Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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of 14,324 visits (0.14%) were coded as DKA, while in December 2020, 37 out of 10,942 visits (0.34%) were coded DKA. In December 2020, 11 DKA cases were COVID-19 positive and 26 were COVID-19 negative. When excluding the 11 cases of DKA with positive COVID-19 tests, the rate of DKA in 12/2020 would be 0.24%.

Conclusions: We found the incidence rate ratio of DKA in 2020 increased compared to 2019, with an almost doubling of DKA rates in the month of December, the peak months of our pandemic surge. Our findings suggest a correlation between COVID-19 positivity and DKA, but is limited by small numbers at a single site. There is also limited data to suggest secondary factors may also play a role in increased rates. When removing COVID positive DKA cases in December 2020, the prevalence that month continued to 0.10% higher than in December 2019. While small numbers prevent firm conclusions, its possible factors outside of COVID infection are attributing to higher rates. Various studies have shown reduced access to care for conditions managed in ambulatory settings during the COVID pandemic. Given this, decreased access to care for medication refill and irritation may also be contributing to the rise in DKA rates. As more data becomes available, further research is required to establish the role of access to care versus inflammation from COVID-19 infection in triggering DKA.

Figure 1: DKA rates by year and COVID test status

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75 Reliability of Nurse-Performed Lung Ultrasoundography of Suspected COVID-19 Patients at the Emergency Department Traige a Single-Center Study

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Study Objectives: Point-of-care lung ultrasound is now considered a valuable tool in the emergency department (ED) to evaluate patients with respiratory complaints. It is very reliable in detecting artifacts associated with alveolar-interstitial syndrome - a common feature seen in patients with pneumonia, pulmonary edema and more recently, COVID-19. The aim of this study was to determine the reliability of ED nurses to interpret point-of-care lung ultrasound artifacts suggestive of COVID-19 respiratory disease at the triage.

Methods: Our single-center study prospectively evaluated all consecutive patients who were suspected of COVID-19 respiratory disease at the ED of St. Luke’s Medical Center-Quezon City. Eligible patients underwent lung ultrasonography conducted by a trained ED nurse. The ultrasound scans were recorded, stored and interpreted by nurses as to the presence or absence of B-lines, C-lines and/or pleural effusion. These scans were then subsequently viewed and interpreted by an emergency medicine (EM) physician and then finally by a senior ED consultant who is an expert on point-of-care ultrasound (POCUS).

Results: A total of 382 patients were included in the study, which generated 3057 lung ultrasound scans for analysis. Nurse agreement in interpreting B-lines with the emergency physician and the POCUS expert was satisfactory yielding Cohen’s Kappa score of 0.845 (excellent agreement) and 0.781 (good agreement) respectively. On the other hand, nurse agreement in interpreting C-lines with the emergency physician and the POCUS expert were acceptable at a Kappa of 0.678 (good agreement) and 0.272 (fair agreement), respectively.

Conclusion: Our results suggest that nurses who have been trained in the use of point-of-care lung ultrasonography can reliably identify and interpret ultrasound artifacts. Most notably B-lines. In light of the ongoing COVID-19 pandemic, nurse-performed lung ultrasonography can potentially provide a useful and expedient triage strategy for suspected SARS-CoV-2 patients presenting at the ED.

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76 Emergency Physician Fathers’ Experiences With the COVID-19 Pandemic, A Qualitative Analysis of Free Text Responses

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Study Objectives: The ongoing COVID-19 pandemic has affected frontend health care workers significantly at work and at home, with recent studies suggesting the pandemic negatively affecting physicians in both spheres. Only a few studies have examined the attitudes and conflicts faced by physician fathers, the majority of current practitioners. This work is a subset analysis of responses to qualitative questions on the impact of the COVID-19 pandemic on the lives of emergency physician (EP) fathers.

Methods: A convenience sample of physician fathers was obtained from May 2 to June 16, 2020, via social media and email. The survey contained questions on personal and professional struggles during the start of the pandemic and including several free text questions. Free responses were analyzed and coded. Several themes emerged related to experiences described: (1) self; (2) social; (3) home life; (4) work life; (5) financial; (6) immediate family. Under each main theme were subthemes that provided a more detailed matched per each comment.

Results: There were 260 surveys completed by EP fathers from 31 states. 84% were White, 9% Asian, 1% Black, 5% other, 78% were between 30-49 years; 98% reported having a partner. Most fathers had younger children (infants through middle-school aged) living in the household with them at the time of the survey. The three most common themes were “work life” (38%), “immediate family” (20%), and “social” (15%). In “work life” the most common subthemes were “general change in responsibilities” (29%), “decrease in workload/unemployed” (21%), and “concerns/negative feelings towards work” (18%). In “immediate family” both “positive change in family life” (45%) and “negative change in family life” (19%) predominated. Under “social,” “missing/lacking social interaction” (49%) and “missed/cancelled events” (33%) were most common. Of note in other themes in “self,” the two most common subthemes were “negative mental state” (45%) and “decreased productivity” (12%). In “home life,” “change in usual routine/structure/schedule” was the most common (42%) followed by “difficulty caring/assisting children” (28%). The “financial” theme was dominated by the subtheme “financial issues/loss” (94%).

Conclusions: This study examined reported concerns and attitudes of EP fathers during the COVID-19 pandemic. EP fathers reported a variety challenges affecting both their personal and professional lives with positive and negative changes. Further research is needed to better understand how to support EP fathers during future pandemics.

