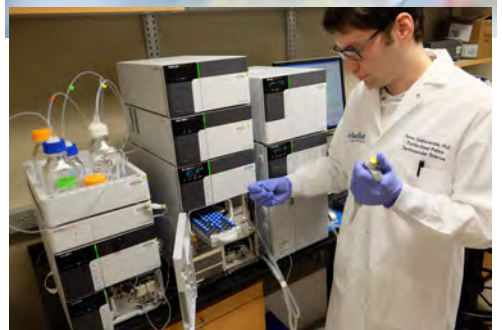
VERTEX

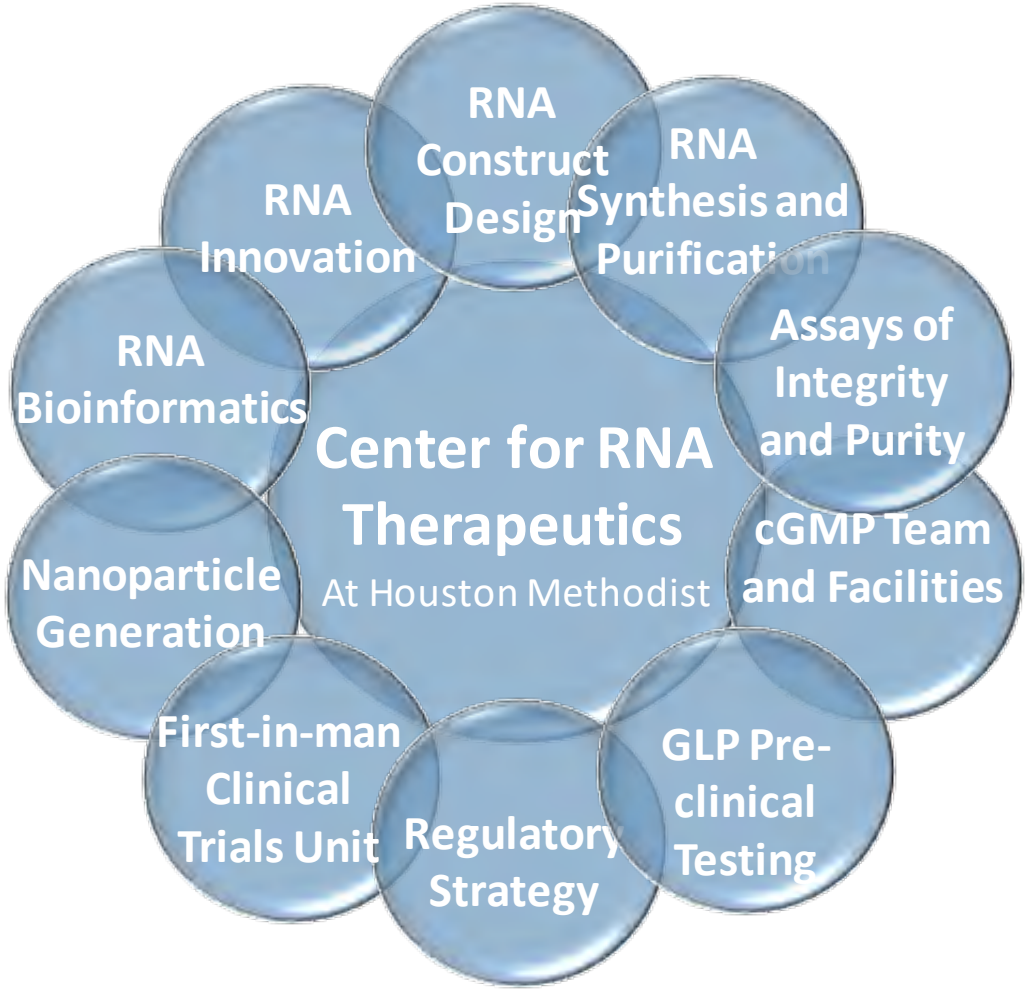
AstraZeneca



Hospital-based RNA Therapeutics

We develop, manufacture, deliver and test novel RNA Therapies





Partner In Development of RNA RX
VGXI Inc.

VGXI breaks ground on 44-acre site
Conroe TX, Deison Technology Park,
11-9-20

- Partner in RNA manufacturing
- HMH: Innovation and Development
- VGXI: Large CMO for DNA vaccines

- Partnership generates a complete assembly line to support pre-clinical studies through commercialization

- HMH will generate RNA for Phase 1-2a Clinical Trials

- VGXI will generate large batches for Phase 2b-3 and commercialization

Nanotherapeutics at HMH

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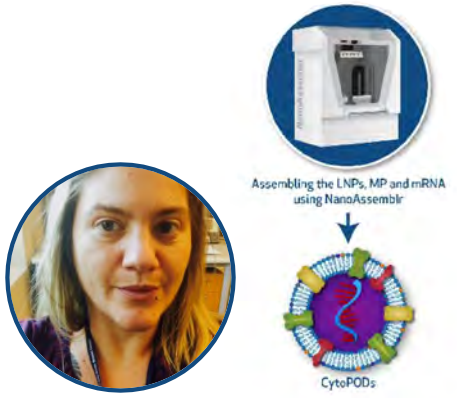
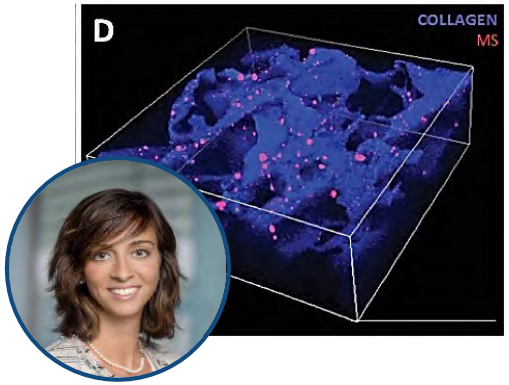
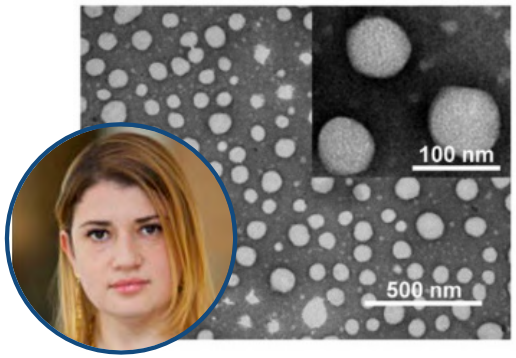
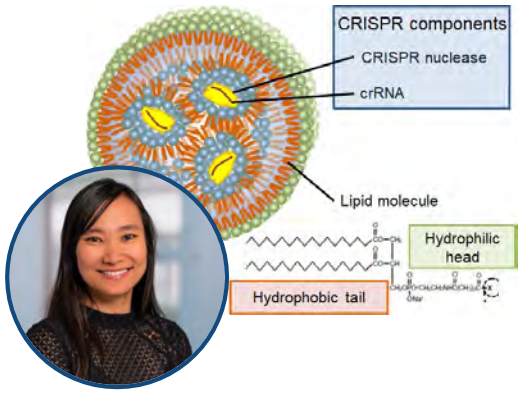
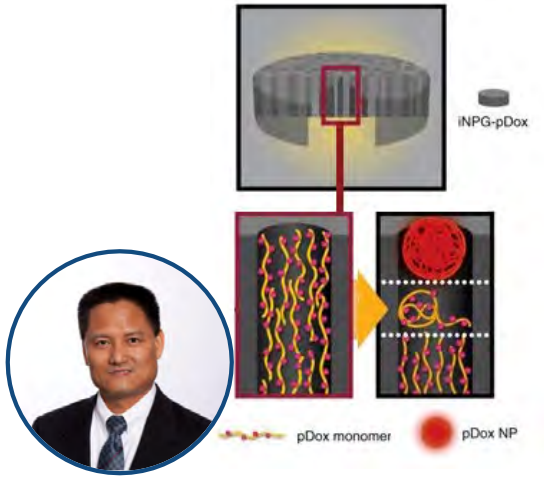
Design and characterization of LNPs, Tissue Distribution and Targeting, Genome editing, LNPs in bioscaffolds or silicon carriers







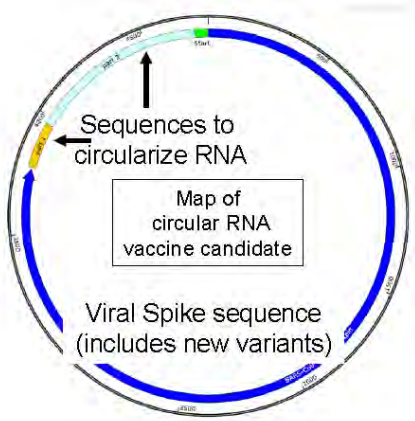


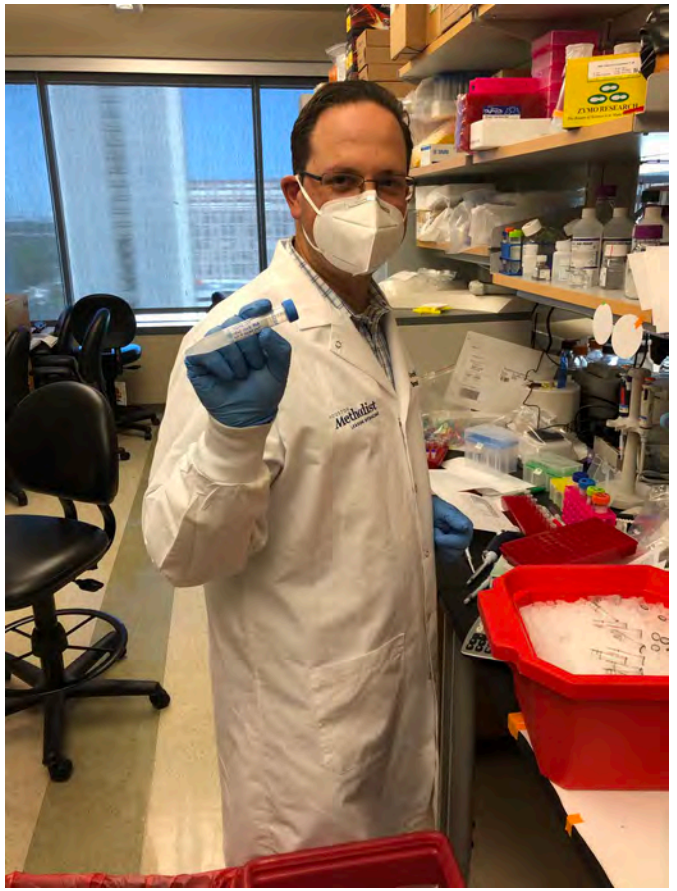


RNA Vaccine Against SARS-CoV-2

Circular mRNA against Spike protein

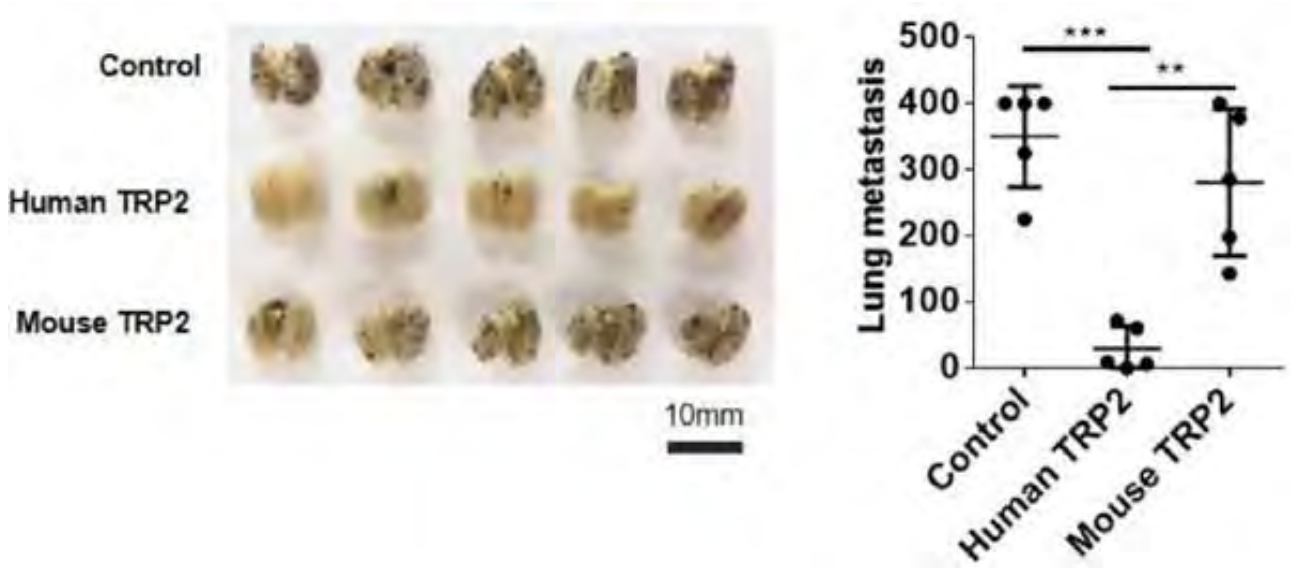
- mRNA degraded from ends
- Circular RNAs don't have ends and are harder to destroy
- Longer RNA lifespan = increased chance of effectiveness





