Successful public health measures preventing coronavirus disease 2019 (COVID-19) at a Michigan homeless shelter

Dan Kelly MSW1,a, Holly Murphy MD, MPH2,a, Ravi Vadlamudi MD, MPH3, Ruth Kraut PhD4, Kate Dalessio BSW1, Anurag N. Malani MD2, Meghan Glabach2 and Juan Luis Marquez MD4

1Shelter Association of Washtenaw County, Ann Arbor, Michigan, 2St Joseph Mercy Ann Arbor Hospital, Ann Arbor, Michigan, 3Packard Health Clinic, Ann Arbor, Michigan and 4Washtenaw County Health Department, Michigan

To the Editor—Coronavirus disease 2019 (COVID-19) has spread rapidly in homeless shelters across the United States.1,2 An investigation in 5 cities identified 37% and 21% severe acute respiratory coronavirus virus 2 (SARS-CoV-2) positivity among residents and staff, respectively.3 In response, the Centers for Disease Control and Prevention (CDC) urged testing all residents and staff of homeless shelters on April 22.4

Delonis Center is the only adult shelter for Washtenaw County (population, 350,000) with 5,000 homeless persons countywide, serving >1,100 people annually. Delonis accommodates 60 people per night as a warming shelter and feeds 200 people twice daily. The serviced population is 52% African American and 45% Caucasian (average age, 45 years; 70% male). Notably, 67% report an underlying disability. More than 70% have a comorbidity, including heart disease, chronic obstructive pulmonary disease, seizure disorder, and renal failure. Mental health conditions are noted among 48% and substance abuse among 33%.

Michigan, and particularly southeastern Michigan, was heavily affected by COVID-19 early in the United States, with 65,533 reported cases as of July 5, 2020.5 Washtenaw County reported 1,067 cases by April 28 (281 per 100,000 population) and 1,526 cases by July 5, 2020.5 We describe our robust COVID-19 infection prevention strategies at Delonis Center with universal testing results and outcomes.

Methods

The first case of COVID-19 in Michigan was reported on March 10, 2020—the day the governor declared a state of emergency. We implemented our plan on March 13, including symptom screening (ie, new or worsening cough, dyspnea, subjective or measured fever (≥38°C or 100.4°F)) before entry with a risk-based triage, social distancing, and secondary housing at local churches or hotels. Clients triaged “green” with negative screen were cleared to sleep at the shelter in regular conditions. Those screened “yellow,” with ≥1 symptom, were triaged to mattresses 2 m (6 feet) apart with surgical masks and underwent a clinical assessment. Those determined ill, or screened “red,” were transported to the emergency room. People under investigation were quarantined in private rooms.

We secured a secondary site to enable sheltering in place on March 24, and we secured an offsite hotel on March 29. We implemented a temporary pay increase for staff and recruited 30 extra staff. On April 8, we mandated masks (surgical or cloth). We extended a warming shelter indefinitely to maintain shelter-in-place for all in need. On April 28 and 29, universal screening and molecular testing for SARS-CoV-2 were offered to all residents and staff.

Results

From March 13 until April 30, 15,000 health screenings were conducted. In total, we sheltered 113 persons (40%) over age 51 directly at Delonis and 281 persons overall with 4 offsite locations with a nightly average of 135. On average, 160 individuals (38 at a time, socially distanced) were served a warm meal twice daily. At all sites, clients were encouraged to practice social distancing and to shelter in place. Two positive cases were identified. Both cases were screened “red”: the first on March 17 and the second on March 25. On April 28 and 29, molecular testing was performed for 99 residents and 38 staff with 0 positive. As of July 5, there have been no additional cases.

Discussion

Our protocol was successful in identifying 2 early symptomatic cases, resulting in zero additional cases once universal testing was implemented.

We attribute the success of our program to key interventions.6 Symptom screening before entry, conducted multiple times daily, identified the only 2 COVID-19 cases at our facility before widespread transmission could occur. Maintaining the warming shelter...
and expanding our capacity to shelter all “in-need” early mini-
ized the flow of clients through public places. Onsite medical
and psychiatric assessment identified high-risk individuals to pri-
oritize for isolation. We optimized communication within our site
with phone meetings 3 times daily and had daily communication
with the local public health team.

