

presenteeism, complacency, and socialization in break rooms and outside work as major causes of transmission. Suboptimal compliance with universal eye protection and hand hygiene (67%) were contributing factors. We determined by contact tracing and temporality that the outbreak could have stemmed from nursing home patient(s) through floating HCWs to staff on the affected unit. Directionality of transmission was from staff to patients in this cluster. **Conclusions:** Many facets of pandemic fatigue were apparent in this outbreak, namely, inability of HCWs to adhere to changing PPE guidance, presenteeism pressures due to workforce needs, and socialization with peers due to a false sense of security conferred by biweekly surveillance testing. Ongoing PPE education, repeated reinforcement, as well as engagement in staff wellness are crucial to combatting pandemic fatigue, conserving our workforce, and preventing future outbreaks.

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**Presentation Type:**

Poster Presentation

**Subject Category:** COVID-19

**Antimicrobial Stewardship-Driven Monoclonal Antibody Treatment Program for COVID-19 Patients in the Bronx, New York**

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**Background:** In November 2020, bamlanivimab received emergency use authorization (EUA) to treat patients with early, mild-to-moderate COVID-19 who are at high risk of progression. Montefiore Medical Center serves an economically underserved community of >1.4 million residents in the Bronx, New York. Montefiore’s antimicrobial stewardship team (AST) developed a multidisciplinary treatment pathway for patients meeting EUA criteria: (1) outpatients and hospital associates and (2) acute-care patients (EDs or inpatient). **Methods:** The Montefiore AST established a centralized process for screening high-risk COVID-19 patients 7 days a week. Referrals were sent by e-mail from occupational health, primary care practices, specialty practices, emergency departments, and urgent care centers. Patients were screened in real time and were treated in the ED or a newly established infusion center within 24 hours. After infusion, all patients received phone calls from nurses and had an infectious diseases televisit. Demographics, clinical symptoms, subsequent ED visit or hospital admission, and timing from infusion to ED or hospitalization were obtained from the electronic health record. **Results:** In total, 281 high-risk patients (median age, 62 years; 57% female) received bamlanivimab at the infusion center or in the acute-care setting between December 2, 2020, and January 27, 2021 (Table 1). The number of treated patients increased weekly (Figure 1). Also, 62% were Hispanic or black, and 96% met EUA criteria. Furthermore, 51 (18%) were referred from occupational health, 205 (73%) were referred from the community, and 25 (9%) were inpatients (<https://www.fda.gov/media/143605/download>). All patients were successfully infused without adverse reactions. In addition, 23 patients (8.2%) were hospitalized and 6 (2.1%) visited EDs within 30 days of treatment. The average number of days between symptom onset and infusion was 4.9. The median age of admitted versus nonadmitted patients was 68 years versus 61.5 years ( $P = .07$ ). **Conclusions:** An

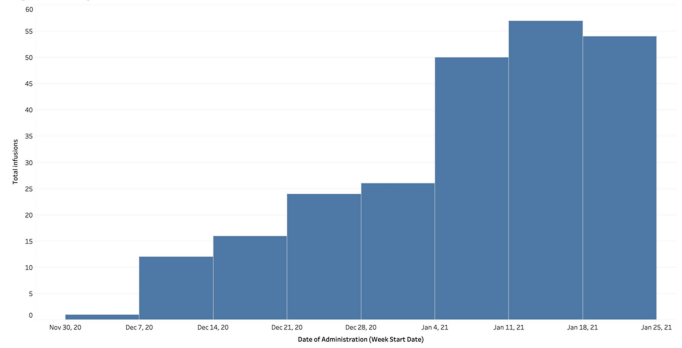
**Table 2.**

**Table 1:** Patient Summary

	Non-admitted (n=253)	Admitted (n=23)
Female, n (%)	147 (58%)	12 (52%)
Age, median, years	61.5	68
Treated at infusion center, n (%)	110 (43%)	3 (13%)
Days between symptoms and infusion, average	--	4.9
Length of Stay, median	--	3

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Figure 1: Weekly Bamlanivimab Infusions



Note: data are updated through most recent complete week.

**Figure 1.**

AST-coordinated bamlanivimab treatment program successfully treated multiple high-risk COVID-19 patients and potentially reduced hospitalizations. However, the effort, personnel, and resources required are significant. Dedicated hospital investment is necessary for maximal success.

