INFORMED BY SCIENTIFIC FINDINGS: PLANNING FOR TOMORROW

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COVID: A Pandemic

August 2020: 170 thousand deaths, 1K per day

https://coronavirus.jhu.edu/us-map
Today, COVID Is Still Pandemic

30.8 million cases, 555.6 thousand deaths (down to 1K per day from a peak of 4K per day)

https://coronavirus.jhu.edu/us-map
COVID: Some Good News

Most states have a decreasing seven-day average over the last two weeks (shades of green)

https://coronavirus.jhu.edu/data/new-cases-50-states
Don't know whether to sing or cry
August 2020

“Each institution needs to do the hard work to figure out what is best for your spaces, your learners, your educators, and within your communities.”

Informed decision making: Analytic, deliberative, accurate, balanced, shared.

Judgment
Good Judgment

How to choose a good option from many possible paths?

- First Principles
- Mission
- Ethics
Pillars of Medical Ethics

These may indeed be life and death decisions.

PRINCIPLES OF ETHICS

AUTONOMY  BENEFICENCE  NONMALEFICENCE  JUSTICE

Non-maleficence

• How to do no harm, *including*
  • Don't expose people to disease if you can help it
An Update on Aerosols and COVID

• 1 copy per ml in breath of some infected individuals (each breath ~450 ml)

• Viable COVID found in hospital room air
  • Estimates of viable viral concentrations ranged from 6 to 74 units/L of air


Aerosol spread

Experts push CDC, White House to address COVID-19 aerosol spread

Filed Under: COVID-19
Stephanie Soucheray | News Reporter | CIDRAP News | Feb 17, 2021

Wearing a mask that fits tightly to your face can help limit spread of the virus that causes COVID-19

In lab tests with dummies, exposure to potentially infectious aerosols decreased by about 95% when they both wore tightly fitted masks.

Other effective options to improve fit include:
- Cloth mask over medical procedure mask
- Medical procedure mask with knotted ear loops and tucked in sides
- Mask fitter
- Nylon covering over mask

CDC.GOV
bit.ly/MMWR2382021
An Update on Testing

• COVID testing more widely available though test characteristics are still problematic
• Saliva tests just as effective as swabs

An Update on Monitoring

• CO2 monitoring (from exhaled breath) is correlated with aerosol dispersion

Washington Releases Increasingly Elaborate Guidelines for Outdoor Dining

There are CO2 monitors involved now

by Gabe Guarente | Jan 13, 2021, 11:00am PST

An Update on Wind Musicians and aerosol

• Very little has changed
  • 3/19/2021 NFHS study update: 60 minutes allowed for outdoor rehearsal

• 3rd release of NFHS preliminary results 11/2020: Very similar recommendations as prior releases

• J Hong et al, Univ. Minnesota: “Influence zone” of particles from wind instruments will potentially cause aerosols to accumulate above players’ heads. Bell covers may be useful.
Lots we still don't know

• e.g., how bad is wind playing anyway?

Hong Kong orchestra quarantines after member contracts COVID

About 100 members of the Hong Kong Philharmonic Orchestra are being quarantined after one of its members tested positive for the coronavirus

By ZEN SOO Associated Press

October 11, 2020, 8:06 AM - 1 min read
Post-COVID complications

- Myocarditis, pulmonary function, brain fog, psychiatric sequelae
- Consider cardiology / pulmonary consultation before resuming heavy activity

Questions?
Beneficence

• How to do good, *including*
  • Share your art with the world
  • Prevent disease
Share your art with the world

CRITIC'S NOTEBOOK

Think Outside the Opera House, and Inside the Parking Garage

In Detroit, “Twilight: Gods” joins other recent performances that offer a path forward for the arts amid the pandemic.
# Vaccines

<table>
<thead>
<tr>
<th>Total Vaccine Doses</th>
<th>At Least One Dose</th>
<th>Fully Vaccinated</th>
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<tr>
<td>Delivered</td>
<td>219,194,215</td>
<td></td>
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<tr>
<td>Administered</td>
<td>168,592,075</td>
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<td>Learn more about the distribution of vaccines.</td>
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<table>
<thead>
<tr>
<th>People Vaccinated</th>
<th>At Least One Dose</th>
<th>Fully Vaccinated</th>
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<tbody>
<tr>
<td>Total</td>
<td>108,301,234</td>
<td>63,016,976</td>
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<tr>
<td>% of Total Population</td>
<td>32.6%</td>
<td>19%</td>
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<tr>
<td>Population ≥ 18 Years of Age</td>
<td>107,609,937</td>
<td>62,885,968</td>
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<td>% of Population ≥ 18 Years of Age</td>
<td>41.7%</td>
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<tr>
<td>Population ≥ 65 Years of Age</td>
<td>41,537,908</td>
<td>30,976,740</td>
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<tr>
<td>% of Population ≥ 65 Years of Age</td>
<td>75.9%</td>
<td>56.6%</td>
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About these data
Pfizer efficacy December 2020

Efficacy of mRNA vaccines "HEROES-RECOVER" trial

Efficacy of Pfizer vaccine against asymptomatic infection

PFIZER AND BIONTECH CONFIRM HIGH EFFICACY AND NO SERIOUS SAFETY CONCERNS THROUGH UP TO SIX MONTHS FOLLOWING SECOND DOSE IN UPDATED TOPLINE ANALYSIS OF LANDMARK COVID-19 VACCINE STUDY

