Epidemiology, Immunology, and Clinical Characteristics of COVID-19 (EPIC^3) within the Veterans Health Administration

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Study platform design

EPIC³

CSP #2028: Epidemiology, Immunology and Clinical Characteristics of COVID-19 within the Veterans Health Administration

- Prospective, observational cohort of Veterans testing (+) or (-) for SARS-CoV-2
- Inpatient, outpatient, community living centers (nursing homes)
- 15 sites nationally, partner study at Department of Defense
- Data collection

  - Symptom questionnaires, biospecimens (blood, nasal/saliva) for biorepository, electronic health record

  - 24 months of follow-up
- Recruitment July 2020 – October 2022, total enrollment >2800
- Core study analyses + data/specimens can be available for additional analyses

PASC measurements

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20 questions covering 5 domains

- Health-related quality of life – EQ-5D-5L
- Shortness of breath – mMRC dyspnea scale
- Fatigue – PROMIS fatigue 6a
- Cognition – PROMIS cognitive function 4a
- Overall recovery – Single question, 5-level scale

Questionnaire respondents by time period

	Month 1	Month 3	Month 6	Month 12
Inpatient	259	256	266	229
Outpatient	1268	1161	1114	850

Results 1 - Characteristics

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		Inpatient		Outpatient	
		SARS-CoV-2(-) (n=133)	SARS-CoV-2+ (n=260)	SARS-CoV-2(-) (n=371)	SARS-CoV-2+ (n=1035)
Age group	<40	11 (8.3%)	14 (5.4%)	61 (16.4%)	246 (23.8%)
	≥40 and <60	34 (25.6%)	75 (29.0%)	129 (34.8%)	382 (36.9%)
	≥60 and <80	79 (59.4%)	156 (60.2%)	171 (46.1%)	391 (37.8%)
	≥80	9 (6.8%)	14 (5.4%)	10 (2.7%)	16 (1.5%)
Gender	Female	8 (6.0%)	27 (10.4%)	69 (18.6%)	197 (19.0%)
	Male	125 (94.0%)	232 (89.6%)	302 (81.4%)	838 (81.0%)
Charlson comorbidity index	0	23 (17.3%)	50 (19.2%)	172 (46.4%)	575 (55.6%)
	1-2	37 (27.8%)	77 (29.6%)	118 (31.8%)	301 (29.1%)
	3-4	40 (30.1%)	67 (25.8%)	49 (13.2%)	104 (10.0%)
	5+	33 (24.8%)	65 (25.0%)	32 (8.6%)	55 (5.3%)

