HHS Public Access

Author manuscript

Public Health Nurs. Author manuscript; available in PMC 2024 June 07.

Published in final edited form as:

Public Health Nurs. 2023 ; 40(5): 758–761. doi:10.1111/phn.13227.

SARS-CoV-2 outbreak among staff and evacuees at Operation Allies Welcome Safe Havens

Jessica R. Meeker, PhD, MPH[1,2,3], **Lucas Gosdin, PhD, MPH**[1,2], **Allison Siu, DVM, MPH**[1,2,3], **Lauren Turner, PhD**[4], **Benjamin D. Zusman, MD**[5,6], **Katrin S. Sadigh, MD**[1], **Robert Carpenter, DO, FACP, AAHIVS**[7], **Stephanie Dopson, ScD, MSW, MPH**[1], **John Saindon, PhD, MT**[1], **Nang Thu Thu Kyaw, PhD, MPH**[1,2,3], **Hannah E. Segaloff, PhD, MPH**[1,3,8], **Nikki Pritchard, BSN, MPH**[6,9], **Andrea Shahum, MD, PhD**[6], **Rana Traboulsi, MD, MPH**[6], **Mary Claire Worrell, MPH**[1], **Catherine Beaucham, PhD, MPH, CIH**[1,3], **Pritesh Gandhi, MD, MPH**[10], **Dean L. Winslow, MD, MACP, FRCP, FIDSA, FPIDS**[11], **Lisa Rotz, MD**[1], **Leisel Talley, DrPH, MPH**[1], **Emily Mosites, PhD, MPH**[1,3], **Andrew T. Boyd, MD**[1,3]

[1]Centers for Disease Control and Prevention, Atlanta, Georgia

[2]Epidemic Intelligence Service, Centers for Disease Control and Prevention, Atlanta, Georgia

[3]United States Public Health Service, Washington D.C.

[4]Virginia Department of General Services Division of Consolidated Laboratory Services, Richmond, Virginia

[5]Department of Medicine, University of Florida, Gainesville, Florida

[6]International SOS, Joint Base McGuire-Dix-Lakehurst, McGuire Air Force Base, New Jersey

[7]Naval Hospital Camp Pendleton, Oceanside, Camp Pendleton, California

[8]Wisconsin Department of Health Services, Madison, Wisconsin

[9]Navy Medicine Readiness and Training Command Portsmouth, Virginia

[10]Department of Homeland Security, Washington D.C.

[11]Division of Infectious Diseases and Geographic Medicine, Stanford University School of Medicine, Stanford, California

Abstract

We report on five SARS-CoV-2 congregate setting outbreaks at U.S. Operation Allies Welcome Safe Havens/military facilities. Outbreak data were collected, and attack rates were calculated for various populations. Even in vaccinated populations, there was rapid spread, illustrating the importance of institutional prevention and mitigation policies in congregate settings.

Correspondence: Jessica R. Meeker MPH, PhD, U.S. Centers for Disease Control and Prevention, 4770 Buford Highway, MS 107-2, Atlanta, GA 30341, USA. JMeeker@cdc.gov.

CONFLICT OF INTEREST STATEMENT

The findings and conclusions of this report are those of the authors and do not necessarily represent the official position of the U.S. Centers for Disease Control and Prevention.

Keywords

epidemic; evacuation; health behaviors; infectious diseases; refugees; respiratory infection; screening; vaccination

SARS-CoV-2 has caused outbreaks among vaccinated and unvaccinated people in large public gatherings (Brown et al., 2021) and congregate settings, such as prisons (Hagan et al., 2021), homeless shelters (Nanduri et al., 2021), and long-term care facilities (Pray et al., 2021). On August 29, 2021, the U.S. government began Operation Allies Welcome, an interagency effort to resettle eligible persons from Afghanistan to the United States. Evacuees were housed in temporary congregate housing at eight U.S. military bases and one hotel facility (Safe Haven sites). We report on COVID-19 outbreak investigations and responses in five sites during November 2021–February 2022. This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy.[1]

Evacuees received immigration and medical processing, including COVID-19 and other vaccinations, before being resettled by resettlement agencies. Services were provided by interagency U.S. government staff, military service members, NGO staff, and contract staff.

CDC and public health teams investigated and responded to SARS-CoV-2 outbreaks, and outbreak data were collected through case investigation interviews. These data, site census data, and staffing rosters were used to calculate attack rates for evacuees, military, and civilian staff. Quarantine and isolation, serial testing, and other site-specific data were collected. Two sites identified SARS-CoV-2 variants through whole genome sequencing (WGS). Case demographic data were described across sites and used to construct epidemic curves (Figure 1). Site-specific mitigation and CDC response strategies were defined.

