Appendix

Appendix 1. Percentage of patients in ambulatory versus hospitalized care, according to comorbidity status among 373,963 patients with COVID-19 in Mexico.

Four groups according to comorbidity status are shown on the X axis and the percentage of patients within each outcome is presented on the Y axis. Comorbidities included are obesity, hypertension, cardiovascular disease, and chronic kidney disease. Model is adjusted for age and sex. Among patients that required hospitalization, 8.5% of patients required ICU-level care.
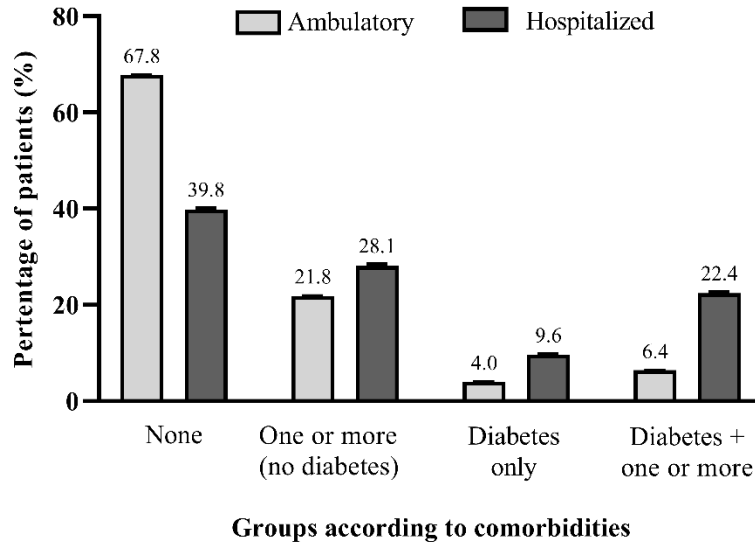
Appendix 2. Predicted probability of hospitalization according to sociodemographic, healthcare resource, and presentation to care characteristics among 373,963 patients with COVID-19 in Mexico, by diabetes and comorbidity status.

	Diabetes only			Diabetes with comorbidities		
	Predicted probability	Lower 95% CI	Upper 95% CI	Predicted probability	Lower 95% CI	Upper 95% CI
Sex						
Male	7.39	5.92	8.88	19.13	15.69	22.57
Female	-8.44	-10.12	-6.75	3.81	0.69	6.94
Age (years)						
18-35	-26.72	-31.43	-22.02	-15.11	-21.39	-8.84
36-50	-11.63	-14.16	-9.10	1.16	-2.09	4.42
51-65	20.84	17.83	23.85	34.99	31.62	38.37
65-over	58.65	54.07	63.22	65.64	61.52	69.76
Indigenous language						
Yes	7.25	-5.24	19.74	35.39	23.80	46.99
No	-0.08	-0.20	0.05	11.70	8.62	14.77
Healthcare provider type						
Ministry of Health	-25.86	-27.30	-24.42	-17.86	-20.59	-15.12
Social Security	34.84	32.90	36.78	52.60	48.40	56.80
Municipality social deprivation level						
Lowest (wealthiest)	-3.53	-6.93	-0.12	7.14	3.25	11.04
Highest (poorest)	9.54	6.34	12.73	19.76	15.75	23.76
Human resources and hospital equipment*						
Lowest	17.46	14.51	20.41	30.32	26.15	34.49
Highest	-13.40	-16.34	-10.46	0.47	-3.08	4.02
Month of presentation to care						
March-April	35.68	30.38	40.98	41.01	35.73	46.29
May	12.31	9.42	15.20	19.98	16.07	23.89
June	-3.62	-5.66	-1.59	9.30	5.90	12.69
July	-14.18	-16.46	-11.90	1.67	-1.68	5.01
Symptom onset to presentation to care (days)						
0-3	1.11	-0.58	2.81	12.75	9.37	16.13
4-7	0.75	-1.16	2.66	10.23	6.90	13.56
8-over	-5.61	-9.14	-2.07	14.08	10.00	18.16

