

Halting a SARS-CoV-2 Outbreak in a Veterans Affairs Nursing Home

G. Pseudos, MD, A. Papamanoli, MD, N Barrett RN, L Bailey RN, M Thorne RN, F Ford RN, Z Lobo MD.

Infection Control and Division of Infectious Diseases, Northport Veteran Affairs Medical Center, Long Island NY



Correspondence: Aikaterini Papamanoli, MD

Aikaterini.Papamanoli@stonybrookmedicine.edu

Stony Brook University Medical Center, 101 Nicolls Road, HSC, T-15, Rm 020

Stony Brook, NY 11794-8153, Tel #: +1 (631) 444-3490



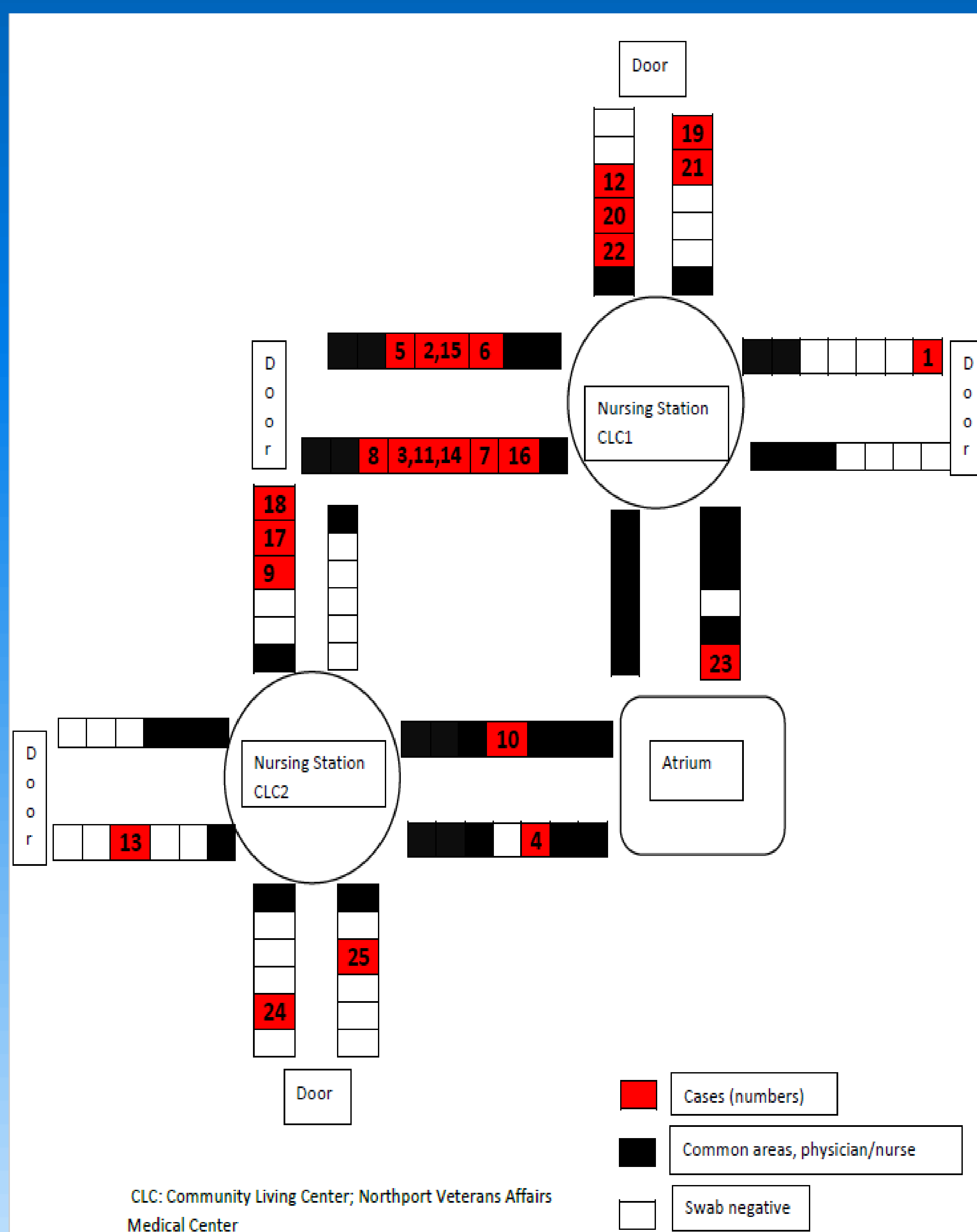
Background

Health care systems have been significantly overwhelmed during the SARS-CoV-2 (SC2) pandemic. Cases in the USA have exceeded 5 million with over 25% of deaths occurring in nursing homes and assisted living facilities. We describe our experience in controlling an outbreak in our Community Living Centers (CLC).

