

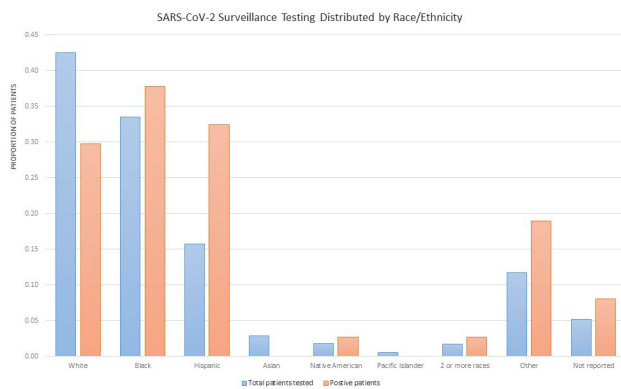
Session: P-16. COVID-19 Epidemiology and Screening

Background. Children infected with SARS-CoV-2 often have mild or no symptoms, making symptom screening an ineffective tool for determining isolation precautions. As an infection control measure, universal pre-procedural and admission SARS-CoV-2 testing for pediatric patients was implemented in April and August 2020, respectively. Limited data exist on the utility screening programs in the pediatric population.

Methods. We performed a retrospective cohort study of pediatric patients (birth to 18 years) admitted to a tertiary care academic medical center from April 2020 to May 2021 that had one or more SARS-CoV-2 point-of-care or polymerase chain reaction tests performed. We describe demographic data, positivity rates and repeat testing trends observed in our cohort.

Results. A total of 2,579 SARS-CoV-2 tests were performed among 1,027 pediatric inpatients. Of these, 51 tests (2%) from 45 patients (4.3%) resulted positive. Community infection rates ranged from 4.5-60 cases/100,000 persons/day during the study period. Hispanic patients comprised 16% of the total children tested, but were disproportionately overrepresented (40%) among those testing positive (Figure 1). Of 654 children with repeated tests, 7 (0.1%) converted to positive from a prior negative result. Median days between repeat tests was 12 (IQR 6-45), not necessarily performed during the same hospital stay. Five of these 7 patients had tests repeated < 3 days from a negative result, of which only 2 had no history of recent infection by testing performed at an outside facility. Pre-procedural tests accounted for 35% of repeat testing, of which 0.9% were positive. Repeated tests were most frequently ordered for patients in hematology/oncology (35%) and solid organ transplant/surgical (33%) wards, each with < 3% positive conversion rate. Notably, no hematopoietic stem cell transplant patients tested positive for SARS-CoV-2 during the study period.

Pediatric SARS-CoV-2 Testing Distributed by Race/Ethnicity



Conclusion. The positivity rate of universal pre-procedural and admission SARS-CoV-2 testing in pediatric patients was low in our inpatient cohort. Tests repeated < 3 days from a negative result were especially low yield, suggesting limited utility of this practice. Diagnostic testing stewardship in certain populations may be useful, especially as community infection rates decline.

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385. SARS-CoV-2 Infections Among Military Personnel Deployed on the USNS COMFORT to New York City During the COVID-19 Pandemic and One-Year Follow-Up

Elizabeth Cooper, DO¹; Tida Lee, MD, PhD¹; Eric Laing, PhD²; Andrew Ritter, MD¹; Melissa Lee, DO¹; Matthew Baker, MD¹; Tyler Baldino, DO¹; Terrance Mcadoo, DO¹; Huy Nguyen, MD¹; Christopher C. Broder, PhD²; Nusrat J. Epsi, n/a³; Stephanie A. Richard, PhD, MHS⁴; Tyler Warkentien, MD, MPH⁵; Eugene Millar, PhD, MHS²; Timothy Burgess, MD, MPH⁶; Karl Kronmann, MD⁷; Tahaniyat Lalani, MBBS⁸; ¹Naval Medical Center Portsmouth, Portsmouth, Virginia; ²Uniformed Services University of the Health Sciences, Bethesda, Maryland; ³HJF, Bethesda, Maryland; ⁴Infectious Disease Clinical Research Program, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, MD and Henry M. Jackson Foundation, Bethesda, MD, Bethesda, Maryland; ⁵Naval Medical Center Portsmouth, Portsmouth, VA, Portsmouth, VA; ⁶Infectious Disease Clinical Research Program, Bethesda, Maryland; ⁷Naval Medical Center, Portsmouth, Virginia; ⁸Infectious Disease Clinical Research Program, Bethesda, MD, The Henry M. Jackson Foundation, Bethesda, MD, and Naval Medical Center Portsmouth, VA, Portsmouth, Virginia

Session: P-16. COVID-19 Epidemiology and Screening

Background. The USNS COMFORT deployed to New York City to augment the inpatient health care capacity in March 2020. The aim of this study was to determine the prevalence of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection among US Navy personnel upon return from deployment, and to identify incident cases of SARS-CoV-2 infection during 1 year of follow-up.