Across five sites (Table 1, Figure 1), there were 939 evacuees who tested positive for SARS-CoV-2, and among the four sites reporting staff data (sites 1, 2, 4, 5), 771 staff members tested positive. Staff in sites 1, 2, and 4 were categorized as civilian or military, but staff in site 5 were categorized differently. Attack rates in sites 1, 2, and 4 were highest among military (107/1000), followed by civilian staff (43/1000), and lowest among evacuees, all of whom were required to remain on-site (31/1000).

At site 1, there were five evacuee cases (attack rate 2/1000), four military cases (attack rate 9/1000), and 23 civilian staff cases (attack rate 153/1000) during November 1, 2021−December 18, 2021. The Delta variant was identified in four cases through sequencing (WGS).

At site 2, there were 67 evacuee cases (attack rate 28/1000), 112 military cases (attack rate 146/1000), and 14 civilian staff cases (attack rate 60/1000) during November 1, 2021−January 16, 2022. The Omicron variant was identified through WGS. All evacuees entering the medical clinic were tested for SARS-CoV-2. All staff were required to wear surgical masks and encouraged to wear N95 masks indoors while interacting with evacuees.

[1]See for example, 45 C.F.R. part 46; 21 C.F.R. part 56; 42 U.S.C. §241(d), 5 U.S.C. §552a, 44 U.S.C. §3501 et seq.

At sites 1 and 2, a 3-day staff serial testing program was implemented and CDC-recommended quarantine and isolation guidelines at the time were followed for cases and close contacts (Quarantine and Isolation: Centers for Disease Control and Prevention, 2021).

At site 3, there were 355 evacuee cases (attack rate 41/1000) (staff data not available) during November 1, 202−February 9, 2022. Cases were identified through daily 10% evacuee population convenience sample testing, testing of those entering the clinic, and serial testing during quarantine. Evacuees who tested positive for SARS-CoV-2 were isolated with other cases or their families on an isolation floor in separate barracks. Exposed barracks were put under “quarantine in place” for 10 days and were tested every 3 days. Any evacuee who tested positive under quarantine was moved to isolation and the quarantine period restarted for the rest of the cohort.

At site 4, there were 46 evacuee cases (attack rate 18/1000), 71 military cases (135/1000), and 17 civilian staff cases (125/1000) during November 1, 202−January 26, 2022. A serial testing program was conducted for evacuees and civilian staff; however, military were only tested if symptomatic. CDC-recommended quarantine and isolation guidelines were followed for cases and close contacts; congregate setting guidelines were followed starting December 29, 2021 (Quarantine and Isolation: Centers for Disease Control and Prevention, 2021; Quarantine and Isolation Specific Settings Archived: Centers for Disease Control and Prevention, 2021).

At site 5, there were 464 evacuee cases (attack rate 31/1000), 101 contract medical staff cases (testing began December 5, 2021; attack rate 140/1000), and 430 other civilian staff and military cases (testing began December 26, 2021; attack rate 178/1000). Evacuees who tested positive were isolated in separate buildings. Close contacts were tested on entry and exit from quarantine. Staff followed state guidelines for individual-based, elective testing, with subsequent isolation and quarantine according to CDC guidelines.

This report is subject to limitations. First, data were collected across five different states, with different partners, testing strategies, and application of quarantine and isolation strategies. Numbers of cases were likely underreported due to gaps in testing, asymptomatic status, stigma, and fear of resettlement delays. For site 5, the data could not be categorized into the same “role” designations as sites 1 through 4. We were unable to include data on timing of vaccination. Some evacuees received the COVID-19 vaccination before arriving in the U.S. Also, we did not have the data to include person-time in the calculation of the attack rates to account for amount of time people worked at Safe Havens, thus potentially underestimating the attack rates among staff. Finally, we did not have the data to include weekly number of persons at risk in the attack rate calculations, thus limiting our ability capture the dynamic nature of Safe Haven populations across time.

Even in vaccinated populations, COVID-19 outbreaks can occur. Overall data indicated staff, (free to leave sites), compared to evacuees (restricted to sites), had higher attack rates. Institutional policies for congregate settings, such as vaccination and boosting, wearing well-fitting masks while indoors, serial testing staff and evacuees with rapid antigen tests, applying isolation and close contact quarantine, remain critical strategies to slow

transmission of SARS-CoV-2. Application of these strategies served to mitigate transmission in communities as evacuees were resettled and staff returned home.

ACKNOWLEDGMENT

CDC deployer support provided by funding from CDC. No additional funding was received for writing of the manuscript. We acknowledge the USG OAW interagency health leadership and support of Major General Paul Friedrichs, MD, Joint Staff Surgeon, Department of Defense, Washington, D.C. and Brigadier General Larry Fletcher, Deputy Director, Strategic Deployment Operations and Readiness, USPHS Commissioned Corps Headquarters, Rockville, Maryland.

