

Dynamic CO-CIN report to SAGE and NERVTAG

[OFFICIAL-SENSITIVE PROTECT]

Dynamic content updated: 2020-04-13 19:52:00.

Executive summary

The COVID-19 Clinical Information Network (CO-CIN) collated clinical information from the usual health care records of people of all ages admitted to hospital in the UK.

Up to 10th March people with positive swabs were admitted to hospital as part of the containment strategy. Since 10th March, admission is mostly based upon need for treatment of COVID-19 disease. The great majority of cases in the community do not require hospital admission.

In total up until 13 April 2020, CO-CIN has recruited **12332 patients** with confirmed Coronavirus (Figure 1).

The CO-CIN dataset represents 13.9% (12332/88,621) of cases of confirmed Coronavirus cases in the UK, per the PHE daily reports (last updated 9am on 13 April).

Patient data is collected and uploaded from start of admission, however a complete patient data set is not available until the episode of care is complete. This causes a predictable lag in available data influenced by the duration of admission which is greatest for the sickest patients.

The geographical location of our patients can be seen in Figure 2, of these 517 had travelled abroad recently, and 1920 reported visiting or working in a hospital where COVID-19 cases are being managed.

The median age is 72 (range: 0-104), Male/Female 5571/3647.

The most common symptoms were cough (71%), fever (69%) and shortness of breath (64%) (Figure 3A). 330/7971 (4%) of patients have reported no symptoms. Comorbidity can be seen in Figure 3B. The most common comorbidities were chronic cardiac disease (28%), diabetes (without complications) (19%) and chronic pulmonary disease (17%). 1949/8057 (24%) of patients have reported no co morbidity. 38/666 (6%) of women were recorded as being pregnant.

For patients not already in hospital, the median time from onset of symptoms to presentation at hospital was 4 days (range: 0 - 366 days).

The median length of hospital stay was 6 days (range: 1-163, n = 3726).
621/4641 (13%) patients required high-flow oxygen after day 1 of treatment.

Currently 1628 patient(s) have died and 1353 required ICU. 2293 have been discharged home.

Interpretation: The dataset is increasingly more representative of the burden of disease requiring hospitalisation and captures the early exponential rise of disease incidence that is now increasingly driven by domestic transmission events in the community.

Furthermore, we can now see 'hot spots' of disease incidence that largely reflect areas of high population density (most notably London) with a few exceptions to this. There are more men than women, consistent with reports from other countries. The proportion of pregnant women affected is broadly in line with the proportion of pregnant women in the general population.

The commonest comorbidity is chronic cardiac disease, reflecting patterns seen in other countries, although nearly a quarter of patients admitted do not have underlying comorbid disease.

Patients documented as being admitted to ICU are mainly 50-75 years old. When interpreting admission to ICU it is important to remember that we are currently unable to capture treatment limiting decisions regarding level of care.

Prof Calum Semple, Professor in Child Health and Outbreak Medicine, University of Liverpool.

Dr Annemarie Docherty, Academic Consultant Intensive Care University of Edinburgh.

Dr Chris Green, Academic Consultant Infectious Disease University of Birmingham.

Prof Ewen Harrison, Director Centre for Medical Informatics, Usher Institute, University of Edinburgh (analysis).

Professor Tom Solomon, Director HPRU Emerging and Zoonotic Infection.

ISARIC Investigators (Prof. Peter Horby, Prof. Peter Openshaw, Dr Gail Carson, and Dr Kenneth Baillie).

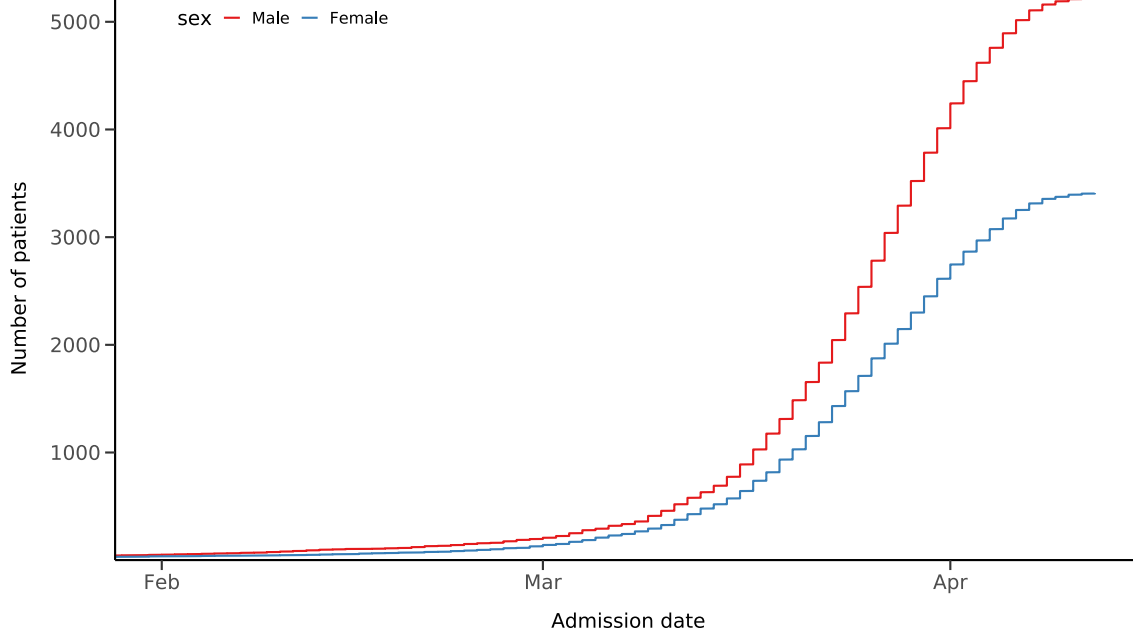
Analytics: Lisa Norman, Riinu Pius, Thomas Drake, Cameron Fairfield, Stephen Knight, Kenneth McLean, Katie Shaw.

