The Front Lines of the Fight Against COVID-19

A TOWN HALL CONVERSATION XIX

We will begin at 1 p.m.
To receive a copy of Dr. Michael J. Klebuc’s slides, please email hmevent@houstonmethodist.org
Facial Plastic Surgery
Past, Present, and Future
Eugene L. Alford MD FACS
November 8, 2021
HMH Leaders in Facial Plastic Surgery

- 1956 – S. Baron Hardy MD
- 1970 – William K. Wright MD
- 1976 – Melvin Spira MD DDS
- 1990 – Bobby R. Alford MD
- 2005 – Jeff Friedman MD
1991 – Head and Neck Reconstruction After Cancer
1991 – Head and Neck Reconstruction After Cancer
1991 – Head and Neck Reconstruction After Cancer
1991 – Head and Neck Reconstruction After Cancer
1991 – 2001 Results

More than 150 Patients
Functional and Cosmetic Improvement
Growth of Skill
Better Patient Care
Improved Outcomes
Collegial Cooperation
Other Facial Reconstruction
Forehead Flap
Other Facial Reconstruction
Forehead Flap
Other Facial Reconstruction
Forehead Flap
Other Facial Reconstruction
Forehead Flap
Other Facial Reconstruction
Forehead Flap
2005 – Carolyn Thomas

Survivor of domestic violence
Assaulted by boyfriend
Mother killed
No insurance
14 months of deformity
November 2004
2005 – Carolyn Thomas

“Dream Team”
Pro Bono Reconstruction
7 Surgeries over 10 months
$2,000,000 Free Care
Oprah & Larry King Live
$37,000,000 Free PR
2005 – Carolyn Thomas
2005 – Carolyn Thomas
Today
The Future – Fill the Need

Training of Residents
Allow Independence
Planning
Decision Making
Gain First-Hand Experience
Enhanced Skills
Improved Outcomes

Create a New Training Paradigm
Facial Deformities Clinic
Pro Bono Care
Resident Control
Staff Supervision
Surgery 1 Friday per Month
Clinic 2 Fridays per Month
Houston Methodist Update

Marc L. Boom, MD
November 8, 2021
Houston Methodist COVID-19 Cases By Day

Data as of November 7, 2021

Houston Methodist COVID-19 Patients by Day

- Med/Surg Pos + Now Neg
- ICU Pos + Now Neg
- Total Pos + Now Neg
- IMU Pos + Now Neg

Data as of November 7, 2021
Houston Methodist COVID-19 Inpatient Projections
COVID-19 Oral Antiviral Treatments

**Merck & Ridgeback:**
Molnupiravir

Preliminary results indicate 50% reduction in risk of hospitalization or death
United Kingdom authorized use of this oral treatment on November 4, 2021

The FDA will discuss Emergency Use Authorization on November 30, 2021

**Pfizer:**
Paxlovid

Preliminary results indicate 89% reduction in risk of hospitalization or death

As of November 5, 2021 Pfizer plans to submit its data to the FDA for Emergency Use Authorization as soon as possible
Out of 400 Epic organizations documenting and tracking their vaccine administrations:

Houston Methodist is in the Top 2% and #1 in Texas
Biden’s Vaccine Rules for 100 million Workers

Employees must be either fully vaccinated against COVID-19 by Jan. 4 or that they test negative for COVID-19 at least once a week.

Workers must get paid time off to get vaccinated.

Employers do not need to pay for testing.

Unvaccinated people must wear masks.

Health care workers do not have testing option under separate rule.

Source: https://www.npr.org/2021/11/04/1048939858/osha-biden-vaccine-mandate-employers-100-workers
Children ages 5-11 began scheduling their vaccine with Houston Methodist November 4, 2021

CDC’s November 2, 2021 Statement

“Together, with science leading the charge, we have taken another important step forward in our nation’s fight against the virus that causes COVID-19.”