Methods. Crewmembers, the majority of whom were health care workers (HCW), were enrolled following deployment, in May 2020. PCR results from symptomatic

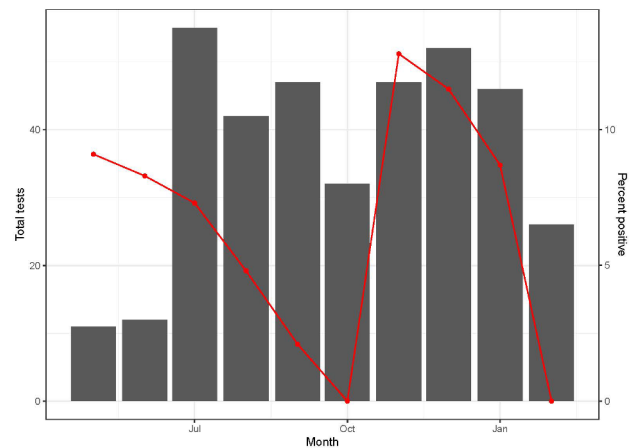
crewmembers during deployment, and Day 0 and Day 14 post-deployment screening swabs conducted on all crewmembers, per military order, were abstracted. A questionnaire and serum were collected on Day 14 post-deployment. SARS-CoV-2 infection was defined as a positive SARS-CoV-2 spike glycoprotein immunoglobulin G antibody (IgG) or PCR. COVID-19 related medical encounters, PCR and antibody testing results within 1 year following deployment were abstracted from the Military Health System Data Repository (MDR). There was adequate provision of personal protective equipment (PPE) in the hospital and the COVID-19 vaccine roll-out for HCW began in December 2020.

Results. Of the 1200 crewmembers, 449 were enrolled and completed the questionnaire and screening swabs, and 432 (96.2%) completed the Day 14 blood draw (Table 1). The cumulative prevalence of SARS-CoV-2 infection was 3.01% (13/432; 95% CI, 1.61%–5.09%). One of 17 subjects did not complete the blood draw and was PCR positive on Day 14. 433/449 (96.4%) had a PCR performed during the follow-up period (i.e. after the Day 14 post-deployment visit until Feb 2021), for HCW screening or symptomatic illness (median number of tests: 2 [IQR: 1, 2; range: 1,6]). 25 of 433 (5.8%) were PCR positive (Fig 1). 19 (76.0%) occurred in corpsmen, 23 (92.0%) were symptomatic and none were hospitalized. One asymptomatic re-infection occurred in a crewmember who was PCR negative and IgG positive at Day 14 post-deployment.

Table 1. Characteristics of the overall cohort and by SARS-CoV-2 infection

	Overall (n=449)	SARS-CoV-2 positive during or post-deployment ^a (N=14)	SARS-CoV-2 PCR positive during at 1-year follow-up (n=25)
Age			
18-29 years	219 (50.9%)	8 (57.1%)	17 (68.0%)
30-39 years	122 (28.2%)	3 (21.4%)	3 (12.0%)
40+ years	108 (25.0%)	3 (21.4%)	5 (20.0%)
Female Gender	222 (51.4%)	9 (64.3%)	11 (44.0%)
Race			
White	258 (59.7%)	7 (50.0%)	14 (56.0%)
Black	61 (14.1%)	2 (14.3%)	4 (16.0%)
Hispanic	42 (9.7%)	1 (7.1%)	4 (16.0%)
Other	88 (20.4%)	4 (28.6%)	3 (12.0%)
Clinical role			
Non-clinical		1 (7.1%)	1 (4.0%)
Corpsman	197 (45.6%)	5 (35.7%)	19 (76.0%)
Nurse	118 (27.3%)	7 (50.0%)	3 (12.0%)
Physician/medical assistant	41 (9.5%)	1 (7.1%)	2 (8.0%)
Lab Diagnosis			
PCR positive ^b	34 (7.6%)	9 ^b (64.3%)	25 ^b
Serology positive ^c	N/A	12 ^c (85.7%)	0 ^c
Symptomatic infection	31	8 (57%)	23 (92.0%)

Figure 1. Number of PCR tests (bar graph) and positivity rate (red line) by month in 449 USNS COMFORT crewmembers during 1-year follow-up after return from deployment



Conclusion. The post-deployment prevalence of SARS-CoV-2 infection was low. A high proportion of HCW underwent PCR testing during 1-year follow-up but a low incidence of infection was observed. This was likely from community transmission as nosocomial transmission was mitigated by adequate PPE and vaccine roll-out.

