

# UC San Diego

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437. Asymptomatic Healthcare Worker COVID-19 Testing Program

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**Methods:** In response to the COVID-19 pandemic in Atlanta, PEH and homeless service providers were offered PCR testing for SARS-CoV-2 via nasopharyngeal, nasal mid-turbinate, and oropharyngeal swabs. Shelters identified as having a higher number of COVID-19 infections underwent re-testing 3–4 weeks after initial testing. Demographic information was collected, and individuals were screened for symptoms and underlying conditions.

**Results:** A total of 2,294 PEH and 544 staff underwent SARS-CoV-2 PCR testing from April 8 - May 6, 2020. 24 homeless shelters were included in this study. The majority of individuals were male (66.3% sheltered, 85.5% unsheltered, 55.3% staff), and 2,192 of 2,838 (78.3%) persons identified as black. Approximately half of individuals had no known underlying conditions (51.5% sheltered, 47.7% unsheltered, 55.5% staff). Cardiovascular disease was the most frequently reported condition (32.0%), followed by chronic lung disease (14.8%). In total, 45 of 2,823 (1.6%) individuals had detectable PCR results for SARS-CoV-2, including 35 of 1,666 (2.1%) sheltered clients, 3 of 614 (0.5%) unsheltered clients, and 7 of 543 (1.3%) staff. Among individuals with detectable SARS-CoV-2, 5 of 20 (25%) reported at least one symptom in the last week. Most shelters (16 of 24) had at least one individual with detectable SARS-CoV-2. The prevalence of SARS-CoV-2 in the majority of shelters (19 of 24) was < 3%, with a median prevalence of 0.2% across all shelters. Upon retesting 4 shelters with a higher number of COVID-19 infections, only 3 individuals from 2 shelters tested positive out of 357 total retested (0.8%).

**TABLE 1. Demographic and background characteristics of homeless shelter clients, unsheltered clients, and staff tested for SARS-CoV-2 — Atlanta, Georgia, United States, April—May 2020**

	Total N= 2,838 n(%)	Sheltered Clients n=1,672 n(%)	Unsheltered Clients N=622	Staff n=544 n(%)
<b>Age</b>				
Age, mean, y	46.6	44.1	51.3	49.2
Age, median y	50.7	48.5	54.4	51.8
<18 years	134 (4.7)	130 (7.8)	3 (0.5)	1 (0.2)
18–34	527 (18.6)	361 (21.6)	76 (12.2)	90 (16.5)
35–49	689 (24.2)	381 (22.8)	149 (24.0)	159 (29.2)
50–64	1,288 (45.4)	712 (42.6)	328 (52.7)	248 (45.6)
≥65	200 (7.0)	88 (5.3)	66 (10.6)	46 (8.5)
<b>Race*</b>				
White	474 (16.9)	252 (15.4)	70 (11.3)	152 (28.1)
Black	2,192 (78.3)	1,313 (80.0)	507 (82.0)	372 (68.8)
Other**	135 (4.8)	77 (4.7)	41 (6.6)	17 (3.1)
<b>Gender</b>				
Male	1,941 (68.4)	1,108 (66.3)	532 (85.5)	301 (55.3)
Female	824 (29.0)	501 (30.0)	84 (13.5)	239 (43.9)
Other	72 (2.5)	62 (3.7)	6 (1.0)	4 (0.7)
<b>Underlying Medical Conditions*</b>				
No underlying conditions***	996 (50.9)	523 (51.5)	296 (47.7)	177 (55.5)
Diabetes	194 (9.9)	112 (11.0)	55 (8.9)	27 (8.5)
Cardiovascular disease	626 (32.0)	328 (32.2)	213 (34.3)	85 (26.7)
Chronic lung disease	290 (14.8)	144 (14.2)	105 (16.9)	41 (12.9)
Chronic kidney disease	49 (2.5)	26 (2.6)	16 (2.6)	7 (2.2)
Chronic liver disease	86 (4.4)	44 (4.3)	35 (5.6)	7 (2.2)
Immunocompromising conditions†	93 (4.8)	33 (3.2)	50 (8.1)	10 (3.1)
Neurological conditions††	127 (6.5)	56 (5.5)	58 (9.4)	13 (4.1)
<b>Smoking status</b>				
Current smoker	944 (48.2)	494 (48.5)	388 (62.5)	62 (19.4)
Past smoker	266 (13.6)	147 (14.4)	67 (10.8)	52 (16.3)
Never smoker	748 (38.2)	377 (37.0)	166 (26.7)	205 (64.3)
Pregnant (% women aged 15–44 years)	8 (3.7)	6 (5.7)	2 (6.7)	0 (0)

