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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Covid-19 patients requiring the ICU have high mortality rates: A new [report](#) published in the New England Journal of Medicine yesterday describes the outcomes of twenty-four patients who were hospitalized in nine Seattle-area hospitals and who required treatment in intensive care units for novel coronavirus. The average age of the patient was sixty-four years and on average, patients began experiencing symptoms such as cough and shortness of breath one week prior to admission, though many had onset of symptoms several days before and after. Common pre-existing conditions included diabetes and a history of smoking, chronic kidney disease, and sleep apnea. Strikingly, as reported in *Brief19* last week, only 50 percent of patients had a fever at the time of initial medical evaluation. Mechanical ventilation (intubation) occurred in 75 percent of these patients, though another 17 percent had pre-existing “do not intubate” orders. As of March 23, half of these ICU patients had died, 13 percent remained on breathing machines (in the ICU), 17 percent remained in the hospital but had improved so as to permit leaving the ICU, and 21 percent had been able to go home. As expected, a greater percentage of patients older than 65 years of age died (62 percent) than the percentage of those under 65 (37 percent). Common features included low lymphocyte counts (a subtype of white blood cells that help fight infections), and signs of pneumonia in both the right and left lungs simultaneously on x-ray or CT scans of the chest. The median length of time that patients spent in the ICU and the hospital was nine and twelve days, respectively. However, on average, those who survived had longer stays (fourteen days in the ICU and seventeen total days in the hospital). These findings seem to support observations that patients who are destined to deteriorate often do so precipitously and that when this occurs, little can be done to stop it. Overall, these data underscore trends that have been reported in China, Italy, and elsewhere; older patients with existing medical conditions are more vulnerable and the subset of cases severe enough to require ICU admission have high mortality rates.

--Jeremy Samuel Faust MD MS

POLICY BRIEFING

Deescalating risk of incarceration-related outbreak. With 2.4 million individuals in judicial custody, the US has nearly one quarter of the world’s incarcerated population. For those who live and work in the patchwork of federal, state, and local prison facilities the ability to practice appropriate preventive measures regarding SARS-CoV-2 is limited, and the risk of covid-19 is high. A [systematic review](#) found that inmates have high rates of diabetes, cardiovascular conditions, liver disease, and asthma, all of which are risk factors for severe or fatal SARS-CoV-2. Many prisons and jails are now limiting or prohibiting visitors. Stopping the flow of employees and incarcerated persons is more challenging. Facilities in the areas with the highest incidence of covid-19 are decreasing intake and increasing early release, especially non-violent and short-term inmates. Some officials in locales of lower viral prevalence are taking similar measures to preempt spread of the virus. Other jurisdictions have increased their use of cite-and-release charges, with three governors allowing their respective corrections departments to suspend admissions. Some states have decreased required check-ins for parolees.

--Joshua Lesko, MD (@joshualeskomd)

The Defense Production Act ramps up. After invoking the DPA and asking General Motors to produce more mechanical ventilators, the company [released a statement](#) saying that it would be partner with Ventec Life Systems to produce the devices at one of GM's existing plants. Deliveries are slated to begin in April with planned quantities of up to 200,000 ventilators. In the same statement GM announced increased production of Level 1 surgical masks at a separate facility, with initial production goals of 50,000 to 100,000 units per day. President Trump announced that his trade advisor, Peter Navarro, will be coordinating implementation of the DPA and stated that the administration is plans to work with Ford and General Electric to produce additional ventilators.

--Joshua Lesko, MD

Mind the rural gap: More than [one-third](#) of counties in the United States have yet to report a single patient with covid-19. Overwhelmingly, these areas are poor and rural, with higher median ages and greater proportions of the population over 60 years old. Communities within these counties include predominantly white areas of the Great Plains, majority Native American and Hispanic regions of the Southwest, and areas with large African American populations in the deep South. Those living in rural America are less likely to have frequent contact with others, which may limit viral spread. For those who do become ill, ICU-level of care is frequently less available in rural areas. Under-testing, however, may be leading to under-reporting of disease.

--Jordan M. Warchol, MD, MPH, (@ActuallyDrJ), Guest section editor.

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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 policy, and public policy.