28 August 2020

BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

How long is SARS-CoV-2 *really* contagious? A best-evidence update.

Note: As we have covered in Brief19, there is a difference between how long people test positive for SARS-CoV-2—the virus that causes covid-19—and how long they might be contagious. A new review in the highly influential medical journal Clinical Infectious Diseases sums up what we know. We asked the lead author to share the findings with us. —Brief19

Defining the duration of infectivity of SARS-CoV-2 has major implications for public health and infection control practice in healthcare facilities. Prematurely releasing patients from isolation risks fueling spread. Unnecessarily prolonging isolation, however, is frustrating for patients, consumes PPE, can delay procedures and other medical care, locks up scarce private and airborne infection isolation rooms in hospitals, separates patients from social support, and may keep patients hospitalized longer than necessary. Policies that permit a timely but safe return to work for infected healthcare workers are also critical, particularly in hospitals facing staffing shortages.

Early in the pandemic, most hospitals required two negative coronavirus tests (via PCR) before discontinuing isolation in patients with covid-19, in accordance with guidance from the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC). Many patients, however, have persistently positive PCR tests for weeks to months following clinical recovery. PCR-based clearance strategies can lead to unnecessarily long isolation.

My colleagues and I recently published a review of the best available evidence in the medical journal *Clinical Infectious Diseases.* We summarize the evidence to date on SARS-CoV-2 infectivity and when it is safe to discontinue isolation. A growing number of studies now indicate that PCR positivity far outlasts infectious shedding as determined by cell culture, which is a better indicator for infectivity. Patients with SARS-CoV-2 are most contagious around the time symptoms appear and infectivity appears to rapidly decrease thereafter to near-zero after about 10 days in mild-moderately ill patients. In severely-critically ill and immunocompromised patients, contagion can last 15 days. The longest documented period a patient has been contagious virus thus far is 20 days from symptom onset. Persistently positive SARS-CoV-2 PCRs in recovered patients tend to be associated with low viral loads, which can be estimated from some kinds of PCR tests. Some patients who have recovered from covid-19 also alternate between positive and negative PCR tests. These cases generally reflect sampling variability and low levels of viral RNA fragments at the borderline of detection by PCR.

These data have informed a shift in CDC's recommendations away from a test-based strategy for discontinuing isolation. Instead, CDC recommends a more nuanced time-based approach based on severity-of-illness and immunocompetence. Specifically, CDC recommends 10 days of isolation from symptom onset (including >24 hours since resolution of fever without fever-reducing medications and an improvement in symptoms) for mild-moderately ill patients without severely immunocompromising conditions, and 10-20 days for patients with severe-critical illness or severely immunocompromising conditions.

For asymptomatic patients, 10 days of isolation is recommended from the first positive PCR test and up to 20 days for severely immunocompromised patients). Moreover, CDC

recommends avoiding test-based clearance given the evidence that people with persistently positive PCR tests are not contagious. Test-based clearance should be reserved for rare cases when there is a need to discontinue isolation early, or potentially to inform a decision to prolong isolation for severely immunocompromised patients.

In our review, we note that additional data confirming these findings in larger and more diverse cohorts are needed to provide further reassurance as to the safety of discontinuing isolation for critically ill, substantially immunocompromised, and otherwise high-risk patients, and to define the optimal approach to retesting and isolation in patients who have recovered from covid-19. *—Chanu Rhee, MD, MPH*

POLICY BRIEFING

Conundrum of data collection. The CDC and HHS continue to fight.

The Centers for Disease Control and Prevention (CDC) has long been the federal government's resource on disease control and prevention—appropriately enough. So it made sense that the CDC was tasked with collecting coronavirus hospital data early on in the pandemic to track the disease's spread and impact. In late July, however, the White House redirected the reporting of this data to the U.S. Department of Health and Human Services (HHS), which was immediately met with concerns regarding lack of data transparency and even basic access to previously submitted information. These concerns proved justified when officials across the country faced difficulties or impossibilities of using the new system, which is why Dr. Deborah Birx's announcement of the reinstatement of the CDC as the data aggregator was met with approval. But now, in a further confusing and duplicative move, the Centers for Medicare and Medicaid Services (CMS) Administrator Seema Verma has threatened to revoke Medicare and Medicaid funding to hospitals that do not report patient data and test results to HHS. While claiming this as a "dramatic acceleration" of efforts to track the pandemic, it remains to be seen what a second set of data will accomplish that the CDC collection process does not. *Various.*

—Joshua Lesko, MD

CDC walks back guidance against testing asymptomatic people.

This week, the Centers for Disease Control and Prevention released new guidance stating that individuals exposed to persons known to have the novel coronavirus need not be tested if no symptoms occur. No evidence, old or new, was provided to support this highly dangerous and reckless change in policy. Experts immediately spoke out, including former CDC Director Tom Frieden. Today, the CDC walked back the policy. *Various.* *—Jeremy Samuel Faust, MD MS*