Results 2 - Inpatients

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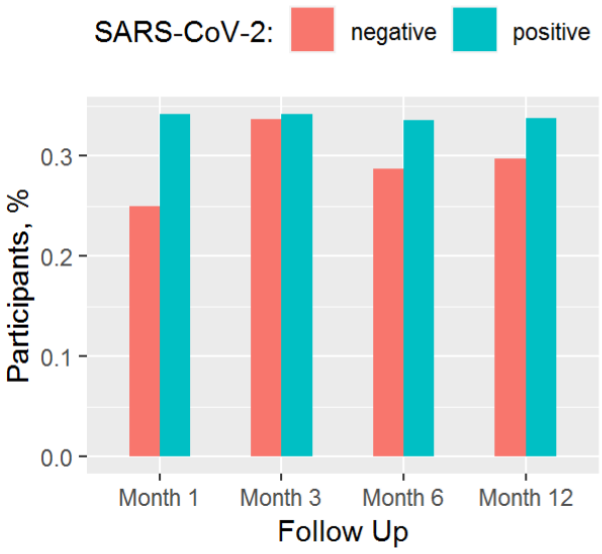
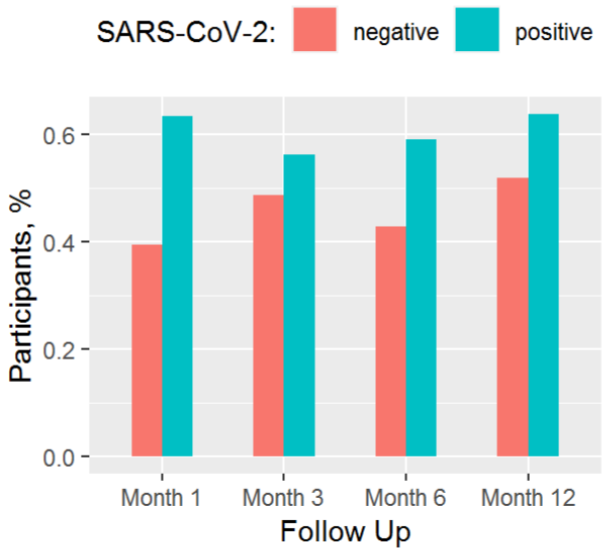
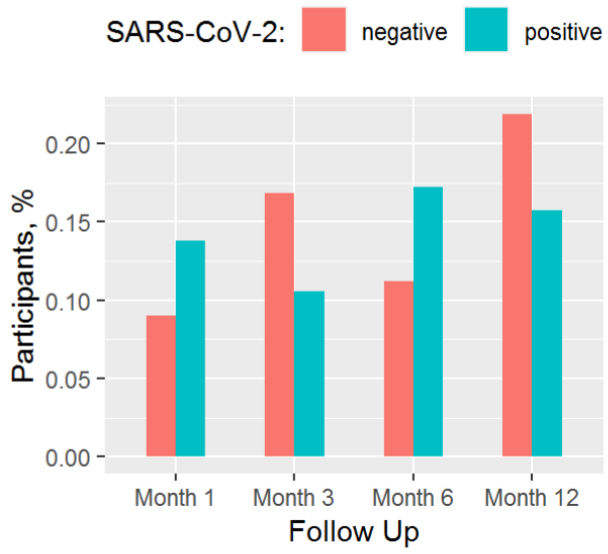
EQ-5D-5L Utility Score (< 0.75)



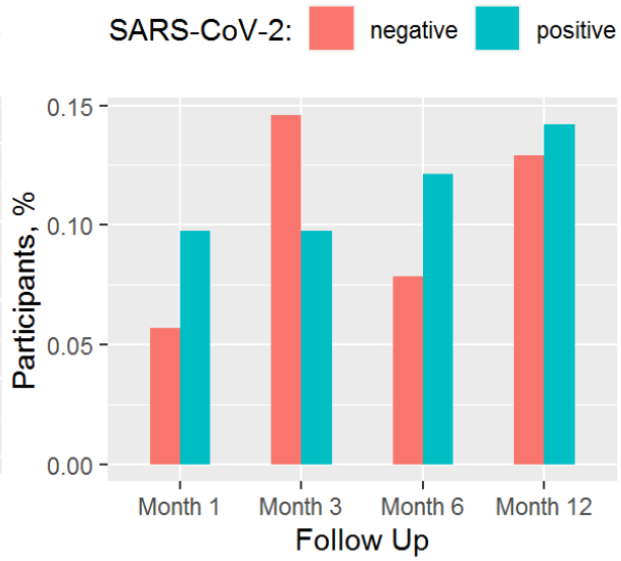
mMRC Dyspnea Scale (≥ 1)



PROMIS Fatigue T-score (> 60)



PROMIS Cognitive T-score (< 40)



