

## Supplement

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**Table S1. Presenting vital signs, laboratory values, and mortality risk scores in COVID-19 patients with and without a disability**

<b>Characteristic</b>	<b>Patients with a disability N=285</b>	<b>Patients without a disability N=994</b>	<b>SD</b>
<b>Vital signs</b>			
Temperature, mean (SD)	36.93 (0.87)	37.06 (0.86)	0.15
Systolic blood pressure, mean (SD)	131.61 (49.47)	130.84 (49.47)	0.02
Diastolic blood pressure, mean (SD)	72.26 (13.68)	73.93 (14.32)	0.12
Heart rate, mean (SD)	87.00 (17.38)	100.20 (351.20)	0.05
Respiratory rate, mean (SD)	20.48 (6.90)	21.32 (9.72)	0.10
SF estimate, mean (SD)	383.48 (124.26)	387.10 (122.85)	0.03
Supplemental oxygen, n (%)	136 (48.9)	432 (44.7)	0.08
<b>Laboratory values</b>			
Hemoglobin mean (SD))	120.13 (25.50)	126.02 (23.08)	0.24
Hematocrit, mean (SD)	0.37 (0.08)	0.38 (0.06)	0.17
White blood cell count, mean (SD)	9.63 (7.12)	8.82 (5.25)	0.13
Platelet count, mean (SD)	238.29 (110.72)	234.45 (109.88)	0.04
Neutrophils, mean (SD)	7.25 (4.65)	6.68 (4.51)	0.13
Lymphocyte, mean (SD)	1.49 (4.53)	1.26 (1.35)	0.07
Sodium, mean (SD)	137.94 (7.43)	136.59 (6.36)	0.10
Bicarbonate, mean (SD)	23.84 (4.15)	24.22 (4.14)	0.09
Creatinine, mean (SD)	153.60 (178.93)	126.21 (134.00)	0.17
Blood urea nitrogen (BUN), mean (SD)	13.36 (11.59)	8.93 (8.00)	0.44
Albumin, mean (SD)	32.65 (6.20)	32.09 (6.64)	0.09
Bilirubin, mean (SD)	12.77 (14.48)	12.15 (10.88)	0.05
CRP, mean (SD)	107.74 (93.94)	102.25 (91.08)	0.06
Lactate, mean (SD)	2.22 (1.58)	2.13 (1.76)	0.05
LDH, mean (SD)	338.58 (159.35)	359.43 (210.13)	0.11
D-dimer, mean (SD)	1,490.08 (1,079.86)	1,480.71 (1,529.42)	0.01
Ferritin, mean (SD)	895.02 (1149.42)	870.29 (1144.60)	0.02
Glucose, mean (SD)	9.26 (5.99)	8.26 (4.35)	0.19
Arterial paCO <sub>2</sub> , mean (SD)	47.91 (17.92)	47.45 (18.07)	0.03
Arterial paO <sub>2</sub> , mean (SD)	79.59 (31.99)	87.97 (46.82)	0.21
<b>Mortality risk scores</b>			
mAPACHE score, mean (SD) <sup>a</sup>	31.02 (10.60)	24.87 (11.28)	0.56
ISARIC-4C, mean (SD) <sup>b</sup>	10.33 (3.55)	8.97 (4.08)	0.35

Table S1 Legend.

<sup>a</sup> Includes mechanical ventilation; laboratory values for: albumin, bilirubin, blood urea nitrogen, creatinine, glucose, hematocrit, sodium, white blood cell count; respiratory rate; pulse rate; temperature; mean arterial pressure; and comorbidities: cirrhosis, hepatic failure, HIV, leukemia, lymphoma, immunosuppression, metastatic cancer, and multiple myeloma.

<sup>b</sup> Includes age, sex at birth, number of comorbidities on Charlson Comorbidity Index, respiratory rate, peripheral oxygen saturation on room air, Glasgow coma scale score, urea, C-reactive protein.