Admission

Figure 1

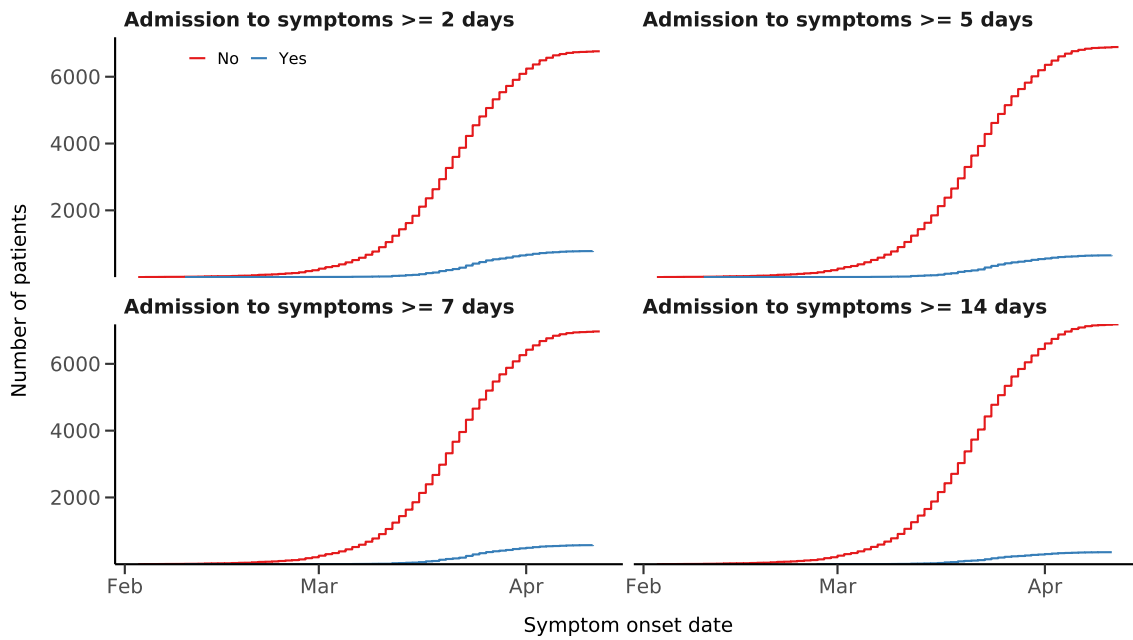
Hospital admission with COVID-19 by sex

Figure 1A

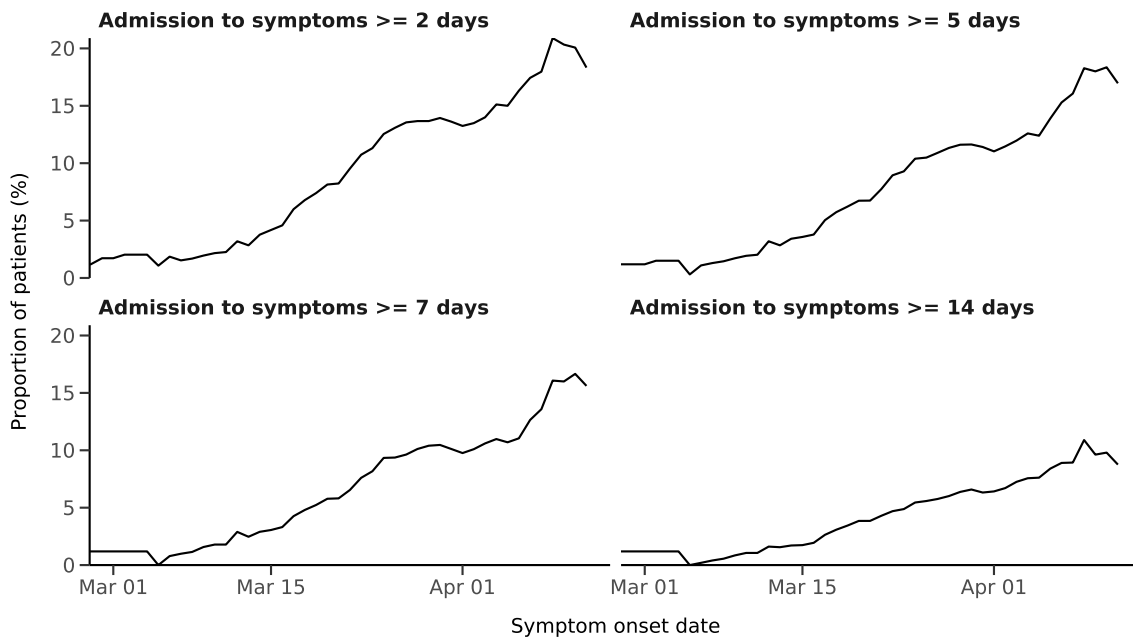


Number with symptom onset occurring after admission to hospital

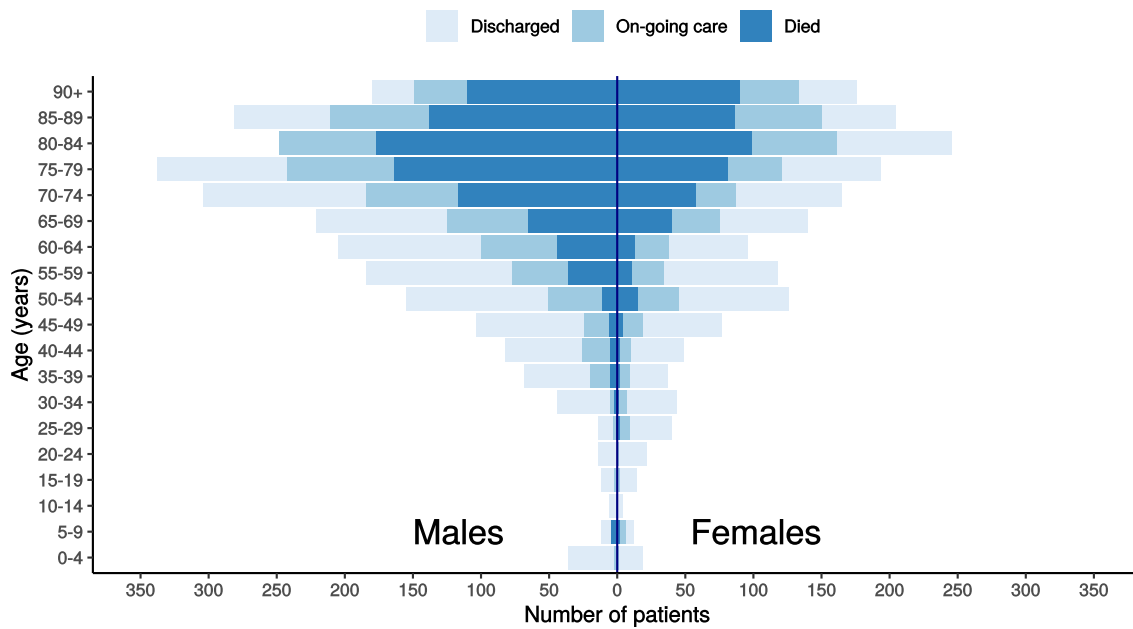
Figure 1B



Proportion with symptom onset occurring after hospital admission
 Figure 1C - 7-day rolling percentage. n = 7545

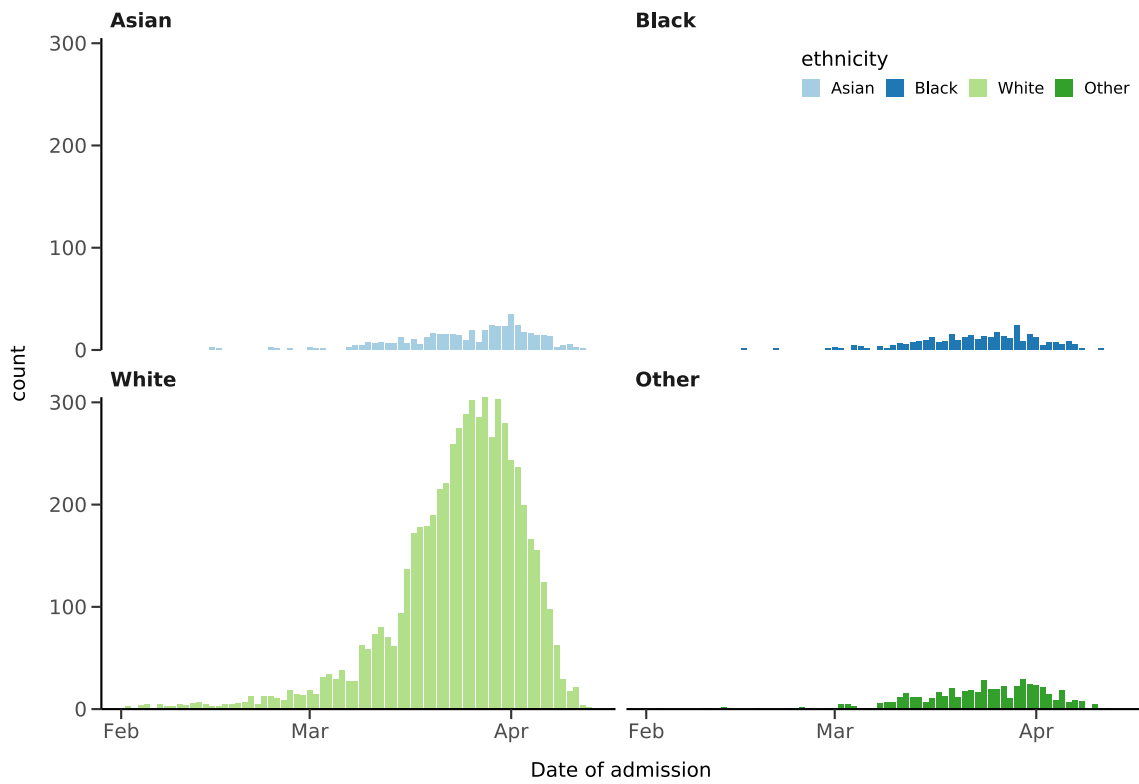


All patients stratified by age, sex, and current status
 Figure 1D



Hospital admission with COVID-19 by ethnicity

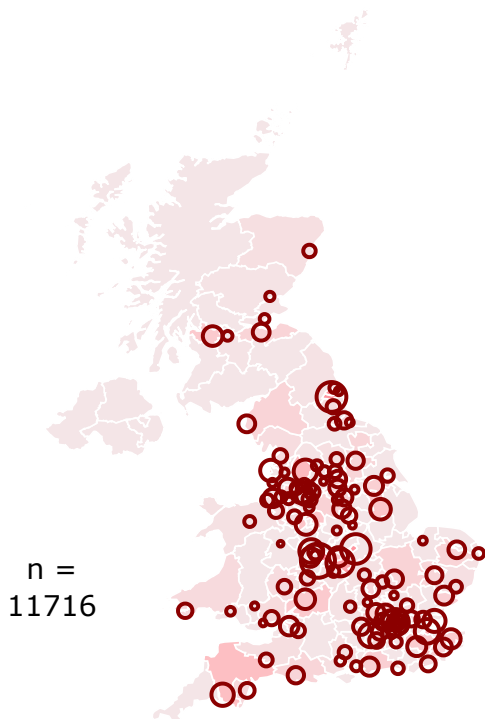
Figure 1E



Location by CCG / Healthboard

Figure 2

Click and drag on map to zoom into area. Reset via toolbar at top of map.

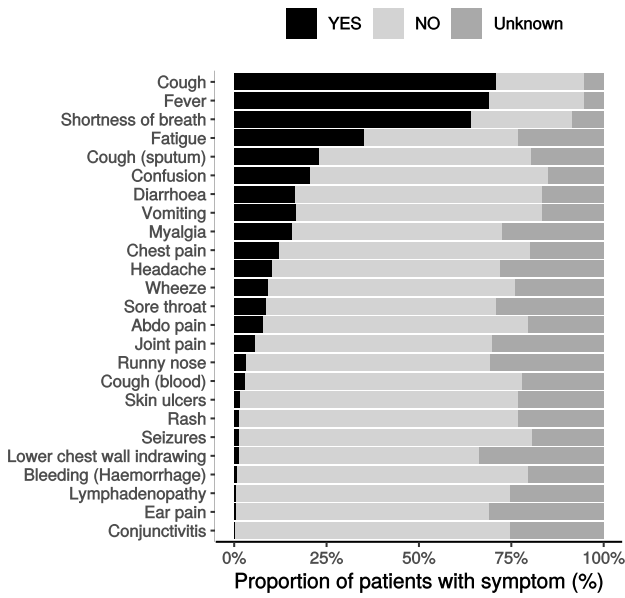


Symptoms and comorbidity

Figure 3A

Symptoms on presentation to hospital (% patients, n = 7854)

Figure 3A



Comorbidity (% patients, n = 7919)

Figure 3B

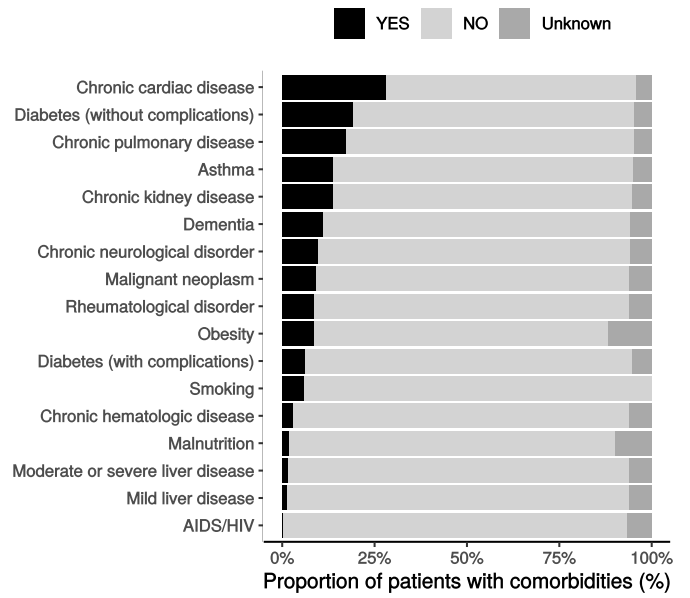
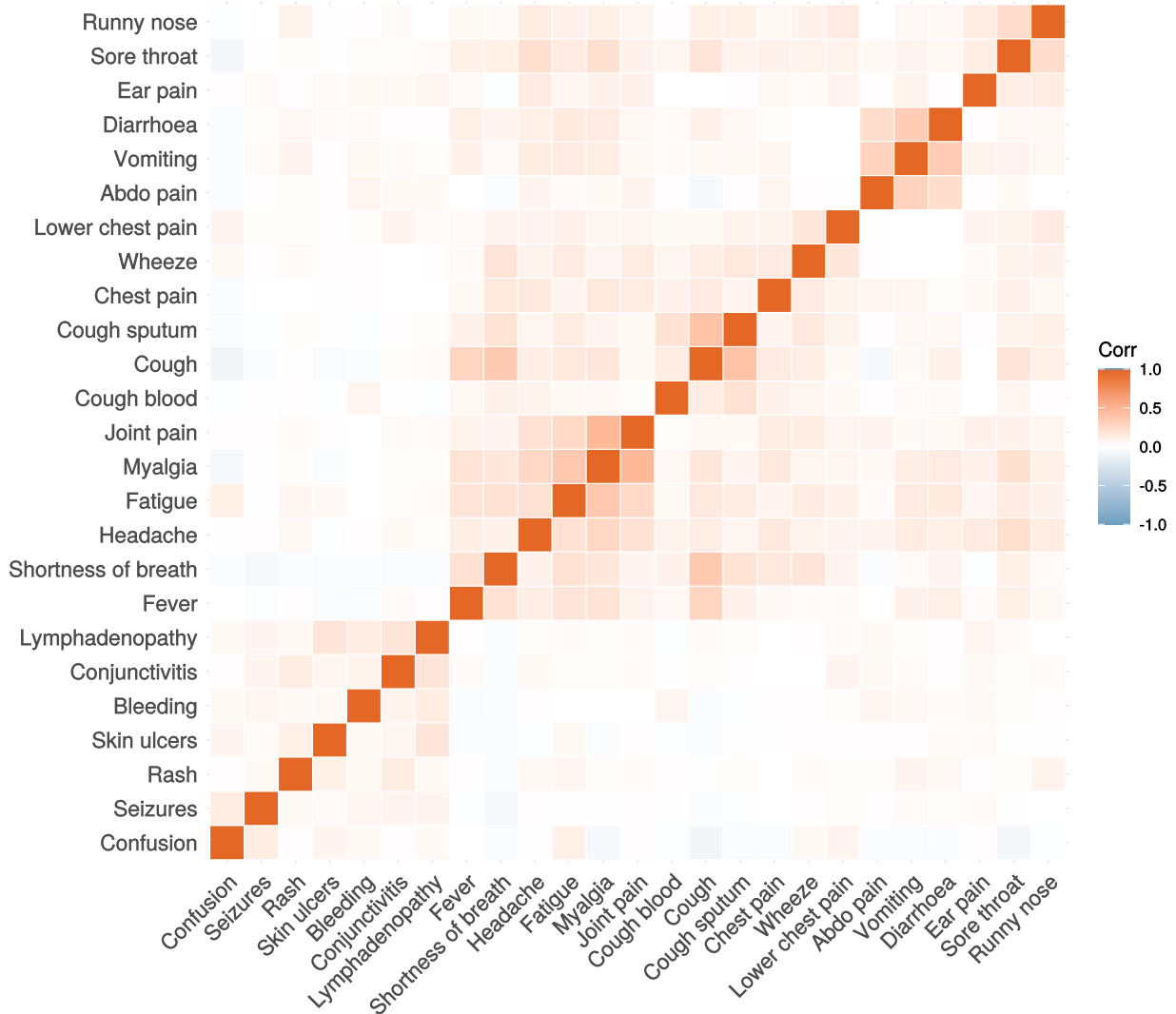


