AAMC Novel Coronavirus Update
June 17, 2020

To help filter through the large volume of news about the novel coronavirus, Ross McKinney Jr., MD, AAMC chief scientific officer, with assistance from his team in the Scientific Affairs unit at the AAMC, has initiated this science-focused newsletter. This newsletter will be published once per week on Wednesdays.

If you would like to opt-in to receive future updates, add your name, email, and institution to this survey.

Contact AAMC Senior Science Policy Specialist Amanda Field, PhD, with any other questions or requests.

To access the latest AAMC updates and resources on COVID-19, visit aamc.org/coronavirus. For resources on COVID-19 medical research, read more here.

Please share/forward this newsletter freely.

Today's Numbers

- World: 8,217,627 (445,012 deaths)
  - 1.1 times the number of cases and 1.1 times the number of deaths over the past week
- United States: 2,143,193 (117,129)
  - 1.1 times the number of cases and 1.1 times the number of deaths over the past week
  - 24,449,307 total tests
- States With Most Confirmed Cases:
  - New York: 385,142 (30,909)
  - New Jersey: 167,426 (12,792)
  - California: 159,184 (5,202)
  - Illinois: 133,639 (6,398)
  - Massachusetts: 105,885 (7,664)

For the most up-to-date data, refer to the Johns Hopkins COVID-19 Map.

The Institute for Health Metrics and Evaluation at the University of Washington Medicine is projecting hospital resource use in the United States based on COVID-19 deaths.

Lead News

A large randomized, controlled clinical trial in England demonstrated that low-dose
Dexamethasone decreased the mortality rate of COVID-19. The study, called RECOVERY, gave 2,014 patients dexamethasone for 10 days, and 4,321 patients were randomized to usual care alone. Dexamethasone reduced deaths by one-third in ventilated patients and by one-fifth in patients who required oxygen alone. [Editor's comment: Dexamethasone has been tried empirically for sepsis syndromes many times in the past with generally marginal results. In this case, the results are quite positive, which may reflect the pathogenesis of COVID-19 and its high level of vascular inflammation.]

**STAT: Rising COVID-19 Cases and Hospitalizations Underscore the Long Road Ahead**

**Treatment News**

The Food and Drug Administration (FDA) removed the hydroxychloroquine (HCQ) and chloroquine Emergency Use Authorizations (EUAs) for COVID-19 treatment, saying the drugs are unlikely to produce an antiviral effect and providing an FAQ on why the EUAs were revoked. [Editor's comment: The FDA gave an EUA for HCQ because of political pressure. There was never a sound justification for its use, and studies have shown it causes more harm than good as a treatment for COVID-19. It’s still effective for malaria. After this lesson, hopefully the FDA will rely only on scientific evidence when it comes to approving a COVID-19 vaccine. Expediting the approval of an ineffective or subtly toxic vaccine could be devastating to both the public’s trust and its health.]

A vaccine candidate from the China-based company Sinovac Biotech generated an immune response in a 600-person Phase 2 clinical trial. The company is seeking approval to begin a Phase 3 trial. [Editor’s comment: Sinovac Biotech’s vaccine uses inactivated SARS-CoV-2, which makes it technically similar to many other currently used vaccines, with the inactivated Salk polio vaccine being the classic paradigm.]

A convenient neutralizing antibody assay, if confirmed to be accurate, will be very important for the evaluation of new SARS-CoV-2 vaccines.

**Science: ‘It’s Really Complicated.’ United States and Others Wrestle With Putting COVID-19 Vaccines to the Test**

**Clinical News**

Children are less susceptible to SARS-CoV-2 than adults. It also seems they are unlikely to introduce SARS-CoV-2 into a household — most infected children acquired COVID-19 from an infected adult in the same house. Of 39 infected children in a Swiss case series, 79% of infected children appeared to have an adult from their home as the source of infection. In only 8% of cases did the children have symptoms first. Along the same theme, an article in Nature Medicine determined that children are only half as likely to be infected as people age 20 or older. [Editor’s comment: The fact that children are less likely to become infected with COVID-19, and so are less likely to be source vectors than adults, complicates the decisions about opening schools and day cares. Opening schools may not be as risky as past experience with influenza (where children are frequently the vectors into a household) might indicate.]

In the midst of an epidemic, it can be hard to determine an infectious disease’s case fatality rate and infection fatality rate (IFR). The latter is particularly important since it incorporates individuals who are infected but never show symptoms. Several epidemiological studies have established that the IFR for SARS-CoV-2 is between 0.5%
and 1.0%, meaning there are 5-10 deaths per every 1000 infections. The IFR for seasonal influenza is thought to be 0.05%-0.1%, which is tenfold less.