Abbreviations: COVID-19 = coronavirus disease 2019; NA = not applicable

\*Does not add up to total sample size of column due to missing data

\*\*Includes American Indian/Alaskan Native, Asian, Native Hawaiian/Pacific Islander, Other

\*\*\*Underlying conditions include diabetes (type I or type II), cardiovascular disease, chronic lung disease, chronic kidney disease, chronic liver disease, immunocompromising conditions or neurological conditions

† Documented conditions within immunocompromising conditions included: human immunodeficiency virus infection, cancer, rheumatoid arthritis, sarcoidosis, lupus, chronic steroid use, hyperthyroidism, hereditary spherocytosis, polymyalgia rheumatica, hepatitis C, sickle cell disease or other

†† Documented conditions within neurological conditions included: spinal stenosis, epilepsy, neuropathy, learning disability, migraine, tardive dyskinesia, meningitis

**Table 2. SARS-CoV-2 test result by shelter and collection date—Atlanta, Georgia, United States, April—May 2020**

Location	Collection date	Total tested	Detected n (%)
Shelter A	4/7 & 4/8*	291	6 (2.1%)
	5/4	155	1 (0.6%)
Shelter B	4/10*	94	6 (6.4%)
	5/5	37	0 (0.0%)
Shelter C	4/11	118	7 (5.9%)
	5/5	114	0 (0.0%)
Shelter D	4/13	29	10 (34.5%)
	5/6	51	2 (3.9%)
Shelter E	4/13	108	0 (0.0%)
Shelter F	4/13*	205	1 (0.5%)
Shelter G	4/14	12	0 (0.0%)
Shelter H	4/14	26	0 (0.0%)
Shelter I	4/14*	206	3 (1.5%)
Shelter J	4/15	66	0 (0.0%)
Shelter K	4/15*	204	2 (1.0%)
Shelter L	4/16	24	0 (0.0%)
Shelter M	4/16	122	0 (0.0%)
Shelter N	4/16*	100	0 (0.0%)
Shelter O	4/17	39	1 (2.6%)
Shelter P	4/17 & 4/29	175	3 (1.7%)
Shelter Q	4/20	14	0 (0.0%)
Shelter R	4/21	75	1 (1.3%)
Shelter W	4/21	32	0 (0.0%)
Shelter T	4/21	5	0 (0.0%)
Shelter U	4/22	41	0 (0.0%)
Shelter V	4/23	30	0 (0.0%)
Shelter W	4/23	13	1 (7.7%)
Shelter X	4/24	17	1 (5.9%)

\* Additional catch-up testing performed for a small number of individuals on 4/17/2020.

**Conclusion:** We identified a low prevalence of SARS-CoV-2 infection among PEH in Atlanta, which was influenced by a pre-emptive testing strategy. Continued vigilance is necessary to limit spread in this vulnerable population.

**Disclosures:** All Authors: No reported disclosures

#### 437. Asymptomatic Healthcare Worker COVID-19 Testing Program

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**Session:** P-14. COVID-19 Epidemiology and Screening

**Background:** The SARS-CoV-2 pandemic remains a major threat worldwide. Healthcare workers (HCWs) are particularly impacted by the COVID-19 pandemic with high infection rates reported from HCWs in hard-hit regions<sup>2,3</sup>, raising concerns about nosocomial infections and the effectiveness of personal protective equipment in protecting HCWs. Asymptomatic infection is estimated 17.9% to 33.3%<sup>4</sup> and is a common source of transmission<sup>5</sup>.

We designed a HCW testing program to address patient and employee concerns about exposures in the healthcare setting at our 808-bed health system. During the time of employee testing, the mean (range) number of inpatients with a diagnosis of COVID was 30 (22–38) of a mean (range) daily census of 560 (492–602) (approximately 5.4%).