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**Subject Category:** COVID-19

**Predictors of COVID-19 Mortality in Residents of Flint, Michigan: Effect of Age, Gender, Smoking, and Health Plan**

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**Background:** Current literature suggests that older age, hypertension, and diabetes mellitus confer a significant increased risk of mortality among patients with COVID-19. The purpose of this study is to further characterize the predictors of mortality in patients with COVID-19 in residents of Flint, Michigan, based on variables such as gender, age, smoking status, health insurance plan, and comorbidities. **Methods:** Hurley Medical Center, is a 443-bed public, nonprofit, teaching medical center located in Flint, Michigan. In total, 289 consecutive adult patients (aged ≥18 years) with confirmed SARS-CoV-2 infection by nasal polymerase chain reaction (PCR), admitted and discharged from our facility from March 2020 through June 2020, were retrospectively analyzed. **Results:** During the 4-month study period, the overall in-hospital case fatality rate (CFR) was 18% (51 of 289), with highest CFR in the age group aged 60–69 years (36%;  $P = .06$ ). Nonsurvivors tended to be older with mean age of 67 years (95% CI, 61.6–71.8) versus survivors with mean age of 60 years (95% CI, 57.7–62.4). Highest mortality was seen in patients with Medicare or Medicaid as their sole health plan (39%,  $P = .59$ ). Men comprised 51% (148 of 289) of the cohort with CFR of 21% versus 14% in females. Females tended to be younger with a higher body mass index (BMI) than their male counterparts (mean age of 58 years, mean BMI of 35 in women vs a mean age of 62 and BMI of 29 in men). A higher proportion of deceased were active smokers (51%;  $P = .02$ ). CFR was highest in patients with hypertension (92%,  $P = .15$ ), followed by diabetes (44%;  $P = .85$ ), chronic kidney disease (CKD) (31%;  $P = .10$ ), obstructive sleep apnea (OSA) (28%;  $P = .25$ ), asthma (22%;  $P = .64$ ), and coronary artery disease (22%;  $P = .34$ ). It was lowest in patients with end-stage renal disease (3%;  $P = .69$ ). **Conclusions:** Our study suggests trends towards higher mortality with male sex, hypertension and diabetes, along with other comorbidities. Smoking seems to be a strong predictor of mortality in this cohort. Further studies are needed to ascertain the relationship between possible risk factors with COVID-19 mortality in residents of Flint, Michigan. Describing

and understanding the potential risk factors is the key to improving outcomes in this population.

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**Subject Category:** COVID-19

**Comparison of Outcomes in Candidemia Between COVID-19 and Non-COVID-19 Patients**

Angela Beatriz Cruz; Jennifer LeRose and Teena Chopra

**Background:** Fungemia is associated with high rates of morbidity, mortality, and increase in length of hospital stay. Several studies have recognized increased rates of candidemia since the COVID-19 pandemic. **Methods:** Patients with candidemia during January through May 2020 were identified through Theradoc. Patient demographics, comorbidities, hospital management, and microbiology were extracted by medical chart review. Patients were divided into cohorts based on COVID-19 status. The Fisher exact and Satterthwaite tests were used for analyses of categorical and continuous variables, respectively. **Results:** Overall, 31 patients developed candidemia and 12 (38.7%) patients tested SARS-CoV-2 positive. *Candida glabrata* was the most prevalent causative organism in both groups. On average, COVID-19 patients developed fungemia 12.1 days from admission, compared to 17.8 days in the COVID-19 negative or untested cohort ( $P = .340$ ). Additionally, COVID-19 patients with a fungemia coinfection were significantly more likely to expire; 10 COVID-19 patients (83.3%) died, compared to 7 (36.8%) in the COVID-19-negative or untested cohort ( $P = .025$ ). The cohorts did not demonstrate statistically significant differences in terms of demographic, comorbidities, hospital management, or coinfections. **Conclusions:** The prevalence of fungemia in COVID-19 patients is significantly greater than historically reported figures. Known risk factors for candidemia, such as use of corticosteroid, use of central venous catheters, and prolonged ICU length of stay were higher in the SARS-CoV-2-positive cohort in this period, which likely contributed to increased fungemia rates, as these factors are also more pronounced in those with COVID-19. Patients who developed candidemia in the COVID-19 cohort had poorer outcomes than those who were SARS-CoV-2 negative or were untested. Further investigation should be conducted in larger studies.