Patients with underlying conditions were 12 times as likely to die of COVID-19 as otherwise healthy people, the Centers for Disease Control and Prevention (CDC) found. The fatality rate for cases reported with an underlying condition was 19.5% versus 1.6% for cases without an underlying condition.

Similarly, a study in the Lancet determined that 22% of the global population “have at least one underlying condition that puts them at increased risk of severe COVID-19 if infected” and that 4% of people would need to be hospitalized if they were infected.

Policy News

Washington Post: CDC Urges Organizers of Large Gatherings to ‘Strongly Encourage’ Use of Face Masks

Coronavirus and Health Equity

The CDC denied the requests of Native American tribes to provide the sovereign nations with data showing how the coronavirus is spreading across their lands. The same data are made freely available to states, who in some instances are refusing tribal epidemiologists’ requests as well. “If you can’t measure [the coronavirus,] you can’t manage it,” said Stacy Bohlen, the executive director of the National Indian Health Board. “It’s another chronic failing of what Indian people experience across the health system. We know it’s happening across the country.”

Fifty-two percent of reported coronavirus cases in the United States are still missing data on patients’ race and ethnicity, and new federally required data collection won’t begin until August. Brett Giroir, the Department of Health and Human Services assistant secretary for health and former coronavirus testing czar, notes, “We can't develop a national strategy to reach the underserved, or know how well we're doing, until we have the data that shows us if we're reaching them or not.”

Brookings: Race Gaps in COVID-19 Deaths Are Even Bigger Than They Appear

A new city-oriented COVID Local Risk Index, developed by scientists at NYU Grossman School of Medicine, allows municipal leaders to identify cities and neighborhoods with populations at higher risk of COVID-19 infection and severe illness by incorporating key risk factors of race and ethnicity, age, household crowding, poverty, and underlying health conditions such as obesity and diabetes. The index can be compared across cities and overlaid with other data for a more comprehensive picture of health within neighborhoods across a city.

STAT: To Understand Who’s Dying of COVID-19, Look to Social Factors Like Race More Than Preexisting Diseases

Inside Higher Ed: Higher Education and Work Amid Crisis

Research News
**NIH Launches Analytics Platform to Harness Nationwide COVID-19 Patient Data to Speed Treatments**

The AAMC has collaborated with member institutions and CITI Program to launch a complimentary course to train research faculty and team members, research staff, students, and other staff at medical schools and research organizations on COVID-19 safety as they return to campus this fall. The highlights of the course include a discussion of recommendations by the CDC, the National Institutes of Health (NIH), and the Occupational Safety and Health Administration, as well as optional modules on specific research areas. Organizations may subscribe to this free course by October 1, and learners will receive a CITI Program completion report as evidence of successful training.

*Lancet: Effectiveness of Isolation, Testing, Contact Tracing, and Physical Distancing on Reducing Transmission of SARS-CoV-2 in Different Settings: A Mathematical Modelling Study*

**NIH Director’s Blog: NIH’s All of Us Program Joins Fight Against COVID-19**

**Testing News**

The FDA approved an EUA to the first COVID-19 test based on next generation sequencing by Illumina. In addition to expanding the testing capacity, "genetic sequencing information will help us monitor if and how the virus mutates, which will be crucial to our efforts to continue to learn and fight this virus," said FDA Commissioner Stephen Hahn, MD, in an FDA press release.

The American Red Cross announced it will test all blood donations for COVID-19 antibodies and share the results with donors.

*Washington Post Opinion: Contact Tracing Is the Key Weapon Against COVID-19*

**Other COVID-19 News**

Because of an outbreak in Michigan nursing homes resulting in nearly 2,000 deaths (one-third of the deaths in the state), the Michigan health department mandated testing for all residents and staff.

Refugees — some of whom practiced medicine in their country of origin but are unable to practice medicine in the United States — are offering their expertise and experience however they can to address health care needs revealed by the pandemic.

MassLive.com had a panel of health experts rank the relative safety and risk of a variety of common activities in a COVID-19 world.


*Washington Post: How to Host a Get-together as Safely — and Graciously — as Possible*

*Washington Post: Three Weeks After Memorial Day, the Coronavirus Is Surging Dangerously in States That Opened Quickly*
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WBUR: Genetic Sleuthing Finds Many Sources, Mostly from Europe, for Coronavirus Outbreak in Boston

Washington Post: Beijing Carries Out Mass Testing as Coronavirus Spreads in the Chinese Capital

Washington Post: Egypt Thought It Dodged the Worst of the Pandemic, But Now Hospitals Are Being Overwhelmed

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