Source: https://www.cdc.gov/media/releases/2021/s1102-PediatricCOVID-19Vaccine.html
Summary: COVID-19 Epidemiology in Children Aged 5-11 years

Children aged 5–11 years are at least as likely to be infected with SARS-CoV-2 as adults
- Over 1.9 million reported cases; seroprevalence estimated to be ~38% in September 2021
- Seroprevalence data suggests that infections in children less likely to be reported as cases than infections in adults

Children aged 5–11 years are at risk of severe illness from COVID-19
- >8,300 hospitalizations to date
  - Hospitalization rates are 3x times higher for non-Hispanic Black, non-Hispanic American Indian/Alaska Native, and Hispanic children compared with non-Hispanic White children
  - Hospitalization rates are similar to pre-pandemic influenza-associated hospitalization rates
  - Severity was comparable among children hospitalized with influenza and COVID-19
  - Approximately 1/3 of hospitalized children aged 5–11 years require ICU admission
- At least 94 COVID-19-associated deaths occurred in children aged 5–11 years
- MIS-C was most frequent among children aged 5–11 years
- Post-COVID conditions have been reported in children
- All might have been more numerous had pandemic mitigation measures not been implemented

Secondary transmission from young school aged children occurs in household and school settings

COVID-19 Vaccinations for Children Ages 5-11

If children typically only have a mild case of COVID-19, why do they need to be vaccinated?

Texas children between the ages of 5 and 11:
- 22 have died from complications of COVID-19
- 118 have been diagnosed with Multisystem Inflammatory Syndrome in Children

<table>
<thead>
<tr>
<th>Disease</th>
<th>Age</th>
<th>Time Period</th>
<th>Average Deaths per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A</td>
<td>&lt;20 years</td>
<td>1990–1995</td>
<td>3</td>
</tr>
<tr>
<td>Meningococcal (ACWY)</td>
<td>11–18 years</td>
<td>2000–2004</td>
<td>8</td>
</tr>
<tr>
<td>Varicella</td>
<td>5–9 years</td>
<td>1990–1994</td>
<td>16</td>
</tr>
<tr>
<td>Rubella</td>
<td>All ages</td>
<td>1966–1968</td>
<td>17</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>&lt;5 years</td>
<td>1985–1991</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: Texas Hospital Association email sent on November 3
United States COVID-19 Deaths by Age Group

January 1, 2020 – October 16, 2021

Children 5-11 years: 94 COVID-19 deaths*
(1.7% of all deaths among U.S. children 5–11 years)

United States Leading Causes of Death in Children 5-11 Years of Age

<table>
<thead>
<tr>
<th>Causes of Death</th>
<th>Death (n)</th>
<th>Crude rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents (unintentional injuries)</td>
<td>969</td>
<td>3.4</td>
</tr>
<tr>
<td>Malignant neoplasms</td>
<td>525</td>
<td>1.8</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities</td>
<td>274</td>
<td>1.0</td>
</tr>
<tr>
<td>Assault (homicide)</td>
<td>207</td>
<td>0.7</td>
</tr>
<tr>
<td>Diseases of the heart</td>
<td>115</td>
<td>0.4</td>
</tr>
<tr>
<td>Chronic lower respiratory diseases</td>
<td>107</td>
<td>0.4</td>
</tr>
<tr>
<td>Influenza and pneumonia</td>
<td>84</td>
<td>0.3</td>
</tr>
<tr>
<td>Intentional self-harm (suicide)</td>
<td>66</td>
<td>0.2</td>
</tr>
<tr>
<td>Cerebrovascular diseases</td>
<td>56</td>
<td>0.2</td>
</tr>
<tr>
<td>Septicemia</td>
<td>48</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Total population 5-17 years, 2019: 52,715,248

66 COVID-19 associated deaths in children 5–11
10/3/20-10/2/2021

Multisystem Inflammatory Syndrome in Children (MIS-C)

Severe hyperinflammatory syndrome occurring 2-6 weeks after acute SARS-CoV-2 infection, resulting in a wide range of clinical manifestations and complications.

Incidence has been estimated as 1 MIS-C case in approximately 3,200 SARS-CoV-2 infections.

60-70% of patients are admitted to intensive care, 1-2% die.