Cancer Vaccines

Melanoma Vaccine



Courtesy, Rong Fu Wang, HMH

mRNA hTERT Restores Telomere Length and Replicative Capacity

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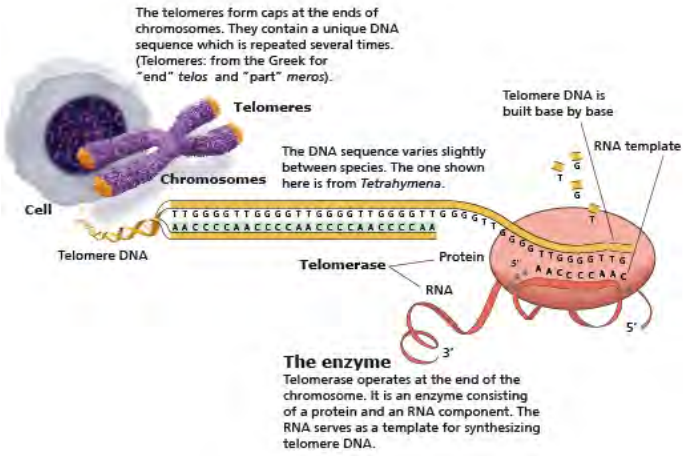
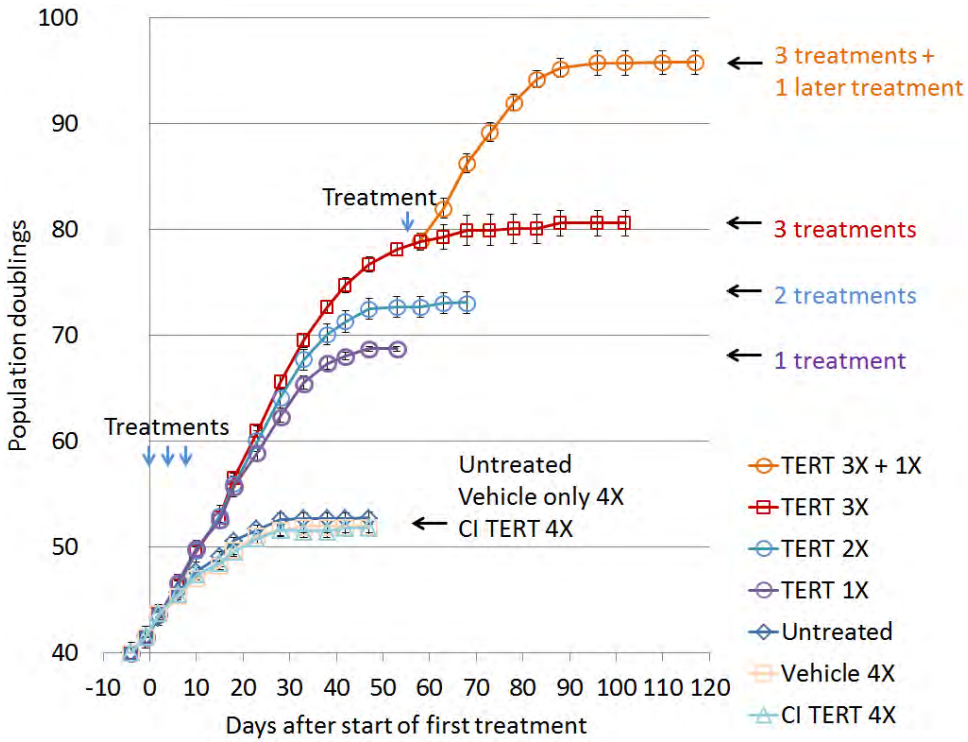
- We have extended telomeres of human adult cells
- Increased telomere length = increased replicative capacity
- Cells with longer telomeres function like young cells





Ramunas et al, FASEB 2015

hTERT Enhanced Skin Product

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avita medical
transforming lives

How ReCell® can Deliver Superior Outcomes

Hospital-Based RNA Therapeutics

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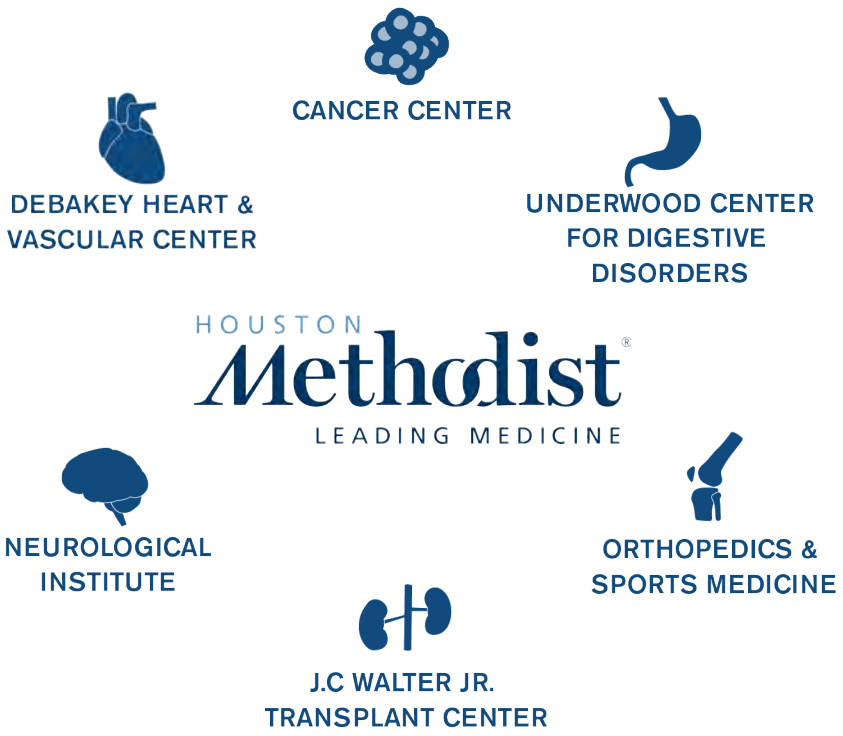
HMH as a destination for RNA-mediated therapy



Infectious Disease
- COVID-19 vaccines [RNAimmune; CalTech; GeneOne; ConserV]
- Circular RNA [D. Kiss]

Cancer
- Pancreatic, melanoma, glioblastoma [J. Chen; R Rostomily, D Kiss; R. Wang]
- Multiple myeloma CAR-T [Cartesian; Poseida]
- Self-replicating RNA platform [RNAcore]

Cardiovascular
- Heart failure [HSP60 vaccine; K. Youker]
- Bradycardia [TBX18; E. Marban, Cedars-Sinai]
- Progeria [hTERT; J. Cooke]
- Hypercholesterolemia [PCSK9 antibody; RNAcore]
- Myocyte regeneration [Animatus]

Orthopedics
- Bone regeneration [BNP; Steadman Philippon Research Institute]

Transplant/Immunology
- RNA-based immunotherapies [Tidal - QC]
- Clinical-grade iPSCs [iPeace]

Neurosciences
- RNA-enhanced T regs [Appel; RNAcore]
- RNA-encoding antibodies for T-cell activation [Appel; RNAcore]

Department of Cardiovascular Sciences

NIH R01HL148016; R01HL132155; R01HL149303; R01HL133254; Progeria Research Foundation, CPRIT RP150611

Houston Methodist Leading Medicine

Dan Kiss
Roman Sukhovershin
Nhat Tu Le
Longhou Fang
Ruli Gao
Francisco Altimarano
Biana Godin
Francesca Taraballi
Bruna Coradetti

UTHealth The University of Texas Health Science Center at Houston

Louise McCullough

Boston University

John Conner

Texas A&M University 1876

Rod Pettigrew
Abhishek Jain
Michael McShane

BCM Baylor College of Medicine

Malcolm Brenner
Peter Hotez
Jeroen Pollet

City of Hope

Zhen Chen
Yingjun Luo

Harvard Medical School

Kaifu Chen

Nick Leeper
Ngan Huang

The University of Texas MD Anderson Cancer Center
Making Cancer History®

Junichi Abe

COVID-19 Vaccine Update

April 8, 2021

H. Dirk Sostman, MD FACR
Ernest Cockrell, Jr. Presidential Distinguished Chair
EVP & Chief Academic Officer

HOUSTON Methodist
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Approved or Near-Approved Vaccines

		Protection from Symptomatic Illness	Protection from Severe Illness	Protection from Hospitalization or Death
moderna	Approved (US, UK, EU)	94%	100%	100%
Pfizer	Approved (US, UK, EU)	95% (US) 100% (S. Africa)	90%	100%
Johnson & Johnson	Approved (US)	72% (US) 68% (LatAm) 64% (S. Africa)	82% - 88%	100%
AstraZeneca	Approved (UK, EU)	~70% (US/LatAm) 76% (UK) 10% (S. Africa)	100%	100%
NOVAVAX	Not yet approved	89% (UK) 60% (S. Africa)		100%

The exact numbers quoted for different vaccines will vary depending on efficacy, but also on:

- clinical trial or "real world evidence"
- outcome criteria
- length of follow up
- which country
- what time period

Example: Pfizer Vaccine

	Protection from Symptomatic Illness	Protection from Severe Illness	Protection from Hospitalization or Death
US Trial, 2 mos follow up FDA definition of severe disease	95%	90% (1/9)	100%
US trial, 6 mos follow up	92.6%	100%	100%
World trial, 6 mos follow up FDA definition of severe disease	91.3%	95% (1/21)	100%
World trial, 6 mos follow up CDC definition of severe disease	91.3%	100% (0/32)	100%
S. Africa trial	100%	100%	100%

Approved or Near-Approved Vaccines

		Protection from Asymptomatic Infection	Provides Sterilizing Immunity
moderna	Approved (US, UK, EU)	**66%** **After first dose**	**Yes (monkeys)**
Pfizer	Approved (US, UK, EU)	**90%** **After second dose**	**Yes (monkeys)**
Johnson & Johnson	Approved (US)	**74%** **Single dose**	**Yes (monkeys)**
AstraZeneca	Approved (UK, EU)	**66% (preliminary)**	**No (Monkeys)**
NOVAVAX	Not yet approved	**No data**	**Yes (mice)**

Accumulating evidence suggests vaccines will protect against asymptomatic infection – and transmission – with efficacy similar to their protection from symptomatic infection.

Vaccination in the Real World

- Real World Data on vaccinated groups
  - Israel – 96% protection from infection
  - Scotland – hospitalization reduced by 85% (Pfizer) and 94% (AstraZeneca)
  - Scotland – 30% reduction in household contact infections after one dose
  - England – vaccine efficacy 73% (AstraZeneca) to 89% (Pfizer)
  - Houston Methodist – reduced employees' positive test rate 95%
  - CDC study – vaccination reduces incidence rate of all infections by 97%
  - Cambridge Health – 75% reduction in asymptomatic infection

Vaccine Safety Overview

Phase 3 Clinical Trial

Adverse Effect (AE)	Vaccine Group	Placebo Group
Solicited inject site AE	73%	11%
Solicited systemic AE	70%	34%
Unsolicited non-serious AE	27%	13%
Serious AE	0.6%	0.5%
Withdrawal for AE	0.6%	0.5%
Allergic reaction	0.6%	0.5%
Death	2	4

Real World Experience

- Only unexpected development: small number of severe allergic reactions (with all three approved vaccines)
- 2.5 to 4.7 cases per million vaccinations
  - flu vaccine = 1.3 per million
- Treatment
  - Antihistamines and Epi-Pen
  - Fatalities = 0
- Precautions
  - Allergy to vaccine components or to first dose → do not vaccinate
- Risk Benefit
  - Risk of COVID-19 far, far worse than rare problems with vaccine

What Could Go Wrong?

Update on Viral Variants

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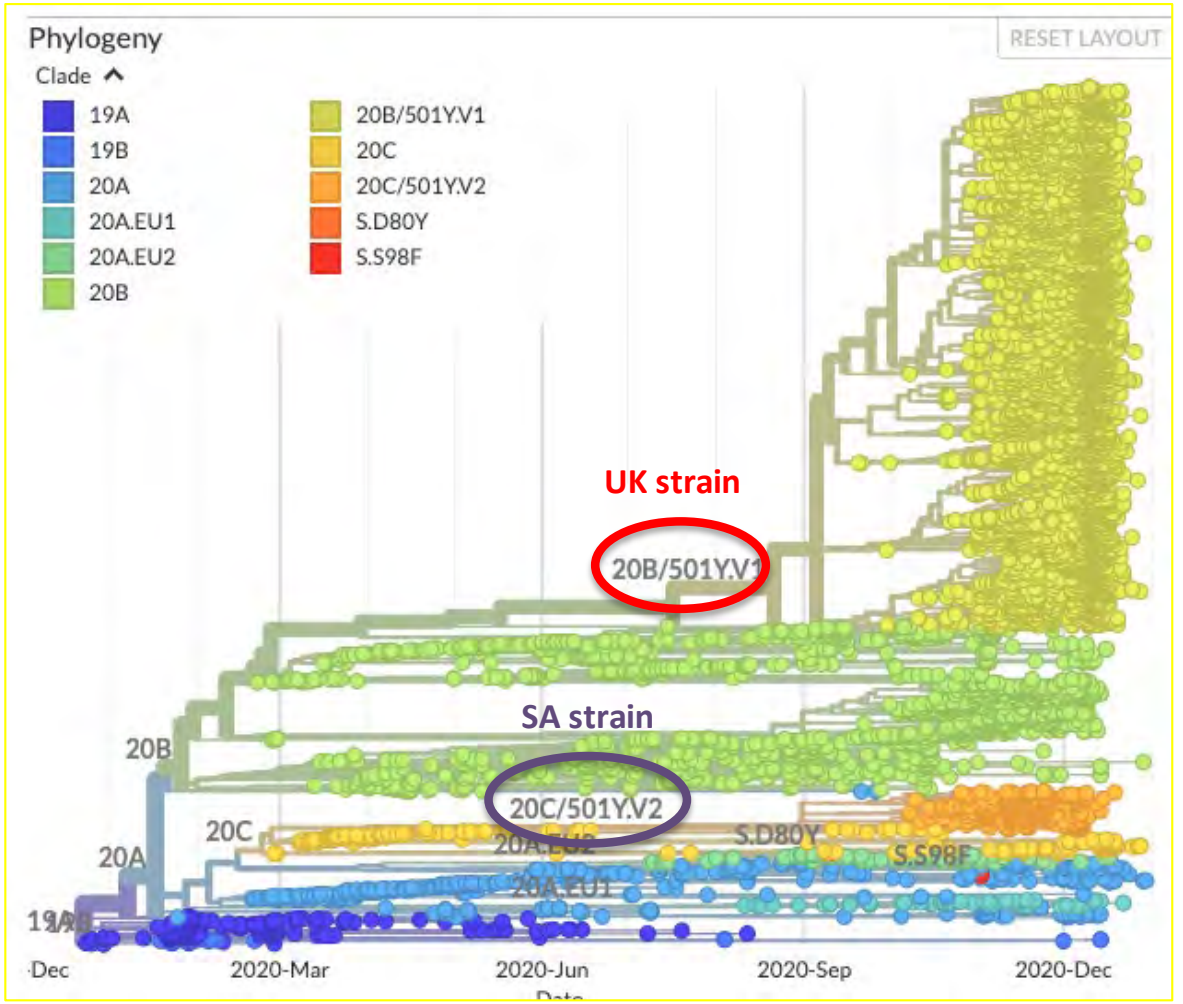
What Could Go Wrong?