Our study has several limitations. The success of our implemen-
tation was challenged by innate health risks faced by the population
served, including mental health conditions and substance abuse. The sensitivity of our screening protocol was decreased
by clients presenting intoxicated. In response, we added clinical
cues to screen this population. We observed that intoxicated clients
were less adherent to social distancing and more likely to have
another comorbid medical condition. Alcohol-based hand sanitizer
use was inhibited by risk of ingestion by clients and we were limited
on sinks. Increased family obligations and self-quarantining strained
staff, which we addressed by addition of temporary staff. All of the
efforts described required significant unbudgeted expenses. As the
COVID-19 pandemic continues, we anticipate difficulty sustaining
this level of protection due to funding limitations, team fatigue, and
the client flow into the community.

When universal testing was offered, <10% of residents refused
COVID-19 testing. Still, no further cases were identified in the fol-
lowing 2 months.

In conclusion, where prior reports of COVID-19 among home-
less shelters and other congregate settings have been concerning,
our experience is hopeful. Interrupting the spread of COVID-19
in congregate settings poses a great challenge, more pressing as
states lift aspects of quarantine. Our outcomes demonstrate that
an early and comprehensive COVID-19 preparedness plan may
effectively protect a vulnerable homeless population. The reality
of homelessness in the United States has become more visible in
the COVID-19 pandemic as we assess our capacity to protect
the most vulnerable. Any long-term plan should include a commit-
ment to housing for all. In the short term, continued support to
extend implementation of COVID-19 infection prevention and
control activities, like those we describe here, is imperative. Key
aspects of our model may be adapted to other settings to protect
vulnerable populations.

Acknowledgments. We acknowledge the contributions of Delonis Shelter
Staff, Office of Community Economic Development, Washentaw County
Health Department and St Joseph Mercy Hospital.

Financial support. No financial support was provided relevant to this article.

Conflicts of interest. All authors report no conflicts of interest relevant to this article.

References
1. Tobolowsky FA, Gonzales E, Self JL, et al. COVID-19 outbreak among three
affiliated homeless service sites—King County, Washington, 2020. Morb
Mortal Wkly Rep 2020;69:523–526.
2. Baggett TP, Keyes H, Sporn N, Gaeta J. Prevalence of SARS-CoV-2 infection
in residents of a large homeless shelter in Boston. JAMA 2020;323:2191–2192.
3. Mostes E, Parker, EM, Clarke KE, et al. Assessment of SARS-CoV-2 infec-
tion prevention at homeless shelters—four US cities, March 27–April 15,
2020. Morb Mortal Wkly Rep 2020;69:521–522.
4. Stephenson, Joan. CDC urges COVID-19 testing at homeless shelters after
finding swift spread of infection. JAMA Health Forum 2020. doi: 10.1001/
jamahealthforum.2020.0580.
5. Cumulative confirmed cases and deaths among confirmed cases [data file].
Michigan Department of Health and Human Services (MDHHS) website.
https://www.michigan.gov/coronavirus/0,9753,7–406-98163_98173…00.html.
Accessed May 29, 2020.
6. Leung CS, Ho MM, Kiss A, Gundlapalli AV, Hwang SW. Homelessness and
the response to emerging infectious diseases outbreaks: lessons from SARS.
J Urban Health 2008;85:402–410.

Prevalence of methicillin-resistant Staphylococcus aureus (MRSA) in respiratory cultures and diagnostic performance of the MRSA nasal polymerase chain reaction (PCR) in patients hospitalized with coronavirus disease 2019 (COVID-19) pneumonia

Chitra D. Punjabi MD1, Theresa Madaline MD3, Inessa Gendлина MD1, Victor Chen PharmD2, Priya Nori MD1 and Liise-anne Pirofski MD1

1Division of Infectious Diseases, Department of Medicine, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York and 2Department of Pharmacy, Montefiore Medical Center, Bronx, New York

To the Editor—The need for studies on coronavirus disease 2019 (COVID-19) superinfections that can inform rational antimicrobial treatment and stewardship strategies has been recognized.1 In a recent review from our institution,2 we found that up to 71% of patients admitted with COVID-19 received antibiotics. Anti-methicillin-resistant Staphylococcus aureus (anti-MRSA) agents, particularly vancomycin, are important stewardship targets, and they are included in the 2019 World Health Organization (WHO) Watch List of Antibiotics.

Recently, guidance was published on the treatment of possible concomitant community-acquired bacterial pneumonia