**Methods:** This opt-in program offered SARS-CoV-2 testing of asymptomatic HCWs with paired nasopharyngeal or mid-turbinate swab for PCR (Roche) and serum IgG antibody testing (Diazyme). While initially designed as a pilot project in the Emergency Departments and COVID-19 units, it was quickly expanded to a health system-wide initiative.

**Results:** From April 22 to June 2, PCR testing was performed on 5826 asymptomatic HCWs with four PCR tests resulting positive (0.09%). Of 5589 serologic tests

(anti-SARS-CoV-2 IgG) performed, 57 tested positive (1.02 %). All HCW with a positive IgG had a concurrent negative PCR.

**Conclusion:** In this cross-sectional evaluation, the point prevalence of SARS-CoV-2 IgG in asymptomatic HCWs at UC San Diego was less than 1%, supporting modeling estimations at the San Diego County level of very low levels of community exposure at the time of this testing.

Further analyses of incidence rates and potential risk factors such as employee roles within the healthcare system, community and healthcare exposures, and home zip code are underway.

Asymptomatic HCW testing is a strategy that can provide the perception of additional safety to both the workforce and patients as the health system reopens, while potentially reduce transmission from asymptomatic persons through active case finding and isolation.

**Disclosures:** Randy Taplitz, MD, Merck (Advisor or Review Panel member)

#### 438. Characteristics and Epidemiology of a Native American Community with a High Prevalence of COVID-19

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**Session:** P-14. COVID-19 Epidemiology and Screening

**Background:** COVID research and reporting has focused on large urban populations. However, limited data suggests that rural Native American (NA) populations are disparately impacted. We serve a well-defined NA population of ~18,000 that is relatively geographically isolated in the White Mountains of eastern Arizona. Our first case SARS-CoV-2 was confirmed April 1<sup>st</sup>. We have since confirmed an attack rate significantly higher than most of the United States. We provide testing and case trends in addition to characteristics of the first 800 cases.

**Methods:** We sequentially reviewed the charts of all laboratory-confirmed COVID-19 patients from April 1 to June 3, 2020. In addition to calculating prevalence and rates, we provided summary statistics that were used to describe testing breakdown, demographics, symptoms, and co-morbidities.

**Results:** From April 1 to June 3, we tested 2,662 persons, of which 884 (33.2%) were positive. The estimated prevalence of the time of writing is 4.9% and the rate of 4,911 per 100,000 persons. Data compiled from the first 800 laboratory-confirmed patients is summarized in table 1. Median age for confirmed cases was 40.6 (IQR 28–54). 555 cases (72.1%) were symptomatic. The most common symptoms were cough (67.7%), subjective fever (39.5%), and muscle aches (36.8%). 30.6% of confirmed cases were asymptomatic at the time of testing. The majority of cases were among persons aged 30–39 years (22.9%). Some of the most common comorbidities in confirmed cases included cardiovascular disease (30.4%), substance abuse (30.1%), and diabetes (25.0%). There were 18 (2.04%) deaths.

Clinical findings among symptomatic patients

Table 1: Clinical findings among symptomatic patients (n=555)

Sign or symptom	N (%)
Documented Fever	96 (17.3)
Subjective Fever	219 (39.5)
Chills	183 (33.0)
Muscle Aches	204 (36.8)
Runny Nose	175 (31.5)
Sore Throat	97 (17.5)
Cough	376 (67.7)
Dyspnea	184 (33.2)
Nausea or Vomiting	82 (14.8)
Headache	180 (32.4)
Abdominal Pain	61 (11.0)
Diarrhea	83 (15.0)
Loss of Taste and/or Smell	38 (6.8)
High Risk Factors	No (%)
Age >65	89 (10.3)
Chronic Lung Disease	91 (11.7)
Diabetes	200 (26.7)
Cardiovascular Disease	243 (31.4)
Chronic Renal Disease	36 (4.7)
Chronic Liver Disease	37 (5.0)
Immunocompromised	10 (1.3)
Substance Abuse	241 (29.7)
Current or Former Smoker	185 (23.4)

**Conclusion:** We observed a significantly higher prevalence (10-times) and attack rate of (17-times) COVID-19 in a well-defined NA population, when compared to the general Arizona population. We provide characteristics of these cases and report that nearly a third were asymptomatic at the time of testing. More research is needed to understand the rapid spread of COVID-19 in vulnerable rural communities.