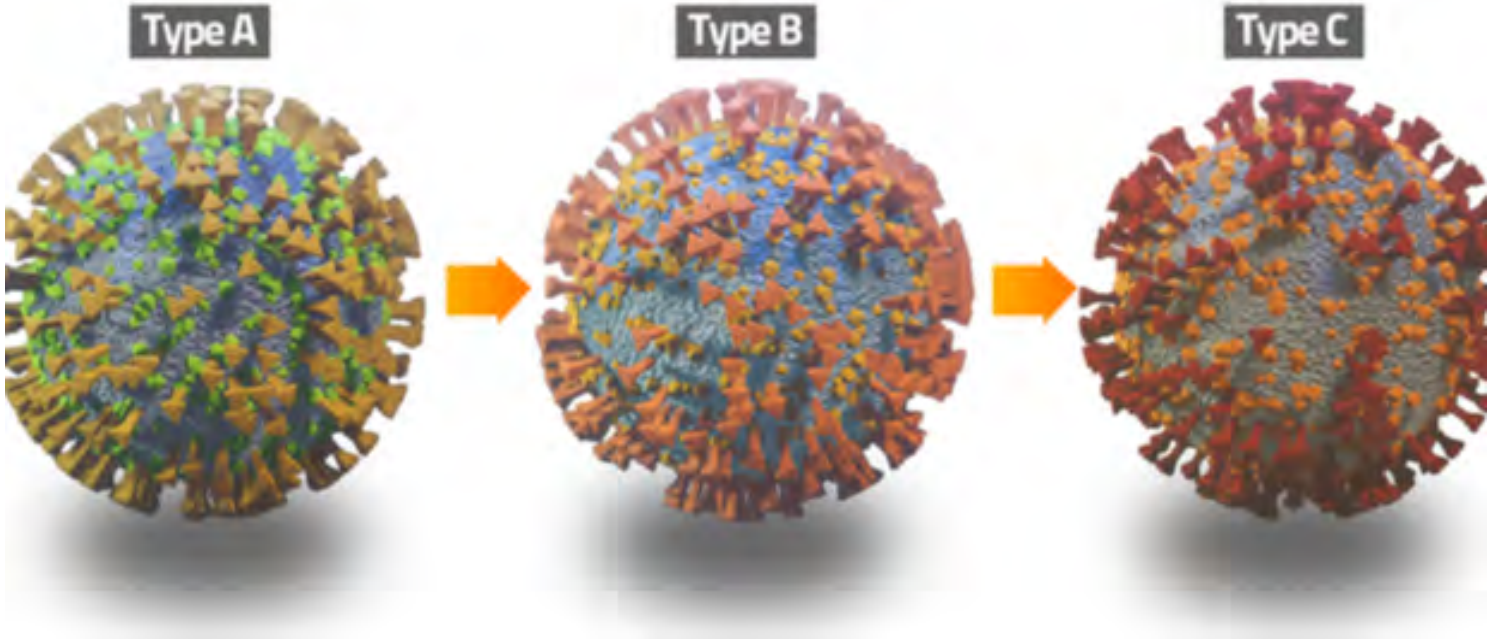
- All viruses mutate – and evolve with selective pressure
- SARS-CoV-2 mutates relatively slowly, but huge number of infections gives it many chances
- Concern is if mutants have dangerous new properties
  - Increased transmission
  - Increased severity
  - Resistance to treatments (esp Abs)

SARS-CoV-2 Evolution During 2020



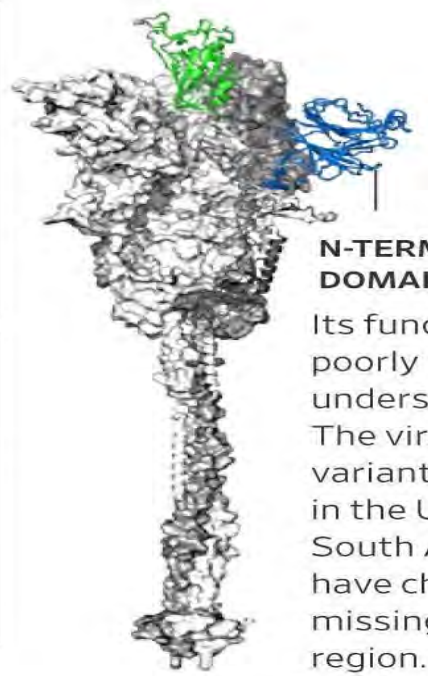
What Could Go Wrong?

Antibodies May Not “Recognize” Spike Protein with Too Much Change



RECEPTOR-BINDING DOMAIN

This area helps the virus bind to receptors on cells. The variants that have emerged in South Africa, Brazil and the U.K. have mutations here.



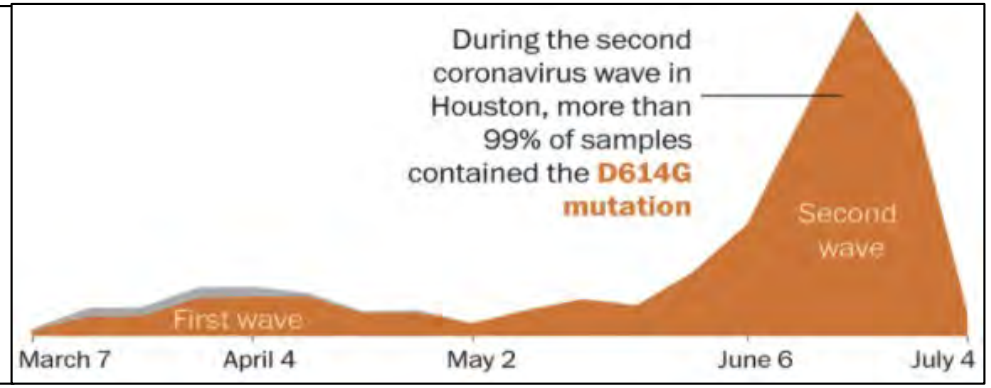
N-TERMINAL DOMAIN

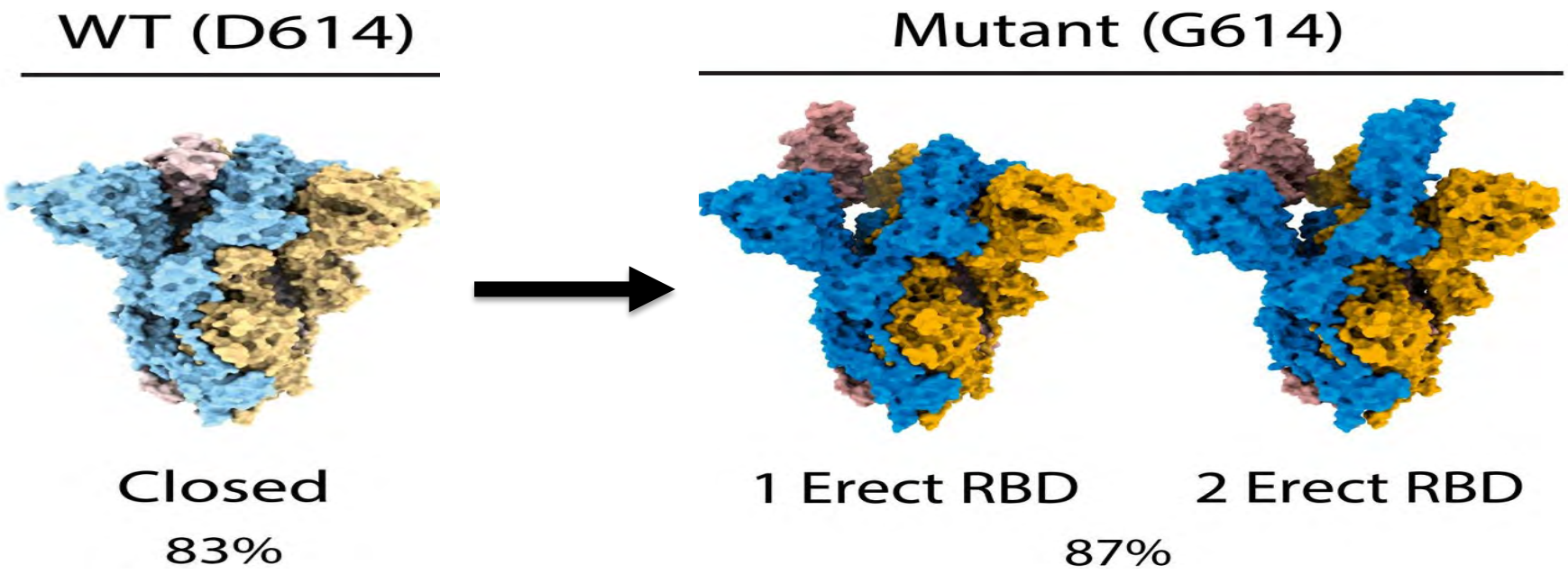
Its function is poorly understood. The viral variants found in the U.K. and South Africa have chunks missing in this region.

What Could Go Wrong?

Viral mutations

- D614G
  - Set of 4 mutations
  - Rapidly became dominant
  - May be more sensitive to antibodies

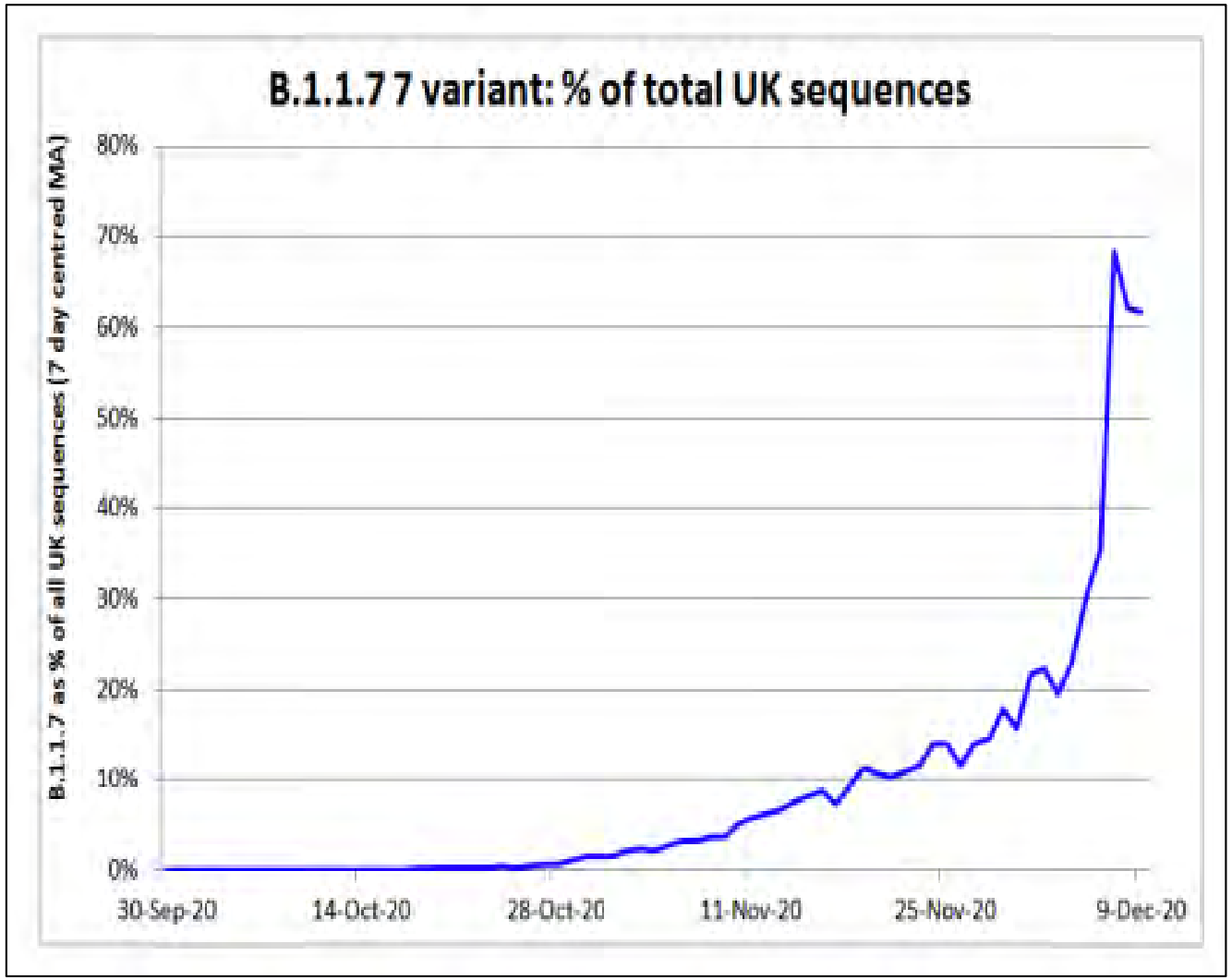




What Could Go Wrong?