**Table S2. Mortality, ICU admission, and 30-day unplanned readmission among COVID-19 patients with and without a disability, by sex**

Outcome	N (%) with outcome	Unadjusted RR (95% CI)	Adjusted RR (95% CI) <sup>a</sup>	Adjusted RR (95% CI) <sup>b</sup>	Adjusted RR (95% CI) <sup>c</sup>
<b>Males</b>					
Mortality					
No disability	108 (18.4)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	43 (27.9)	1.53 (1.06-2.20)	0.97 (0.66-1.42)	0.94 (0.64-1.38)	0.90 (0.61-1.33)
ICU admission					
No disability	184 (31.3)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	35 (22.7)	0.76 (0.53-1.10)	0.92 (0.63-1.34)	0.95 (0.65-1.39)	0.95 (0.65-1.40)
Readmission					
No disability	40 (8.8)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	24 (21.6)	2.29 (1.34-3.93)	2.08 (1.19-3.65)	1.78 (1.02-3.08)	1.75 (1.01-3.03)
<b>Females</b>					
Mortality					
No disability	67 (16.5)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	37 (28.2)	1.65 (1.09-2.51)	1.33 (0.88,2.02)	1.33 (0.87, 2.02)	1.23 (0.81, 1.87)
ICU admission					
No disability	97 (23.9)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	29 (22.1)	0.92 (0.60-1.41)	1.06 (0.68-1.65)	1.06 (0.68-1.66)	1.06 (0.68-1.65)
Readmission					
No disability	21 (6.5)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	12 (12.8)	1.63 (0.79-3.37)	1.74 (0.83-3.63)	1.70 (0.81-3.58)	1.70 (0.81-3.57)

Table S2 Legend. RR = relative risk, generated using modified Poisson regression  
All models adjust for hospital fixed effects. Overall models also adjust for age.

<sup>a</sup> Model adjusts for sex, and long-term care facility residence.

<sup>b</sup> Model further adjusts for medical comorbidity, dementia, and psychiatric disorders

<sup>c</sup> Model further adjusts for predicted mortality risk at admission using mAPACHE score.

**Table S3. Length of hospital stay among COVID-19 patients with and without a disability, by sex**

<b>Outcome</b>	<b>N (%) with outcome</b>	<b>Unadjusted RR (95% CI)</b>	<b>Adjusted RR (95% CI)<sup>a</sup></b>	<b>Adjusted RR (95% CI)<sup>b</sup></b>	<b>Adjusted RR (95% CI)<sup>c</sup></b>
<b>Males</b>					
Length of stay					
No disability	7.64 (3.26, 16.73)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	15.02 (6.11, 29.97)	1.41 (1.17-1.69)	1.28 (1.06-1.55)	1.24 (1.03-1.49)	1.26 (1.04-1.52)
<b>Females</b>					
Length of stay					
No disability	8.21 (3.77, 16.80)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	12.37 (5.10, 29.87)	1.62 (1.33-1.98)	1.53 (1.25-1.87)	1.46 (1.20-1.77)	1.46 (1.20-1.77)

Table S3 Legend. IQR = interquartile range; RR = rate ratio, generated using negative binomial regression  
All models adjust for hospital fixed effects. Overall models also adjust for age.

<sup>a</sup> Model adjusts for sex, and long-term care facility residence.

<sup>b</sup> Model further adjusts for medical comorbidity, dementia, and psychiatric disorders

<sup>c</sup> Model further adjusts for predicted mortality risk at admission using mAPACHE score.

**Table S4. Mortality, ICU admission, length of hospital stay, and 30-day unplanned readmission among COVID-19 patients with and without a disability, by subtype of disability**

	<b>Mortality N (%)</b>	<b>ICU admission N (%)</b>	<b>Length of stay Median (IQR)</b>	<b>30-day readmission N (%)</b>
<b>Physical disability only (n=212)</b>	59 (27.8)	49 (23.1)	13.93 (5.85, 30.46)	28 (18.3)
<b>Hearing or vision impairment only (n=18)</b>	< 6	< 6	11.43 (6.72, 18.20)	< 6
<b>Traumatic brain injury or intellectual/ developmental disability only (n=24)</b>	9 (37.5)	6 (25.0)	12.18 (4.66, 32.95)	< 6
<b>Multiple disabilities (n=31)</b>	< 6	< 6	17.84 (5.25, 25.05)	< 6
<b>No disabilities (n=994)</b>	175 (17.6)	281 (28.3)	7.81 (3.55, 16.79)	61 (7.9)

Table S4 Legend. Exact values less than 6 suppressed to reduce risk of patient reidentification.