- **5,217 MIS-C** cases reported to national surveillance with date of onset between February 19, 2020–September 23, 2021
  - Median age of 9 years
  - 2,316 (44%) of these cases occurred in children aged 5–11 years
  - **61%** occurred in children who are Hispanic/Latino or Black, Non-Hispanic
  - Among children aged 5–11 years, **9 died** (20% of MIS-C deaths)

Unvaccinated individuals who previously had COVID-19 were 5x more likely to test positive for COVID-19 again compared to vaccinated individuals.

Source: https://www.cdc.gov/mmwr/volumes/70/wr/mm7044e1.htm
# Who can get a booster?

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Self Schedule</th>
<th>CDC Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received Pfizer or Moderna <strong>more than six months ago</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 years and older</td>
<td>![Yes]</td>
<td>Should</td>
</tr>
<tr>
<td>Residents in long-term care settings</td>
<td>![Yes]</td>
<td>Should</td>
</tr>
<tr>
<td>50-64 years of age with <em>underlying medical conditions</em></td>
<td>![Yes]</td>
<td>Should</td>
</tr>
<tr>
<td>18-49 years of age with <em>underlying medical conditions</em></td>
<td>![Yes]</td>
<td>May</td>
</tr>
<tr>
<td>18-64 years of age who are at Increased risk for COVID-19 exposure and transmission because of occupational or institutional setting</td>
<td>![Yes]</td>
<td>May</td>
</tr>
<tr>
<td>18-64 without an Increased risk for COVID-19 exposure and transmission</td>
<td>![Discuss with your physician]</td>
<td></td>
</tr>
<tr>
<td>Received Pfizer or Moderna <strong>less than six months ago</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12+ who are Immunocompromised</td>
<td>![Yes]</td>
<td>Should</td>
</tr>
<tr>
<td>Received Johnson &amp; Johnson <strong>more than two months ago</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anyone who is 18+</td>
<td>![Yes]</td>
<td>Should</td>
</tr>
</tbody>
</table>

**Mixing & matching:** eligible individuals may choose which vaccine they receive as a booster dose

- **Pfizer** is available at all Houston Methodist locations
- **Moderna** is only available at select Houston Methodist Primary Care Clinics
- **Johnson & Johnson** is not available at Houston Methodist

**Symbol Key:**

- Yes—please schedule your booster
- You need a physician’s order to schedule (*Pfizer only*)
COVID-19 Vaccine Boosters’ Mix-and-Match Efficacy

**Pfizer**
- Initial vaccine
- Booster shot
- Average increase in antibodies 15 days after booster: 32X, 20X, 12.5X

**Moderna**
- Initial vaccine
- Booster shot
- Average increase in antibodies 15 days after booster: 76X, 35X, 4.1X

Houston Methodist COVID-19 Stats

COVID-19 related patients through Houston Methodist as of November 7, 2021

- Total Positive: 59,900
- Total Hospitalized: 25,059
- Currently Hospitalized: 127
- Discharged: 22,262
- Deaths: 2,670

Key Messages:
- Houston Methodist has served 25,059 COVID-19 related in-patients to date.
- 22,262 patients have been successfully discharged.
THE VISION FOR THE SECOND CENTURY

Houston Methodist will set a new standard for leading academic medical centers through unparalleled safety, quality, service and innovation.

HOUSTON Methodist
LEADING MEDICINE
EXCELLENCE IN PATIENT CARE & SAFETY

Houston Methodist Hospital is recognized by *U.S. News & World Report* as **NO. 1 IN TEXAS** and **NO. 16 IN THE NATION**.

- **4,750** hospitals evaluated this year
- **20** hospitals are on the Honor Roll
- **1** nationally ranked Honor Roll hospital in Texas
# 2021 Vizient Q&A Prelim. results

Overall and domain final rankings (lower=better)

<table>
<thead>
<tr>
<th>Cohort #1: Academic (n=101)</th>
<th>Cohort #2: Specialized Complex Care (n=117)</th>
<th>Cohort #3: Complex Care (n=121)</th>
<th>Cohort #4: Community (n=226)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMH</td>
<td>HMSL</td>
<td>HMB</td>
<td>HMW</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1</td>
<td>22</td>
</tr>
</tbody>
</table>

