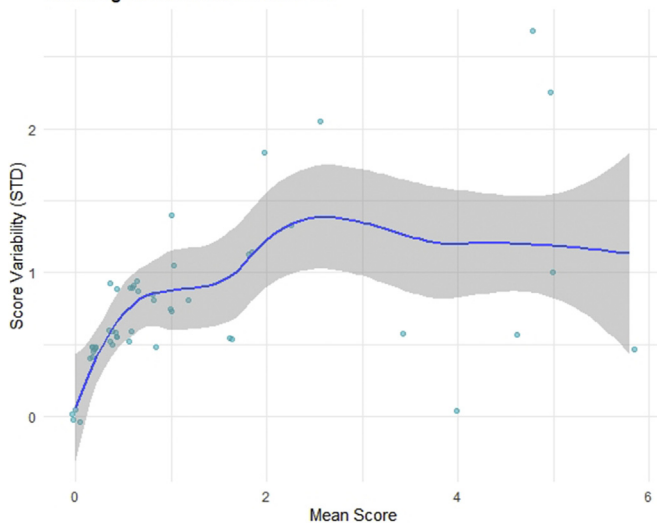




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Rater Agreement: Mean vs. STD



30 EMF COVID-19 Infection Experiences and Social Determinants of Health in North Carolina: A Qualitative Analysis



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Study Objectives: Social determinants of health (SDOH) influence the health outcomes of COVID-19 patients; yet, little is known about how patients at risk of significant disease burden view this relationship. Our study sought to explore patient perceptions of the influence of SDOH on their COVID-19 infection experience and COVID-19 transmission within their communities.

Methods: We conducted a qualitative study of patients in a North Carolina health care system’s registry who tested positive for COVID-19 from March 2020 through February 2021. All patients’ addresses across six counties served were geo-referenced and analyzed by Kernel Density Estimation (KDE) to identify population-dense outbreaks of COVID-19 (hotspots). Spatial autocorrelation analysis was performed to identify census area clusters of white, Black and Hispanic populations, based on the 2019 American Community Survey dataset. Patients were identified by a randomized computer-generated sampling method. Patients participated in semi-structured phone interviews in English or Spanish based on patient preference by trained bilingual researchers. Each interview was evaluated using a combination of deductive and inductive content analysis to determine prevalent themes related to COVID-19 knowledge and diagnosis, disease experience, and the impact of SDOH.

Results: The 10 patients interviewed from our COVID-19 hotspots were of equal distribution by sex, and predominantly Black (70%), ages 22-70 years (IQR 45-62 years), and presented to the ED for evaluation (70%). The respondents were more frequently publicly insured (50% medicaid/medicare; vs 30% uninsured; vs 20% private). The interviews demonstrated themes surrounding the experience and impact of COVID-19. The perceived risk of contracting COVID-19 and knowledge of how to prevent infection varied greatly and could be in part explained by SDOH such as their occupation and living conditions. The experiences of COVID-19 testing, diagnosis, isolation and treatment were most influenced by the timing of infection in relation to the study period. Earlier in the pandemic, the knowledge of isolation requirements and available support systems seemed to have negatively impacted the ability to isolate and follow public health guidance, as well as the support mechanisms provided by employers during this period. Communication of infection status once diagnosed varied greatly, with some voicing feelings of shame, and others advocating for sharing of infection experiences to change community behaviors. Suggestions for how to improve the COVID-19 response included

improving communication and enforcing public health guidelines, including raising awareness for vulnerable populations.

Conclusion: Further exploration of important themes and related SDOH that influenced how the participants experienced the COVID-19 pandemic will be necessary to decrease the negative impacts of SDOH in communities that are high-risk for COVID-19 spread.

