April 27, 2020

Hello,

The United States is almost to one million COVID-19 infections. The number of COVID-19 cases double every 17 days and the number of deaths double every 12 days. The current situation as Monday April 27, 2020 10:00am (MDT):

- Test conducted: 5,541,784
- Confirmed cases: 990,290
- Recovered: 118,869
- Deaths: 55,843

COVID-19 Testing
*steps on soapbox*

The United States has conducted 5.5 million tests and of those about one million have come back positive. This means that about 20% of the tests are positive, which means we are not testing enough people. The percent of positive tests should be around 5% or less, if there is widespread testing (positive tests/total number of tests). Some states are doing better than others with testing. The great State of Georgia for example, has about 20% of their tests coming back positive, which is way too high (12,350 tests per million people). They have not done enough testing to know the extent of the infections in the state, yet they are re-opening some businesses. I would not be surprised if we see a spike in cases two weeks from now. It seems like the states implementing the partial re-opening are not testing nearly enough people. Without widespread testing, the total number of confirmed cases is artificially low. The great State of Utah has about 4.3% of their tests coming back positive, which means they are testing enough people (31,426 tests per million people).

To re-open an economy a State needs the following ingredients (according to Debbie):

1. **Testing needs to be ramped up to the point where 5% or less of tests being conducted are coming back positive.** If a state isn't testing to this level, forget about re-opening the economy. Not only COVID-19 diagnosis tests, but states need to start ramping up antibody testing to see who may have had previous infection and have some immunity.

2. **States need to increase their public health workforce in order to implement robust contact tracing.** Anyone testing positive needs to be followed-up to identify who they may have come in contact with, so those people can be notified to stay home. Contact tracing is VERY time intensive and requires a big workforce of trained public health professionals. If a state can't identify and notify people of potential exposure, then forget about re-opening the economy. Also, why are states not training unemployed people in public health practice so they can be contact tracers?? The virus isn't going anywhere anytime soon, and the US has some of the best public health schools in the world, with thousands of public health students. Perhaps State governments need to tap into their own expertise at home.

3. **14 days of steadily declining case counts, in states that have robust testing in place.** This is a slippery slope cause there are subtle ways for politicians to game the system so it seems like the case count is low (If you don't test people, then you can't have positive cases). States need to prove they are implementing widespread testing for all people, not just those with symptoms.

4. **Protect the most vulnerable and high-risk populations.** States re-opening the economy need to have protections in place for people who are vulnerable or have underlying health problems that puts them at higher risk of COVID-19. States need
expanded social services for people without stable housing, people with drug addictions, elderly, and those with cancer or other chronic conditions.

5. **Make sure the health system has the capacity and resources to handle any potential surges in cases.** This is especially important in rural areas where there are very few healthcare resources.

6. **Implement social distancing in public places.** Dine-in restaurants and cafes will need to limit how full their dining areas are. Businesses will need to limit the number of customers allowed in the store at a time. Schools will need to limit the number of students in the school at a time. Workplaces will need to limit the number of employees in the office. Everything will need to be adjusted to accommodate some distance between people.

7. **We need to learn more about immunity before we can re-open the economy.** How long does immunity last? Can people be re-infected once they recover? Emerging evidence from South Korea found that about 2% of people recovered from COVID-19 tested positive for it again. "Top KCDC officials said in recent briefings that the most likely possibility is reactivation of remaining viruses in patients' systems. If a patient had not developed sufficient immunity against the virus or if a patient's immune system weakens after recovery, the previously undetectable level of virus concentration could rebound. Or the novel coronavirus may be capable of staying dormant before reactivating."

8. **States need to collect data on health disparities.** It is important to have data on which populations are being marginalized or not receiving the resources they need. Identifying health disparities can inform policy decisions of where to allocate resources. For example, the Navajo Tribe has not received the same amount of support from Federal government AND the Indian Health Services receives lower reimbursement for health services compared to the VA or Medicare. [https://www.usccr.gov/pubs/2018/12-20-Broken-Promises.pdf](https://www.usccr.gov/pubs/2018/12-20-Broken-Promises.pdf)

*steps off soapbox*

**Prevalence of SARS-CoV-2 Infection in Residents of a Large Homeless Shelter in Boston**

Researchers in Boston tested 405 people living in a homeless shelter. A total of 147 participants (36.0%) had PCR test results positive for SARS-CoV-2. Men constituted 84.4% of individuals with PCR-positive results and 64.4% of individuals with PCR-negative results. Among individuals with PCR test results positive for SARS-CoV-2, cough (7.5%), shortness of breath (1.4%), and fever (0.7%) were all uncommon, and 87.8% were asymptomatic. Universal SARS-CoV-2 PCR testing of an adult homeless shelter population in Boston shortly after the identification of a COVID-19 case cluster yielded a 36% positivity rate. The majority of individuals with newly identified infections had no symptoms and no fever at the time of diagnosis, suggesting that symptom screening in homeless shelters may not adequately capture the extent of disease transmission in this high-risk setting. [Read more here](#)

**Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area**

This study looked at 5,700 patients hospitalized with COVID-19 in New York City. Mortality rates for those who received mechanical ventilation in the 18-to-65 and older-than-65 age groups were 76.4% and 97.2%, respectively. Mortality rates for those in the 18-to-65 and older-than-65 age groups who did not receive mechanical ventilation were 19.8% and 26.6%, respectively. There were no deaths in the younger-than-18 age group. [Read more here](#)
Characteristics of Hospitalized Adults With COVID-19 in an Integrated Health Care System in California

This study looked retrospective at over 16,000 patients within the Kaiser Permanente Northern California health system that were tested for COVID-19.