Figure 3C

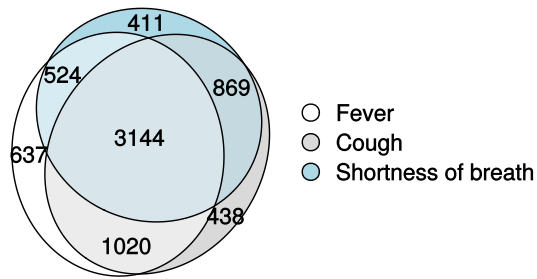
Correlation of symptoms in all pages. Note clusters, top right to bottom left, flu-like, coryzal, abdominal, respiratory, neurocutaneous.



Symptoms (diagnostic criteria)

Figure 4A

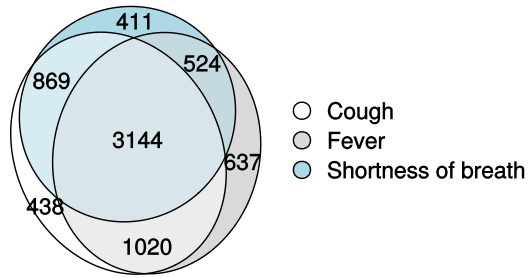
n = 7854



Symptoms (most common)

Figure 4B

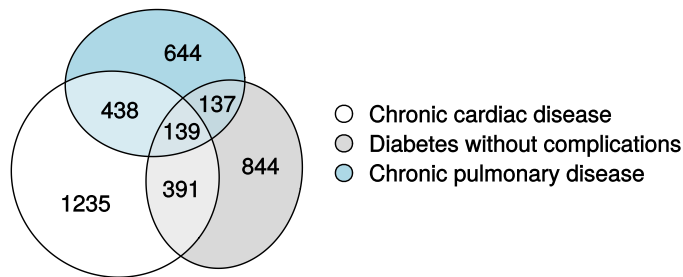
n = 7854



Comorbidity (most common)

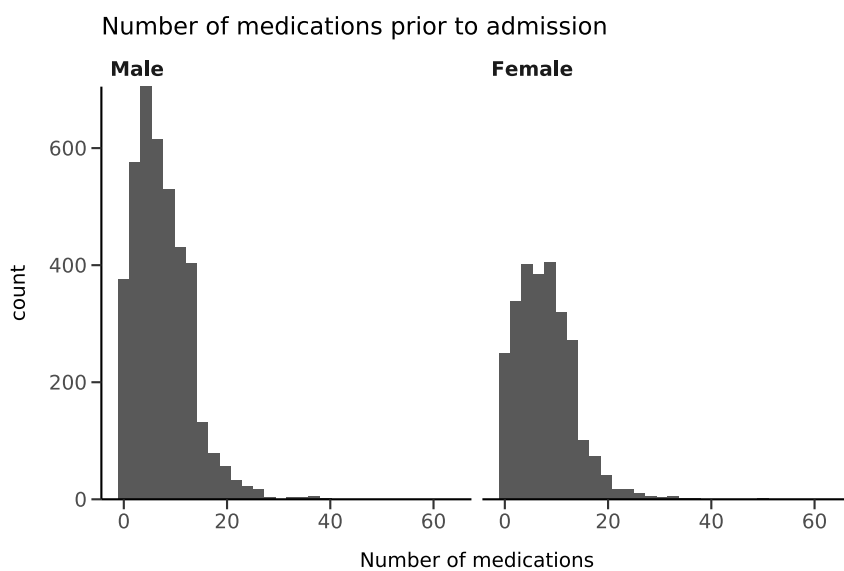
Figure 4C

n = 7919



Medication prior to illness

Figure 5

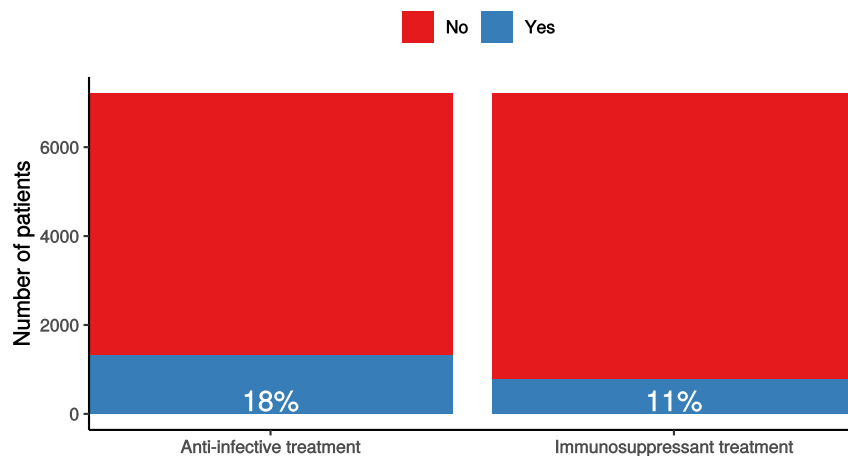


Preadmission treatment

Figure 6

Pre-admission treatment

Anti-infectives for illness episode (left) immunosuppressants including oral (not i



Patient flow

Figure 7A - All patients

N = 8019

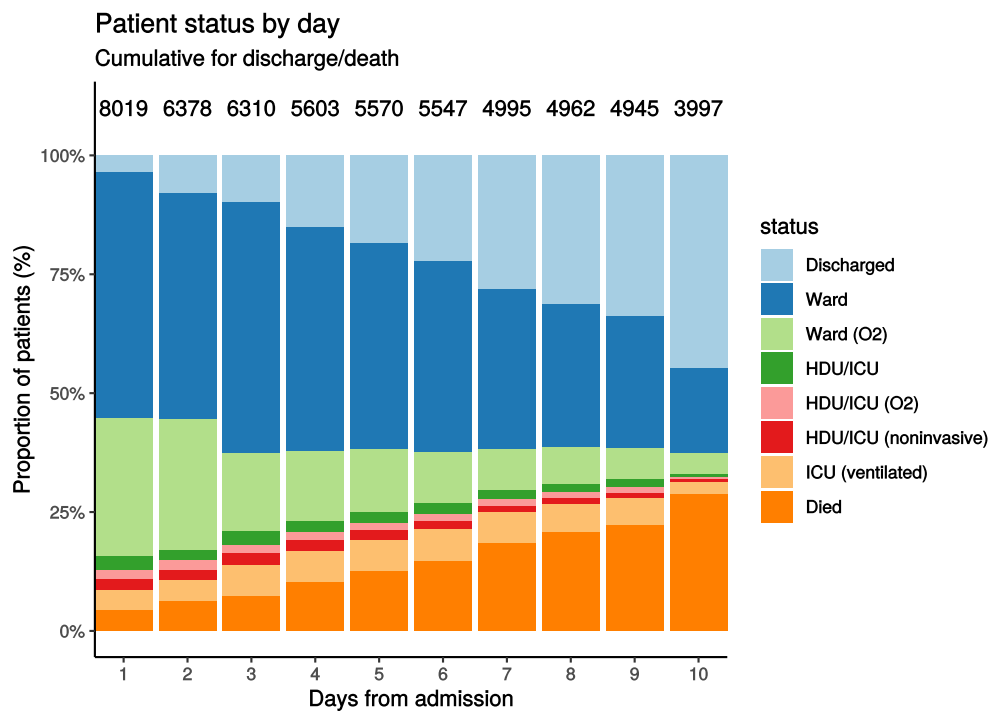
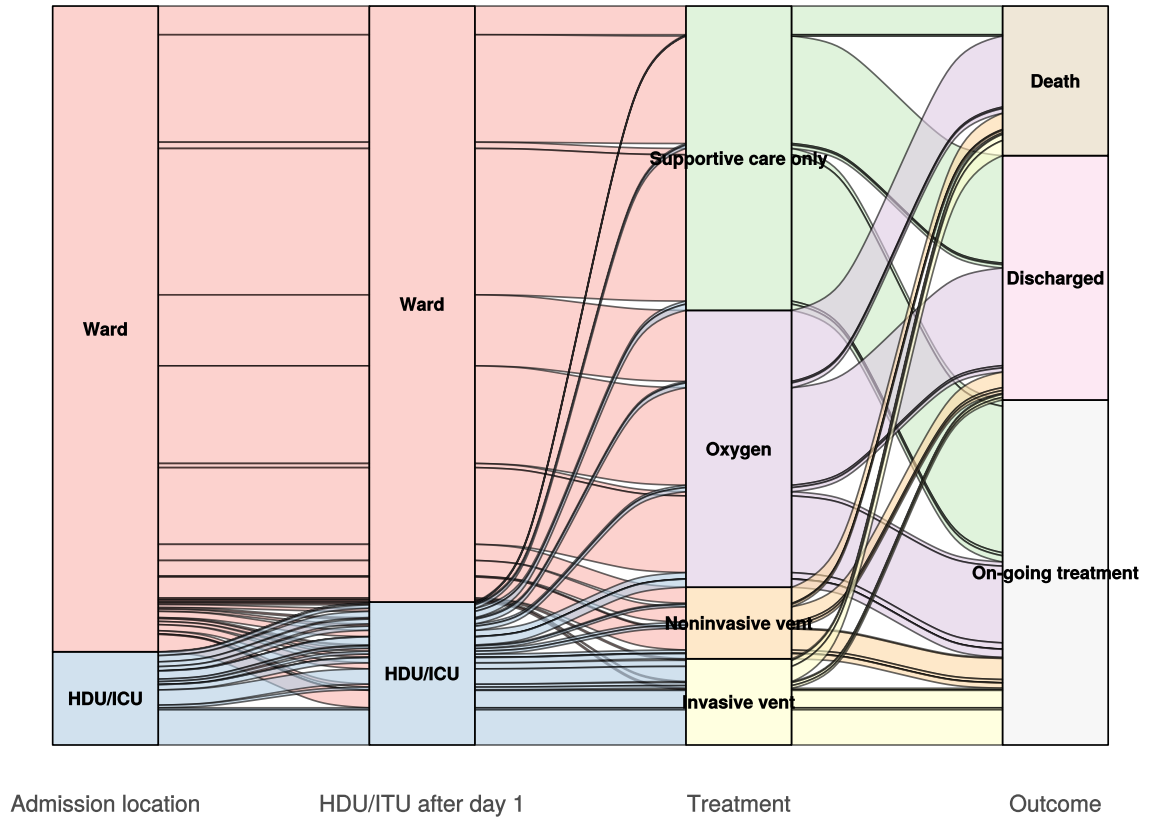