Methods and Materials

We retrospectively reviewed the charts of Veterans with positive nasopharyngeal (NP) RT-PCR for SC2 from March 24 to April 18, 2020 (Figure) in 2 neighboring CLC units (80 bed capacity), at Northport Affairs Medical Center.

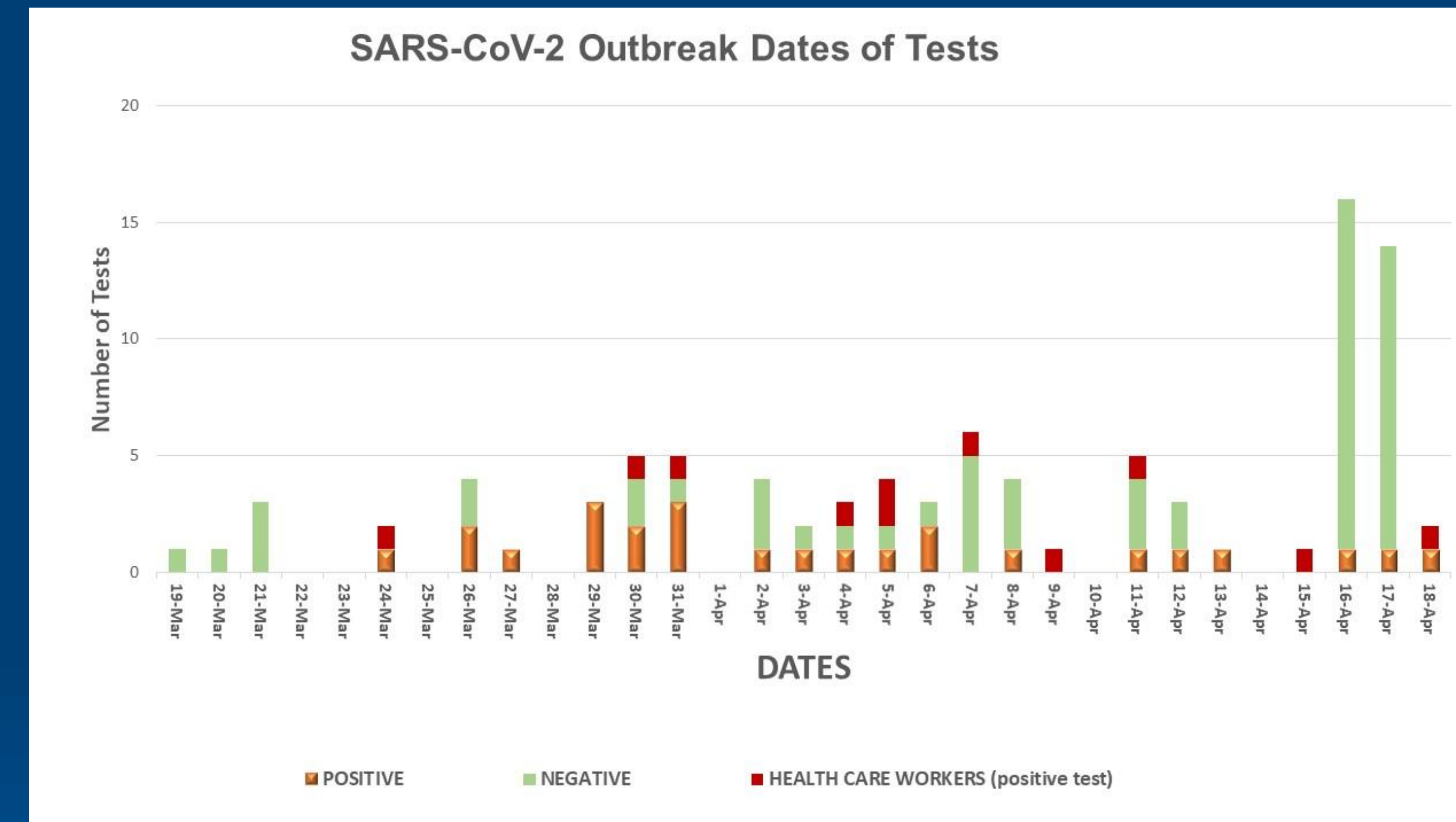
CLC Outline



Results

- ❖ 25 Veterans tested positive for SARS-CoV-2 (Table)
- ❖ 5 Remained Asymptomatic
- ❖ 9 were hospitalized but no ICU admission
- ❖ 6 died; mortality rate 24%
- ❖ No co-infection with influenza or other viruses
- ❖ 11 health care workers tested positive

	COVID-19 RECOVERED N =19	COVID-19 DECEASED N=6	P value
Median Age years(range)	77 (68-90)	73 (48-87)	0.105
Men	18	6	1.000
Caucasian	19	5	0.240
Cough, #	7	5	0.073
Dyspnea, #	1	4	0.005
Median Temp °F (range)	102 (99.4 - 104)	102.3 (97.5 - 104.6)	0.338
Median SBP mmHg, (range)	99 (93-112)	102 (77- 154)	0.246
Median Heart Rate bpm, (range)	81 (81 - 153)	102 (65 - 122)	0.036
Median Respiratory rate breaths/min (range)	18 (19-29)	24 (15-26)	0.003
BMI (range)	26 (13-29)	26 (19-41)	0.591
Oxygen saturation on Room Air,%	92 (84-96)	86 (70-92)	0.018
Diabetes, #	6	3	0.630
Hypertension, #	12	4	1.000
CHF, #	3	1	1.000
COPD, #	5	2	1.000
CAD, #	5	3	0.344
Hemodialysis, #	1	1	0.430
Number hospitalized	6	3	0.630
Hydroxychloroquine, #	11	3	1.000
Azithromycin, #	4	2	0.606
Doxycycline, #	6	3	0.600
Beta lactam antibiotics, #	5	3	0.340
Steroids given, #	0	1	0.240
History of ACEI/ARB use	4	1	1.000
Median SAPS II score	32	47	0.0009
Median D-dimer on admission	1525 (497-3039)	399 (150-2226)	0.019