Viral mutations

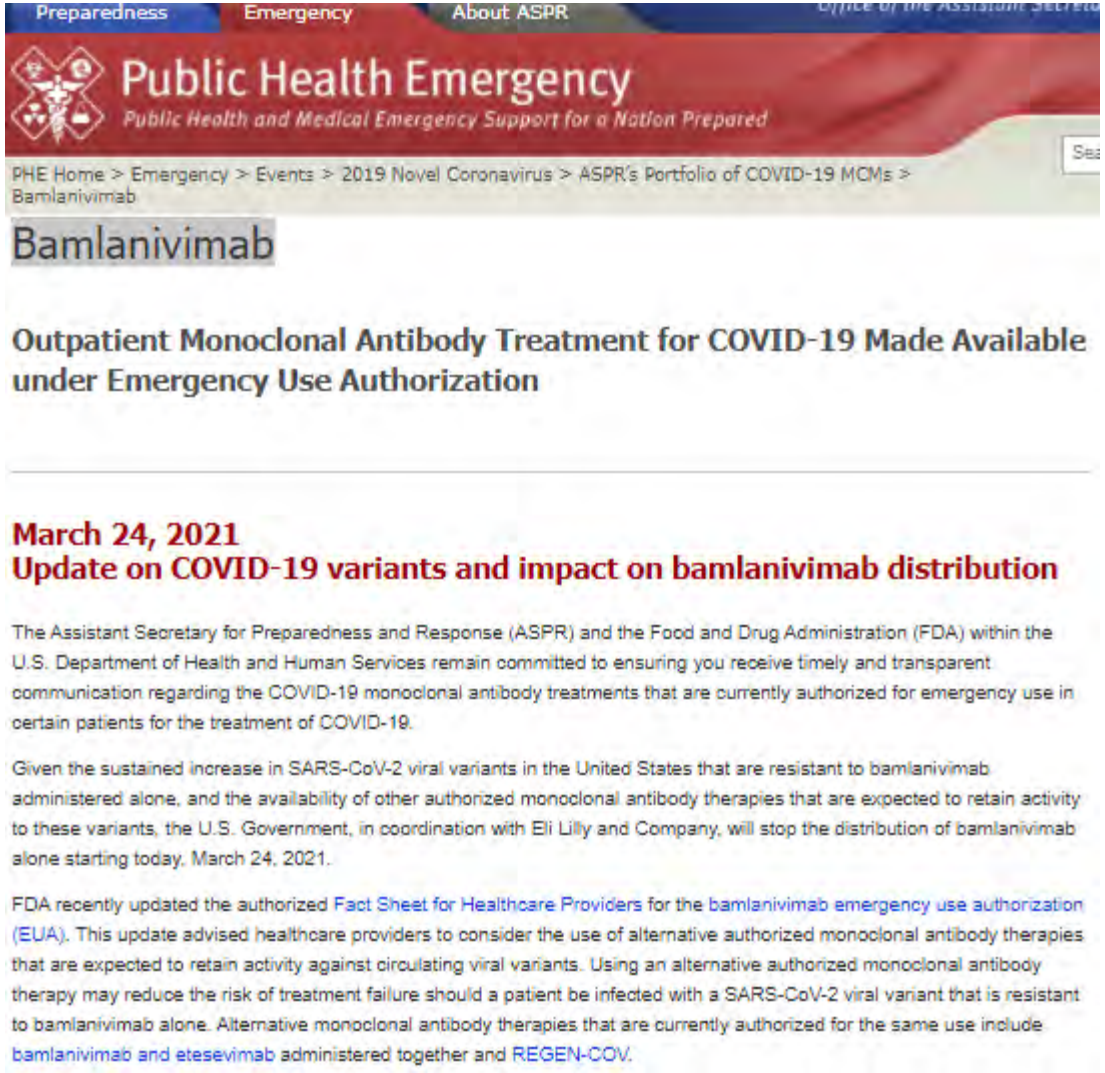
- N501Y
  - B.1.1.7 (501.Y.V1) – UK
  - 501.Y.V2 – S. Africa
  - P.1 – Brazil
  - All have other mutations
  - All appear more transmissible



Viral Variants and mAb Therapy

March 24, 2021:

US government and Eli Lilly stop distributing single monoclonal antibody preparation



Preparedness Emergency About ASPR

Public Health Emergency

Public Health and Medical Emergency Support for a Nation Prepared

PHE Home > Emergency > Events > 2019 Novel Coronavirus > ASPR's Portfolio of COVID-19 MCMs > Bamlanivimab

Bamlanivimab

Outpatient Monoclonal Antibody Treatment for COVID-19 Made Available under Emergency Use Authorization

March 24, 2021
Update on COVID-19 variants and impact on bamlanivimab distribution

The Assistant Secretary for Preparedness and Response (ASPR) and the Food and Drug Administration (FDA) within the U.S. Department of Health and Human Services remain committed to ensuring you receive timely and transparent communication regarding the COVID-19 monoclonal antibody treatments that are currently authorized for emergency use in certain patients for the treatment of COVID-19.

Given the sustained increase in SARS-CoV-2 viral variants in the United States that are resistant to bamlanivimab administered alone, and the availability of other authorized monoclonal antibody therapies that are expected to retain activity to these variants, the U.S. Government, in coordination with Eli Lilly and Company, will stop the distribution of bamlanivimab alone starting today, March 24, 2021.

FDA recently updated the authorized Fact Sheet for Healthcare Providers for the bamlanivimab emergency use authorization (EUA). This update advised healthcare providers to consider the use of alternative authorized monoclonal antibody therapies that are expected to retain activity against circulating viral variants. Using an alternative authorized monoclonal antibody therapy may reduce the risk of treatment failure should a patient be infected with a SARS-CoV-2 viral variant that is resistant to bamlanivimab alone. Alternative monoclonal antibody therapies that are currently authorized for the same use include bamlanivimab and etesevimab administered together and REGEN-COV.

Viral Variants and Vaccines

Vaccine Efficacy	UK - B.1.1.7	S Africa - B.1.351
Pfizer	85% (SIREN study)	1.25x - 6x reduction*
Moderna	89%	4x - 10x reduction*
J&J	72% (USA data)	64%
AstraZeneca	76%	10%

***Data from the lab in model systems. May not reflect real life.**

For example, Pfizer vaccine was 100% effective in preventing COVID-19 infection in S Africa trial.

Variants in Houston

- Houston Methodist Department of Pathology and Genomic Medicine is sequencing genomes of virtually all SARS-CoV-2 infections detected in our population
- Based on 10,300 viral genomes to date
- Variant of interest
  - B.1.526 (*n* = 19), B.1.525 (*n* = 21), P.2 (*n* = 84)
- Variant of concern
  - **B.1.1.7 (*n* = 1243)**, B.1.351 (*n* = 4), P.1 (*n* =14)
  - B.1.427 (*n* = 78), **B.1.429 (*n* = 326)**

Summary: Viral Variants

- Viral variants are an expected development
- Medical significance varies
  - Can have beneficial or no effect on virus behavior
  - Can increase transmissibility or lethality
- Variants are a minority of cases in Houston Methodist population
  - Trend suggests B.1.1.7 will become the dominant strain in Houston this spring
- Variable reduction in antibody (post-infection or post-vaccination) effectiveness
  - Variants have evaded single monoclonal antibody preparation – two mAb's needed now
  - Lab data suggest reduced – but preserved – efficacy of immune (convalescent or vaccinated) serum against model viruses
  - However, data do not show major reduction in clinical efficacy of FDA-cleared vaccines against current variants

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LEADING MEDICINE

COVID-19 and Vaccine Update

Marc L. Boom, MD
April 8, 2021

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My two key take home messages today:

TRUST THE VACCINES!

GIVE US 60 – 90 DAYS!!

The Pandemic Is Ending: In millions of small ways, every day. How long it takes is up to us.

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The Atlantic

HEALTH

The Pandemic Is Ending

In millions of small ways, every day. How long it takes is up to us.

JAMES HAMBLIN MARCH 11, 2021

THE DEADLIEST VIRUS in history was variola. For thousands of years, it stalked humanity, causing smallpox, a horrific fate. An infected person's skin would suddenly erupt in blisters, papules, and vesicles. These would sometimes cover the eyes, and could grow together until the skin fell off, or fill with blood, or turn gray as the person bled internally. In the 20th century alone, the disease killed some 300 million people. Many survivors were scarred or blinded.

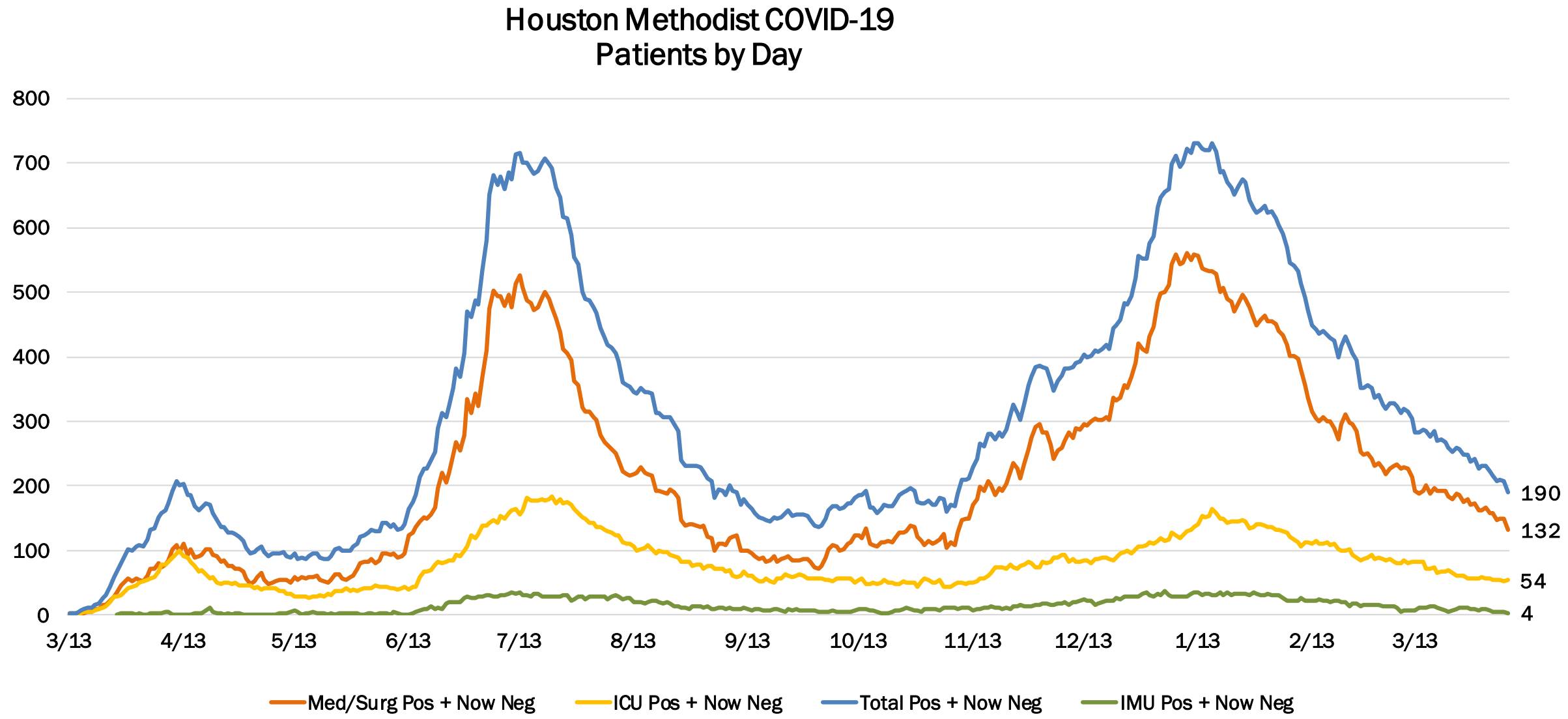
Before the invention of vaccines, some people would go to extreme lengths to gain immunity. "Variolation" involved purposely infecting a person with a small amount of a mild version of the smallpox virus, in the hopes that they would develop immunity. It was risky: Unlike today's vaccines against COVID-19—which contain no living coronavirus—variolation was not predictably effective, and it caused some people to become gravely ill with smallpox.