Figure 7B - Patients admitted ≥ 14 days and ≤ 28 days ago

N = 4404

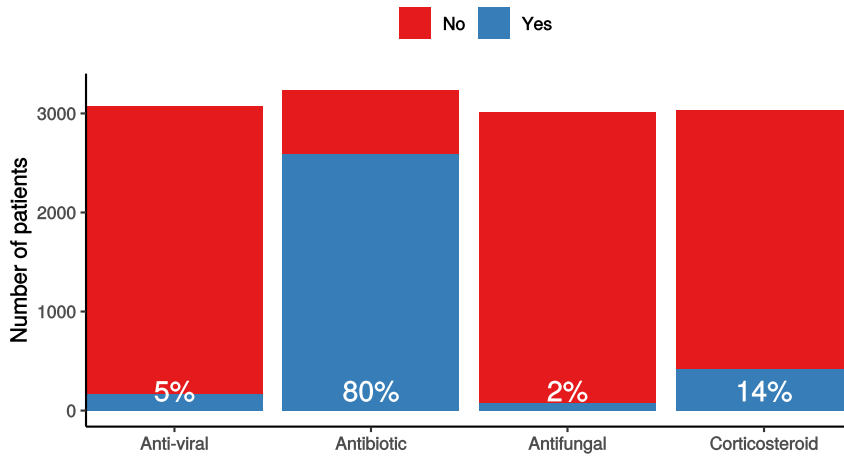


In-hospital medical treatment

Figure 9

In-hospital treatment

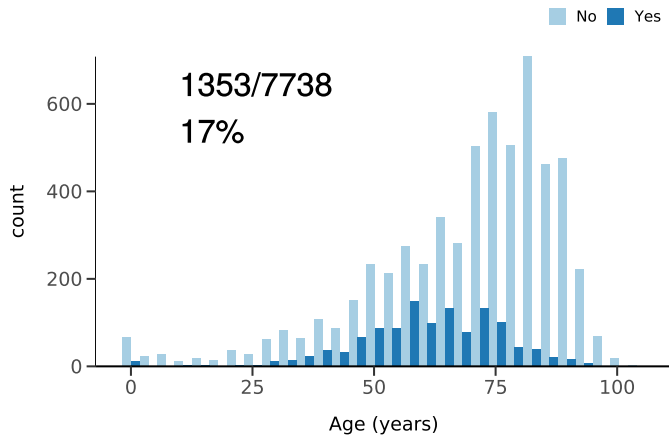
Anti-virals, antibiotics, corticosteroids, and anti-fungals for patients who have coi



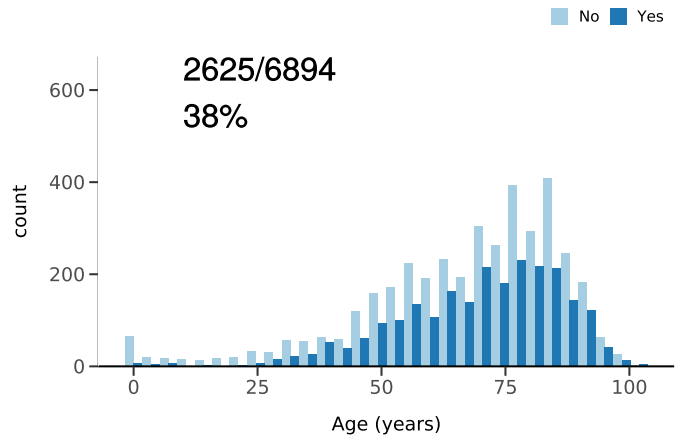
Treatment

Figure 10

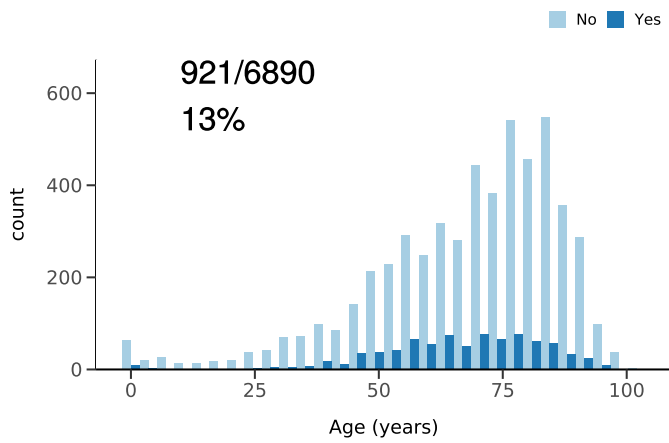
ICU/HDU admission
Figure 10A



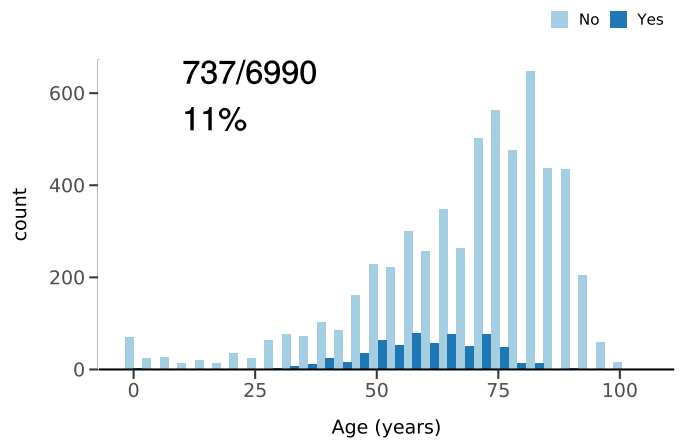
High flow oxygen
Figure 10B



Noninvasive ventilation
Figure 10C



Invasive ventilation
Figure 10D

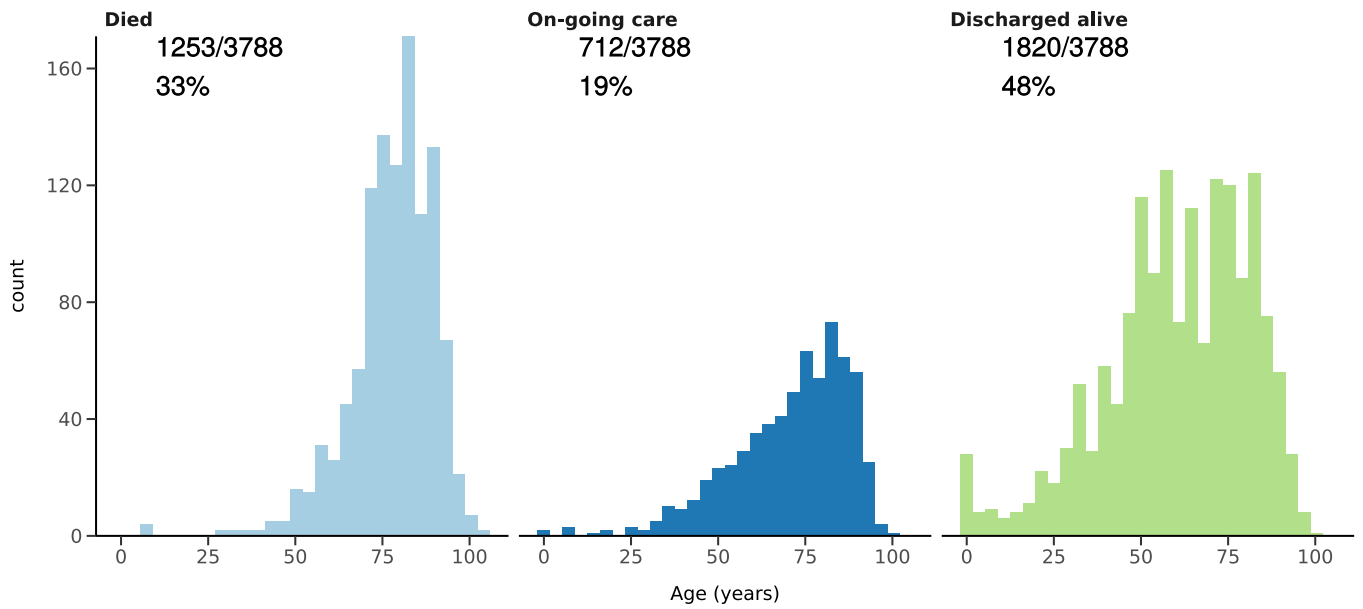


Status in patients admitted ≥ 14 days from today

Figure 11

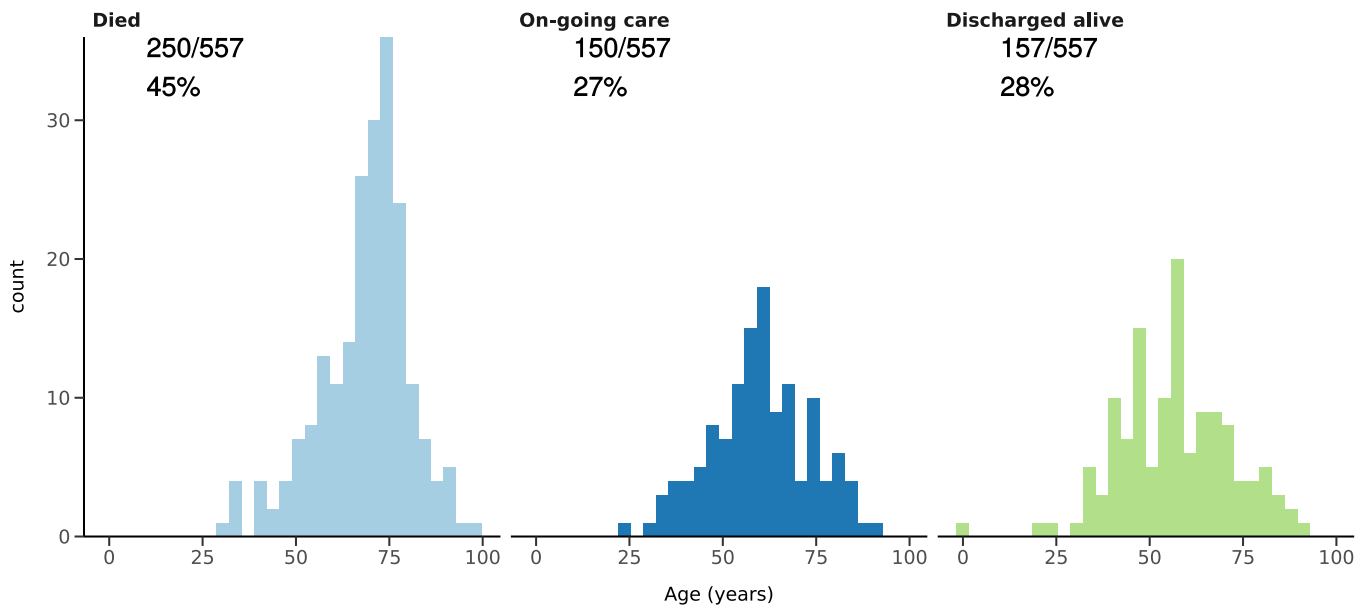
All: status in patients admitted ≥ 14 days ago