Median PEAK D-Dimer	2592 (887-3039)	465 (150-2339)	0.0005
Median Procalcitonin on Admission	0.1	0.25	0.042
Median PEAK Procalcitonin	0.1	4.56	0.023
Median CRP mg/L on Admission	24	174	<0.001
Median PEAK CRP mg/L	49	188	0.003
Median Ferritin on Admission	136 (19-1500)	385 (249-1500)	0.158
Median PEAK Ferritin	216 (21-1500)	664 (385-1500)	0.047
Median White Blood Cells/mm3	5.3 (3.5 - 19.6)	6.4 (4.3 - 25.1)	0.230
Median Absolute Lymphocytes	1.2 (0.7 - 10.6)	0.7 (0.5 - 1.0)	0.312
Median Serum Creatinine	1.1 (0.7 - 6.6)	1.8 (0.8-6.3)	0.165
Median LDH	150 (89-279)	264 (199-320)	0.002
BLOOD TYPES:			
O POSITIVE	2	2	
O NEGATIVE	0	2	
A POSITIVE	2	2	
A NEGATIVE	0	2	
B NEGATIVE	0	1	
AB POSITIVE	1	4	
UNKNOWN	1	6	



Our Response

- ❖ Visits to our CLC prohibited
- ❖ Floating of staff minimized
- ❖ Internal group activities stopped
- ❖ Infection control: education on proper use of PPE, utilization of PPE that was saved for Ebola
- ❖ Creation of COVID-19 Unit inside the CLC
- ❖ Mass testing of all residents and health care workers
- ❖ Removal of COVID restrictions: test method PCR. If PCR +, repeat PCR in 72hrs.
- ❖ 13 patients remained PCR positive for 19-52 days
- ❖ 7/13 were tested and resulted positive for SC2 IgG

Conclusion

- ❖ SARS- CoV 2 can spread quickly in a Nursing home among residents and staff
- ❖ Controlling a SC2 outbreak in a nursing home poses a unique challenge
- ❖ Effective isolation & screening contributed in our success to halt the outbreak

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