### Star Rating

- **Overall Rank**: 6, 4, 8, 4, 9, 1, 1, 22
- **Mortality (25%)**
  - Cohort #1: 1, Cohort #2: 6, Cohort #3: 7, Cohort #4: 12
- **Efficiency (10%)**
  - Cohort #1: 34, Cohort #2: 5, Cohort #3: 2, Cohort #4: 8
- **Safety (25%)**
  - Cohort #1: 9, Cohort #2: 3, Cohort #3: 24, Cohort #4: 17
- **Effectiveness (20%)**
  - Cohort #1: 53, Cohort #2: 41, Cohort #3: 55, Cohort #4: 39
- **Patient Centeredness (15%)**
  - Cohort #1: 51, Cohort #2: 40, Cohort #3: 40, Cohort #4: 61
- **Equity (5%)**
  - Cohort #1: 77, Cohort #2: 61, Cohort #3: 34, Cohort #4: 36

### Top 10%

- Top 10%: HMH, HMSL, HMB, HMW, HMWB, HMTW, HMCL
- Between 11% & 25%: Cohort #1, Cohort #2, Cohort #3, Cohort #4
- Between 26% & 50%: None
- Below 50%: None
2021 Leapfrog Hospital Safety Grade

2021

- HMH
- HMB
- HMCL
- HMSL
- HMTW
- HMWB
- HMW

Past Scores

- 2020
- 2019
- 2018
<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Honor Roll</th>
<th>CMS Star</th>
<th>Leapfrog</th>
<th>Vizient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayo Clinic</td>
<td>1</td>
<td>★★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Cleveland Clinic</td>
<td>2</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>UCLA Medical Center</td>
<td>3</td>
<td>★★★★</td>
<td>B</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Johns Hopkins Hospital</td>
<td>4</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Massachusetts General Hospital</td>
<td>5</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Cedars-Sinai Medical Center</td>
<td>6</td>
<td>★★★★★</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>New York-Presbyterian Hospital</td>
<td>7</td>
<td>★★★★★</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>NYU Langone Hospitals</td>
<td>8</td>
<td>★★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>UCSF Medical Center</td>
<td>9</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Northwestern Memorial Hospital</td>
<td>10</td>
<td>★★★★★</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>University of Michigan Hospitals</td>
<td>11</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Stanford Health Care</td>
<td>12</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Hospitals of the University of Pennsylvania</td>
<td>13</td>
<td>★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Brigham and Women's Hospital</td>
<td>14</td>
<td>★★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Mayo Clinic-Phoenix</td>
<td>15</td>
<td>★★★★★</td>
<td>A</td>
<td>-</td>
</tr>
<tr>
<td>Houston Methodist Hospital</td>
<td>16</td>
<td>★★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Barnes-Jewish Hospital</td>
<td>17</td>
<td>★★★★</td>
<td>C</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Mount Sinai Hospital</td>
<td>17</td>
<td>★★★★</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>Rush University Medical Center</td>
<td>19</td>
<td>★★★★</td>
<td>A</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Vanderbilt University Medical Center</td>
<td>20</td>
<td>★★★★</td>
<td>B</td>
<td>-</td>
</tr>
</tbody>
</table>

Available public data from 2021
Physician Organization Growth Over the Last Five Years

PCG and SPG Combined Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>676</td>
</tr>
<tr>
<td>2018</td>
<td>736</td>
</tr>
<tr>
<td>2019</td>
<td>831</td>
</tr>
<tr>
<td>2020</td>
<td>925</td>
</tr>
<tr>
<td>2021</td>
<td>1,004</td>
</tr>
</tbody>
</table>
Selected Projects from Center for Innovation Portfolio in 2021

**Syllable**
Leveraging natural language processing to transfer calls effectively and eliminate callers bouncing from one department to another.

**MyMethodist Patient Tablets and Amazon Alexa**
Bringing familiar technologies such as tablets and Amazon Alexa that patients utilize at their home to bedside.