Moderna data released 4/6/21 shows similar results past 6 months
Variant proportions in the US

Percentages represent the proportion of viruses belonging to the indicated lineage, based on two weeks of data with collection dates ending March 13.
*Other represents >200 additional lineages, which are each circulating at <2% of viruses.
** Most recent data (shaded) are subject to change as samples from that period are still being processed.
Why Variants Matter

• B.1.1.7: 55% greater mortality, 43-90% more transmissible
• B.1.351: 50% more transmissible (non-peer-reviewed)


Estimates of severity and transmissibility of novel South Africa SARS-CoV-2 variant 501Y.V2 Carl AB Pearson 1,2 , Timothy W Russell 1 , Nicholas G Davies 1 , Adam J Kucharski 1 , CMMID COVID-19 working group 1 , W John Edmunds 1 , Rosalind M Eggo 1 .
Efficacy of Pfizer vaccine against variants

PFIZER AND BIONTECH CONFIRM HIGH EFFICACY AND NO SERIOUS SAFETY CONCERNS THROUGH UP TO SIX MONTHS FOLLOWING SECOND DOSE IN UPDATED TOPLINE ANALYSIS OF LANDMARK COVID-19 VACCINE STUDY

REAL-WORLD EVIDENCE CONFIRMS HIGH EFFECTIVENESS OF PFIZER-BIONTECH COVID-19 VACCINE AND PROFOUND PUBLIC HEALTH IMPACT OF VACCINATION ONE YEAR AFTER PANDEMIC DECLARED
Vaccine efficacy (VE) against central laboratory-confirmed moderate to severe/critical COVID-19 across all geographic areas in which the trial was conducted was 66.9% (95% CI 59.0, 73.4) when considering cases occurring at least 14 days after the single-dose vaccination and 66.1% (55.0, 74.8) when considering cases occurring at least 28 days after vaccination.
J&J efficacy to prevent asymptomatic infection

After day 29, there were 22 cases of asymptomatic SARS-CoV-2 infection in the vaccinated group and 54 in the placebo group (vaccine efficacy of 59.7%; 95% CI 32.8-76.6).
J&J efficacy against variants

Vaccine efficacy was lower in South Africa (vaccine efficacy of 52.0%; 95%CI 30.3-67.4) compared to the United States (vaccine efficacy of 74.4%; 95%CI 65.0-81.6).

Although the J&J vaccine appeared to be less effective against mild and moderate disease in these regions, it remained strongly protective against severe disease, hospitalizations and deaths.

“We cannot say definitively that the difference in efficacy in these regions is due to more variants, but it’s an assumption..."
Summary of vaccine efficacy - transmission

- Pfizer / Moderna vs ASYMPTOMATIC COVID: 80% relative risk reduction
- J&J vs ASYMPTOMATIC COVID: 60% relative risk reduction

Aaron J Tande, MD, Benjamin D Pollock, PhD, MSPH, Nilay D Shah, PhD, Gianrico Farrugia, MD, Abinash Virk, MD, Melanie Swift, MD, MPH, Laura Breeher, MD, MPH, Matthew Binnicker, PhD, Elie F Berbari, MD, Impact of the COVID-19 Vaccine on Asymptomatic Infection Among Patients Undergoing Pre-Procedural COVID-19 Molecular Screening, Clinical Infectious Diseases, 2021;, ciab229, https://doi.org/10.1093/cid/ciab229
Summary of vaccine efficacy – moderate to severe disease

Depends on variants

• J&J: 74.4% efficacy in *prevention of moderate to severe disease* in the US
  • No evidence yet on B.1.1.7 variant

• Pfizer / Moderna: 95% efficacy in prevention of symptomatic disease in the US
  • 97% efficacy in prevention of symptomatic disease in Israel when B.1.1.7 variant was dominant (non-peer-reviewed data)
If you are symptomatic then stay home

Watch for symptoms

People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This list does not include all possible symptoms. CDC will continue to update this list as we learn more about COVID-19.
Questions?
Autonomy

• How to respect and encourage self-determination *including*
  • The decision to adopt a more protective stance than the status quo
  • The decision to not vaccinate?
Require vaccinations?

THE CHRONICLE OF HIGHER EDUCATION
Here’s a List of Colleges That Will Require Students to Be Vaccinated Against Covid-19
By Andy Thomason | APRIL 6, 2021

[Last updated: 4/7/2021, 3:59 p.m.]
Justice

• How to protect your organizations and communities

• How to allocate scarce resources *including*
  • How to sustain the resources of art, dance, music, theater
  • How to sustain one's personal resources
Most important resource is YOU

COVID’S MENTAL STRESS
The percentage of people experiencing symptoms of depression and anxiety has surged amid the COVID-19 pandemic, data from nationally representative surveys show.

- Before pandemic
- During pandemic

UK adults reporting symptoms of depression
- July 2019–March 2020: 10%
- June 2020: 19%

US adults reporting symptoms of anxiety or depression
- January–June 2019: 11%
- December 2020: 42%

Source: Office for National Statistics (UK data); Centers for Disease Control and Prevention (US data).

HELP IS AVAILABLE:


Figure 2
Participants’ ratings on mental health aspects in an order of negative impacts (mild, moderate, and severe).
Triggers for a Relaxation of Restrictions

• Decreasing Prevalence / Deaths / Hospitalizations
• Increasing Vaccination Rates
• variable, no one-size-fits-all solution
Thanks

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Questions?