Model adjusted for all characteristics listed. Comorbidities included are as follows: obesity, hypertension, cardiovascular disease, and chronic kidney disease. Model additionally adjusted for chronic obstructive pulmonary disease and asthma. Among patients that required hospitalization, 8.5% of patients required ICU-level care. Healthcare *Ministry of Health and Social Security refer to healthcare provider type. *Human resources and hospital equipment index represents state-level health system resources available in 2018.
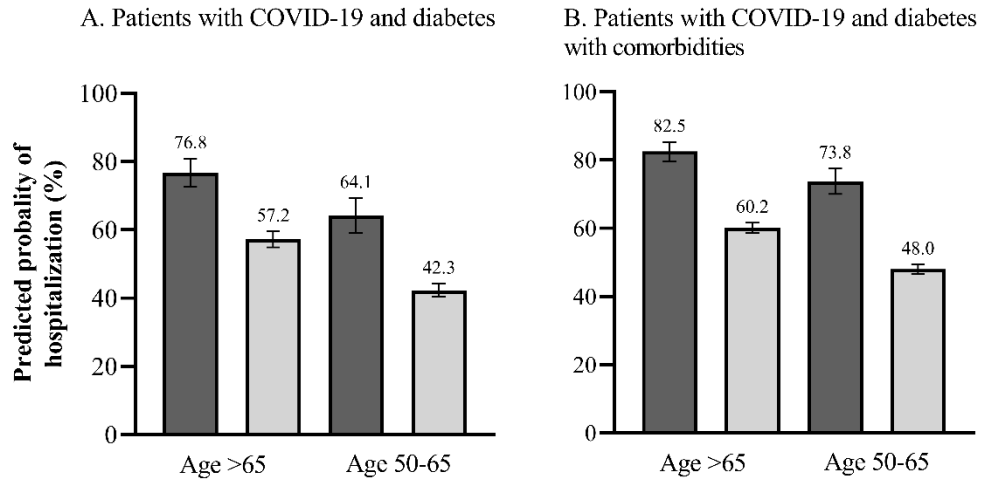
Appendix 3. Predicted probability of hospitalization compared to ambulatory care according to sociodemographic, healthcare resource, and presentation to care characteristics among 373,963 patients with COVID-19 in Mexico.
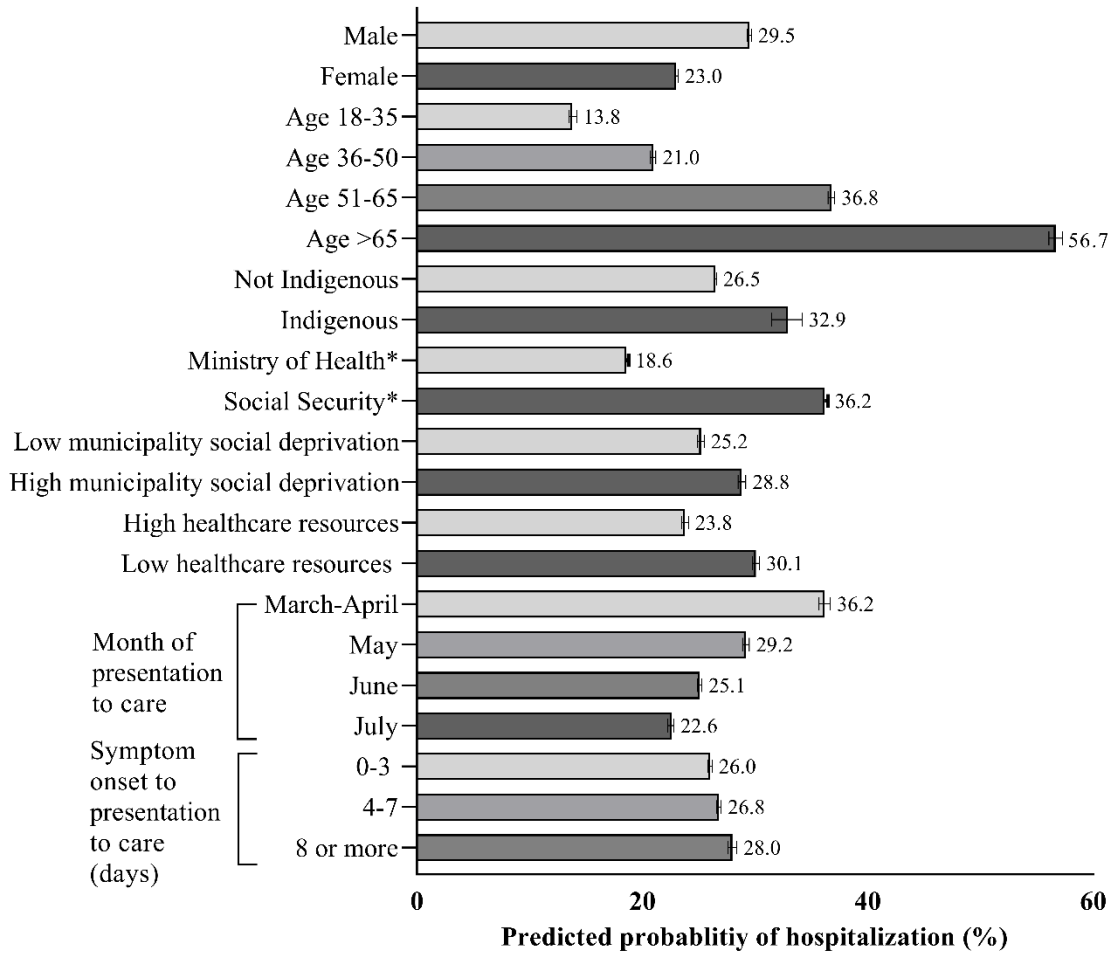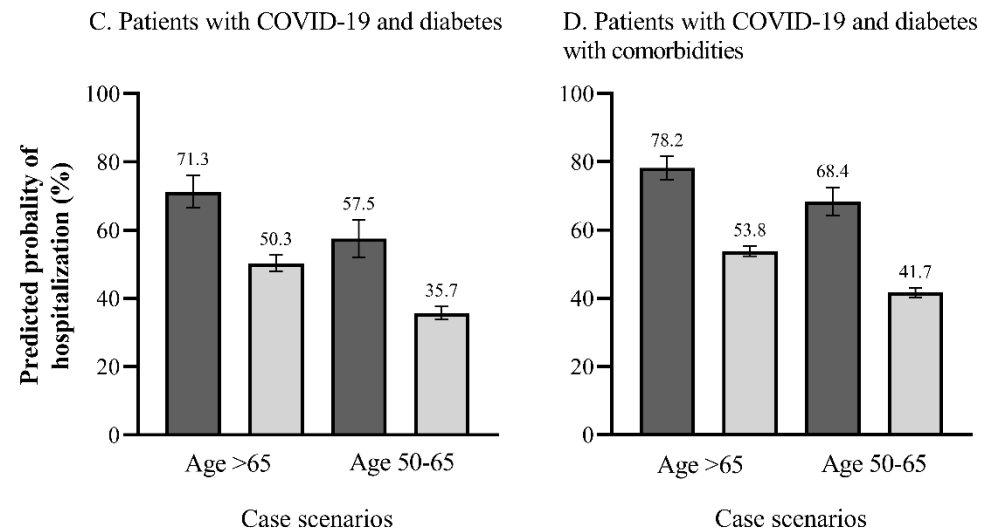