Recovery score (mean) among SARS-CoV-2+

- Month 1 - 3.84
- Month 6 – 4.00
- Month 12 – 4.14

Results 3 - Outpatients

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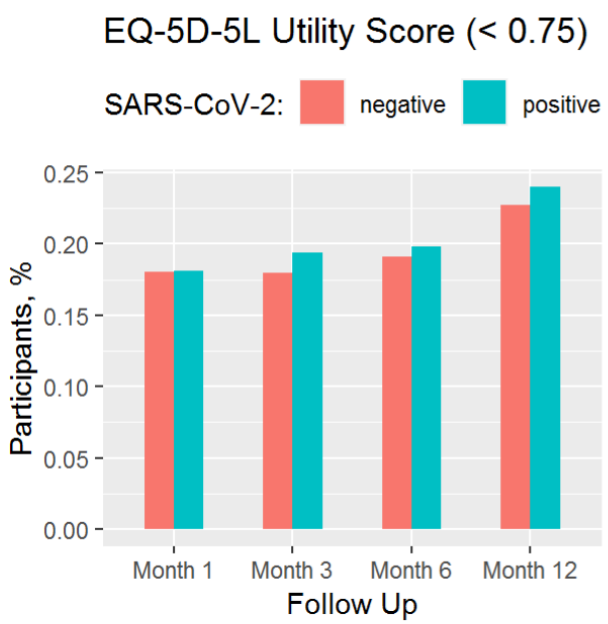

