April 6, 2020

Hello,

The United states is now over 300,000 COVID-19 infections and counting. The number of COVID-19 cases is expected to double every six days and deaths from COVID-19 will double every 5 days. The current situation as of Monday April 6 at 7:30am (MST):

- COVID-19 tests: 1,778,487
- Confirmed cases: 337,993
- Deaths: 9,633
- Hospitalized: 23,069
- Recovered: 14,569

This week is National Public Health Week! Each day there will be a new theme, for Monday April 6 the theme is mental health:

**MONDAY: MENTAL HEALTH — advocate for and promote emotional well-being**

COVID-19 is causing heightened levels of stress. In particular, isolation and quarantine can be highly stressful. As can separation from loved ones, especially those detained off-shore or in other countries. And many in the public health and health care sectors, as well as those working in affected industries, are shouldering a significant mental health burden. Reach out and check on your loved ones and community members. And read and share such resources as the World Health Organization's Mental Health Considerations During COVID-19 Outbreak and the Centers for Disease Control and Prevention's tips on managing anxiety and stress.

**Mental Health and COVID-19**

This image from Dr. Victor Tseng (and others) highlights the collateral damage from COVID-19. The mortality and morbidity of COVID-19 will have several waves. We are in the 1st wave with immediate death and morbidity. The 2nd wave will come from a lack of resources for patients with emergency health problems who cannot get urgent care they need. The 3rd wave will come from patients with chronic conditions whose care is interrupted or pushed back due to the health system capacity or resources. The 4th wave will come from long-term mental health and psychological problems from surviving a global pandemic. The 4th wave will take much longer to see.
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The National Alliance on Mental Illness (NAMI) has an excellent resource for handling stress, anxiety, and mental health during the COVID-19 pandemic. [https://www.nami.org/covid-19-guide](https://www.nami.org/covid-19-guide)

Mental Health America (MAH) has several resources for COVID-19 and mental health issues, including domestic violence and social isolation. [https://mhanational.org/covid19](https://mhanational.org/covid19)

Face Masks and COVID-19

There has been a lot of back and forth on face masks. This week the CDC finally released guidance that recommends (it is voluntary) people wear a face mask when going out in public. There is some research that suggests that having everyone wear a face mask can provide some protection.

A cluster randomised trial of cloth masks compared with medical masks in healthcare workers

A research study published in the *British Medical Journal Open* from 2015 found that health care workers and other high-risk occupations should not wear cloth masks, and should wear a N95 mask: We have provided the first clinical efficacy data of cloth masks, which suggest HCWs should not use cloth masks as protection against respiratory infection. Cloth masks resulted in significantly higher rates of infection than medical masks, and also performed worse than the control arm. [Read more here.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4383221/)

Simple Respiratory Mask

A commentary published in the journal *Emerging Infectious Disease* (2006), provides instruction for how to make a simple mask out of a pre-washed Hanes t-shirt: We showed that a hand-fashioned mask can provide a good fit and a measurable level of protection from a challenge aerosol. Problems remain. When made by naive users, this mask may be less effective because of variations in material, assembly, facial structure, cultural practices, and handling. No easy, definitive, and affordable test can demonstrate effectiveness before each use. Wearers may find the mask uncomfortable. [Read more here.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1764840/)

Simple Respiratory Protection—Evaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 20–1000 nm Size Particles

This study published in *The Annals of Occupational Hygiene* (2010) suggests that a cloth face masks can provide some marginal benefit compared to not wearing any face mask: To address the filtration performance of common fabric materials against nano-size particles including viruses, five major categories of fabric materials including sweatshirts, T-shirts, towels, scarves, and cloth masks were tested for polydisperse and monodisperse aerosols (20–1000 nm) at two different face velocities (5.5 and 16.5 cm s−1) and compared with the penetration levels for N95 respirator filter media. The results showed that cloth masks and other fabric materials tested in the study had 40–90% instantaneous penetration levels against polydisperse NaCl aerosols employed in the National Institute for Occupational Safety and Health particulate respirator test protocol at 5.5 cm s−1. Similarly, varying levels of penetrations (9–98%) were obtained for different size monodisperse NaCl aerosol particles in the 20–1000 nm range. The penetration levels of these fabric materials against both polydisperse and monodisperse aerosols were much higher than the penetrations for the control N95 respirator filter media. At 16.5 cm s−1 face velocity, monodisperse aerosol penetrations slightly increased, while polydisperse aerosol penetrations showed no significant effect except one fabric mask with an increase. Results obtained in the study show that common fabric materials may provide marginal protection against nanoparticles including those in the size ranges of virus-containing particles in exhaled breath. [Read more here.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3004079/)
CDC Guidance on Homemade Cloth Face Coverings

- A cloth face covering should be worn whenever people are in a community setting, especially in situations where you may be near people. These settings include grocery stores and pharmacies. Cloth face coverings are especially important to wear in public in areas of widespread COVID-19 illness. These face coverings are not a substitute for social distancing.
- CDC advises the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.
- Cloth face coverings should not be placed on young children under age 2, anyone who has trouble breathing, or is unconscious, incapacitated or otherwise unable to remove the mask without assistance.
- The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are critical supplies that must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance.

Resources

- **EPA List of Household Cleaners**
  *All products on this list meet EPA’s criteria for use against SARS-CoV-2, the virus that causes COVID-19: [EPA List](#)*

- **Face Mask Resources from ProjectProtect**
  *How to Use a Face Mask - [Read more](#)*
  *Uses and Considerations of Different Face Masks - [Read more](#)*
  *Homemade Face Masks Guidelines and Patterns for making your own mask at home! - [Read more](#)*

- **Federal Bureau of Prisoners Coronavirus Updates**
  *Within the Federal prison system (which houses 92% of inmates), right now there are 138 inmates and 59 staff positive for COVID-19*
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Noteworthy Podcasts

- **Freakonomics**, Is $2 Trillion the Right Medicine for a Sick Economy? (Ep. 411), [Listen here.](#)
- **American Public Health Association and National Academy of Medicine**, The Science of Social Distancing: Part II, [Watch here.](#)
- **Radiolab**, Dispatch 3: Shared immunity, [Listen here.](#)

Good Reads

- **NPR**, *Inmates, Staff On Edge As COVID-19 Spreads Through Federal Prisons*. [Listen here.](#)
- **Wired**, *The Reality of Covid-19 Is Hitting Teens Especially Hard* [Read here.](#)
- **Marketplace Tech**, *How tech connects older people with mental health services as COVID-19 isolates*, [Read here.](#)

This newsletter and previous newsletters are available for download on my research website: [https://aitiaresearch.com/covid-19-newsletters/](https://aitiaresearch.com/covid-19-newsletters/)

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Deborah Passey, PhD
LinkedIn: [https://www.linkedin.com/in/debpassey/](https://www.linkedin.com/in/debpassey/)
Twitter: @DeborahPassey

**Remember: Don't Panic**