**Table S5. Mortality, ICU admission, and 30-day unplanned readmission among COVID-19 patients with and without disability, including dementia in the definition of disability**

<b>Outcome</b>	<b>N (%) with outcome</b>	<b>Unadjusted RR (95% CI)</b>	<b>Adjusted RR (95% CI)<sup>a</sup></b>	<b>Adjusted RR (95% CI)<sup>b</sup></b>	<b>Adjusted RR (95% CI)<sup>c</sup></b>
Mortality					
No disability	149 (16.1)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	106 (29.8)	1.80 (1.39, 2.33)	1.09 (0.82, 1.45)	1.00 (0.74, 1.35)	1.00 (0.74, 1.35)
ICU admission					
No disability	276 (29.9)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	69 (19.4)	0.66 (0.50, 0.87)	0.85 (0.64, 1.13)	0.87 (0.65, 1.17)	0.87 (0.65, 1.17)
Readmission					
No disability	55 (7.5)	(Referent)	(Referent)	(Referent)	(Referent)
Disability	42 (16.8)	2.09 (1.37, 3.18)	2.12 (1.35, 3.34)	1.80 (1.14, 2.84)	1.81 (1.16, 2.85)

Table S5 Legend. RR = relative risk, generated using modified Poisson regression  
 All models adjust for hospital fixed effects. Overall models also adjust for age.

<sup>a</sup> Model adjusts for sex, and long-term care facility residence.

<sup>b</sup> Model further adjusts for medical comorbidity and psychiatric disorders

<sup>c</sup> Model further adjusts for predicted mortality risk at admission using mAPACHE score.

**Table S6. Length of hospital stay among COVID-19 patients with and without a disability, including dementia in the definition of disability**

<b>Outcome</b>	<b>Median (IQR)</b>	<b>Unadjusted RR (95% CI)</b>	<b>Adjusted RR (95% CI)<sup>a</sup></b>	<b>Adjusted RR (95% CI)<sup>b</sup></b>	<b>Adjusted RR (95% CI)<sup>c</sup></b>
Length of stay					
No disability	7.45 [3.51, 15.71]	(Referent)	(Referent)	(Referent)	(Referent)
Disability	13.94 [5.78, 30.32]	1.61 (1.42, 1.83)	1.44 (1.26, 1.65)	1.37 (1.19, 1.57)	1.37 (1.19, 1.57)

Table S6 Legend. IQR = interquartile range; RR = rate ratio, generated using negative binomial regression  
All models adjust for hospital fixed effects. Overall models also adjust for age.

<sup>a</sup> Model adjusts for sex, and long-term care facility residence.

<sup>b</sup> Model further adjusts for medical comorbidity and psychiatric disorders

<sup>c</sup> Model further adjusts for predicted mortality risk at admission using mAPACHE score.

**Table S7. Mortality, ICU admission, length of hospital stay, and 30-day unplanned readmission among COVID-19 patients with and without disability, adjusting for number of prior hospitalizations in the study period**

<b>Outcome</b>	<b>Adjusted RR (95% CI) <sup>a</sup></b>	<b>Adjusted RR (95% CI) <sup>b</sup></b>
Mortality		
No disability	(Referent)	(Referent)
Disability	1.09 (0.82, 1.44)	1.03 (0.78, 1.36)
Length of stay		
No disability	(Referent)	(Referent)
Disability	1.36 (1.19, 1.56)	1.37 (1.19, 1.57)
ICU admission		
No disability	(Referent)	(Referent)
Disability	1.00 (0.75, 1.33)	0.99 (0.75, 1.33)
Readmission		
No disability	(Referent)	(Referent)
Disability	1.84 (1.18, 2.86)	1.83 (1.18, 2.84)

Table S7 Legend. RR = relative risk, generated using modified Poisson regression, for mortality, ICU admission, and readmission. RR = rate ratio, generated using negative binomial regression, for length of stay.

All models adjust for hospital fixed effects. Overall models also adjust for age.

<sup>a</sup> Model adjusts for sex, long-term care facility residence, medical comorbidity, dementia, psychiatric disorders, and prior hospitalizations in the study period.

<sup>b</sup> Model further adjusts for predicted mortality risk at admission using mAPACHE score.