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77 Racial Disparity in COVID-19 Symptoms

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Study Objectives: COVID-19 first emerged as an unknown respiratory virus in late 2019. Since the onset of the pandemic, the question of racial differences has been at the forefront of prognostic thought in determination of high-risk groups. Limited data is currently available about racial differences in symptoms of COVID-19. This research performed a retrospective data collection of patients in a hospital system in North Louisiana to determine if there was a statistical difference in presenting symptoms based on race.

Methods: A total of 410 unique Medical Record Numbers (MRNs) were identified retrospectively. Data was collected from a mix of rapid and regular PCR nasal swabs collected from 4/1/2020 to 4/50/2020. Data collected included symptoms, race, ethnicity, occupation, sex and age. Symptoms were collected from their chief complaint, HPI, review of systems as well as nursing evaluation. Similar symptoms expressed in different wording were collapsed into larger categories. The output algorithm was used to perform association rule mining in both uncollapsed and collapsed data.
Results: Black patients were the most represented race (74%) in our study. 399 patients were admitted with COVID-19 in April 2020. In Black patients, 306 were admitted (76.02%/compared to 79 White patients (19.799%). There were also significant differences on the basis of race between both the number of “typical” symptoms (Black=2.925 +/- 2.067, White=2.367 +/- 2.014, p=0.0330) and the more general “collapsed” categories of atypical symptoms (Black=1.036 +/- 0.765, White=0.823 +/- 0.844, p=0.026), but not concerning the number of atypical symptoms more specifically associated with COVID-19 (Black=0.428 +/- 0.770, White=0.468 +/- 0.749, p=0.589). This is consistent with our association rule mining results, which indicated that in Black patients, fever was frequently associated with myalgia, cough, and shortness of breath (lift=1.897).

Conclusion: While evaluating the racial distribution of COVID-19 as it pertained to symptoms, Black patients were statistically more affected by COVID-19 in North Louisiana. Blacks make up 38% of the region’s population but were 74% of the region’s COVID-19 cases. This was not observed in South Louisiana. Additionally, Black patients were more likely to be admitted than their White counterparts and were likely to have both more typical and atypical symptoms at presentation. Further investigation into the corresponding factors such as issues like weight, comorbid conditions, and genetic polymorphisms for ACE-I tropism should be explored to illuminate the proposed racial selection that SAR-CoV-2 COVID-19 demonstrates for those of African descent.

78 COVID-19 Pandemic Did Not Exacerbate Racial Disparity In Incidence of Emergency Department Visits For Asthma Exacerbations
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Study Objectives: Racial disparities between White and minority (non-White) asthmatics in the United States have long been documented before the COVID-19 pandemic. During the COVID-19 pandemic, minorities were also found to disproportionately bear the burden of COVID-19-related severe outcomes. The pandemic hastened the adoption of several health care system and societal changes, including expansion of telemedicine via video or phone visits, mask usage, social distancing, and remote work and schooling. These could be seen as protective to asthmatics via decreased exposure to respiratory pathogens, and increased provider access. However, it is unclear how the pandemic affected racial disparities for asthmatics. In this study, we employ the Epic Corporation’s Aggregate Data Program (ADP) to examine how the pandemic affected emergency department (ED) utilization between White and minority asthmatics.

Methods: Epic’s ADP General Asthma Data Set collects national level data across all Epic customers and reports asthma prevalence, cumulative incidence of asthma exacerbation ED visits, and proportion of ED visits that comprise asthma exacerbations. This de-identified aggregate dataset is broken down by race, ethnicity, age groups, sex, and location (ie, state). We examined data from January 1, 2017 to February 1, 2021. We defined the start of the pandemic as March 11, 2020, when the World Health Organization officially declared a pandemic. We determined the monthly incidence of asthma ED visits for non-White and White asthmatics separately, and then calculated the risk ratio by dividing incidence for minority asthmatics by incidence for White asthmatics. This risk ratio served as our measure for racial disparity. We compared the pre-pandemic and pandemic risk ratio with an unpaired t-test. We then performed an interrupted time series (ITS) analysis to compare the trends of pre-pandemic and pandemic risk ratio.

Results: Our data included 15.4e6 asthma ED visits, with 59.0% of visits comprised by minority asthmatics. The number of asthma ED visits per month on average were 3.1e5 +/- 1.2e5. Pandemic risk ratio was statistically significantly lower than pre-pandemic risk ratio (pre-pandemic mean 2.61, pandemic mean 2.54, 95% CI [0.292, 0.3128], p < 0.01). ITS analysis demonstrated pre-pandemic risk ratio trend of 0.004/month, (95% CI 0.004, 0.009), p < 0.01. During the pandemic, the change in the risk ratio trend was -0.027/month, (95% CI -0.045, -0.012, p < 0.01). Pre-pandemic and pandemic trends in risk ratio are demonstrated in the figure.

Conclusion: Our study demonstrates that during the pandemic, known racial disparities in asthma ED utilization (ie, risk ratio between minority and White asthmatics) did not worsen. In fact, the pandemic reversed a marginally positive trend pre-pandemic, although this trend appeared to begin normalizing. It is possible that any one of the changes during the pandemic caused this shift in trend, but the limitations of our dataset prevent further investigation. More research is needed to investigate the factors underlying this trend change to learn how we may address racial disparities going forward.