"Pandemics end in whimpers, not in headlines."

"The path before us should involve extremely straightforward decisions. All we have to do is decide to make them. I have no certainty that we will."

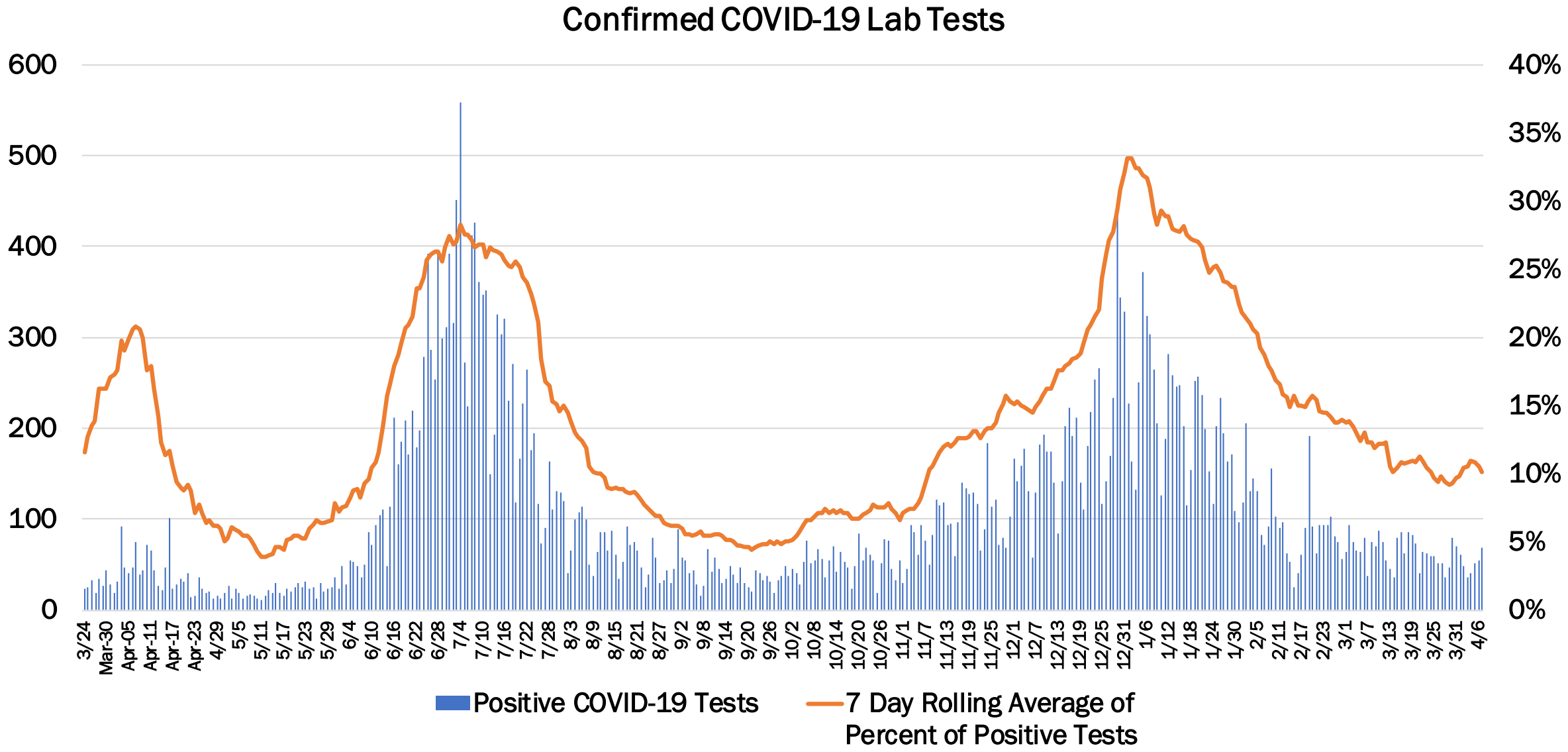
https://www.theatlantic.com/health/archive/2021/03/stop-asking-fauci-to-predict-the-future-of-covid-19/618261/

Houston Methodist COVID-19 Cases by Day

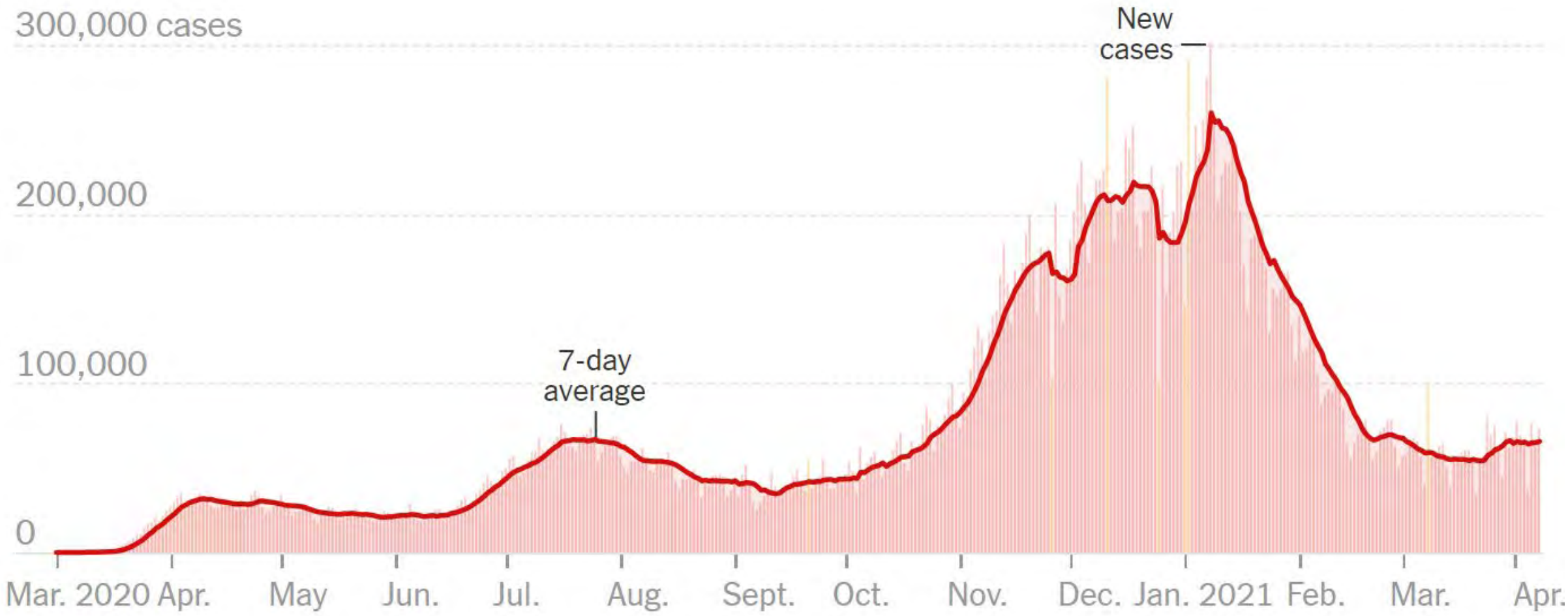


Data as of April 7, 2021

Houston Methodist Testing Trend

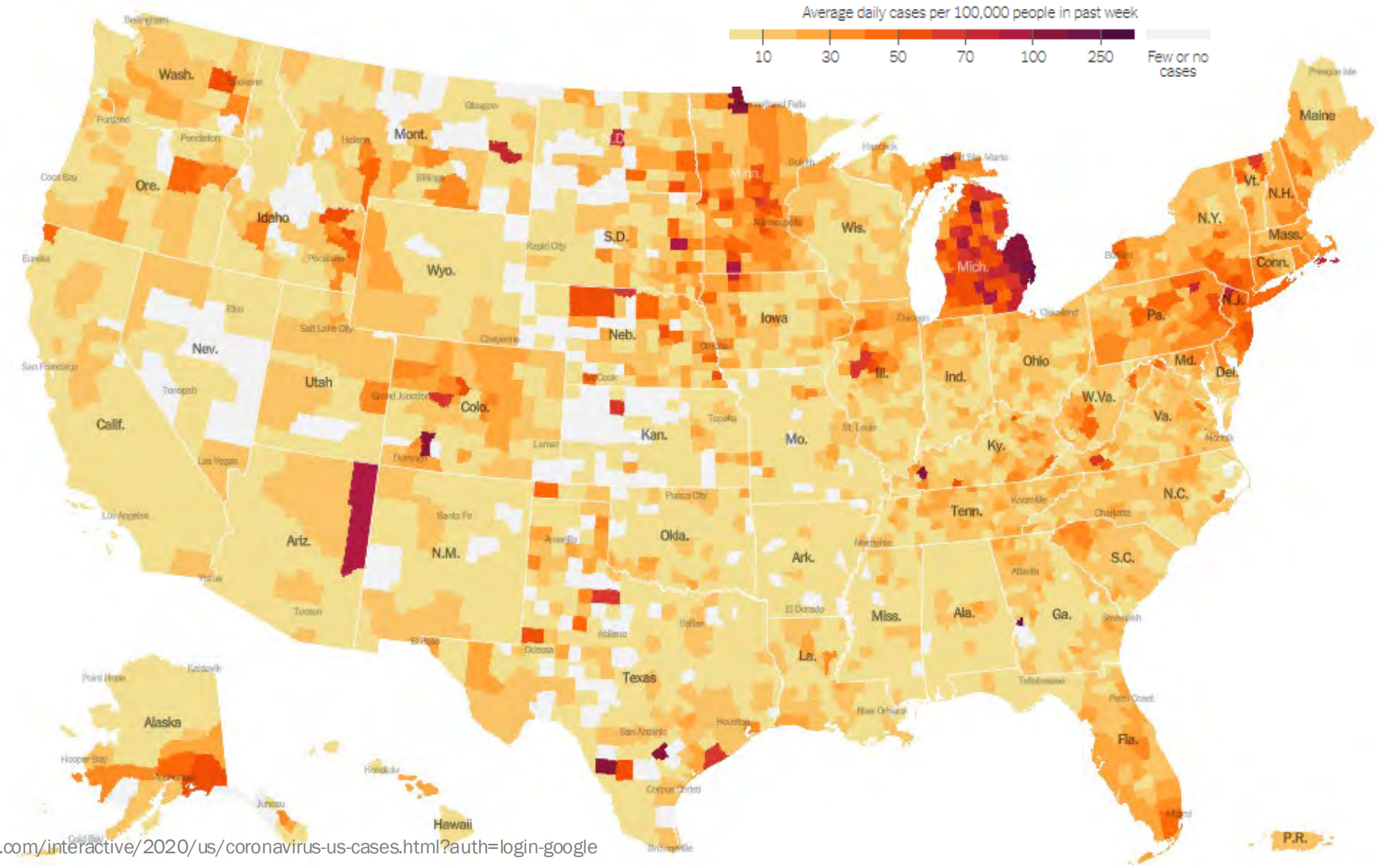


New COVID-19 Cases Reported in U.S. by Day



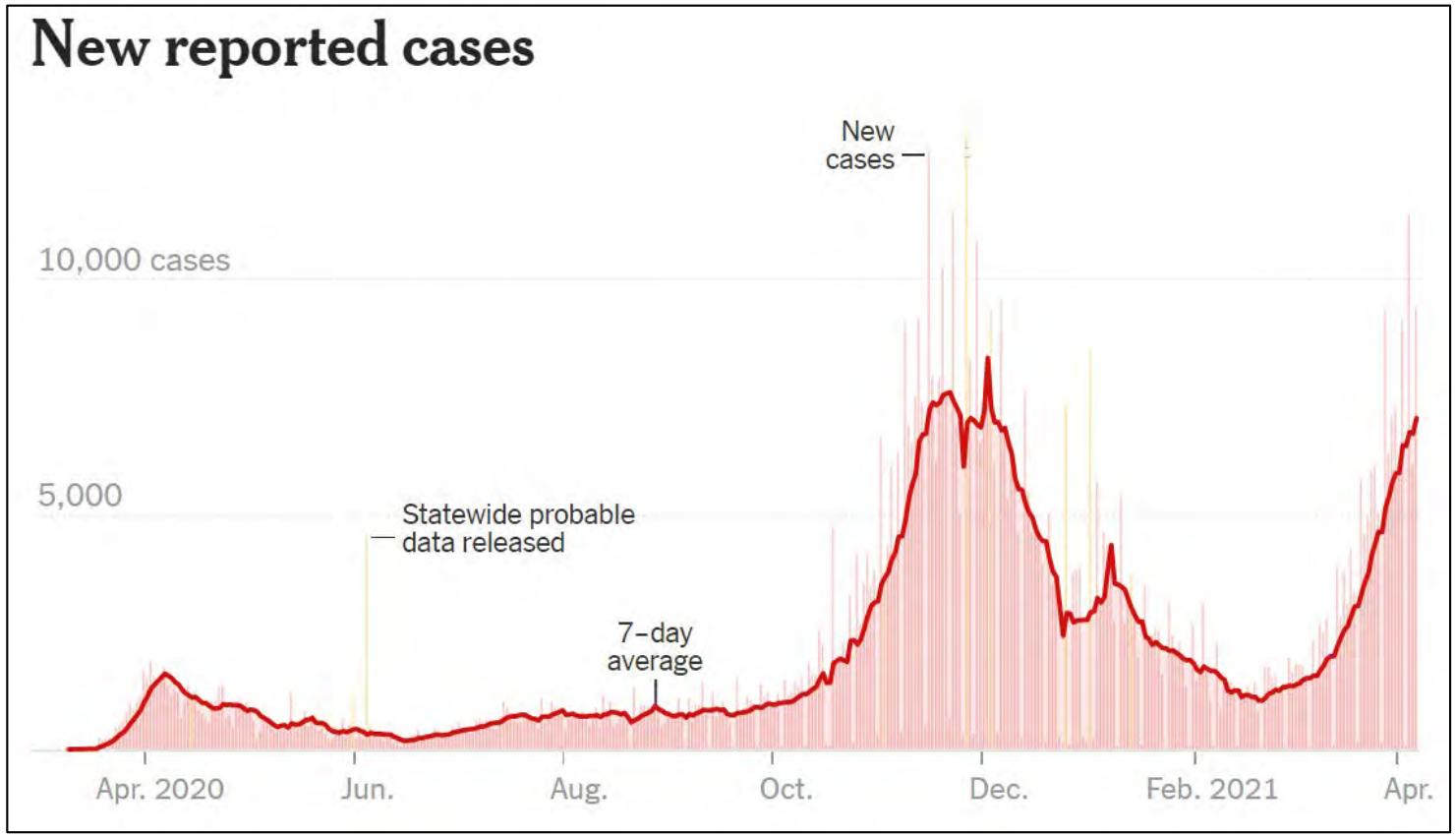
Source: https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html?auth=login-google