31 Emergency Department-Based Monoclonal Antibody Therapy for Patients With Mild to Moderate COVID-19



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Study Objective: Monoclonal antibody therapy (MOAB) has recently emerged as a treatment for mild to moderate COVID-19, potentially preventing those with underlying conditions from progressing to severe illness and hospitalization. While MOAB administration has commonly been restricted to infusion centers or inpatient settings, the infection prevention needs of patients with acute COVID-19 and the ambulatory nature of the therapy make the emergency department (ED) a useful setting to offer this treatment. Further, as EDs are the primary point of health care access for many at-risk individuals, offering MOAB in the ED may increase availability of treatment options for patients from traditionally underserved communities.

Methods: A retrospective chart review was conducted of patients 12 years and above who received treatment in our urban, academic, community hospital. A multidisciplinary group comprised of stakeholders in emergency medicine, pediatrics, infectious disease, nursing, informatics, and pharmacy developed a comprehensive ED-based MOAB program. Patients 12 years and older were screened for eligibility during ED visits or during follow-up calls providing positive test results. Staff was trained on specific consent, infusion, monitoring, and documentation procedures adherent to MOAB administration under the Emergency Use Authorization. Patients were contacted following MOAB and queried regarding symptom resolution and health care utilization. Data regarding patient demographics, ED course, and 7-day unscheduled visits were collected.

Results: In this ongoing quality improvement initiative, from December 2020 to March 2021, there were 26,229 patient encounters at the pilot ED site. 84 patients were provided MOAB, 87% Bamlanivimab and 13% Bamlanivimab/Etesevimab. Patients had a mean age of 52.3 years (SD 24.4); 21% were 12-17 years of age and 37% were >65 years old. 52% were male. 33% self-reported as Caucasian, 19% Black, 18% Asian/Pacific Islander, 21% as other, and 9% were unknown. 17% identified as Latinx. 19% of patients were insured by Medicaid, 36% Medicare, 39% commercially insured, and 6% were uninsured. Patients had symptoms a median of 3 days prior to MOAB. After age (46%), the most commonly reported eligibility criteria was obesity (20%), followed by hypertension (11%) and immunocompromised state (11%). 74% of infusions were administered during nights and weekends. No infusion reactions occurred. 8% returned to an ED within 7 days of MOAB, 5% were hospitalized. No patients required ICU admission or died.

Conclusion: ED-based MOAB has been safely implemented and may be an effective treatment for patients with mild to moderate COVID-19. Health-system-wide expansion of this program may provide opportunities to offer this life-saving therapy to underserved populations with poor access to care.

32 Decay of Anti-SARS-CoV-2 Nucleocapsid IgG in Seropositive Health Care Workers Over Time



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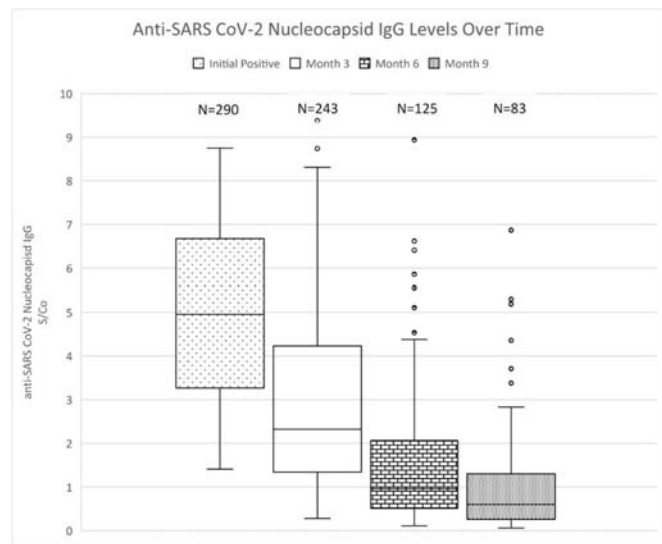
Study Objectives: Our understanding of the quality and duration of immunity to COVID-19 following natural infection remains important area of public health research. The long-term kinetics of IgG antibodies to the spike and

nucleocapsid (N) proteins of the SARS-CoV-2 virus are of particular interest as easily measurable potential indirect markers of both previous infection and resistance to reinfection. Previous studies in hospitalized patients have found that anti-N IgG levels decline over time. We undertook this study to characterize the kinetics of anti-N IgG in a longitudinal cohort of health care workers in an acute hospital setting.