Figure 11A



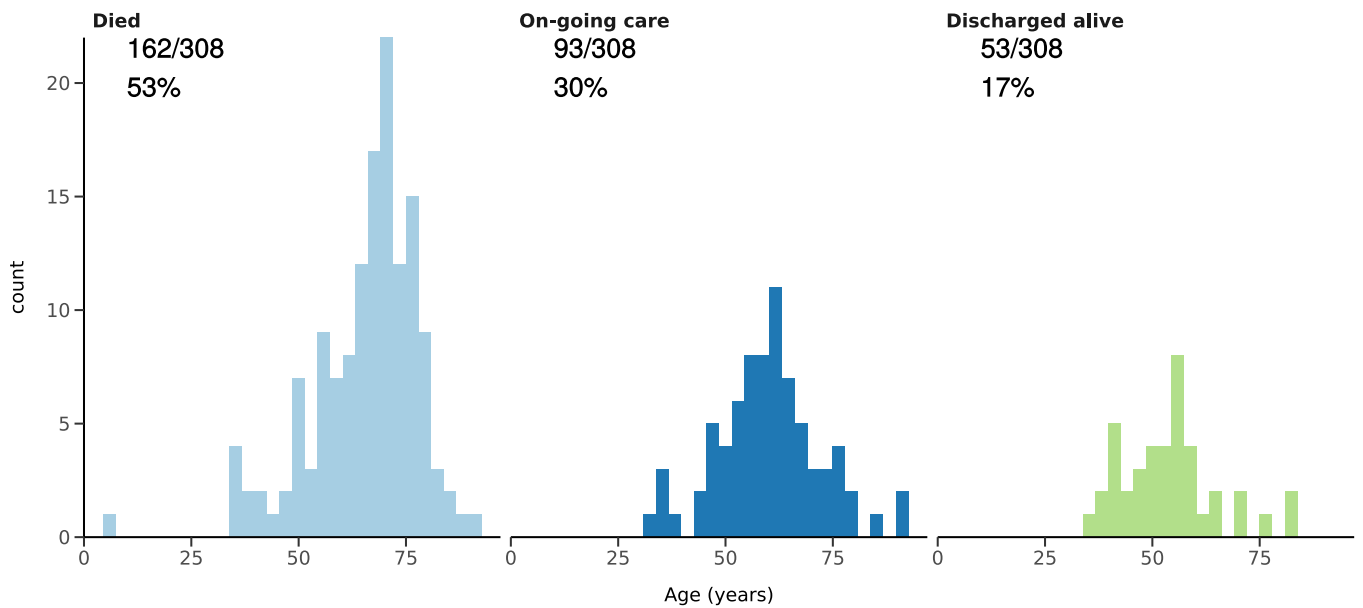
ICU/HDU admissions: status in patients admitted ≥ 14 days ago

Figure 11B



Invasive ventilation: status in patients admitted ≥ 14 days ago

Figure 11c



Predictors of death: logistic regression multivariable model

Logistic regression model only includes patients admitted >14 days ago from today.

Dependent: death		No	Yes	OR (univariable)	OR (multivariable)
Age on admission (years)	<50	450 (94.7)	25 (5.3)	•	•
	50-69	596 (75.6)	192 (24.4)	5.80 (3.83-9.16, p<0.001)	6.05 (3.68-10.57, p<0.001)
	70-79	329 (48.9)	344 (51.1)	18.82 (12.48-29.61, p<0.001)	16.61 (10.11-29.05, p<0.001)
	80+	385 (40.5)	566 (59.5)	26.46 (17.69-41.37, p<0.001)	21.88 (13.34-38.22, p<0.001)
Sex at Birth	Male	1107 (57.6)	814 (42.4)	•	•
	Female	838 (65.5)	442 (34.5)	0.72 (0.62-0.83, p<0.001)	0.71 (0.58-0.86, p=0.001)
Chronic cardiac disease	NO	1434 (69.3)	634 (30.7)	•	•
	YES	390 (44.6)	484 (55.4)	2.81 (2.39-3.30, p<0.001)	1.47 (1.19-1.82, p<0.001)
Chronic pulmonary disease	NO	1565 (65.2)	835 (34.8)	•	•
	YES	255 (48.0)	276 (52.0)	2.03 (1.68-2.45, p<0.001)	1.33 (1.05-1.70, p=0.020)
Chronic neurological disorder	NO	1662 (63.5)	955 (36.5)	•	•
	YES	130 (49.8)	131 (50.2)	1.75 (1.36-2.26, p<0.001)	1.25 (0.89-1.75, p=0.190)
Chronic hematologic disease	NO	1746 (63.0)	1027 (37.0)	•	•
	YES	42 (42.4)	57 (57.6)	2.31 (1.54-3.48, p<0.001)	1.92 (1.09-3.40, p=0.024)
Chronic kidney disease	NO	1628 (65.5)	858 (34.5)	•	•
	YES	177 (41.6)	248 (58.4)	2.66 (2.16-3.28, p<0.001)	1.45 (1.10-1.91, p=0.008)
Dementia	NO	1679 (65.5)	885 (34.5)	•	•
	YES	119 (37.3)	200 (62.7)	3.19 (2.51-4.07, p<0.001)	1.65 (1.22-2.25, p=0.001)
Obesity	NO	1538 (63.2)	895 (36.8)	•	•
	YES	148 (59.2)	102 (40.8)	1.18 (0.91-1.54, p=0.211)	1.66 (1.17-2.33, p=0.004)
Malignancy	NO	1646 (63.8)	933 (36.2)	•	•
	YES	148 (50.2)	147 (49.8)	1.75 (1.38-2.23, p<0.001)	1.21 (0.89-1.64, p=0.215)

Number in dataframe = 6243, Number in model = 2296, Missing = 3947, AIC = 2504.3, C-statistic = 0.766, H&L = Chi-sq(8) 14.53 (p=0.069)

Figure 11 - Adjusted odds ratio plot

Death

Age on admission (years)	<50	-
	50-69	6.05 (3.68-10.57, p<0.001)
	70-79	16.61 (10.11-29.05, p<0.001)
	80+	21.88 (13.34-38.22, p<0.001)
Sex at Birth	Female	0.71 (0.58-0.86, p=0.001)
Chronic cardiac disease	YES	1.47 (1.19-1.82, p<0.001)
Chronic pulmonary disease	YES	1.33 (1.05-1.70, p=0.020)
Chronic neurological disorder	YES	1.25 (0.89-1.75, p=0.190)
Chronic hematologic disease	YES	1.92 (1.09-3.40, p=0.024)
Chronic kidney disease	YES	1.45 (1.10-1.91, p=0.008)
Dementia	YES	1.65 (1.22-2.25, p=0.001)
Obesity	YES	1.66 (1.17-2.33, p=0.004)
Malignancy	YES	1.21 (0.89-1.64, p=0.215)

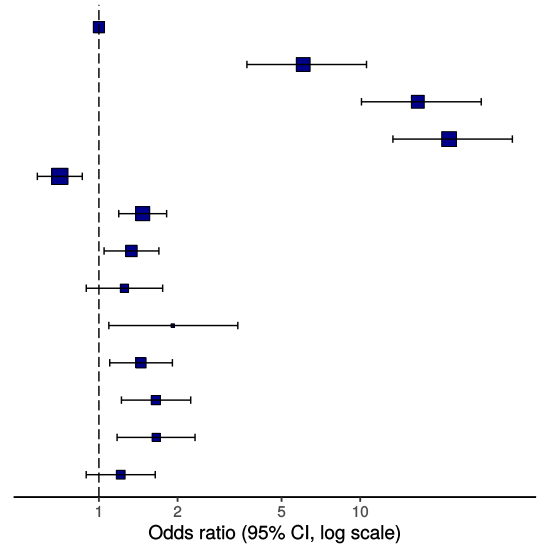
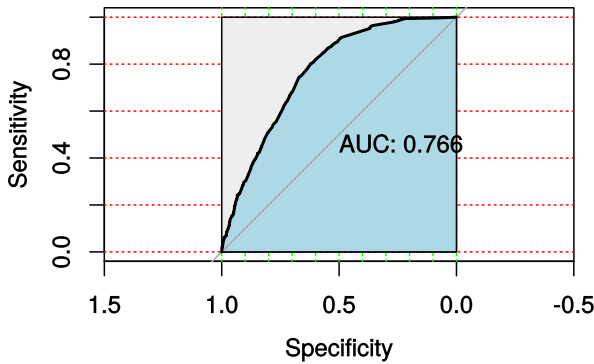


Figure 12 - ROC

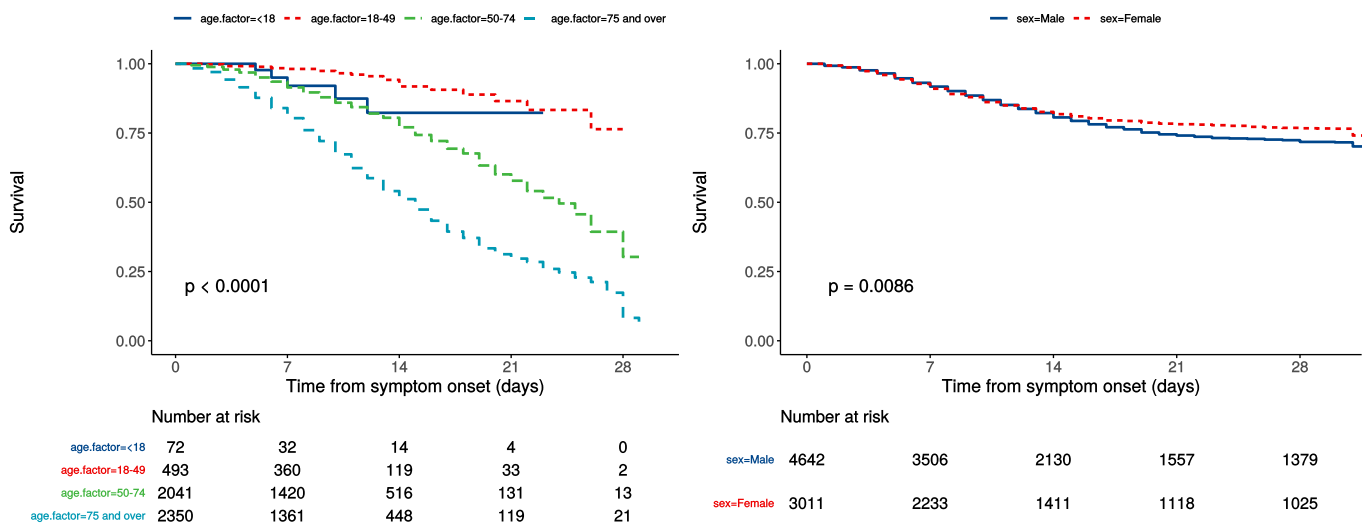


Survival models

Kaplan-Meier plots for survival from symptom onset stratified by age (left) and sex (right)

Figure 13

P-value is log-rank test.