Funding information

Centers for Disease Control and Prevention

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

Brown CM, Vostok J, Johnson H, Burns M, Gharpure R, Sami S, Sabo RT, Hall N, Foreman A, Schubert PL, Gallagher GR, Fink T, Madoff LC, Gabriel SB, MacInnis B, Park DJ, Siddle KJ, Harik V, Arvidson D, … Laney AS (2021). Outbreak of SARS-CoV-2 infections, including COVID-19 vaccine breakthrough infections, associated with large public gatherings—Barnstable County, Massachusetts, July 2021. Morbidity and Mortality Weekly Report, 70(31), 1059. [PubMed: 34351882]

Hagan LM, McCormick DW, Lee C, Sleweon S, Nicolae L, Dixon T, Banta R, Ogle I, Young C, Dusseau C, Salmonson S, Ogden C, Godwin E, Ballom T, Ross T, Browne H, Harcourt JL, Tamin A, Thornburg NJ, … Tate JE (2021). Outbreak of SARS-CoV-2 B. 1.617. 2 (Delta) variant infections among incarcerated persons in a federal prison—Texas, July–August 2021. Morbidity and Mortality Weekly Report, 70(38), 1349. [PubMed: 34555009]

Nanduri S, Pilishvili T, Derado G, Soe MM, Dollard P, Wu H, Li Q, Bagchi S, Dubendris H, Link-Gelles R, Jernigan JA, Budnitz D, Bell J, Benin A, Shang N, Edwards JR, Verani JR, & Schrag SJ (2021). Effectiveness of Pfizer-BioNTech and Moderna vaccines in preventing SARS-CoV-2 infection among nursing home residents before and during widespread circulation of the SARS-CoV-2 B. 1.617. 2 (Delta) variant—National Healthcare Safety Network, March 1–August 1, 2021. Morbidity and Mortality Weekly Report, 70(34), 1163. [PubMed: 34437519]

Pray IW, Kocharian A, Mason J, Westergaard R, & Meiman J (2021). Trends in outbreak-associated cases of COVID-19—Wisconsin, March–November 2020. Morbidity and Mortality Weekly Report, 70(4), 114. [PubMed: 33507887]

Quarantine and Isolation: Centers for Disease Control and Prevention; Accessed: December 2021. Last updated: May 2023. Available from: https://www.cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html

Quarantine and Isolation Specific Settings Archived: Centers for Disease Control and Prevention; Accessed: December 2021. Last updated: May 2023. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/index.html