Methods: All HCWs who were either employed or part of the medical staff at six acute-care hospitals in Phoenix, AZ in June 2019 were invited to participate in a long-term study of the impact of the COVID-19 pandemic on HCWs. A cohort of 1358 HCWs provided informed consent, filled out a questionnaire regarding their health care role and potential COVID-19 symptoms, and had blood drawn between June 15th and August 15th, 2020 (Draw 1). The questionnaire and blood draws were repeated in October 2020 (Draw 2), January 2021 (Draw 3), and April 2021. SARS-CoV-2 anti-N IgG was measured using the Abbott Architect platform, using a signal to cutoff ratio (S/Co) greater than 1.4 as a positive result. A participant's first positive result was treated as Time 0. Anti-N IgG S/Co values at each time point were summarized as mean, median, and inter-quartile range, and differences over time were tested using the Friedman's test.

Results: 290 participants (21.4%) had at least one positive IgG, with a median S/Co of 4.96, IQR 2.37-6.67. The Month 3 median S/Co was 2.32, IQR 1.34-4.22, Month 6 median was 0.96, IQR 0.51-2.05, and Month 9 median was 0.60, IQR 0.26-1.29 (See Figure). Friedman's test for differences was significant at $p < 0.0001$ at all time points. No participant was hospitalized for their acute COVID-19 illness. 68/244 participants (27.4%) were seronegative at 3 months, 81/126 (64.3%) at six months, and 65/84 (77.4%) at nine months.

Conclusion: In a cohort of health care workers with mild to moderate COVID-19, anti-N IgG levels steadily decreased over 9 months from the initial positive IgG. The high rates of conversion to seronegative over a relatively short time frame illustrate why antibody-based testing must be interpreted cautiously when used as a definitive marker of prior COVID infection.



33 Withdrawn



34 Polk COVID-19 and Flu Response Clinical Trial

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Study Objective: To report on the preliminary results of the Polk COVID-19 and Flu Response clinical trial (NCT04682132).

Methods: This clinical trial was conducted at Polk County Fire Rescue (PCFR), one of the largest EMS systems in the state of Florida. PCFR responds to over 115,000 calls per year and covers a geographic area of over 2000 square miles. The study assessed COVID-19 antibody status in PCFR medics and correlated antibody status to 1) symptomatology, 2) amount of patient contact and 3) individual co-morbidities. For symptoms survey, medics were given a QR code to a survey prior to antibody testing.

Results: The median age was 43 years (IQR 33-52). 41% were female. 83% were White, 9% were Black, 1% were Asian, and 6% were other. 12% were Hispanic. 33% had the following co-morbidities: 5% diabetes, 6% asthma or chronic obstructive pulmonary disease. 17% had hypertension. Forty five percent had received their influenza vaccine. The median BMI was 19.8 (IQR 25.9-34.8). 19% were symptomatic. The most common symptoms were cough, fatigue and headache. Almost 40% had direct patient contact. 15% had less than 5 hours per week; 27% had 5-20 hours per week, and 57% had more than 20 hours per week of direct patient contact. A total of 7% had a positive COVID-19 antibody test. The only univariate analysis that was statistically significant for antibody status was race. Blacks had 3.94 times the odds of having a positive COVID-19 antibody compared to Whites. ($P=0.0012$ Pearson correlation, 95% CI 0.0560 – 0.2248). Black race remained a statistically significant predictor in a multivariate model that included the age, sex, BMI, number of hours of direct patient contact, whether the medic was symptomatic, presence of co-morbidities and whether or not the medic had received a flu shot prior was symptomatic ($P=0.0008$, 95% CI 0.0621-0.2354).

Conclusion: In a cohort of paramedics actively managing patients, the COVID-19 positivity rate was significantly higher in Blacks compared to Whites. Symptomatology did not correlate with the presence of antibodies.