Estimates are adjusted for each characteristic shown, in addition to the following comorbidities: diabetes, obesity, hypertension, cardiovascular disease, chronic kidney disease, chronic obstructive pulmonary disease, and asthma. Among patients that required hospitalization, 8.5% of patients required ICU-level care. *Ministry of Health and Social Security refer to healthcare provider type.

Appendix 4. Case scenarios of the predicted probability of hospitalization according to social vulnerability and healthcare resources (excluding timing of presentation to care)

Men

A. Patients with COVID-19 and diabetes

B. Patients with COVID-19 and diabetes with comorbidities

Women

C. Patients with COVID-19 and diabetes

D. Patients with COVID-19 and diabetes with comorbidities

Indigenous, highest municipality social deprivation, lowest state-level healthcare resources

Not indigenous, lowest municipality social deprivation, highest state-level healthcare resources

Model adjusted for all characteristics listed in addition to healthcare provider type, days of symptom onset to presentation to care, and month of presentation to care. Comorbidities included are as follows: obesity, hypertension, cardiovascular disease, and chronic kidney disease. Model additionally adjusted for chronic obstructive pulmonary disease and asthma. Among patients that required hospitalization, 8.5% of patients required ICU-level care.

Appendix 5. State-level index of human resource and hospital equipment availability construction

The state-level index of human resource and hospital equipment availability was constructed using factor analysis. The index included the density (number per 1,000 inhabitants) of the following hospital resources: beds in intensive care and intermediate care units; general practitioners, internists, endocrinologists, cardiologists, pulmonologists, emergency physicians, infectious disease specialists, anesthesiologists, and medical residents; general nurses and nurses with specialty training; laboratory, radiology, and respiratory therapy technicians. To assess the internal consistency and reliability of the hospital resource index, we calculated Cronbach's Alpha ($\alpha = 0.65$) and Kaiser-Meyer-Olkin (KMO=0.78) statistics.[1–3] This index was expressed in quintiles.

References:

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