	SARS-CoV-2 Negative/Untested N = 19	SARS-CoV-2 Positive N = 12	P – value
<b>Female, n (%)</b>	10 (52.6)	5 (41.7)	0.716
<b>Age, mean (SD)</b>	58.2 (15.9)	69.3 (13.1)	0.051
<b>Ethnicity, n (%)</b>			0.233
African American	10 (52.6)	10 (83.3)	
White	5 (26.3)	1 (8.3)	
Other/Unknown	4 (21.1)	1 (8.3)	
<b>Expired, n (%)</b>	7 (36.8)	10 (83.3)	0.025
<b>Length of Stay, mean (SD)</b>	35.1 (32.2)	21.8 (13.6)	0.125
<b>Charlson Comorbidity Index, n (%)</b>			0.660
0–2	6 (31.6)	2 (16.7)	
3–4	6 (31.6)	4 (33.3)	
≥5	7 (36.8)	6 (50.0)	
<b>Hospital Management, n (%)</b>			0.363
Central Venous Catheter	14 (73.7)	11 (91.7)	
Corticosteroids	7 (38.9)	9 (75.0)	0.072
Intensive Care Unit	16 (84.2)	12 (100.0)	0.265
Ventilation	12 (63.2)	10 (83.3)	0.418
Total Parenteral Nutrition	4 (21.1)	1 (8.3)	0.624
Vasopressors	12 (63.2)	10 (83.3)	0.418
<b>Fungal Culture Organism, n (%)</b>			0.529
<i>Candida albicans</i>	6 (31.6)	5 (41.7)	
<i>Candida dublinensis</i>	2 (10.5)	0 (0.0)	
<i>Candida glabrata</i>	10 (52.6)	6 (50.0)	
<i>Candida parapsilosis</i>	1 (5.3)	0 (0.0)	
<i>Candida tropicalis</i>	0 (0.0)	1 (8.3)	

Table 1. Characteristics of Candidemia patients in the SARS-CoV-2 negative and SARS-CoV-2 positive cohorts

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**Subject Category:** Decolonization Strategies

**Decrease in MRSA Bacteremia After Implementation of Intranasal Mupirocin Decolonization Protocol**

Angela Beatriz Cruz; Jennifer LeRose; Teena Chopra; Mara Cranis; Lori Cullen; Kenisha Evans; Monica Meyer; Lavina Jabbo; Judy Moshos and Rudolph Valentini

**Background:** Methicillin-resistant *Staphylococcus aureus* (MRSA) remains a key pathogen in burn patients and is associated with increased morbidity and mortality. Disruption of skin barrier exposes these individuals to a myriad of infections. Various decolonization approaches, including chlorhexidine baths and intranasal mupirocin, have shown favorable outcomes in preventing MRSA infections in this cohort. **Methods:** In August 2020, a mupirocin decolonization protocol was implemented in Michigan’s largest trauma-level 1 burn intensive care unit. All patients admitted to the burn unit received daily intranasal mupirocin for the initial 5 days of hospitalization. We compared MRSA

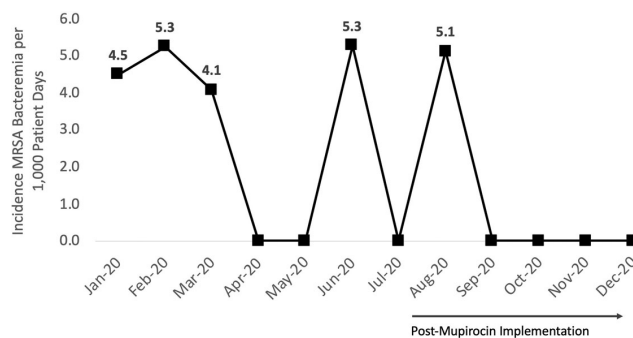


Figure 1.

COHORT	AGE	SEX	LENGTH OF STAY (DAYS)	%BSA	BURN TYPE	OTHER CULTURES MRSA POSITIVE	Discharge Disposition
Pre-intervention	68	M	81	18%	2nd degree	Sputum	Recovered
Pre-intervention	34	M	218	70%	2nd and 3rd degree	None	Recovered
Pre-intervention	71	M	10	30%	2nd degree	Sputum	Expired
Pre-intervention	72	F	12	90%	Steven Johnson Syndrome	None	Expired
Pre-intervention	33	F	67	20%	2nd and 3rd degree	Sputum	Recovered

Table 1. Characteristics and outcomes of burn patients prior to decolonization initiative

bacteremia rates per 1,000 patient days from January–July 2020 to those after August 2020. A hospital-acquired MRSA bacteremia infection was defined as a positive blood culture after hospital day 3. Patient characteristics and hospital course were collected through medical chart review. A 2-tailed  $t$  test was used for analysis. **Results:** We identified 5 cases of hospital-onset MRSA bacteremia and no cases of community-onset MRSA bacteremia. On average, there were 2.6 cases per 1,000 patient days before mupirocin implementation and 1.0 cases per 1,000 patient days after mupirocin implementation ( $P = .26$ ) (Figure 1). In this patient cohort, the average total body surface area burned was 45.6% (range, 18%–90%), and 60% ( $n = 3$ ) of patients had sputum culture positive for MRSA prior to developing bacteremia (Table 1). Also, 2 patients (40%) with MRSA bacteremia died. Notably, the patient in the postintervention cohort was admitted in July, prior to implementation. **Conclusions:** Implementation of a decolonization protocol with intranasal mupirocin in burn-surgery patients markedly decreased the incidence of MRSA bacteremia in this cohort. This is the first study to evaluate the use of mupirocin as a decolonizing agent in burn victims. Continued long-term surveillance is recommended, and this strategy has potential for application to other high-risk cohorts.

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