- **2,150+** MyMethodist Patient Tablets deployed
- **1,200+** Amazon Alexas deployed

**Clinical Voice Technologies**
Center for Innovation and Amazon Web Services are working to eliminate the keyboard in the clinic and bringing the power of voice to the Operating Room to achieve greater efficiencies.

- **43%** Reduction in “general requests” calls
- **74%** Reduction in calls to “create a payment plan”

**RevSpring**
Using data-driven approach to patient engagement that offers tailored payment solutions through the right type of communication (paper or digital) to the right person at the right moment.

**icims**
Talent management platform that makes applying to Houston Methodist jobs easy with tools like automated CV parsing, LinkedIn account linking and retail like “jobs cart”.

**Application Drop-off Rate Comparison**
- **38.7%** PRE-iCIMS
- **9.3%** Top 25% National Benchmark
- **6.8%** POST-iCIMS

**HOUtON Methodist**
Utilizing Bluetooth Low-Energy (BLE) to provide real-time location for asset management of wide range of devices such as tablets as well as setting a new foundation for temperature monitoring.

- **3,722** Devices installed across six hospitals and Research Institute

**PRE-iCIMS Top 25% National Benchmark**

*July 2021 YTD*
**2020**

**JUNE**
DEI Committee created, five goals established for 2020–2022

**OCTOBER**
DEI Corner added to every CEO newsletter, celebrating cultural holidays and awareness months

**SEPTEMBER**
CEO Dr. Marc Boom created the Diversity, Equity & Inclusion Department

**NOVEMBER**
Diversity, Equity & Inclusion Grant, Social Equity Grant and Strategic Initiatives Fund established to support nonprofit organizations in the community

**DECEMBER**
Website and @hmethodistcares Twitter handle launched

**JANUARY**
Virtual vaccine town halls hosted, including all-Spanish speaking, live translation and captions
FEBRUARY
- First three employee resource groups (ERG) became official: Black Ties for Culture, Asian Heritage and LGBTQ+ Allies
- First ERG event hosted: Lunar New Year

MAY
First DEI grant recipients announced

JUNE
- LGBTQ+ Allies ERG hosted first Pride lighting of Outpatient Center rooftop
- DEI holiday announced

SEPTEMBER
Together We Grow training sessions launch for employees

MARCH
Together We Grow training launched for leaders

APRIL
DEI Leadership Council quarterly meeting held

JULY
DEI dashboard launched

AUGUST
DEI toolkit distributed to all managers
May 2020: Set Goals for the New Normal

1. Houston Methodist will be the safest hospital system in the world
2. Volumes will be back to normal by July 1
3. Achieve at least breakeven by the end of the year
4. Maintain full operations during a second surge
5. Avoid furloughs, layoffs, and pay cuts

These goals will be the guiding principles for ongoing decision making during this transition to the new normal. We will continue to adjust these goals as circumstances change.

Goals for the Remainder of 2020

1. Houston Methodist will be the safest hospital system in the world
2. Volumes will again be back to normal by October 1
3. We will achieve ~75% of budgeted operating margin for September – December
4. Maintain full operations throughout the COVID pandemic
5. Press our strategic advantage

Houston Methodist will use these guiding principles in decision making and goal setting. We will remain nimble and adjust these goals as circumstances change.
COVID-19 MAY BE A REASON, BUT
IT WILL NEVER BE AN EXCUSE
Goals for 2022

1. Heighten focus on the Vision for the Second Century: Unparalleled Safety, Quality, Service and Innovation

2. COVID-19 does not define our strategy, but we will plan for endemic COVID-19 for the foreseeable future

3. Reinforce and accelerate our strategies that make us successful

4. Aggressively pursue our strategic advantages and achieve clear differentiation in our market, nationally and globally

Houston Methodist will use these guiding principles in decision making and goal setting. We will remain nimble and adjust these goals as circumstances change.
Taking Care of Our Employees

Thank you for your hard work and dedication. We are grateful for all you do.

We're thankful for you! Happy Thanksgiving to you and your family.

Please use the attached gift card at any HEB location.
Controlling the Pandemic and Living with COVID-19: a User’s Guide

Town Hall, November 9, 2021

H. Dirk Sostman, MD FACR, Ernest Cockrell, Jr. Presidential Distinguished Chair, EVP & Chief Academic Officer
Colorado could move to “crisis standards of care” because of COVID surge. What does that mean?