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#### 439. Clinical Characteristics and Mortality of an Initial Cohort of COVID-19 Patients in México City

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**Session:** P-14. COVID-19 Epidemiology and Screening

**Background:** As of today, more than 8 million people have been infected and around 440,000 of them have lost their lives due to complications of SARS-CoV-2 infection.

The first confirmed case of COVID-19 in Mexico was on February 28, 2020, and currently, there are more than 150,300 confirmed cases and more than 17,500 deaths have been reported, this work presents the characteristics of the first cases on a tertiary care center with special focus on common comorbidities in Mexicans.

**Methods:** We conducted a case series of patients with the diagnosis of pneumonia due to SARS-CoV-2 virus admitted to a tertiary care center in Mexico City, between March 14th and May 4th, 2020. Data collected included demographic information, comorbidities, clinical presentation, and outcomes. Regarding clinical outcomes, we measured the need of admission to Intensive Care Unit (ICU), mortality during hospitalization, discharge, and patients that remained hospitalized.

**Results:** 85 patients were included, median age 53.5 years; 69.4% were male. Most common clinical manifestations at admission were fever (61, 71.8%), cough (29, 34.1%), headache (25, 29.4%) and dyspnea (22, 25.9%). Most common comorbidities were overweight (44/82, 53.6%), obesity (25/82, 30.5%), hypertension (18, 21.2%), and diabetes (17, 20%).

31 of 85 (36.5%) patients were diagnosed with critical disease, whereas 54 of 85 (63.5%) were classified as non-critical. In the 31 critically ill patients, the length of invasive mechanical ventilation was 13 days [range 2–45]; 5 patients (16.1%) required tracheostomy. The mean of mechanical ventilation prior to tracheostomy was 19.8 days [range 14–25].

In all patients, the total length of hospitalization was 12.1 days [range 2–52], 14.8 days [range 3–52] in ICU patients, and 6.7 days [range 2–30] in floor unit patients. No readmissions were documented.

Global mortality was 4.7% (9.6% in ICU, 1.8% in floor unit). Of the 4 deceased patients, 3 presented comorbidities (75%), while 1 was previously healthy, documenting massive pulmonary embolism as the cause of sudden death.

**Conclusion:** This study shows that the clinical characteristics in this initial cohort are not different that described elsewhere. Mortality is low but it is mainly related to prevalent comorbidities in the Mexican population.

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#### 440. Clinical Characteristics of Early Noncritical Hospitalized Patients with Coronavirus Disease 2019 (COVID-19): A Single-Center Retrospective Study in New York City

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**Session:** P-14. COVID-19 Epidemiology and Screening

**Background:** COVID-19 first originated in Wuhan, China, in December 2019. As of April 9, 2020, New York State had become the single largest global epicenter of COVID-19.

**Methods:** This is a retrospective chart review of the first 33 patients with RT-PCR-confirmed COVID-19 admitted from the emergency department to a general medicine unit in a single academic hospital in New York City between March 11th to March 27th, 2020. Patient's demographic, clinical, laboratory, radiographic investigations, treatments and clinical outcomes were retrospectively extracted from the electronic medical record and followed until April 10th, 2020. Patients were divided into severe and nonsevere sub-cohorts. Statistics were descriptive in nature.

**Results:** The study cohort (median age 68 yr, 67% male) presented with subjective fevers (82%), cough (88%), and dyspnea (76%). The median incubation period was 3 days. Most cases met SIRS criteria upon admission (76%). Patients had elevated inflammatory markers. Patients were treated with antimicrobials, corticosteroids, hydroxychloroquine, and varying levels of supplemental oxygen. Mortality was 15% and 18% of the cohort required intensive care services.

**Conclusion:** Patient age, presenting clinical symptoms, comorbidity profile, laboratory biomarkers, and radiographic features are consistent with findings published from China. Severe patients had peaks in inflammatory biomarkers later in the