

Figure 1

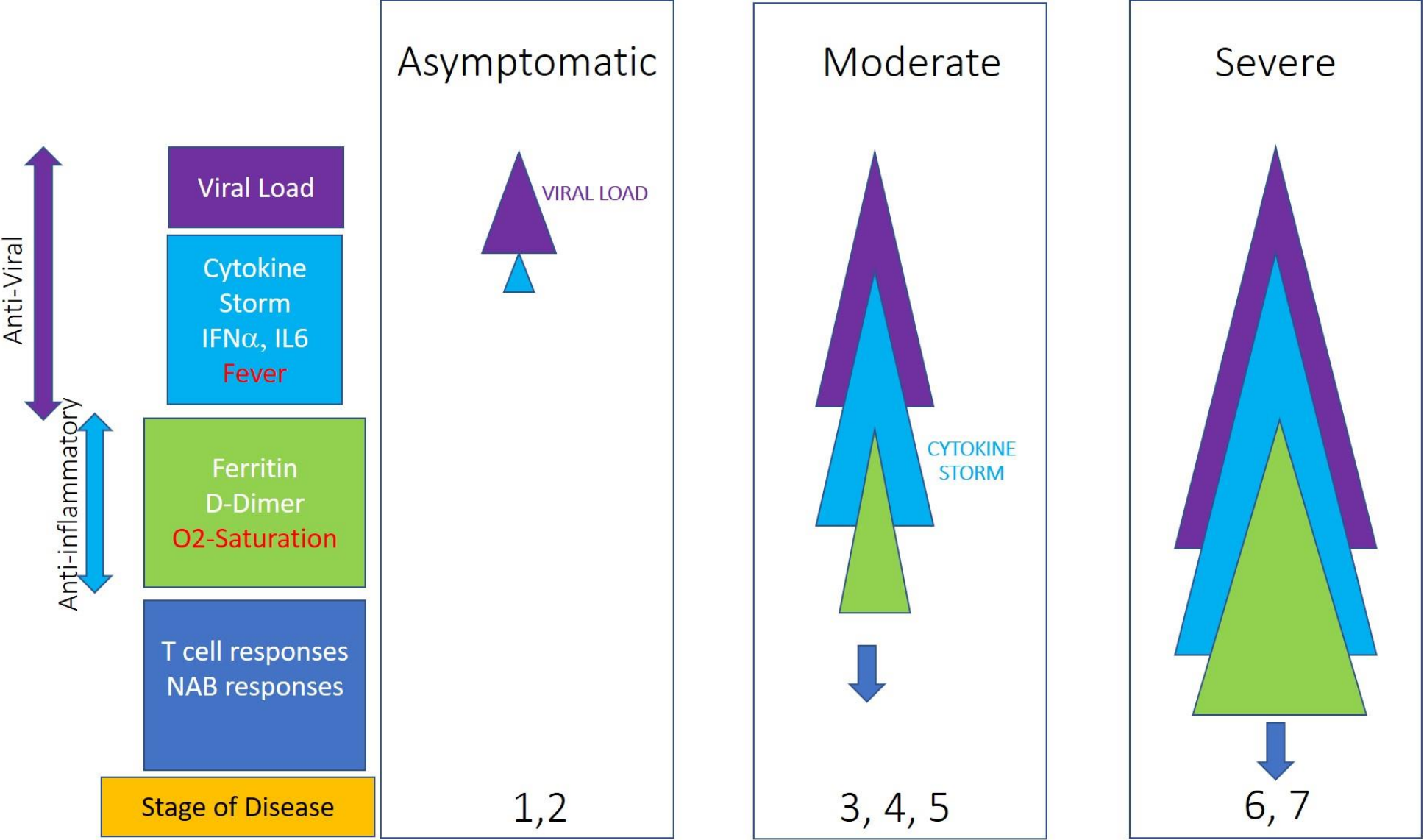


Table 1

• Table 1. Ranges of values for the parameters used for developing the simulated dataset for the mathematical model.