Cox proportional hazards model

The methodology for this is now up and running, but models are still being explored. **What is presented here is not a final model, but to demonstrate methodology.** The results are correct, but important variables have not yet been included.

Time from symptom onset.

Dependent: Surv(time, status)		all	HR (univariable)	HR (multivariable)
Age on admission (years)	<50	1308 (16.8)	•	•
	50-69	2421 (31.1)	4.54 (3.08-6.69, p<0.001)	5.42 (3.06-9.60, p<0.001)
	70-79	1780 (22.9)	12.99 (8.90-18.94, p<0.001)	12.95 (7.38-22.75, p<0.001)
	80+	2270 (29.2)	20.05 (13.82-29.07, p<0.001)	18.16 (10.36-31.83, p<0.001)
Sex at Birth	Male	5028 (60.6)	•	•
	Female	3268 (39.4)	0.82 (0.74-0.92, p<0.001)	0.81 (0.70-0.94, p=0.006)
qSOFA score on admission	0	2173 (40.8)	•	•
	1	2533 (47.6)	1.69 (1.47-1.96, p<0.001)	1.67 (1.41-1.97, p<0.001)
	2	568 (10.7)	3.31 (2.76-3.98, p<0.001)	3.35 (2.71-4.13, p<0.001)
	3	48 (0.9)	7.00 (4.74-10.32, p<0.001)	5.50 (3.46-8.75, p<0.001)
Symptomatic at presentation	No symptoms	170 (2.2)	•	•
	Symptoms	7710 (97.8)	1.08 (0.72-1.60, p=0.714)	•
Chronic kidney disease	NO	6482 (87.1)	•	•
	YES	959 (12.9)	2.22 (1.94-2.54, p<0.001)	1.09 (0.91-1.32, p=0.343)
Moderate/severe liver disease	NO	7269 (98.4)	•	•
	YES	117 (1.6)	1.49 (1.00-2.21, p=0.050)	•
Chronic neurological disorder	NO	6632 (89.9)	•	•
	YES	749 (10.1)	1.96 (1.68-2.28, p<0.001)	•
Malignancy	NO	6710 (90.9)	•	•
	YES	671 (9.1)	1.78 (1.51-2.10, p<0.001)	1.29 (1.06-1.58, p=0.012)
Chronic hematologic disease	NO	7139 (96.9)	•	•
	YES	231 (3.1)	1.86 (1.44-2.41, p<0.001)	•
Obesity	NO	6217 (89.9)	•	•
	YES	697 (10.1)	1.03 (0.85-1.25, p=0.772)	1.42 (1.11-1.82, p=0.005)
Diabetes with complications	NO	6992 (93.9)	•	•
	YES	453 (6.1)	1.35 (1.09-1.66, p=0.005)	•
Rheumatologic disorder	NO	6721 (91.5)	•	•
	YES	622 (8.5)	1.47 (1.23-1.76, p<0.001)	•
Dementia	NO	6647 (89.9)	•	•
	YES	749 (10.1)	2.83 (2.45-3.27, p<0.001)	1.29 (1.06-1.57, p=0.011)

Dependent: Surv(time, status)		all	HR (univariable)	HR (multivariable)
Malnutrition	NO	6941 (98.1)	•	•
	YES	132 (1.9)	2.08 (1.51-2.87, p<0.001)	•
Smoking	NO	5856 (94.4)	•	•
	YES	345 (5.6)	1.16 (0.89-1.51, p=0.282)	•
NA	NA	NA	NA	1.52 (1.31-1.76, p<0.001)

Number in dataframe = 9348, Number in model = 4141, Missing = 5207, Number of events = 782, Concordance = 0.757 (SE = 0.008), R-squared = 0.153 (Max possible = 0.948), Likelihood ratio test = 686.112 (df = 12, p = 0.000)

Figure 14a - Multivariable Cox proportional hazards model

Survival: HR (95% CI, p-value)

Age on admission (years)	<50	-
	50-69	5.42 (3.06-9.60, p<0.001)
	70-79	12.95 (7.38-22.75, p<0.001)
	80+	18.16 (10.36-31.83, p<0.001)
Sex at Birth	Female	0.81 (0.70-0.94, p=0.006)
qSOFA score on admission	0	-
	1	1.67 (1.41-1.97, p<0.001)
	2	3.35 (2.71-4.13, p<0.001)
	3	5.50 (3.46-8.75, p<0.001)
Chronic cardiac disease	YES	1.52 (1.31-1.76, p<0.001)
Chronic kidney disease	YES	1.09 (0.91-1.32, p=0.343)
Malignancy	YES	1.29 (1.06-1.58, p=0.012)
Obesity	YES	1.42 (1.11-1.82, p=0.005)
Dementia	YES	1.29 (1.06-1.57, p=0.011)

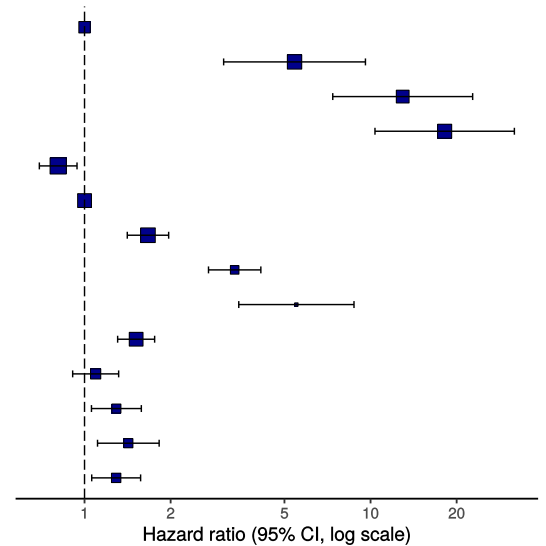
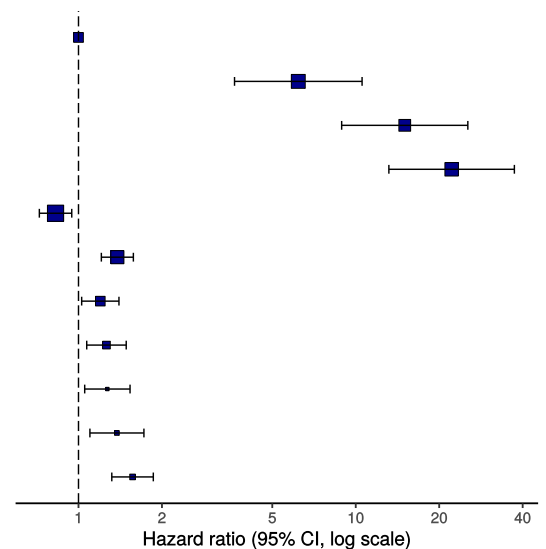


Figure 14b - Multivariable Cox proportional hazards model (age, sex, comorbidities only)

Survival: HR (95% CI, p-value)

Age on admission (years)	<50	-
	50-69	6.21 (3.65-10.54, p<0.001)
	70-79	15.02 (8.90-25.37, p<0.001)
	80+	22.17 (13.17-37.34, p<0.001)
Sex at Birth	Female	0.83 (0.72-0.95, p=0.006)
Chronic cardiac disease	YES	1.38 (1.21-1.58, p<0.001)
Chronic pulmonary disease	YES	1.20 (1.03-1.40, p=0.022)
Chronic kidney disease	YES	1.26 (1.07-1.49, p=0.005)
Malignancy	YES	1.27 (1.05-1.53, p=0.013)
Obesity	YES	1.38 (1.10-1.72, p=0.005)
Dementia	YES	1.57 (1.32-1.86, p<0.001)



ROC = 0.7591975

Figure 15 - Predictions calibration plot

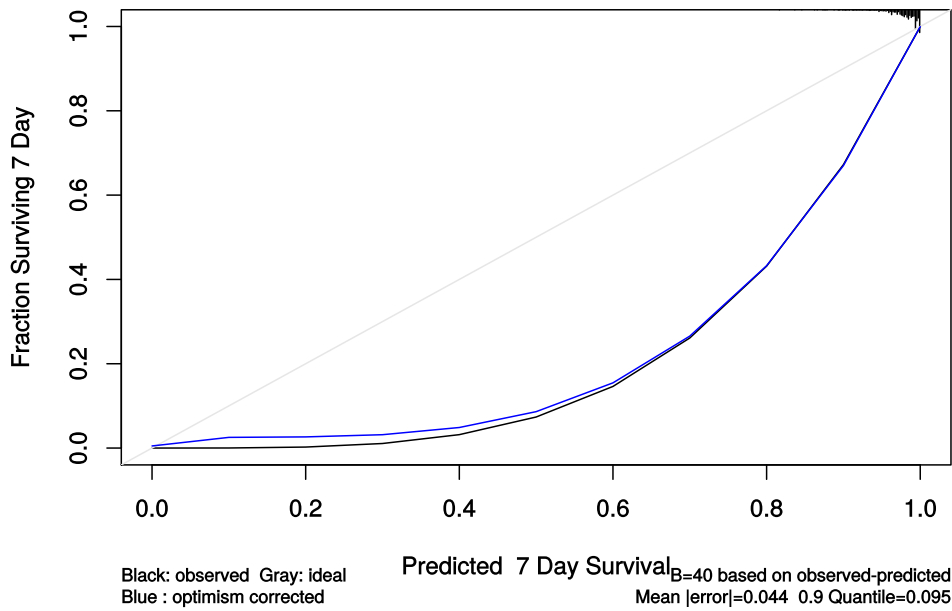


Figure 16 - Prognostic model predictions

Again, for demonstration of methods.