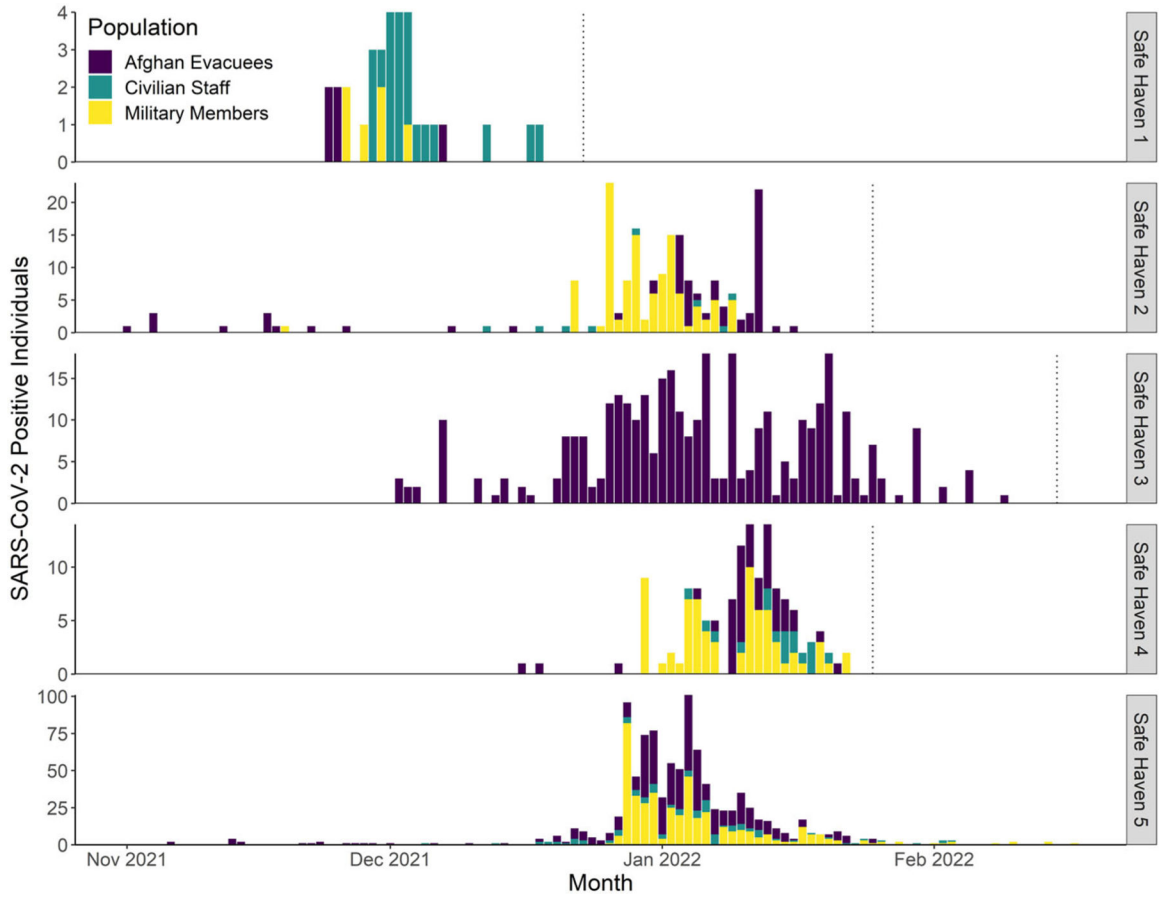

FIGURE 1.

SARS-CoV-2 epidemic curves from five Operation Allies Welcome Safe Havens: November 2021 – February 2022. Safe Haven closure dates are indicated by vertical dotted lines. Safe Haven 3 had data from only Afghan evacuees. Safe Haven 5 categorized contract medical staff as civilian staff and grouped other civilian staff with military.

TABLE 1

Characteristics of people infected with SARS-CoV-2 among staff and Afghan Evacuees at five Operation Allies Welcome Safe Havens: November 2021 – February 2022.

	Safe Haven 1	Safe Haven 2	Safe Haven 3	Safe Haven 4	Safe Haven 5
Characteristic	no. (%)	no. (%)	no. (%)	no. (%)	no. (%)
Total	32	195	355[a]	135[b]	997
Sex					
Male	27 (84)	0	189 (53)	18 (39)	570 (57)
Female	4 (13)	0	162 (46)	25 (54)	411 (41)
Unknown	1 (3)	195 (100)	4 (1)	3 (7)	16 (2)
Age group, years					[c]
0–4	1 (3)	3 (1)	92 (26)	15 (33)	90 (10)
5–11	1 (3)	3 (1)	67 (19)	8 (17)	98 (11)
12–19	1 (3)	2 (1)	41 (12)	6 (13)	35 (4)
20–24	2 (6)	3 (1)	44 (12)	0	149 (17)
25–35	12 (38)	8 (4)	61 (17)	9 (20)	270 (30)
36–44	6 (19)	1 (0)	34 (10)	4 (9)	133 (15)
45–54	5 (16)	1 (0)	10 (3)	1 (2)	57 (6)
55–64	2 (6)	0	3 (1)	0	31 (3)
≥65	1 (3)	0	2 (1)	0	5 (1)
Unknown	1 (3)	174 (90)	1 (0)	3 (7)	26 (3)
Role					
Afghan Evacuee	5 (16)	69 (42)	355 (100)	46 (34)	464 (47)
Attack rate	2/1000	28/1000	41/1000	18/1000	31/1000
Civilian staff	23 (72)	14 (6)	UNK	17 (13)	103 (10)[d]
Attack rate	153/1000	60/1000	UNK	125/1000	140/1000
Military	4 (13)	112 (53)	UNK	71 (53)	430 (43)[e]
Attack rate	9/1000	146/1000	UNK	135/1000	178/1000
Vaccination status					
Fully vaccinated	29 (91)	121 (57)	124 (35)	16 (35)	260 (26)
Partially vaccinated	0 (0)	1 (0)	42 (12)[f]	5 (11)	69 (7)

	Safe Haven 1	Safe Haven 2	Safe Haven 3	Safe Haven 4	Safe Haven 5
Unvaccinated	2 (3)	1 (0)	175 (49)	20 (44)	124 (12)
Unknown	1 (3)	72 (42)	8 (2)	4 (9)	440 (44)[g]
Received booster	1 (3)	UNK	0	1 (2)	104 (10)

[a] Safe Haven 3 collected information only from Afghan evacuees.

[b] Safe Haven 4 only had demographic information for Afghan evacuees; column percentages are based on 46, not 135.

[c] No age information for 103 contract medical staff at Safe Haven 5. Ages represent Afghan evacuees and military/civilian staff excluding contract medical staff.

[d] Contract medical staff only.

[e] Military and civilian staff excluding contract medical staff.

[f] Six people were excluded who were between 1 and 13 days from first dose of two-dose series.

[g] Of the 440 unknowns, 430 are military.