Parameter	Unit	Reference	COVID-19 Ranges	COVID-19 Ranges	COVID-19 Ranges
			Asymptomatic	Moderate	Severe
Viral Load	Cycle Time	[20]	>28	20-15	22-16
IFNα	pg/mL	[45, 46]	<10	10-100	10-2
Fever	°F	[55, 56]	97-98.6	98.6-100	100-104
D-Dimer	μg/mL	[31]	<0.1	0.15-0.62	0.5-9.3
Ferritin	ng/L	[31]	20-200	286-1,275	1,400-2,000
Oxygen Saturation	%	[3, 56]	95-100	85-94	60-84
IL-6	ng/mL	[45, 46]	<1	19-76	19-430
Lymphocyte count	x 10 <sup>6</sup> /mL	[27]	>785	588-785	169-415
NAB	Titer	[57]	1,000-45,000	200-20,000	500-60,000

Figure 2

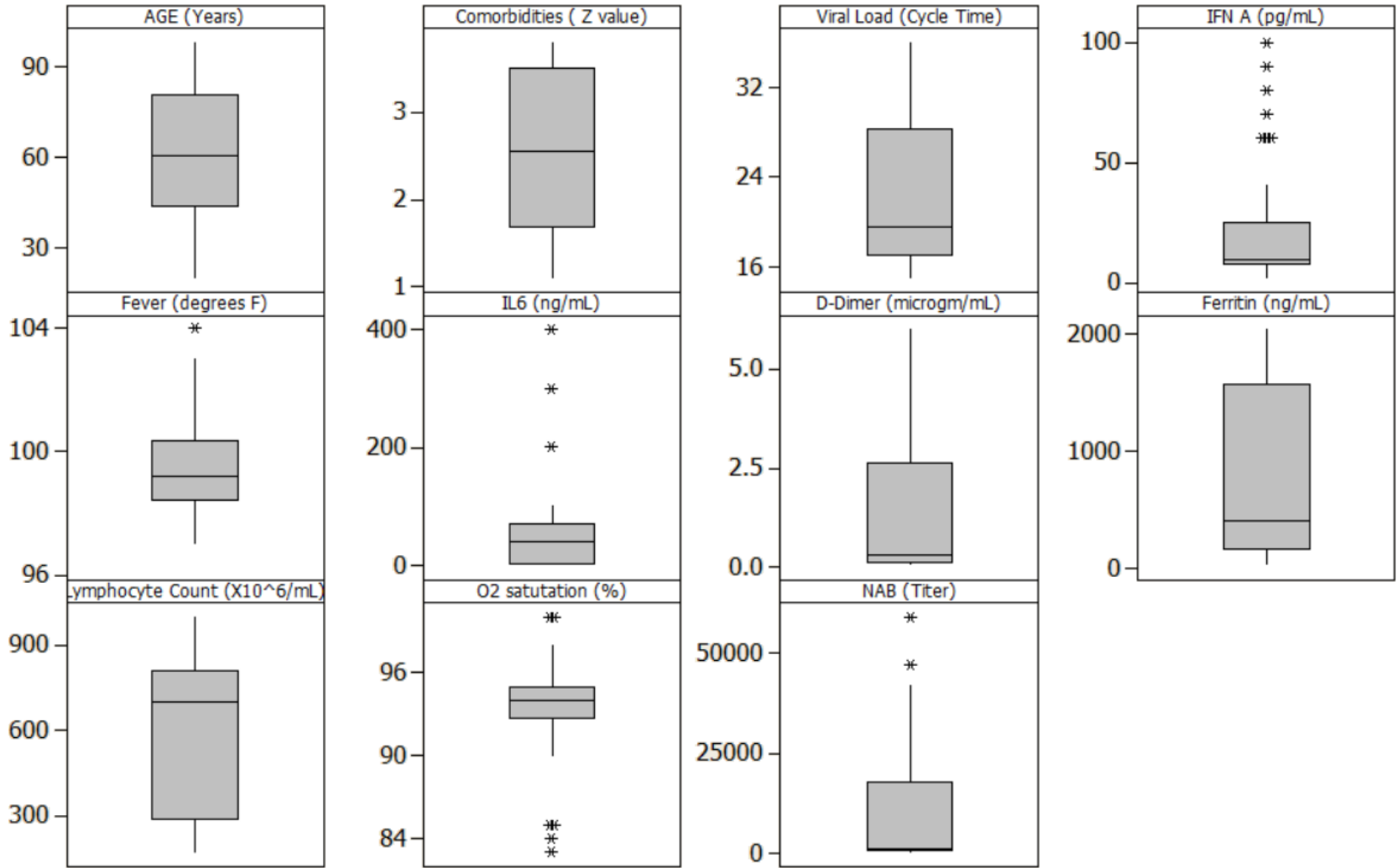


Table 3




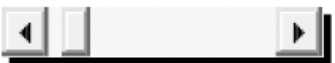


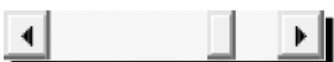
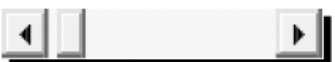
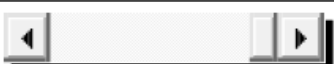
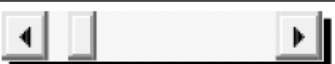
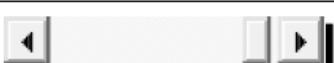
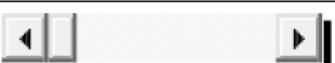


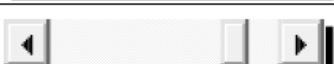

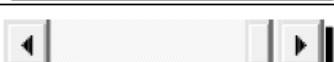

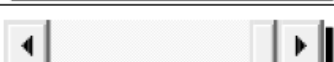


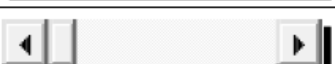
Parameters	Range				Parametric
	Max		Min		
Age	66		20		43
Comorbidities	3.6		1.2		2.4
Viral Load	30		18		24
IFNa	48		5		26.5
Fever	104		97.7		100.85
IL6	390		2		196
D-Dimer	6		0.02		3.01
