were diagnosed with COVID-19 pneumonia and required oxygen therapy and antibiotics. Many (67%) also received antivirals. Regarding delivery, all nine were live births delivered via cesarean section with 1-min Apgar scores of 8-9 and 5-min Apgar scores of 9-10. Four of the 9 were delivered prematurely at 36 weeks (44%) for a variety of reasons including premature rupture of membranes, pre-eclampsia, or pneumonia. None of the fluid samples at birth were positive for COVID-19. Additionally, all of the mothers and babies were discharged from the hospital.

Limitations discussed include the retrospective nature of data abstraction and small sample size. Additionally all patients enrolled were in the third trimester. The authors concluded that pregnant patients with COVID-19 present with similar symptoms as nonpregnant patients. Also, based on this limited sample, the mothers had a low risk of complications and all of the infants tested negative for COVID-19 after birth, suggesting that vertical transmission is unlikely.

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Comment: There are still many uncertainties about the disease course of COVID-19 in pregnant patients. This review is reassuring, however this is a very small sample size so caution should be used in applying these results to our day to day patients, especially those at earlier gestational ages. More studies should be conducted on pregnant patients with COVID-19 in all trimesters to have a more accurate picture of how this virus affects pregnancy-related outcomes.

☐ CLINICAL CHARACTERISTICS OF CORONAVIRUS DISEASE 2019 IN CHINA.

Guan W, Ni Z, Hu Y, et al. *N Engl J Med*. 2020 Feb 28 [Online ahead of print] DOI: 10.1056/NEJMoa2002032.

The novel coronavirus (SARS-CoV-2, causing COVID-19) was originally isolated in Wuhan, China. This virus spread quickly throughout many countries in Asia and now Europe, Australia, North America, leading the World Health Organization to declare COVID-19 a pandemic. Given the rapid spread of cases, the authors sought to provide analysis of patients with COVID-19, their clinical characteristics, and severity of disease.

This was a retrospective review of Chinese medical records for laboratory-confirmed COVID-19 reported to the National Health Commission between December 11, 2019 to January 29, 2020. Electronic medical records were used to record various clinical data including exposure risk, signs and symptoms, laboratory findings, and radiologic findings. Several researchers performed chart abstraction and disagreements were made by a third reviewer. If radiologic findings were included, these were reviewed by respiratory medicine attending physicians who interpreted the findings. Incubation periods of less than 1 day were excluded. Fever was defined as an axillary temperature of 37.5 degrees Celsius or higher. Patients were categorized into severe or nonsevere based on the American Thoracic Society guidelines for community acquired pneumonia. The primary composite endpoint was admission to the intensive care unit (ICU), use of mechanical ventilation, or death. Secondary outcomes included death rates from symptom onset until each component of the composite end-point.

There were 7736 patients admitted at 552 sites during the study period and data were obtained on 1099 patients (14.2%). The majority were nonsevere disease (926, 84.3%). The median age was 47 years (IQR 35-58), 41.9% were female, and most were nonsmokers (85.4%). Any comorbidity was recorded in 23.7% of patients, with hypertension being the most common (15.0%). The majority of patients (72.3%) had recent contact with a Wuhan resident, although 25.9% had no reported exposure. The median incubation period was 4.0 days (IQR 2.0-7.0). Regarding symptoms, only 43.8% of patients had fever on presentation but 88.7% developed fever during hospitalization. Besides fever, the most common symptoms overall were cough (67.8%), fatigue (38.1%), sputum production (33.7%), and shortness of breath (18.7%). Chest radiograph findings were available for 274 patients, with the majority being abnormal (59.1%). Findings included bilateral patchy shadowing (36.5%), local patchy shadowing (28.1%), ground-glass opacity (20.1%), and interstitial abnormality (4.4%). Chest CT results were available on 975 patients. The majority (86.2%) were abnormal and consisted of ground-glass opacity (56.4%), bilateral patchy shadowing (51.8%), local patchy shadowing (41.9%), and interstitial abnormalities (14.7%). Laboratory testing was available on most, depending on the test, and showed a median white blood cell count of 4700/mm3 (IQR 3500-6000), elevated C-reactive protein (>10mg/L in 60.7%), and normal procalcitonin (<0.5ng/mL in 94.5%). Other notable laboratory abnormalities included elevated D-dimer (> 0.5mg/L in 46.4%) and elevated LDH (>250U/L in 41%). The most common complications were pneumonia (91.1%) followed by acute respiratory distress syndrome (3.4%) and most common treatments were intravenous antibiotics (58.0%), oxygen therapy (41.3%), and oseltamivir (35.8%). Systemic glucocorticoids and immune globulin were less common therapies, and mechanical ventilation was needed in only 6.1%. At the conclusion of the study, 15 (1.4%) of patients had died and 55 (5.0%) had been discharged fro the hospital. The majority of the remaining patients were still hospitalized. Regarding the composite endpoint, there were 67 patients (6.1%) with ICU admission, mechanical ventilation, or death, leading to a cumulative risk of 3.6%. This percentage increased if you were designated as severe disease; in this case 24.9% had the composite outcome, leading to a cumulative risk of 20.6%.

The authors concluded that presenting symptoms and workup can be variable, with many patients being afebrile and having normal radiologic studies. Several limitations were noted including missing data for many on incubation periods. Additionally the majority of the patients were still hospitalized at the end of the study and therefore outcomes could not be provided for those patients.