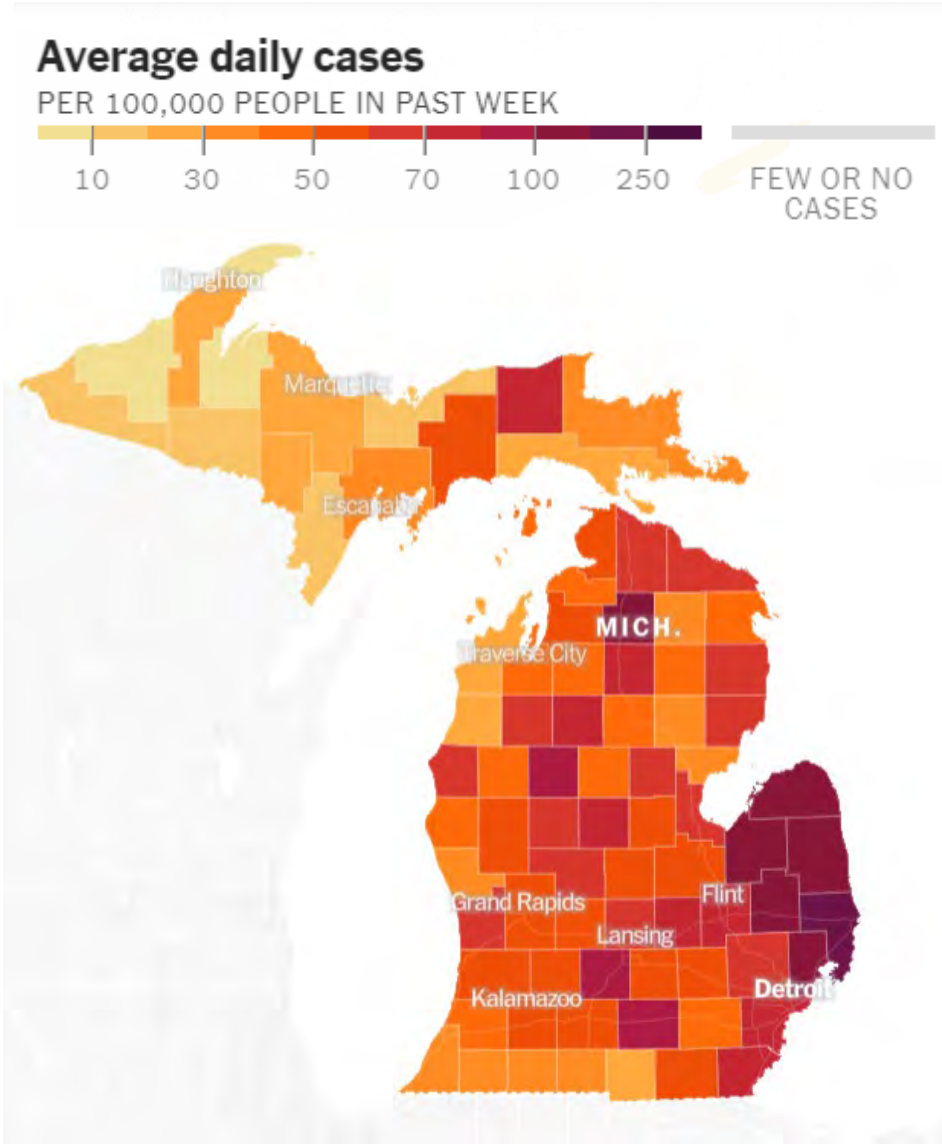
COVID-19 Average Daily Cases per 100,000



Source: https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html?auth=login-google

Michigan Case Count and Heat Map





Source: https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html?auth=login-google

Why Is All COVID News Bad News?

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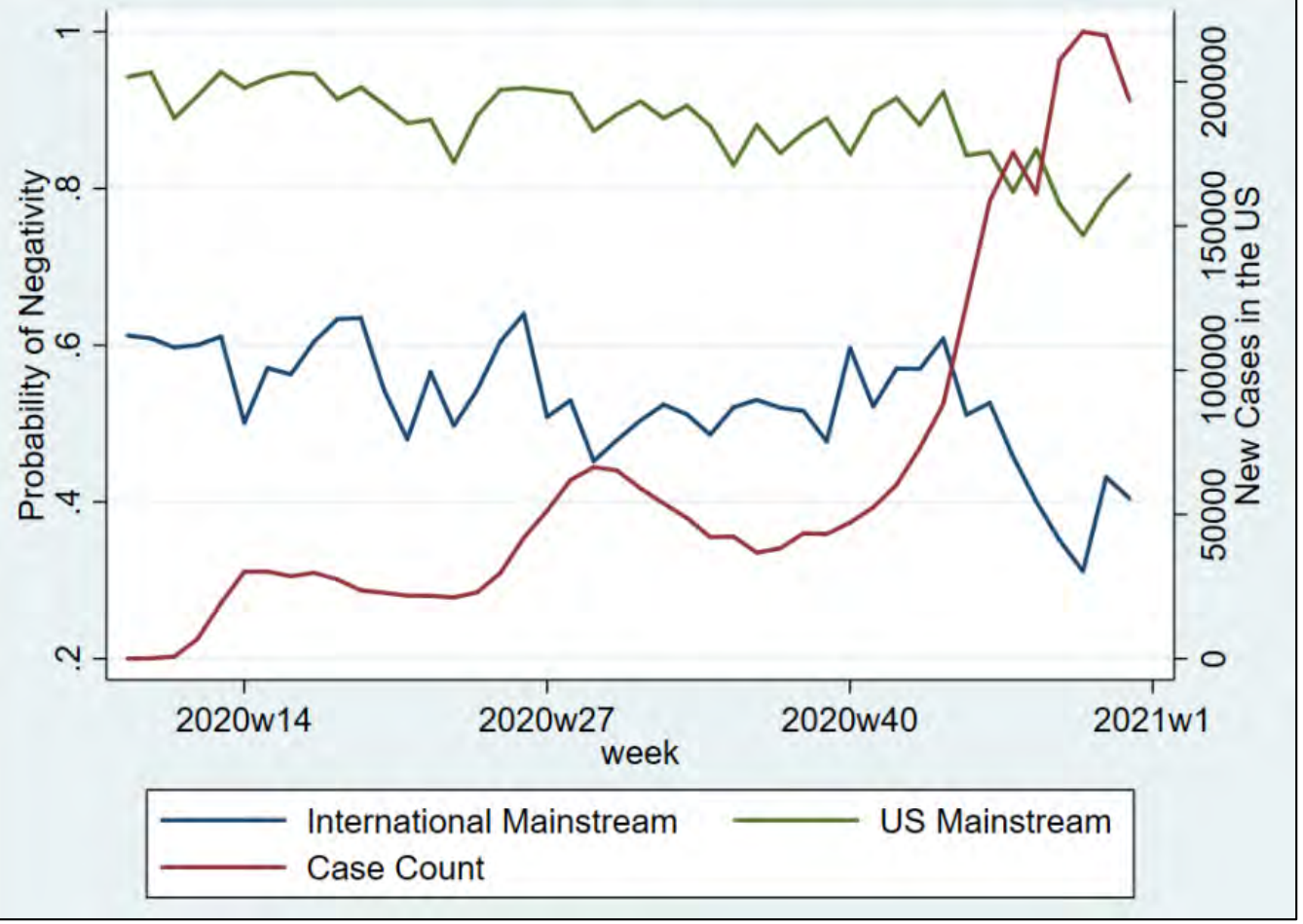
Figure 1: Media Negativity and New COVID-19 Cases Over Time



"Overall, we find that COVID-19 stories from U.S. major media outlets are much more negative than similar stories from other U.S. outlets and from non-U.S. sources. The negativity does not respond to changes in new cases."

"...the most popular stories... have high levels of negativity."

"...negativity appears to be unrelated to the political leanings of the newspaper's or network's audience."

https://cpb-us-e1.wpmucdn.com/sites.dartmouth.edu/dist/4/2318/files/2021/03/Why-Is-All-Covid-News-Bad-News-3_22_21.pdf

CDC: Coping with COVID-19 Stress

Healthy Ways to Cope with Stress

- **Take breaks from watching, reading, or listening to news stories**, including those on social media. It's good to be informed, but hearing about the pandemic constantly can be upsetting. Consider limiting news to just a couple times a day and disconnecting from phone, tv, and computer screens for a while.
- **Take care of your body**.
  - Take deep breaths, stretch, or meditate .
  - Try to eat healthy, well-balanced meals.
  - Exercise regularly.
  - Get plenty of sleep.
  - Avoid excessive alcohol, tobacco, and substance use.
  - Continue with routine preventive measures (such as vaccinations, cancer screenings, etc.) as recommended by your healthcare provider.
  - Get vaccinated with a COVID-19 vaccine when available.
- **Make time to unwind**. Try to do some other activities you enjoy.
- **Connect with others**. Talk with people you trust about your concerns and how you are feeling.
- **Connect with your community- or faith-based organizations**. While social distancing measures are in place, try connecting online, through social media, or by phone or mail.

https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html

"Take breaks from watching, reading, or listening to news stories, including those on social media. It's good to be informed, but hearing about the pandemic constantly can be upsetting. Consider limiting news to just a couple times a day and disconnecting from phone, tv, and computer screens for a while."

My two key take home messages today:

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Greater Houston First Dose Supply