Ferritin	1775		30		902.5
Lymphocyte Count	983		150		566.5
O2 saturation	100		81		90.5
NAB	1580		2		791
					<div><div>4.50</div><div>Simulated Rank</div></div>

Table 2a

Source	DF	SeqSS	AjdSS	AdjMS	F	p
Regression	11	13.172	139.172	12.652	10.259	0
AGE	1	116.579	0.095	0.095	0.817	0.337
COMORBID	1	10.085	0.175	0.175	1.5	0.231
Viral Load	1	0.172	0.392	0.392	3.357	0.078
IFN $\alpha$	1	1.037	0.136	0.135	1.161	0.291
Fever	1	8.159	0.378	0.378	3.238	0.083
IL6	1	0.808	0.172	0.171	1.469	0.236
D-Dimer	1	1.511	0.444	0.444	3.799	0.062
Ferritin	1	0.574	0.098	0.098	0.839	0.368
Lymphocyte Count	1	0.018	0.039	0.039	0.334	0.568
Oxygen saturation	1	0.91	0.133	0.133	1.141	0.295
NAB	1	0.039	0.039	0.039	0.337	0.566

Table 2b

Term	Coefficient	Standard Error	t	p
Constant	-36.898	24.867	-1.484	0.150
AGE	-0.021	0.023	-0.904	0.374
COMORBID	0.894	0.730	1.225	0.232
Viral Load	-0.048	0.026	-1.832	0.078
IFN $\alpha$	-0.005	0.005	-1.077	0.291
Fever	0.444	0.247	1.799	0.084
IL6	-0.003	0.003	-1.212	0.236
D-Dimer	0.271	0.139	1.949	0.062
Ferritin	0.000	0.001	0.916	0.368
Lymphocyte Count	-0.001	0.001	-0.578	0.568
Oxygen saturation	-0.038	0.036	-1.068	0.295
NAB	0.000	0.000	-0.580	0.567
Error	26.000	3.039	3.039	0.117
Total	37.000	142.211		