Of 16,201 tests in adults, results from 1299 patients (8.0%) were positive for SARS-CoV-2. Of these patients, 377 (29.0%) were treated as inpatients and 113 (8.7%) were treated in the ICU. Most patients were treated on the general ward or intermediate care unit (n = 264, 70.0%); of whom 54.9% received supplemental oxygen through nasal cannula/facemask. A total of 113 inpatients (30.0%) required ICU admission and 110 (29.2%) received invasive mechanical ventilation...Estimates of patients with positive SARS-CoV-2 test results who were (1) admitted to a KPNC hospital (29.0%) and (2) treated in an ICU (8.7%) are broadly similar to those from the US Centers for Disease Control and Prevention (21%-31% and 5%-12%, respectively) and contain less missing data. The KPNC estimate of ICU admissions using positive tests as denominator (8.7%) is lower than Italy (12%) but higher than China (5%). Given the differences in care among countries, it is important to report data from the United States. The KPNC mortality estimate is preliminary but reasonably consistent with the early Seattle, Washington, experience. Read more here.

Universal Screening for SARS-CoV-2 in Women Admitted for Delivery

Researchers in New York City instituted universal testing for pregnant women admitted to the hospital for delivery.

Our use of universal SARS-CoV-2 testing in all pregnant patients presenting for delivery revealed that at this point in the pandemic in New York City, most of the patients who were positive for SARS-CoV-2 at delivery were asymptomatic, and more than one of eight asymptomatic patients who were admitted to the labor and delivery unit were positive for SARS-CoV-2. Although this prevalence has limited generalizability to geographic regions with lower rates of infection, it underscores the risk of Covid-19 among asymptomatic obstetrical patients. Moreover, the true prevalence of infection may be underreported because of false negative results of tests to detect SARS-CoV-2. Read more here.

Clinical Characteristics of Pregnant Women with Covid-19 in Wuhan, China

Researchers in China provide a nice descriptive summary of 118 pregnant women that gave birth during the pandemic in Wuhan, China.

Among the study population, there were 3 spontaneous abortions, 2 ectopic pregnancies, and 4 induced abortions (all owing to patients’ concerns about Covid-19). A total of 68 of 118 patients (58%) delivered during the study period, accounting for 0.56% of all deliveries in Wuhan during this time, and had 70 births (2 sets of twins). Of these 68 patients, 63 (93%) underwent a cesarean section; in 38 of 62 cases (61%), the procedure was performed because of concern about the effects of Covid-19 on the pregnancy. A total of 14 deliveries (21%) were premature; 8 were induced (7 owing to concern about Covid-19). No babies had neonatal asphyxia. Testing for SARS-CoV-2 was performed on neonatal throat swabs of 8 newborns and breast-milk samples of 3 mothers. No positive results were reported. The risk of severe disease in our pregnant population (8%) compared favorably with the risk reported in the general population of patients presenting with Covid-19 across mainland China (15.7%). Previous data have shown lower rates of severe disease among women and younger patients than among men and older patients. The present data do not suggest an increased risk of severe disease among pregnant women, as has been observed with influenza. The
exacerbations of respiratory disease that are observed in women during the postpartum period are likely to relate to pathophysiological changes (e.g., increased circulating blood volume) that occur in this period. Read more here.

How many workers are employed in sectors directly affected by COVID-19 shutdowns, where do they work, and how much do they earn?

Our analysis shows that a large number of jobs are in sectors directly affected by the shutdowns enacted to combat the COVID-19 pandemic. All told, about 20 percent of all employees work in the most exposed sectors identified by Vavra. The proportion of jobs in the shutdown sectors is particularly high in Nevada, Hawaii, Florida, and South Carolina, states that rely heavily on tourism. Besides affecting employment in these jobs, the shutdown orders have indirect impacts on sectors that provide inputs to the directly affected sectors. The longer the shutdown continues, the greater its cumulative direct and indirect effects. We also find that occupations with lower wages are more common in the shutdown sectors than elsewhere in the economy and that higher paying jobs are less common in those sectors. Consequently, shutdown policies disproportionately affect workers in lower paying jobs. Read more here

Figure 3. Share of June 2019 employment in most exposed sectors, by state
Resources

3. APHA & NAM COVID-19 Webinars: https://www.covid19conversations.org/webinars
4. COVID Tracking Project: https://covidtracking.com/data
5. ProjectProtect Face Masks Resources: https://projectprotect.health/#/homemade-mask
6. NIH Resources: https://www.nih.gov/health-information/coronavirus

Noteworthy Podcasts

- Kaiser Health News - What the health? Whom do we trust for COVID-19 information? Listen here
- New Yorker Radio Hour, A city at the peak of crisis. Listen here
- The Economist Radio, End transmission: covid-19 in New Zealand. Listen here

Good Reads

- Cancer Care Chronicles, Facing a Pandemic While Pregnant. Read here
- The Atlantic, Doctors Are Holding Up Their End of the Bargain. Society Is Not Read here
- Stat News, Many states are far short of Covid-19 testing levels needed for safe reopening, new analysis shows Read here

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

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Remember: Don't Panic