Prognostic model for survival 7 days after onset
qSOFA score on admission

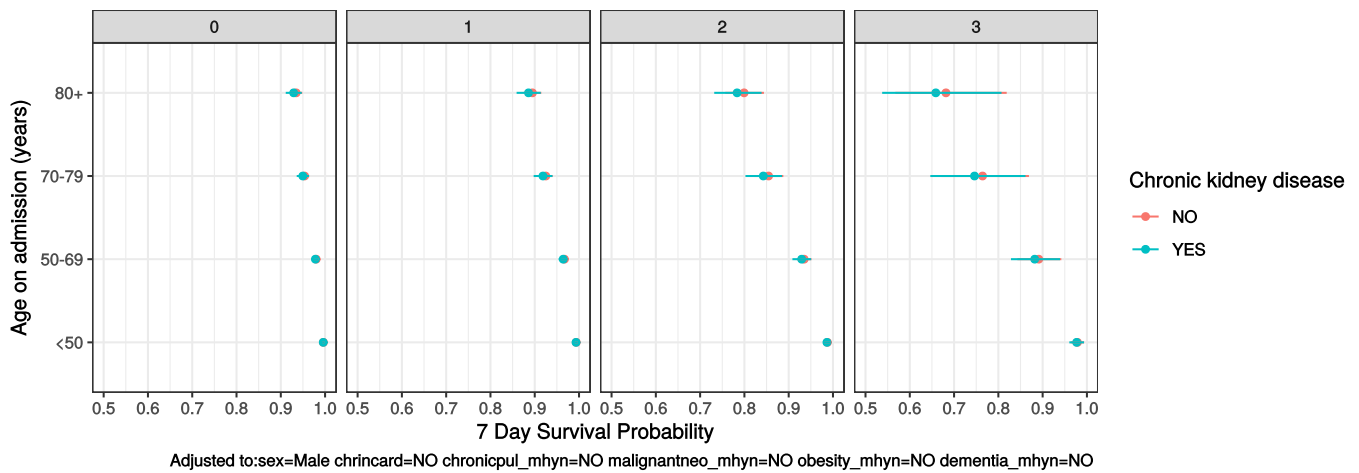


Figure 17 - Death by severity (NEWS) on admission

Number of deaths by NEWS score at admission

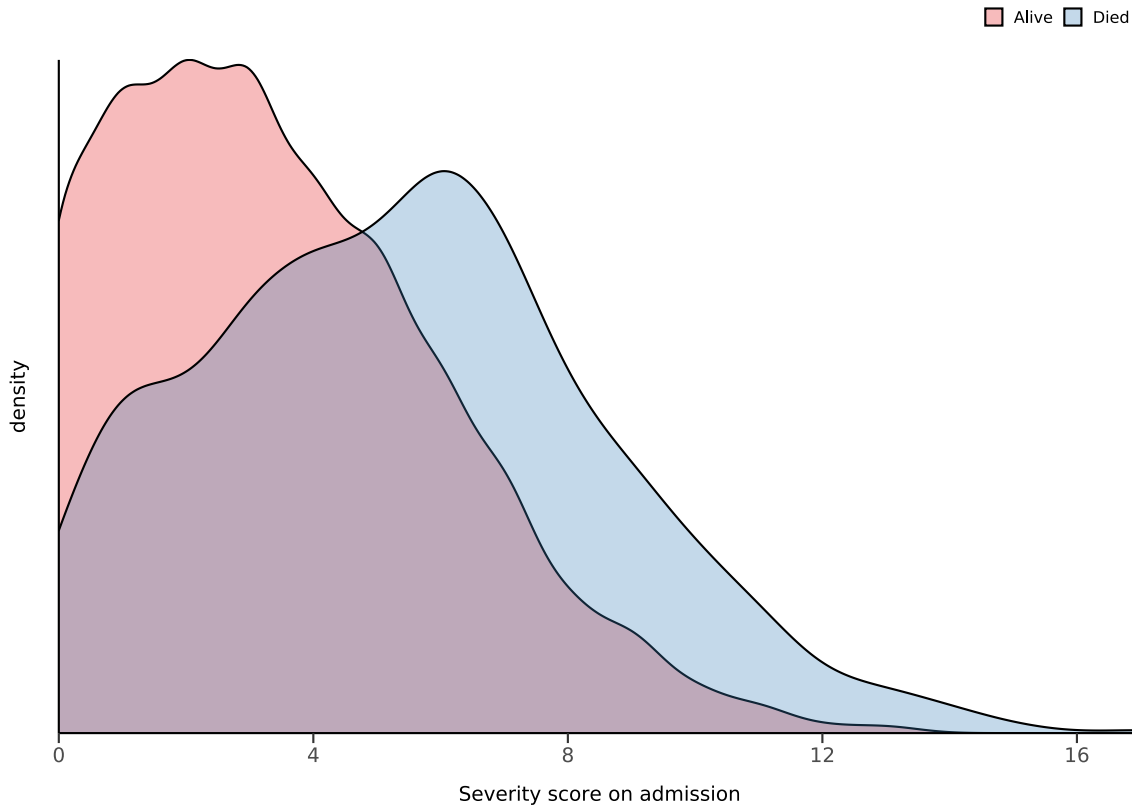


Figure 18 - Death by severity (NEWS) on admission stratified by age

Number of deaths by NEWS score at admission
Stratified by age

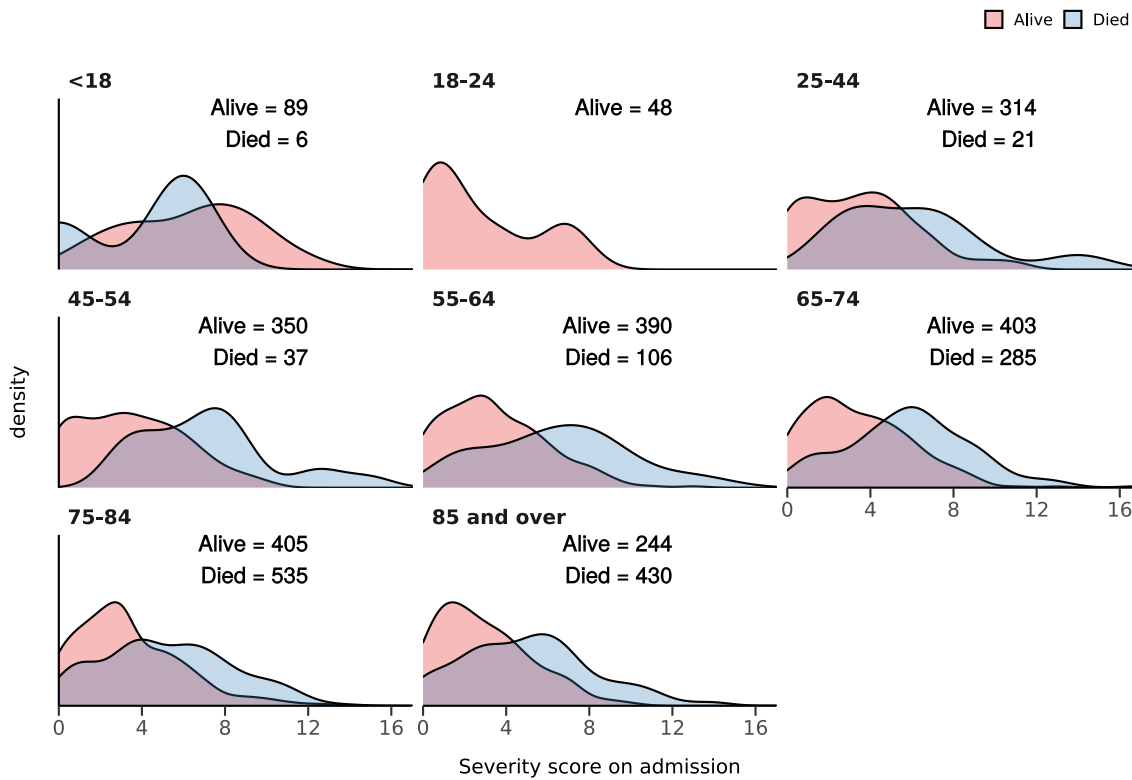
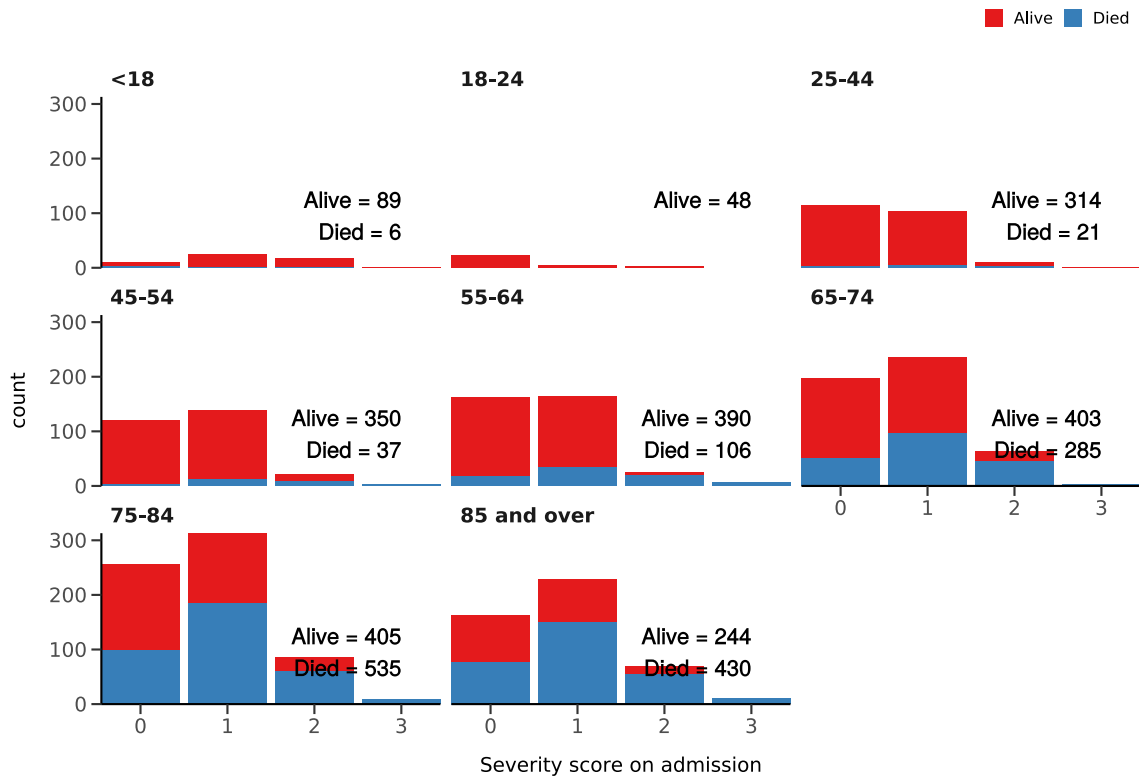