Figure 3a

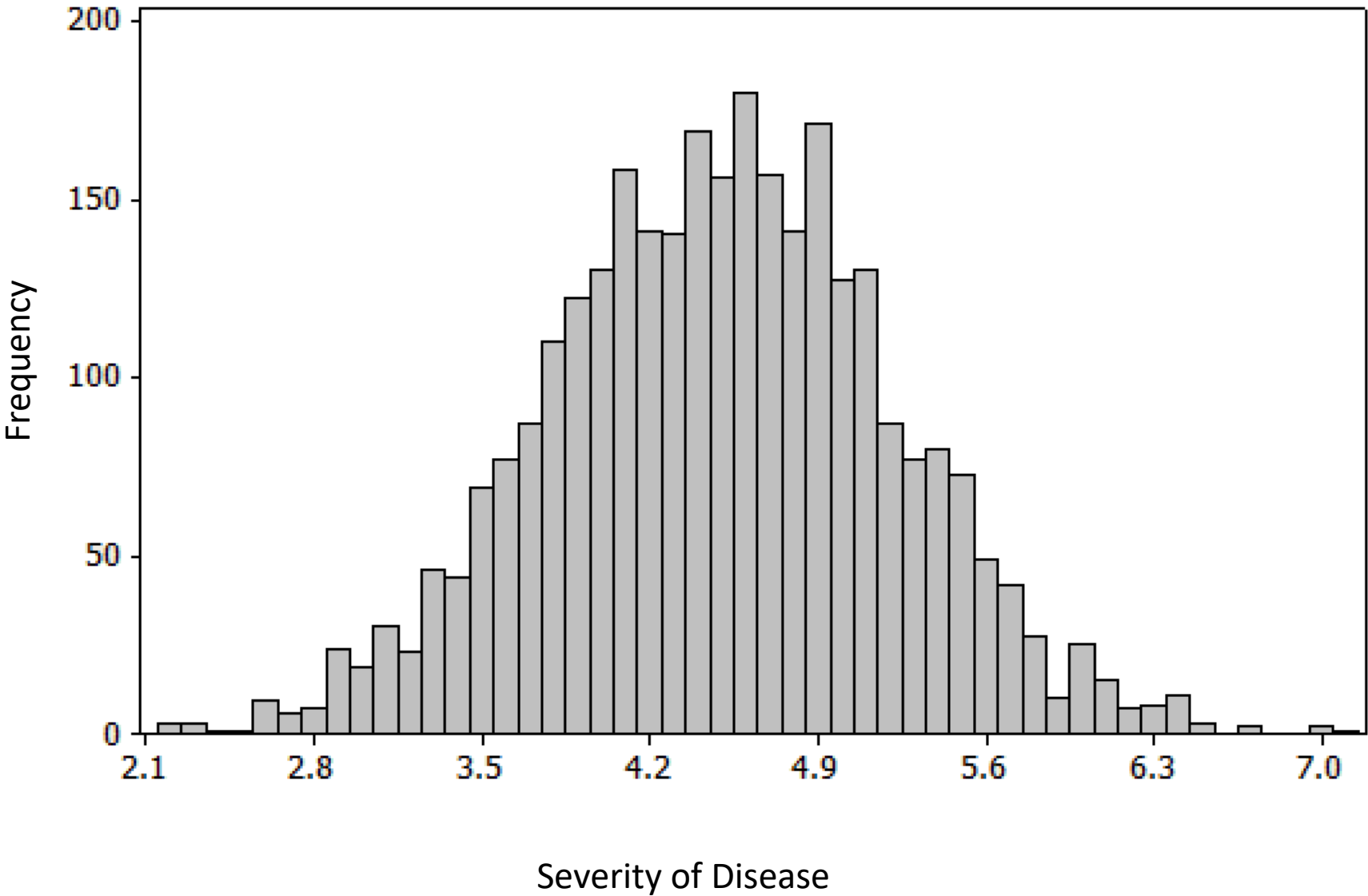


Figure 3b

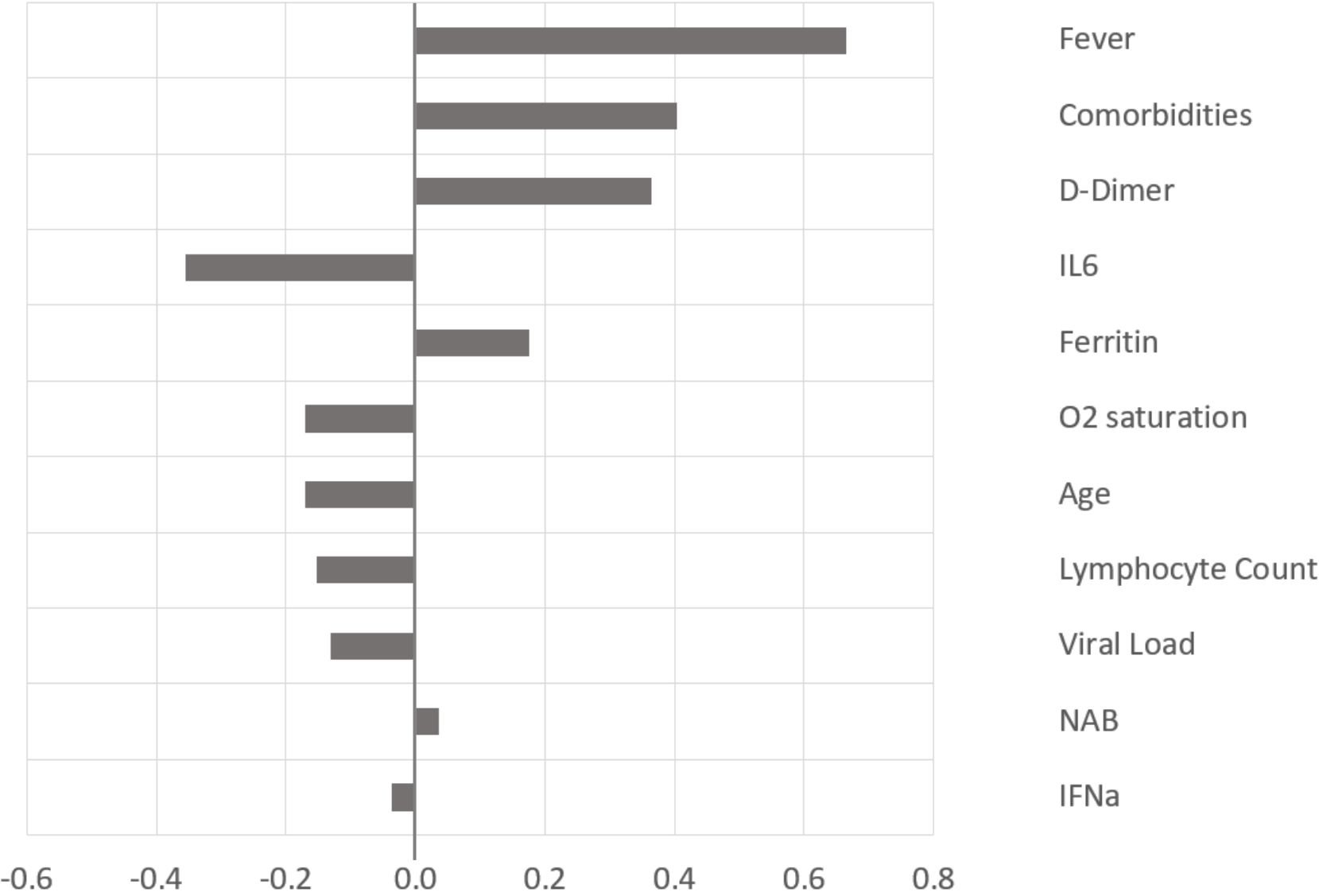




Table 4

Variable	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7
Age	20	52	55	55	62	73	80
Comorbidity	1.1	2.2	2.3	2.4	2.6	3.2	3.5
Viral Load	36	19	16	15	17	21	17
IFN $\alpha$	7	20	50	60	40	9	5
Fever	98.6	99.1	99.8	100	99.4	100.1	100
IL6	1	30	60	70	50	50	90
D-Dimer	0.05	0.25	0.40	0.45	0.35	1.5	4.0
Ferritin	30	350	800	1275	500	1500	1800
Lymphocyte Count	800	740	620	580	640	340	200
Oxygen Saturation	100	95	83	85	90	95	94
NAB	2	20	150	200	100	220	400
Calculated Outcome Rank	0.723	3.299	4.008	4.237	3.228	4.916	6.427
PREDICTED	1	3	4	4	3	5	6
OBSERVED	1	3	4	4	4	5	6