Disclosures. All Authors: No reported disclosures

386. A Systematic Review of COVID-19 Transmission Dynamics and Clinical Response on Cruise Ships Globally Between January and October 2020

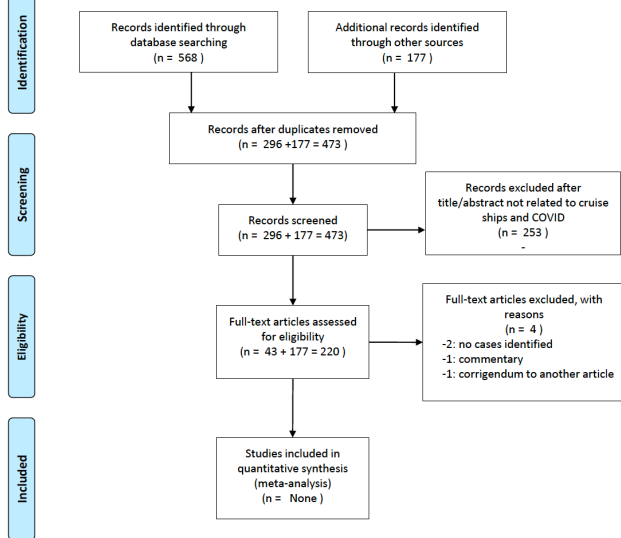
Kathryn Willebrand, MPH¹; Lauren Pischel, MD²; Aryn A. Malik, MBBS, MPH, PhD³; Samuel Jenness, PhD⁴; Saad Omer, MBBS, MPH, PHD⁵; ¹Yale School of Public Health, New Haven, Connecticut; ²Yale School of Medicine, New Haven, California; ³Yale University, New Haven, Connecticut; ⁴Emory University, Atlanta, Georgia; ⁵Yale Institute for Global Health

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Background. Cruise ships provide an ideal setting for efficient transmission of SARS-CoV-2 given a socially dense exposure environment. No systematic review of transmission of COVID-19 on cruise ships to date has been completed.

Methods. MEDLINE was searched in accordance with PRISMA guidelines for COVID-19 cases associated with cruise ships. A list of cruise ships with COVID-19 was cross-referenced with the Centers for Disease Controls' list of cruise ships that had at least one COVID-19 case associated with them within 14 days of disembarkation. News articles were also searched for epidemiologic information. 43 full text articles from MEDLINE and 177 from news sources were included in the final analysis. Narratives of the outbreak in ships with over 100 cases are presented.