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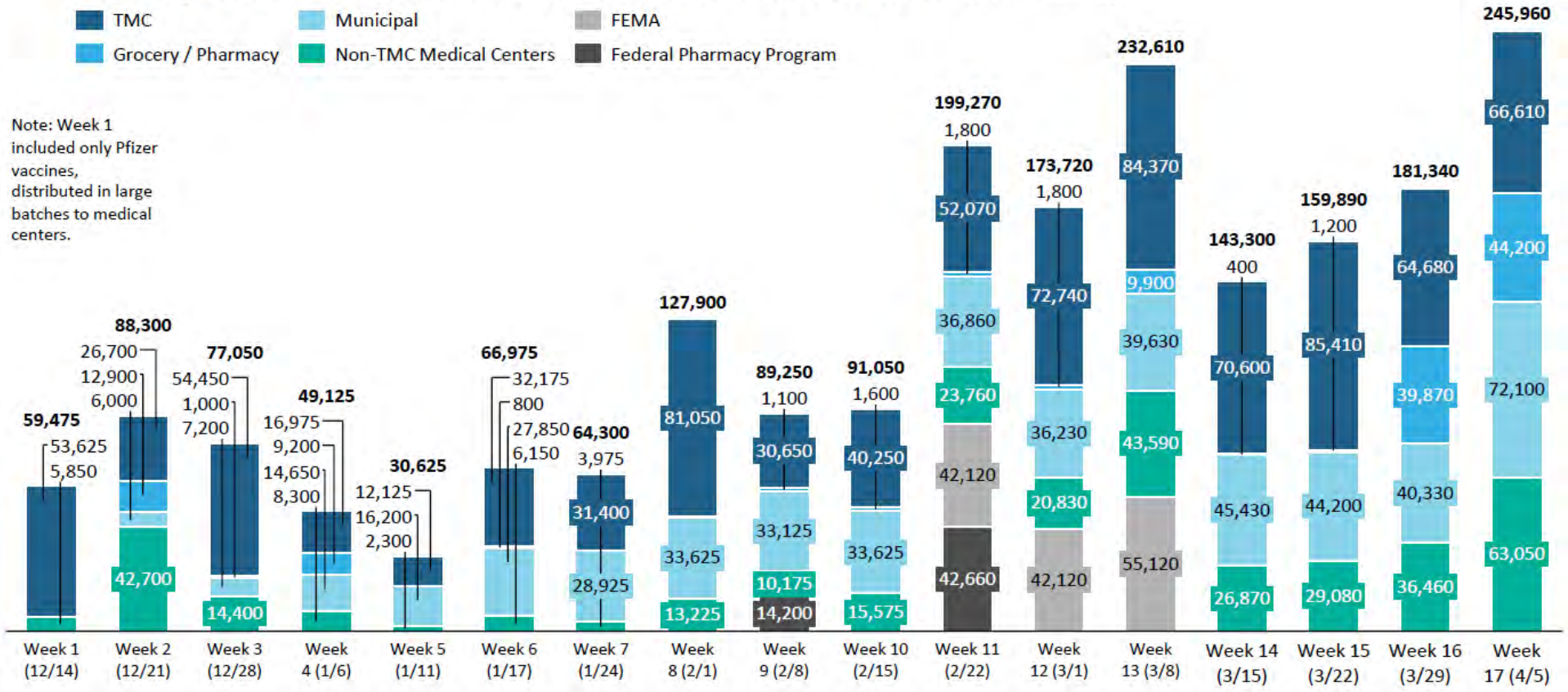
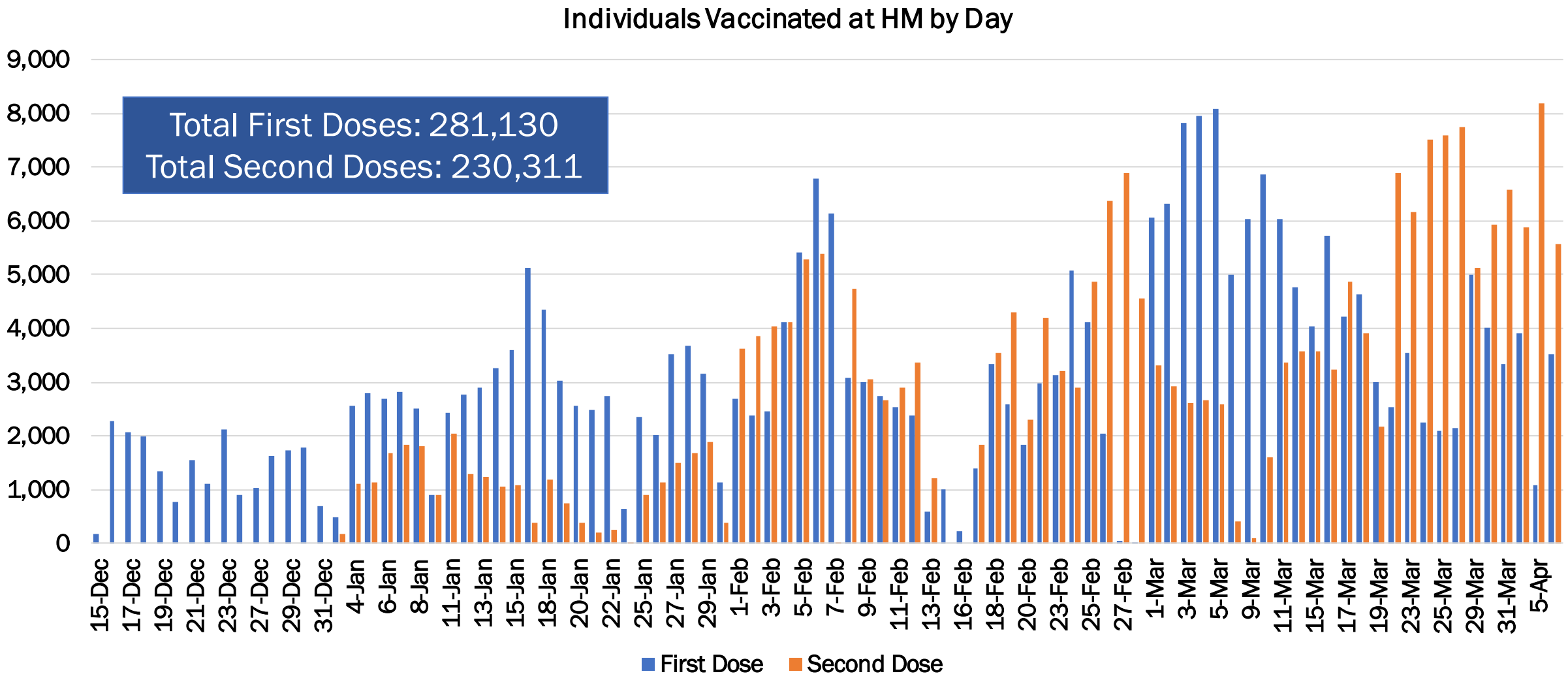
COVID-19 VACCINE ALLOCATIONS FOR GREATER HOUSTON

Weekly vaccine allocation for Greater Houston Area[1] (# doses)



*Starting in week 11, the labels on Pfizer vaccine vials were updated to increase the number of doses per vial from 5 to 6 doses.

HM COVID-19 Vaccines Administered



National Distribution and Administration of COVID-19 Vaccine

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Total Vaccine Doses

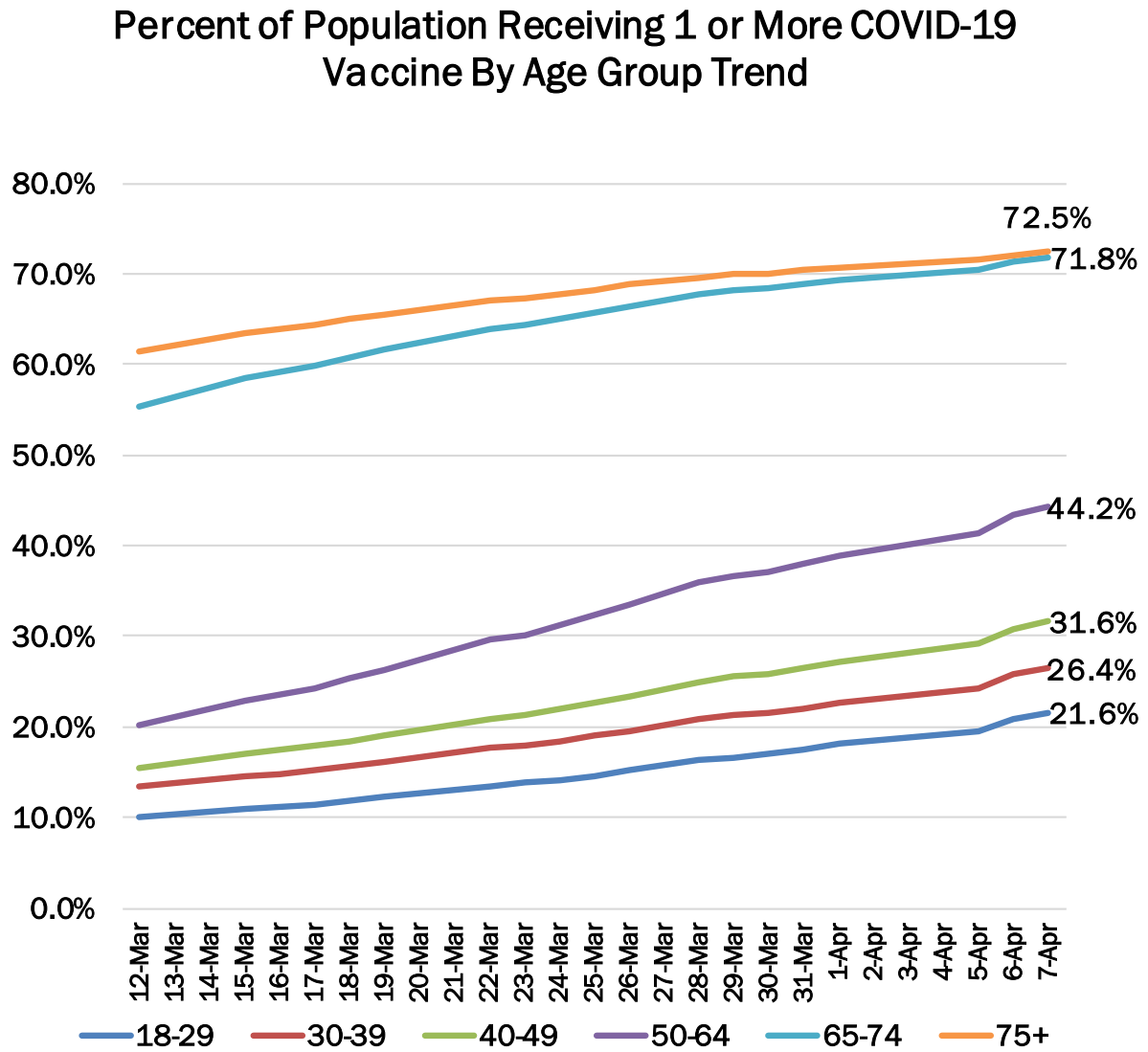
Delivered	225,294,435
Administered	171,476,655

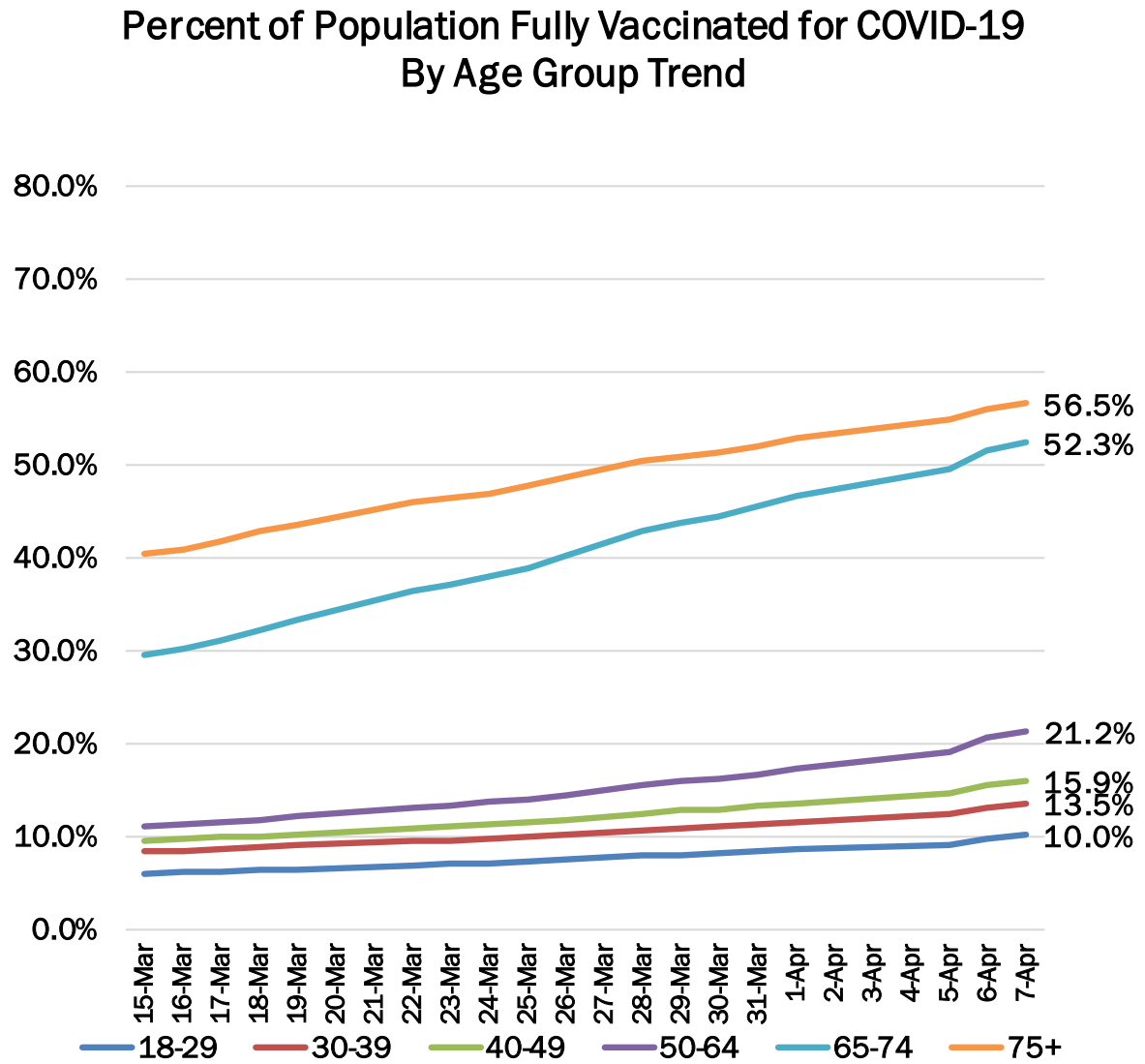
Learn more about the distribution of vaccines.

People Vaccinated	At Least One Dose	Fully Vaccinated
Total	109,995,734	64,422,618
% of Total Population	33.1%	19.4%
Population ≥ 18 Years of Age	109,408,066	64,286,560
% of Population ≥ 18 Years of Age	42.4%	24.9%
Population ≥ 65 Years of Age	41,793,053	31,413,778
% of Population ≥ 65 Years of Age	76.4%	57.4%

https://covid.cdc.gov/covid-data-tracker/#vaccinations

National Vaccination Rate by Age Trend





COVID Data: https://covid.cdc.gov/covid-data-tracker/#vaccination-demographic
Census Data: https://data.census.gov/cedsci/table?q=Age&tid=ACSST1Y2019.S0101&hidePreview=false

Data as of April 7, 2021

How Likely Are You To Get The COVID-19 Vaccine When It Becomes Available To You?

