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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

More evidence hydroxychloroquine is ineffective in covid-19.

In a new [preprint](#) publication in medRxiv, the results of a long awaited randomized clinical trial reveal that hydroxychloroquine (HCQ) used as prophylaxis is not protective against the SARS-CoV-2 virus.

In this randomized, double-blind, placebo-controlled clinical trial of patients in the Northern United States and Canada, healthcare workers with ongoing exposure to patients with covid-19 were randomized to one of four treatment arms: HCQ loading dose of 400mg twice over 6-8 hours followed by either 400mg once weekly or twice weekly for 3 months, or to a placebo with similar dosing regimens.

Study participants were greater than 18 years of age, and clinical settings included emergency departments, intensive care units, covid-19 hospital wards, and pre-hospital. The primary endpoint was confirmed or *probable* covid-19.

Of the 1,483 healthcare workers enrolled in the study, 79 percent were involved in aerosol-generating procedures, which suggests these participants were at unusually high risk for becoming infected with SARS-Cov-2. A total of 6.5 percent of participants developed covid-19 during the study. The rate of covid-19 was 5.9 percent in both HCQ study arms and 7.9 percent in the placebo groups, which was not statistically significant in unadjusted analyses ($p = 0.13$).

In fully adjusted analyses, statistical significance was determined using hazard ratios, which is a statistical method that compares the probability of becoming infected with covid-19 in the HCQ group compared to probability of becoming infected with covid-19 in the placebo group. Although the point estimate of the hazard ratios suggest there may be a treatment effect when healthcare workers take HCQ when compared to the placebo, the confidence intervals for the hazard ratios cross 1, which indicates that the results of the randomized trial were unable to detect a significant benefit or harm with regards to HCQ in preventing covid-19 infection. The authors correctly conclude “pre-exposure prophylaxis with hydroxychloroquine once or twice weekly did not significantly reduce laboratory-confirmed Covid-19 or Covid-19-compatible illness among healthcare workers.”

Yet another study showing that HCQ should not be used at this time. This time it shows us that it is not protective in preventing covid-19.

—Joshua Niforatos, MD

POLICY BRIEFING

Conflicting federal vaccine rollout plans.

Earlier this month the National Academies of Sciences, Engineering, and Medicine (NAS) released its draft [guidance](#) on a four-stage vaccine rollout plan based on the understanding that, in the early phases, demand would outstrip supply. Last week, the Department of Health and Human Services (HHS), and specifically Operation Warp Speed, [announced](#) a strategy for vaccine delivery beginning in January. Breaking the plan into three components, Phase 1 would rely on acceptance of the vaccine and public health protection; Phase 2 is concerned with broadening distribution; Phase 3 addresses persistent viral presence and public/private partnerships.

Unlike the NAS plan, which focuses on identifying sections of the population that fall into different categories of vaccine priority, the HHS plan delves deeper into the logistics of a national vaccine strategy, focusing on distribution, administration, monitoring, and engagement. The biggest takeaway is that, whatever the timeline, various federal and external entities will need to work in tandem for a successful SARS-CoV-2 eradication campaign. *Various.*

—Joshua Lesko, MD

Confusion on aerosol transmission at the CDC.

There are semantic arguments on whether SARS-CoV-2 can be spread through the air via droplets small enough to travel great distances. If the virus is stable in the air (i.e. airborne), it could reach people more than 6 feet away from an infected person. While many scientists agree that the virus can in some circumstances behave similarly (if not identically) to an airborne particle, what is unclear is whether that is true in all conditions; temperature, humidity, and degree of air movement could all have ample effects on how particles behave, such that the virus may behave as airborne in one room, and not in another.

The CDC, like the WHO, has been slow to acknowledge this. The CDC often holds back on conclusions until all the data are in—meaning it is often slow but reliable. Now, for the first time, we encounter a CDC that is both slow *and* unreliable. The CDC finally acknowledged that SARS-CoV-2 can spread in an airborne-like way on Friday. It then [removed](#) that announcement and stated that the posting had not gone through technical review.

As bizarre as the about-face is the notion that a rigorous technical review was left incomplete. This runs against usual CDC practices. This latest embarrassment comes on the heels of a recent 180° on the testing of asymptomatic people exposed to covid-19. In that case, pressure from the White House led to the unveiling of a policy advising against doing so. That guidance was later tossed out after outcry among public health experts. It is unknown if and when political influence played a role in the airborne transmission saga, but given events, it would not be surprising. What is clear is that the CDC has never before had to endure political pressure when communicating with the public during a national emergency. So far, it is not going well.

—Jeremy Samuel Faust MD MS

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health and public policy.