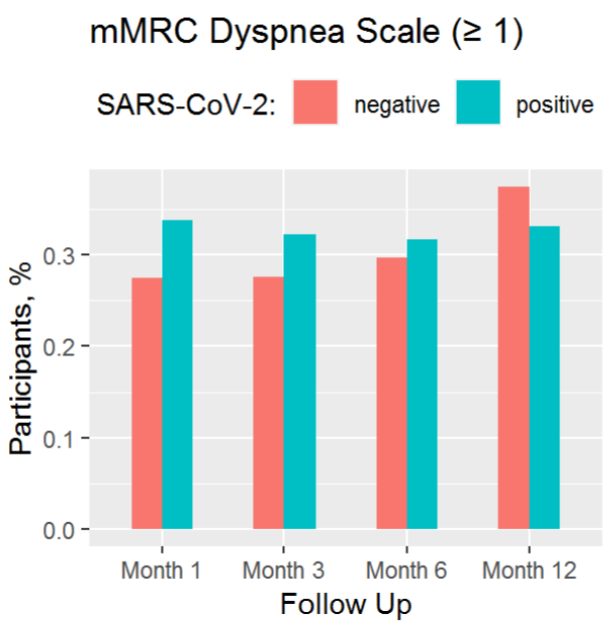

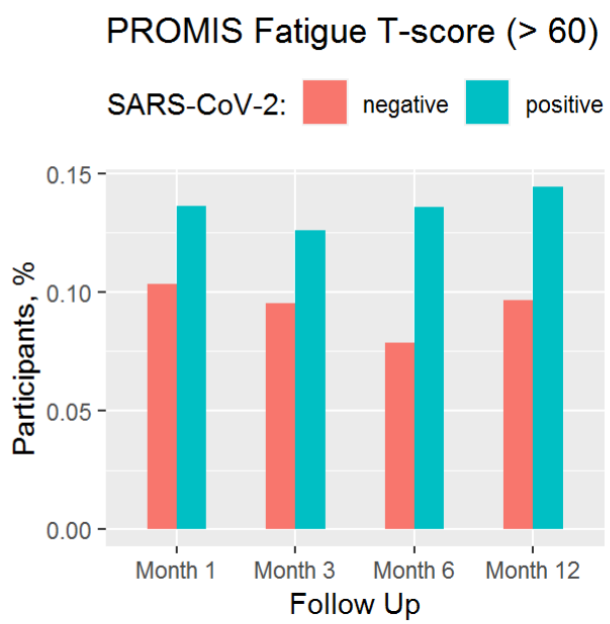

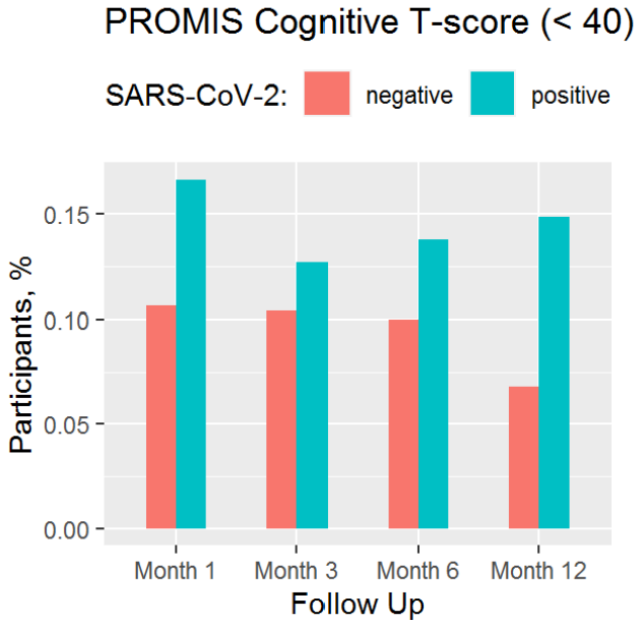

Recovery score (mean) among SARS-CoV-2+

- Month 1 – 4.18
- Month 6 – 4.41
- Month 12 – 4.42

Results 4 - Multivariable

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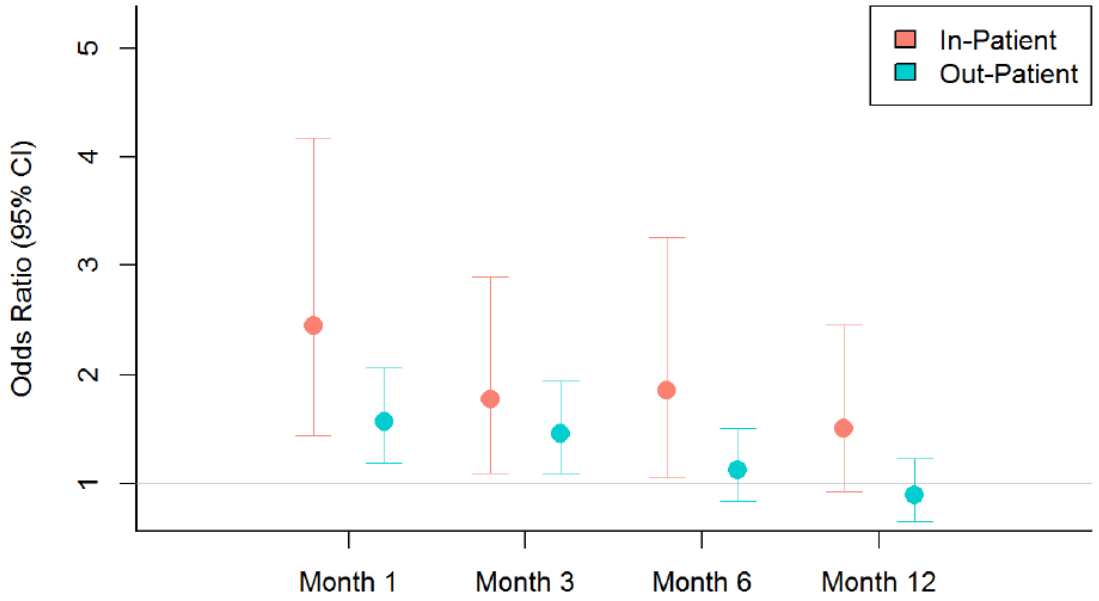
Adjusted* odds of dyspnea in SARS-CoV-2+ versus SARS-CoV-2(-)



*Adjusted for age, gender, and comorbidity index

- SARS-CoV-2+ participants had greater odds of dyspnea than SARS-CoV-2 negative
- Greater age and comorbidity score also associated with ↑dyspnea
- Female gender associated with ↑ several outcomes (dyspnea, fatigue), but low power in inpatient cohort

Conclusions

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- Dyspnea was the outcome that differed most consistently between SARS-CoV-2+ and SARS-CoV-2(-) participants, with smaller effect sizes at later follow-up times
- Fatigue, cognitive function, and health-related quality of life did not significantly differ between SARS-CoV-2+ and SARS-CoV-2(-) participants after adjustment for other variables
- Ongoing work is investigating correlation between symptom domains and with biospecimen analyses

Acknowledgements

CSP #2028 Coordinating Center Team at Seattle ERIC

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Questions to:

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