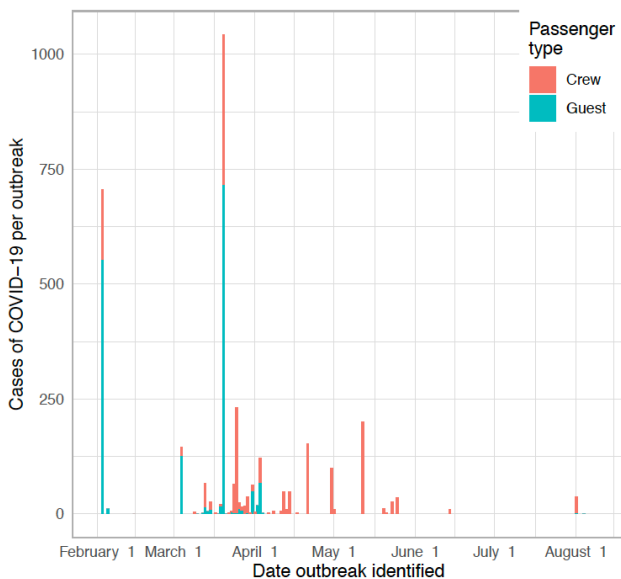
PRISMA Flow Diagram



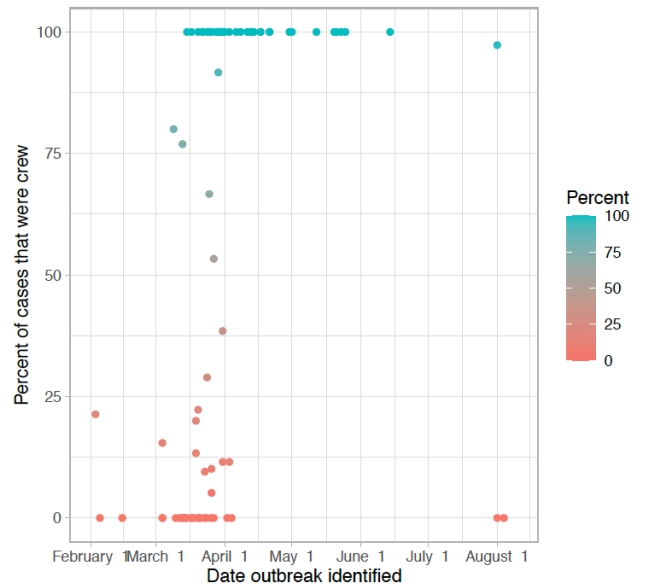
PRISMA Flow diagram of articles screened, reviewed, and analyzed

Results. A total of 80 ships and 104 unique voyages on cruise ships were identified with at least one COVID-19 case before 30 October 2020. Nineteen ships had more than one voyage with a case of COVID-19. The median number of cases per ship was three (intraquartile range (IQR) 1-17.8), with two notable outliers the Diamond Princess and Ruby Princess which had 712 and 907 cases respectively. The median attack rate for COVID-19 was 0.2% (IQR 0.03% -1.5%), though this distribution was skewed to the right with a mean attack rate of 3.7%. 25.9% of voyages had at least one associated death. Outbreaks involving only crew were later than outbreaks with guests and crew.

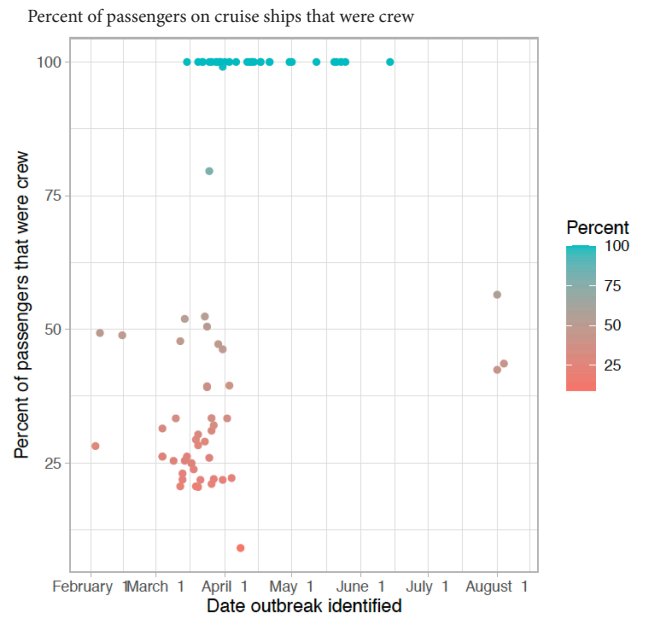
Cases of COVID-19 on cruise ships in 2020



Number of cases of COVID-19 on cruise ships by date COVID-19 outbreak identified and if case was a guest or crew member. Percent of COVID-19 cases that were crew in 2020



Percent of COVID-19 cases that were in crew members by date outbreak identified in 2020



Percentage of passengers on cruise ships that were crew members in 2020 by date outbreak identified

Conclusion. COVID-19 can spread easily on cruise ships in a susceptible population when there is an absence of mitigation measures due to the confined space and high-density of contact networks. This can not only create super spreader events but also facilitate international spread.

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387. Predictors of Seropositivity to SARS-CoV-2 Among Workforce Members at a Large Urban Medical Center

Evelyn A. Flores, BS¹; Deborah Kupferwasser, MPH¹; Prudencio Merino, MS¹; Donna Phan Tran, MPH¹; Honghu Liu, PhD²; Yilan Huang, BS³; Michael Bolaris, MD¹; Megan H. Nguyen, PharmD⁴; Mildred Gonzalez, PhD, RN⁵; Wellington Da Silva, n/a⁶; Leslie Astorga-Cook, RN⁶; Angel Abueg, CLS⁷; Holli Mason, MD⁷; Loren G. Miller, MD, MPH⁸; ¹Division of Infectious Diseases, the Lundquist Institute at Harbor-UCLA Medical Center, Torrance, CA, Torrance, California; ²University of California, Los Angeles, School of Dentistry, Public Health and Medicine, Los Angeles CA, Los Angeles, California; ³University of California, Los Angeles, Department of Biostatistics, Los Angeles CA, Los Angeles, California; ⁴University of California Irvine, Irvine, California; ⁵Los Angeles County College of Nursing and Allied Health, Los Angeles, CA, Los