Results.
We show that by 1 hr of infection, half of all macrophages have intracellular arthroconidia, with phagocytosis occurring as quickly at 15 min. The host response to AA included a receptor for macrophages, since the United States declared COVID-19 a national emergency. Managing AA during the pandemic remains a challenge because of COVID exposure can lead to delays in presentation and surgery, as well as a shift to conservative management. Alvarado score (AS) is a ten-point clinical scoring system to identify AA, where children or the American Association for the Surgery of Trauma (AAST) grading score (I-V) is a validated tool for AA diagnosis and severity. There are no studies on prevalence and severity of AA during the COVID-19 pandemic in an urban multiethnic community.

Method.
This is a retrospective chart review of patients admitted to Flushing Hospital Medical Center and Jamaica Hospital Medical Center with the diagnosis of AA from March 2018 to March 2021. Charts were reviewed for demographics, clinical, imaging and surgical data to determine AA. AA was defined as a likelihood of requiring surgery and 7-10 (likely) to require surgery) and 7-10 (likely to require surgery). AAST scoring was based on the most severe criteria if grading discrepancies were found between pathology, surgical and computed tomography findings. Leukocytosis was defined as a white blood cell count >10,000. The data were compared using t-tests and chi-square tests (p<0.05) was considered significant.

Results.
Of the patients with AA over 3 years, G1 totaled 184 (77%) in 2 years pre-pandemic and G2 had 55 (23%) during first year pandemic. Mean age, gender and ethnicity were similar for G1 and G2. As and AAST were compared for G1 and G2, Table 1. G2 had significantly greater overall AS (p=0.038) and higher AAST scores (p=0.016). Only three patients tested positive for SARS-CoV-2 and 9 (16%) of G2 were transferred to a tertiary hospital. Conclusion.
Although there was a decline in number of AA evaluated in our emergency department, the severity of AA was heightened during the pandemic. Healthcare providers need to have a high index of suspicion of AA complications.

An RSV live-attenuated vaccine candidate lacking G protein mucin domains is highly attenuated, immunogenic, and effective in RSV prevention in BALB/c mice
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Background.
RSV is a leading viral respiratory pathogen in infants. Live attenuated RSV is a promising candidate vaccine for RSV prevention. However, RSV is a complex virus with multiple viral proteins that play roles in the macrophage response to RSV in vitro and in vivo.

Method.
Bone marrow derived macrophages were isolated from wildtype (C57BL/6) or C3Ar1/-/- mice. Coccidioides posadasi Silveira arthroconidia were used in all experiments. Macrophage phagocytosis of arthroconidia was examined by confocal microscopy using a dual staining approach, incubating macrophages with FITC-labelled arthroconidia at a multiplicity of infection (MOI) of 1 (1 arthroconidia for every 10 macrophages) at each time point. Macrophage spherulation was scored by light microscopy over 72hrs. All experiments were conducted at 37°C and 5% CO2.

Results.
We show that by 1 hr of infection, half of all macrophages have intracellular arthroconidia, with phagocytosis occurring as quickly as at 15 min. The host response to AA included a receptor for macrophages, since the United States declared COVID-19 a national emergency. Managing AA during the pandemic remains a challenge because of COVID exposure can lead to delays in presentation and surgery, as well as a shift to conservative management. Alvarado score (AS) is a ten-point clinical scoring system to identify AA, where children or the American Association for the Surgery of Trauma (AAST) grading score (I-V) is a validated tool for AA diagnosis and severity. There are no studies on prevalence and severity of AA during the COVID-19 pandemic in an urban multiethnic community.

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Although there was a decline in number of AA evaluated in our emergency department, the severity of AA was heightened during the pandemic. Healthcare providers need to have a high index of suspicion of increased severity with AA complications.

COVID-19 among pediatric patients with pre-existing pulmonary conditions: Preliminary results from the Pediatric COVID-19 U.S. Registry
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Background.
COVID-19 is a respiratory infection caused by SARS-CoV-2. Adults with pre-existing pulmonary conditions have been reported to be at higher risk for severe disease, but less is known about COVID-19 in pediatric patients with pre-existing pulmonary conditions. We sought to characterize the clinical course and outcomes of COVID-19 among pediatric patients with pre-existing pulmonary conditions in a national passive surveillance registry.
Methods.
COVID-19 related data were obtained from the Pediatric COVID-19 U.S. Registry, a passive surveillance registry of pediatric patients less than 21 years old diagnosed with COVID-19 at inpatient and outpatient facilities across the United States. Centers (n=170) voluntarily submitted information abstracted from medical records at Days 7-28 and days post COVID-19 diagnosis. Of the 13,248 cases submitted to the registry, 2143 (62.3%) cases submitted both Days 7 and 28 surveys as well as completed survey questions related to pre-existing pulmonary conditions. Immunocompromised cases, cases missing Day 28 surveys and those missing pre-existing pulmonary condition survey data were excluded from this analysis (n=1,105). Clinical characteristics were summarized descriptively, and chi-square tests (p<0.05) were used to compare COVID-19 clinical course and outcomes between those with and without pre-existing pulmonary conditions.
Results.
Among the 2143 cases included, 1438 (67%) reported a pre-existing pulmonary condition. The majority were male (53.6%), white or Caucasian (41.7%) and non-Hispanic (62.5%). Pulmonary conditions reported included asthma/reactive airway disease (92%) followed by bronchopulmonary dysplasia (4%) and tracheostomy dependence (3%). Approximately one quarter (n=578) of patients with pulmonary conditions were hospitalized and 151 (13%) were admitted to the ICU. Ninety-six (6.7%) experienced respiratory failure, 63 (4%) required mechanical ventilation, and 1 (0.06%) death was reported related to COVID-19. Compared to cases with no pre-existing pulmonary conditions, those with pulmonary pre-existing conditions were significantly younger at presentation (p<0.05) most requiring chest physical therapy and/or sputum (10.3% vs 1.6%), dysnea (27.3% vs 10.5%), cough (46.8% vs 30%), and fever (47% vs 34%). Patients with pre-existing pulmonary condition were also more likely to be hospitalized for COVID-19 (26% vs 14.8%), admitted to intensive care unit (13% vs 5%) and to progress to respiratory tract infection (4.1% vs 0.6%). These patients were also more likely to receive oxygen (18% vs 8.2%), steroid treatment (Day 0 to 7) (14% vs 7.7%), and IVIG (7% vs 4.6%). Conclusion.
When compared to those without pre-existing pulmonary conditions, our data suggests children with pre-existing pulmonary conditions and COVID-19 are more likely to present with symptomatic and severe disease. Future prospective research is needed to fully understand the impact of COVID-19 among this at-risk population.

Stenotrophomonas maltophilia infection in the Neonatal Intensive Care Unit: A retrospective study of risk factors and outcome in a tertiary hospital in New York
Sana Irfan Khan, SUNY Downstate Health Sciences University
Background.
Stenotrophomonas maltophilia (S maltophilia) remains an important nosocomial gram-negative bacillus on the rise with limited studies in the neonatal population. The aim of the present study was to review the risk factors and outcomes of S maltophilia infections in the level 3 neonatal intensive care unit (NICU) of a tertiary hospital in Brooklyn, New York City.
Method.
A retrospective review and analysis of electronic medical records of patients admitted to NICU with culture positive S maltophilia and matched controls. The study period was a period of 12 years from 2008-2020 was carried out. The JMP 10.0 (SAS Institute Inc., Cary, NC, USA) software package was used for data analyses. T-test was used to determine if there was a significant difference between the data of interest among cases and controls. Values of p<0.05 were considered statistically significant.

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