Formula could decide who gets an ICU bed, nurses could be asked to work longer shifts and calling up the National Guard is on the table.
We Now Have All of These Measures Available to Fight COVID-19
Preventing Infection

Airborne and droplet transmission are principal risks – use good quality well-fitting masks & hand hygiene

Follow common-sense approach to using precautions
Precautions Work for All Respiratory Viruses

**VIRAL SHIFT**

Measures to curb the spread of COVID-19 sharply reduced cases of influenza, but researchers expect it to rebound eventually.

2009-10: H1N1 swine flu pandemic

2020-21: COVID-19 pandemic

**Influenza**

**Acute Flaccid Myelitis**
Vaccines Are Key: Updates
Vaccine Effectiveness: Age, Delta, Infection vs. Hospitalization

CDC Data, NYT graphic

- Ages 12-17
- 18-29
- 30-49
- 50-64
- 65-79
- 80+

Unvaccinated vs. Fully vaccinated

Vaccine effect

Delta

March 10 - Sept 4

Cases per 100,000

CDC Data, NYT graphic
Waning Immunity After Vaccination in Israel
Goldberg et al, NEJM, October 27, 2021

Rate of infection goes up (protection wanes) in all age groups

Rate of severe disease goes up (protection wanes) only in > 60 yo
A study of hospitalized patients with symptoms similar to COVID-19* found...

Unvaccinated people with a previous infection were 5x more likely to have a positive COVID-19 test compared to vaccinated people†.

Get vaccinated as soon as possible

*COVID-19-like illness hospitalizations 90–129 days after prior infection or full vaccination
†Received two doses of an mRNA vaccine and no previous infection
Family Herd Immunity

JAMA Internal Medicine October 2021

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Vaccination for Kids 5 – 11

• Pfizer – 1/3 strength of adult dose

• Reasons for vaccination
  - Children as likely to be infected with COVID as adults
  - Severe disease occurs in children (similar rate to influenza) ~ 8500 so far with >140 deaths
  - MIS-C most frequent in kids 5 – 11
  - Post COVID conditions seen in kids
  - Vaccination of young children is NORMAL

• Data
  - Vaccine efficacy in kids = 90.9%
  - Immune responses and side effects similar to older kids and adults
  - No significant adverse effects in 1500 vaccinated subjects
  - No cases of myocarditis in 5 – 11 year olds

• Other benefits
  - Continued schooling / social interactions
  - May reduce transmission
  - Parents can work
Booster Shots

Before long everyone will probably be eligible for a booster

Future most likely includes additional booster shots but details unclear
Following the third dose, severe cases among vaccinated decreased sharply.

- Booster-dose to 60+ begins
- Unvaccinated (<20% of adults)
- Overall incidence declines after wide booster adoption in ages 16+
- Vaccinated 2+3 doses (>80% of adults)

Absolute rates of severe disease per 100,000 risk-days

12+ days following booster versus 2nd dose only.
Based on data eligibility in age group only.

Information source: Bar-on et al., [https://www.medrxiv.org/content/10.1101/2021.10.07.21264628v1.full.pdf](https://www.medrxiv.org/content/10.1101/2021.10.07.21264628v1.full.pdf)
• Best population-level measure is neutralizing antibody levels (titers)
• Not all antibodies are neutralizing
• However, Houston Methodist data indicates that overall antibody titers correlate well with neutralizing antibodies
• Therefore, higher antibody titer is better protection
• Problems in applying this to individuals:
  - No data on individual correlations
  - Levels change over time, no standard time to measure
  - Many labs only report semi-quantitative values
Outpatient Treatments

Early treatment of high-risk outpatients is a critical need
Data on Early mAb Therapy for COVID

- **Lilly Long Term Care Prevention Study**
  - 80% reduction in symptomatic infection in 299 nursing home residents who tested negative at study initiation
  - In 41 who tested positive at study start, 0/21 in treatment group died, 4/20 in placebo