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Comment: While this study provides helpful clinical information to assist emergency physicians in identifying potential COVID-19 patients, we must understand the limitations. Most significantly, this was only a very small portion of the overall sample size of confirmed COVID-19 patients. Additionally, be cautious in directly applying these results to patients in the United States as populations may differ.

☐ DRIVE-THROUGH SCREENING CENTER FOR COVID-19: A SAFE AND EFFICIENT SCREENING SYSTEM AGAINST MASSIVE COMMUNITY OUTBREAK.

Kwon KT, Ko JH, Shin H, et al. *J Korean Med Sci*. Published online March 16, 2020. doi: https://doi.org/10.3346/jkms.2020.35.e123.

The current Coronavirus Disease 2019 (COVID-19) pandemic has necessitated the testing of significant numbers of patients. Modeled after those used during a previous bioterrorism disaster and influenza pandemic, the authors present a descriptive report of their drive-through screening center and processes.

The authors recommend use of a large parking lot geographically removed from large population centers. Additionally, they recommend either a tent or temporary building to be used for work space and shelter from weather. They utilized a four-step process: Entrance → Registration → Examination → Specimen collection → Instructions → Exit. Patients do not leave their cars during this process. To minimize contact and preserve personal protective equipment (PPE), communication is performed either by mobile phone or electronic medical record whenever possible. Temperature is obtained with a contactless thermometer. If the physician strongly suspects COVID-19 during the examination step, the patient is transported to a designated hospital after specimen collection. Test specimens were collected with the car window opened the minimum amount necessary and car ventilation mode on internal circulation. Patients are provided with information about obtaining test results, home quarantine, and anticipatory guidance.

Healthcare workers (HCWs) who had direct contact with patients wore the following PPE: N95 respirator, eye shield/face shield/goggles, hooded coverall/gown, and inner and outer gloves. To decrease viral spread and minimize the possibility of specimen contamination, HCWs wore two gowns and two pairs of gloves for patients who required testing; the external gloves/gown were removed and hands disinfected after each patient contact. The authors reported that this process took approximately ten minutes per test, allowing them to screen 100 people per day with a staff of 4-8 HCWs. This is estimated to be 1/3 the amount of time that a typical screening process would take.

The authors recommended rotating staff every 1-2 hours if possible, and to ensure that no HCW wore an N95 respirator for longer than four consecutive hours. They also noted the need to be cognizant of relevant environmental issues, such as hot/cold weather, etc., and to adapt the working environment accordingly. Lastly, there must be adequate communication with the public regarding the limitations of the screening center to minimize the number of people who may attempt to use this resource inappropriately. They recommend considering a similar process for other uses such as medication distribution or vaccine administration.

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Comment: While not a typical research manuscript we would select for Abstracts, this article describes a non-novel approach to a novel viral pandemic. The drive-through screening process has a number of advantages as outlined above, especially as centers begin seeing higher numbers of potential COVID-19 patients. It is important to consider and plan for the unintended consequences of such a program, including how HCWs will handle unexpectedly ill patients and patients arriving by alternative transportation (bike, walking, public transportation). Healthcare leaders considering a drive-through screening option should also consider the heightened emotions and fear that are present during epidemic/pandemic conditions and plan for security accordingly.

☐ EPIDEMIOLOGICAL CHARACTERISTICS OF 2143 PEDIATRIC PATIENTS WITH 2019 CORONAVIRUS DISEASE IN CHINA.

Dong Y, Mo X, Hu Y, et al. *Pediatrics*. 2020; doi: 10.1542/peds.2020-0702.

Novel coronavirus (SARS-CoV-2, which causes COVID-19) is a pandemic with many countries employing massive public health responses. Little is known about the severity of illness in the pediatric population. This study sought to identify demographic information and severity of disease in pediatric patients with COVID-19.

This was a retrospective study conducted on patients less than 18 years who were suspected or confirmed to have COVID-19 and were reported to the Chinese Centers for Disease Control (China CDC). Children were considered high risk and suspected if they had positive exposure to an endemic area or a confirmed case of COVID-19. High suspicion also included those with fever, respiratory symptoms, digestive symptoms, or fatigue, normal or low white blood cell count and increased C-reactive protein, or abnormal chest radiography, or those at lower risk for whom influenza or other respiratory illnesses were ruled out. Confirmed cases were defined as having a nasopharyngeal swab or blood sample positive via PCR or a genetic sampling of respiratory secretions or blood consistent with SARS-CoV-2. Once identified, patients were categorized by severity of disease using clinical features as well as laboratory and radiographic findings. Severity categories included asymptomatic (no symptoms but positive test), mild (mild respiratory symptoms and normal lung exam), moderate (pneumonia, fever, and cough but without hypoxemia or respiratory distress), severe (above symptoms as well as oxygen saturation less than 92% and respiratory distress), or critical disease (acute respiratory failure, acute respiratory distress syndrome, shock, or other life-threatening organ dysfunction).

There were 2143 patients included who were suspected (65.9%) or confirmed (34.1%) to have COVID-19. Median age was 7 years (IQR 2-13) and the majority (56.6%) were male. The median time from onset of symptoms to presentation