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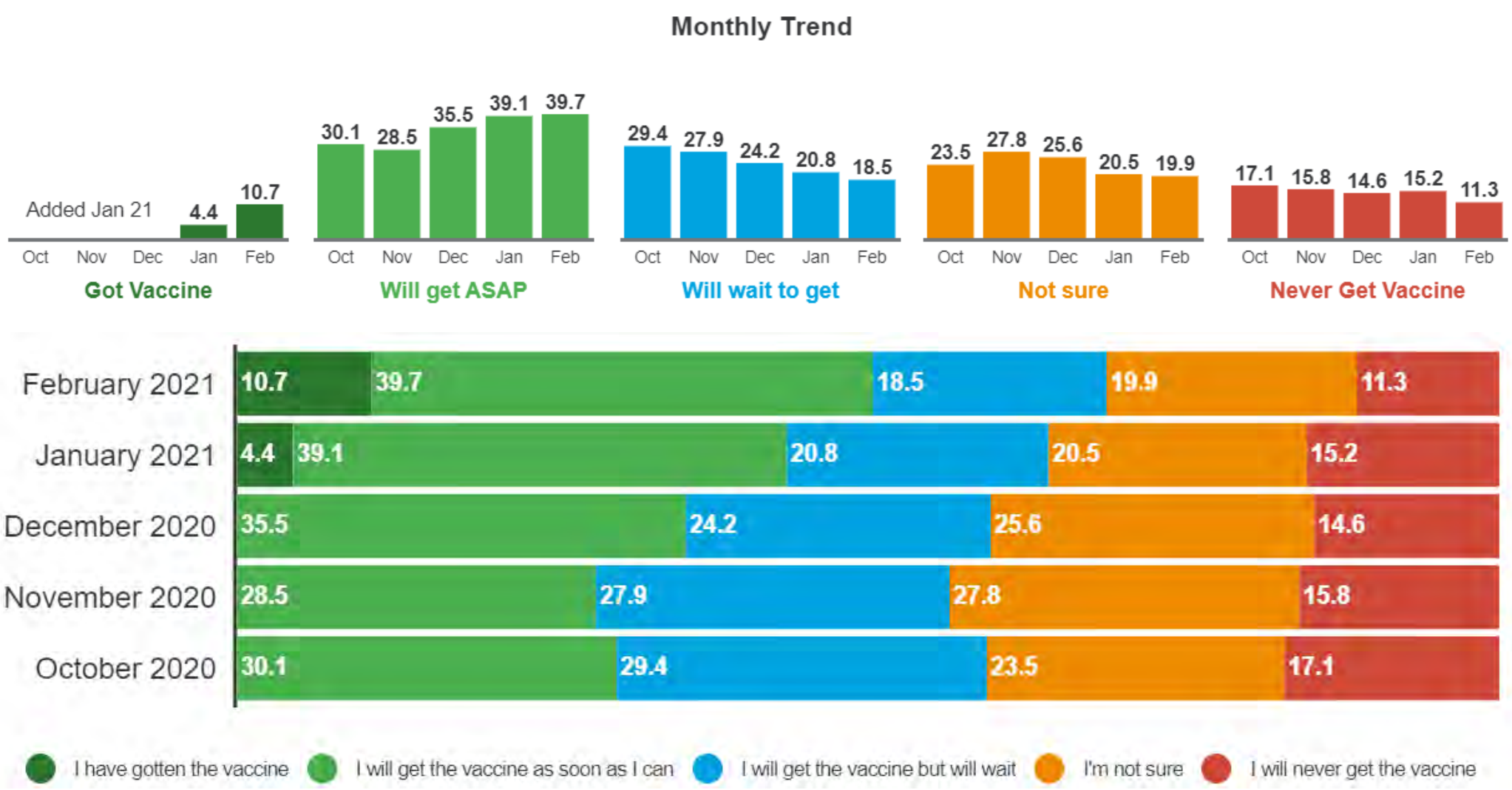
Houston-Baytown-Sugar Land, TX CBSA



Vaccine Mandate for Houston Methodist Employees

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Houston Methodist Hospital makes COVID-19 vaccines mandatory for all employees

Alison Medley

April 1, 2021 | Updated: April 1, 2021 10:24 p.m.

In a defining move, Houston Methodist Hospital will now make COVID-19 vaccines mandatory for all employees who work there.

Luis Alvarez/Getty Images

"We see healthcare as a sacred duty, responsibility and privilege, frankly,... Fundamentally the reason is that we want to be the safest hospital on the planet.

We want to know that we're doing everything we can possibly do to keep our patients safe."

https://www.chron.com/coronavirus/article/Houston-Methodist-COVID-19-mandatory-vaccine-16070061.php#:~:text=In%20a%20defining%20move%2C%20Houston,all%20employees%20who%20work%20there.&text=Alvarez%2FGetty%20Images-,In%20a%20defining%20move%2C%20Houston%20Methodist%20Hospital%20will%20now%20make,all%20employees%20who%20work%20there.

News Release on March 23, 2021

TEXAS Health and Human Services | Texas Department of State Health Services

Texas to Open COVID-19 Vaccination to All Adults on March 29

DSHS directs providers to continue to prioritize older adults

News Release
March 23, 2021

All adults will be eligible to receive a COVID-19 vaccine in Texas beginning Monday, March 29. The Texas Department of State Health Services expects vaccine supplies to increase next week, and providers in multiple parts of the state have made great strides in vaccinating people in the current priority groups. The state's Expert Vaccine Allocation Panel recommended opening vaccination to everyone who falls under the current Food and Drug Administration emergency use authorizations to protect as many Texans as possible.

"We are closing in on 10 million doses administered in Texas, and we want to keep up the momentum as the vaccine supply increases," said Imelda Garcia, DSHS associate commissioner for laboratory and infectious disease services and the chair of the Expert Vaccine Allocation Panel. "As eligibility opens up, we are asking providers to continue to prioritize people who are the most at risk of severe disease, hospitalization and death – such as older adults."

Vaccine Distribution Plan at Houston Methodist

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1A

- HM Employees
- Healthcare Workers
- First Responders (based on State criteria)

1B

- Individuals 65+
- Individuals 16+ with a medical condition

Individuals invited to schedule now.

1C

- Teachers and school staff
- Licensed Child Care Professionals
- Individuals 50+

Individuals invited to schedule now.

2

- Individuals 16+

Open scheduling available on the internet.

It's a two-way street
Masks protect you & me

When we all wear masks, we take care of each other

WHAT YOU CAN DO ONCE YOU HAVE BEEN FULLY VACCINATED

Activity	
Visit inside a home or private setting without a mask with other fully vaccinated people of any age	✓
Visit inside a home or private setting without a mask with one household of unvaccinated people who are not at risk for severe illness	✓
Travel domestically without a pre- or post-travel test	✓
Travel domestically without quarantining after travel	✓
Travel internationally without a pre-travel test depending on destination	✓
Travel internationally without quarantining after travel	✓
Visit indoors, without a mask, with people at increased risk for severe illness from COVID-19.	✗
Attend medium or large gatherings	✗

Decision Making Guidance

Health Risk Factors For You and Those Close to You

Personal Risk Tolerance

Courtesy and Respect for Others

Leading Cause of Death in the US for 2020

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JAMA®
The Journal of the American Medical Association

The Leading Causes of Death in the US for 2020

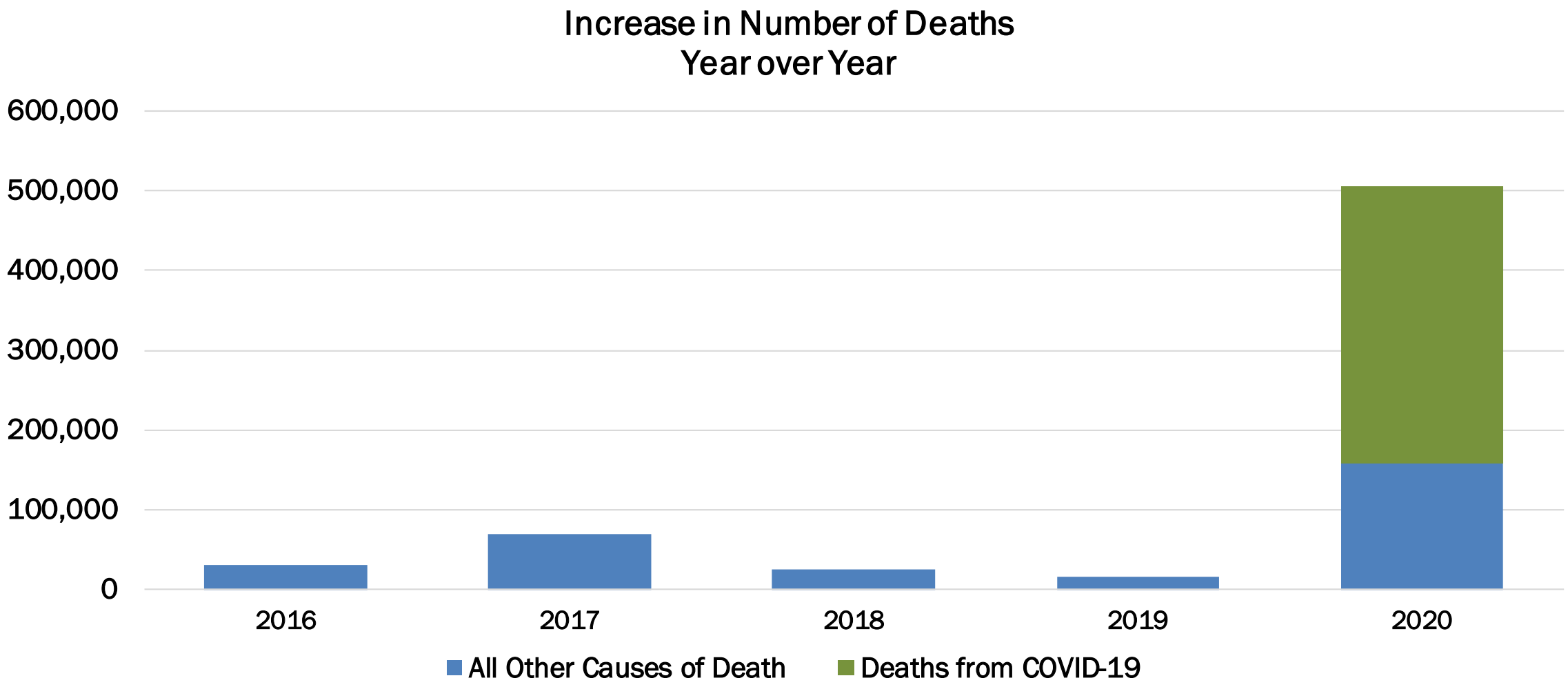
Table. Number of Deaths for Leading Causes of Death, US, 2015-2020[a]

	No. of deaths by year					
Cause of death	2015	2016	2017	2018	2019	2020
Total deaths	2 712 630	2 744 248	2 813 503	2 839 205	2 854 838	3 358 814
Heart disease	633 842	635 260	647 457	655 381	659 041	690 882
Cancer	595 930	598 038	599 108	599 274	599 601	598 932
COVID-19[b]						345 323
Unintentional injuries	146 571	161 374	169 936	167 127	173 040	192 176
Stroke	140 323	142 142	146 383	147 810	150 005	159 050
Chronic lower respiratory diseases	155 041	154 596	160 201	159 486	156 979	151 637
Alzheimer disease	110 561	116 103	121 404	122 019	121 499	133 382
Diabetes	79 535	80 058	83 564	84 946	87 647	101 106
Influenza and pneumonia	57 062	51 537	55 672	59 120	49 783	53 495
Kidney disease	49 959	50 046	50 633	51 386	51 565	52 260
Suicide	44 193	44 965	47 173	48 344	47 511	44 834

The provisional leading cause-of-death rankings for 2020 indicate that COVID-19 was the third leading cause of death in the US behind heart disease and cancer.

Source: https://jamanetwork.com/journals/jama/fullarticle/2778234?guestAccessKey=50b7b74f-3889-4d72-b64b-72792753dbd5&utm_content=weekly_highlights&utm_term=040421&utm_source=silverchair&utm_campaign=jama_network&cmp=1&utm_medium=email

Increase in Number of Deaths by Year



Source: https://jamanetwork.com/journals/jama/fullarticle/2778234?guestAccessKey=50b7b74f-3889-4d72-b64b-72792753dbd5&utm_content=weekly_highlights&utm_term=040421&utm_source=silverchair&utm_campaign=jama_network&cmp=1&utm_medium=email

GLOBAL VIRUS REGISTRY

OUTCOMES OF PATIENTS WITH COVID-19 ON ORGAN SUPPORT

20,608
patients – COVID-19 (+)

	MORTALITY	LOS (MEDIAN DAYS)	DISCHARGE HOME
No Organ Support	8.2%	6.0	73.5%
Mechanical Ventilation	40.8%	15.8	29.8%
Mechanical Ventilation & Vasopressors	53%	17.8	22.2%
Mechanical Ventilation, Vasopressors & RRT	71.6%	20	8.8%

RRT: New Renal Replacement Therapy

There were no missing data regarding mortality, discharge disposition. Data regarding hospital length of stay were missing for 43 patients (0.4%)

Risk Adjusted Hospital Mortality Range:

Median Odds Ratio: 1.69

Society of Critical Care Medicine
The Intensive Care Professionals

DISCOVERY
The Critical Care Research Network

sccmcovid19.org ▪ sccm.org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THANK YOU FOR ATTENDING OUR TOWN HALL CONVERSATION

If you'd like more information about vaccines and pregnancy, our RNA Therapeutics program, or The Society for Leading Medicine, please contact us at foundation@houstonmethodist.org.

Take care and be well

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