- **Regeneron Household Contacts Prevention**
  - 100% prevention of symptomatic infection in people with household exposure to COVID
  - Reduction in asymptomatic infection (5.4% in mAB group versus 6.7% in placebo group)
  - Lower viral load and shorter duration of viral shedding

- **Lilly Early Treatment Study (mAb “cocktail”)**
  - 1,035 high risk patients with COVID
  - mAb group – 2.1% events, placebo group – 7%
  - mAb group – 0 deaths, placebo group – 10 deaths

- **Action versus viral variants**
  - Dual mAb cocktail is **active** against all variants
  - Recent data show sub-Q injection as effective as IV
  - Prophylaxis for immune compromised a realistic idea but not yet EUA; Regeneron starting trial

- **Pan-sarbecovirus mAb (NEJM Nov 2021)**
  - 85% RR for progression to hospitalization
  - 97.2% RR for death
  - Neutralizes all variants – even SARS-CoV-1
“COVID Pills”: Molnupiravir Trial

Merck press release and ISDA conference presentation

• 775 people with mild / moderate COVID
  - At least one risk factor for progression
  - Within five days of symptom onset
• Consistent efficacy across viral variants
• No safety signals
• Could be combined with other therapy
  - Protease inhibitor
  - mAb

<table>
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<tr>
<th>Outcomes</th>
<th>Treated</th>
<th>Placebo</th>
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<tbody>
<tr>
<td>Hospitalized</td>
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<tr>
<td>Death</td>
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<td>2.1%</td>
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November 3:
U.K.’s Medicines and Healthcare Products Regulatory Agency Authorizes Molnupiravir for the Treatment of Mild-to-Moderate COVID-19 in Adults With a Positive SARS-CoV-2 Diagnostic Test and at Least One Risk Factor
“COVID Pills”: Paxlovid Trial

Pfizer press release

- 1,219 people with mild / moderate COVID
  + At least one risk factor for progression
  + Within three or five days of symptom onset
- No safety signals
- Could be combined with other therapy
  - Polymerase inhibitor
  - mAb

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<tr>
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<td>Death</td>
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<table>
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<th>Treated within 5 days</th>
<th>Treated</th>
<th>Placebo</th>
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<td>Hospitalized</td>
<td>1.0%</td>
<td>6.7%</td>
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<tr>
<td>Death</td>
<td>0</td>
<td>1.6%</td>
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</table>
Leading Anti-viral Drugs for COVID-19

- Paxlovid
- Molnupiravir

- They block different steps, so combination therapy might be advantageous
Ivermectin

- In vitro at high levels, interferes with viral replication and may have anti-inflammatory effects
- None of the published clinical trials have used doses that would achieve these levels
- Pivotal Elgazzar trial withdrawn
  • Contained patients who died before the trial started, etc.
- Only good quality trial (Canadian TOGETHER study) showed no benefit
- Literature review commissioned by BBC
  • 26 studies: 5 clearly faked, 5 major red flags, 14 authors would not provide data for review

Fluvoxamine

- Randomized clinical trial (JAMA July 2020)
  • 152 outpatients with symptomatic COVID-19
  • Clinical deterioration in 0% treated, 8.3% placebo (p = 0.009)
- Randomized clinical trial (Lancet Global Health October 2021)
  • 1,497 high risk outpatients w symptomatic COVID-19
  • RR for extended ED stay or hospitalization = 0.68 (0.52 – 0.88)
  • OR for death = 0.09 (0.01 – 0.47)
At-home testing less sensitive but can rapidly identify those who have high viral loads

Potentially major effect on transmission of infection & early treatment
Tools to control the pandemic exist now. They will continue to improve. We can control the pandemic and live with COVID-19 by using them correctly and consistently.

Control of Disease

Testing

Vaccination

Treatment

Masks, Hand Hygiene & Other Precautions
THANK YOU FOR ATTENDING OUR TOWN HALL CONVERSATION

If you'd like additional information about Reconstructive Surgery, or would like to get involved with the Reconstructive Surgery Task Force, please contact us at foundation@houstonmethodist.org.

Take care and be well