Figure 19 - Death by severity (qSOFA) on admission stratified by age

Number of deaths by qSOFA score at admission
Stratified by age



Healthcare workers

Healthcare worker		NO	YES	p
Total N (%)		7461 (95.9)	315 (4.1)	
NEWS score on admission	Median (IQR)	4.0 (4.0)	4.0 (4.0)	0.475
Death	No	1988 (59.3)	142 (95.9)	<0.001
	Yes	1363 (40.7)	6 (4.1)	

Admission (detail)

Table 1

label	levels	all
Total N (%)		12332 (100.0)
Age on admission (years)	Mean (SD)	67.9 (18.9)
Sex at Birth	Male	5571 (45.2)
	Female	3647 (29.6)
	Not specified	13 (0.1)
	(Missing)	3101 (25.1)
Healthcare worker	YES	315 (2.6)
	NO	7461 (60.5)
	N/A	744 (6.0)
	(Missing)	3812 (30.9)

label	levels	all
Microbiology lab worker	YES	23 (0.2)
	NO	7743 (62.8)
	N/A	751 (6.1)
	(Missing)	3815 (30.9)
Onset to admission (days)	Mean (SD)	3.3 (15.3)
Transfer from other facility	Yes-facility is a study site	141 (1.1)
	Yes-facility is not a study site	403 (3.3)
	No	7609 (61.7)
	N/A	197 (1.6)
	(Missing)	3982 (32.3)
Travel in 14 d prior to symptoms	Yes	485 (3.9)
	No	6217 (50.4)
	N/A	1053 (8.5)
	(Missing)	4577 (37.1)
Country	Antigua and Barbuda	1 (0.0)
	Argentina	1 (0.0)
	Australia	2 (0.0)
	Austria	15 (0.1)
	Barbados	10 (0.1)
	Brazil	1 (0.0)
	Bulgaria	2 (0.0)
	Cambodia	1 (0.0)
	Canada	1 (0.0)
	Cabo Verde	1 (0.0)
	China	2 (0.0)
	Cuba	1 (0.0)
	Cyprus	13 (0.1)
	Czechia	1 (0.0)
	Dominican Republic	1 (0.0)
	Egypt	5 (0.0)
	France	26 (0.2)
	Germany	7 (0.1)
	Ghana	1 (0.0)
Greece	1 (0.0)	
Hong Kong	1 (0.0)	
Hungary	2 (0.0)	

label	levels	all
	Iceland	1 (0.0)
	India	7 (0.1)
	Indonesia	1 (0.0)
	Iran	5 (0.0)
	Ireland	3 (0.0)
	Italy	76 (0.6)
	Japan	3 (0.0)
	Malaysia	3 (0.0)
	Mexico	1 (0.0)
	Morocco	3 (0.0)
	Netherlands	6 (0.0)
	New Zealand	1 (0.0)
	Nigeria	2 (0.0)
	Norway	1 (0.0)
	Pakistan	1 (0.0)
	Philippines	4 (0.0)
	Poland	3 (0.0)
	Portugal	8 (0.1)
	Romania	5 (0.0)
	Saudi Arabia	1 (0.0)
	Singapore	2 (0.0)
	Somalia	1 (0.0)
	South Africa	5 (0.0)
	Spain	105 (0.9)
	Swaziland	1 (0.0)
	Switzerland	7 (0.1)
	Thailand	4 (0.0)
	Turkey	4 (0.0)
	United Arab Emirates	8 (0.1)
	United Kingdom	77 (0.6)
	Yemen	1 (0.0)
	(Missing)	11886 (96.4)
Country 2	Antigua and Barbuda	1 (0.0)
	Aruba	1 (0.0)
	Australia	2 (0.0)
	Austria	3 (0.0)

label	levels	all
	Barbados	1 (0.0)
	Bulgaria	1 (0.0)
	Canada	1 (0.0)
	Cyprus	1 (0.0)
	Czechia	1 (0.0)
	Egypt	2 (0.0)
	France	5 (0.0)
	Germany	2 (0.0)
	India	1 (0.0)
	Indonesia	1 (0.0)
	Italy	13 (0.1)
	Netherlands	1 (0.0)
	Portugal	1 (0.0)
	Qatar	1 (0.0)
	South Africa	1 (0.0)
	Spain	13 (0.1)
	Switzerland	1 (0.0)
	Thailand	1 (0.0)
	Turkey	3 (0.0)
	Vietnam	1 (0.0)
	(Missing)	12273 (99.5)
Animal, raw meat, insect bites 14 d prior	Yes	66 (0.5)
	No	3087 (25.0)
	Unknown	4369 (35.4)
	N/A	404 (3.3)
	(Missing)	4406 (35.7)
Animal / insect	Bee Sting	1 (1.6)
	Bird (pet)	1 (1.6)
	bird (pigeon)	1 (1.6)
	Cat	1 (1.6)
	Cat (pet)	1 (1.6)
	Cat / Dog	1 (1.6)
	cats	3 (4.9)
	Cats	3 (4.9)
	chicken & beef	1 (1.6)
	Chickens	1 (1.6)

label	levels	all
	COWS	1 (1.6)
	cows, rabbits, pigs goats	1 (1.6)
	dog	2 (3.3)
	Dog	6 (9.8)
	DOG	2 (3.3)
	Dog Pet	1 (1.6)
	Dog, domestic animla living in their home.	1 (1.6)
	Dogs at home	1 (1.6)
	Domestic pet dog	1 (1.6)
	Domestic animal	1 (1.6)
	DOMESTIC ANIMAL	2 (3.3)
	domestic animal living in his home	1 (1.6)
	domestic animals	1 (1.6)
	Domestic Animals living in his/her home	1 (1.6)
	Domestic animals living in home	1 (1.6)
	domestic dog	1 (1.6)
	Domestic pest (cats)	1 (1.6)
	Domestic Pet	2 (3.3)
	Domestic Pet (Dog)	3 (4.9)
	Domestic pet cat	1 (1.6)
	Domestic pet Dog	1 (1.6)
	Domestic pets	1 (1.6)
	Domestic Pets	1 (1.6)
	Domestic pets (dog)	1 (1.6)
	Domestic Pets Cat and Dog	1 (1.6)
	FARM ANIMALS - LAMBS	1 (1.6)
	Guinea Pig	1 (1.6)
	mosquito	1 (1.6)
	pet dog	1 (1.6)
	Pet dog	1 (1.6)
	Prepared raw chicken	1 (1.6)
	Rodent	1 (1.6)
	Rodent - hamster,	1 (1.6)
	she has a cat	1 (1.6)
	Two cats	1 (1.6)
	unknown	1 (1.6)

Symptoms (detail)

Table 2

Stratified: all		all
Total N (%)		12332 (100.0)
Fever	YES	5428 (44.0)
	NO	2001 (16.2)
	Unknown	425 (3.4)
	(Missing)	4478 (36.3)
Cough	YES	5564 (45.1)
	NO	1881 (15.3)
	Unknown	405 (3.3)
	(Missing)	4482 (36.3)
Cough (sputum)	YES	1775 (14.4)
	NO	4449 (36.1)
	Unknown	1513 (12.3)
	(Missing)	4595 (37.3)
Cough (blood)	YES	225 (1.8)
	NO	5798 (47.0)
	Unknown	1695 (13.7)
	(Missing)	4614 (37.4)
Sore throat	YES	668 (5.4)
	NO	4802 (38.9)
	Unknown	2236 (18.1)
	(Missing)	4626 (37.5)
Runny nose	YES	258 (2.1)
	NO	5077 (41.2)
	Unknown	2369 (19.2)
	(Missing)	4628 (37.5)
Ear pain	YES	41 (0.3)
	NO	5267 (42.7)
	Unknown	2386 (19.3)
	(Missing)	4638 (37.6)
Wheeze	YES	712 (5.8)
	NO	5147 (41.7)
	Unknown	1835 (14.9)
	(Missing)	4638 (37.6)

Stratified: all		all
Chest pain	YES	936 (7.6)
	NO	5251 (42.6)
	Unknown	1526 (12.4)
	(Missing)	4619 (37.5)
Muscle ache	YES	1219 (9.9)
	NO	4362 (35.4)
	Unknown	2124 (17.2)
	(Missing)	4627 (37.5)
Joint pain	YES	434 (3.5)
	NO	4934 (40.0)
	Unknown	2320 (18.8)
	(Missing)	4644 (37.7)
Fatigue	YES	2708 (22.0)
	NO	3219 (26.1)
	Unknown	1785 (14.5)
	(Missing)	4620 (37.5)
Shortness of breath	YES	5026 (40.8)
	NO	2135 (17.3)
	Unknown	667 (5.4)
	(Missing)	4504 (36.5)
Lower chest wall indrawing	YES	100 (0.8)
	NO	4995 (40.5)
	Unknown	2591 (21.0)
	(Missing)	4646 (37.7)
Headache	YES	792 (6.4)
	NO	4754 (38.6)
	Unknown	2146 (17.4)
	(Missing)	4640 (37.6)
Confusion	YES	1594 (12.9)
	NO	4963 (40.2)
	Unknown	1160 (9.4)
	(Missing)	4615 (37.4)
Seizures	YES	102 (0.8)
	NO	6101 (49.5)
	Unknown	1495 (12.1)
	(Missing)	4634 (37.6)

Stratified: all		all
Abdominal pain	YES	607 (4.9)
	NO	5520 (44.8)
	Unknown	1577 (12.8)
	(Missing)	4628 (37.5)
Nausea/vomiting	YES	1283 (10.4)
	NO	5156 (41.8)
	Unknown	1280 (10.4)
	(Missing)	4613 (37.4)
Diarrhoea	YES	1284 (10.4)
	NO	5152 (41.8)
	Unknown	1286 (10.4)
	(Missing)	4610 (37.4)
Conjunctivitis	YES	28 (0.2)
	NO	5713 (46.3)
	Unknown	1949 (15.8)
	(Missing)	4642 (37.6)
Skin rash	YES	117 (0.9)
	NO	5793 (47.0)
	Unknown	1783 (14.5)
	(Missing)	4639 (37.6)
Skin ulcers	YES	123 (1.0)
	NO	5792 (47.0)
	Unknown	1785 (14.5)
	(Missing)	4632 (37.6)
Lymphadenopathy	YES	46 (0.4)
	NO	5688 (46.1)
	Unknown	1953 (15.8)
	(Missing)	4645 (37.7)
Bleeding (Haemorrhage)	YES	66 (0.5)
	NO	6047 (49.0)
	Unknown	1572 (12.7)
	(Missing)	4647 (37.7)
If Bleeding (others)	YES	118 (1.0)
	NO	5853 (47.5)
	Unknown	1648 (13.4)
	(Missing)	4713 (38.2)

Comorbidity (detail)

Table 3

Stratified: all		all
Total N (%)		12332 (100.0)
Chronic cardiac disease	YES	2236 (18.1)
	NO	5347 (43.4)
	Unknown	336 (2.7)
	(Missing)	4413 (35.8)
Chronic pulmonary disease	YES	1371 (11.1)
	NO	6186 (50.2)
	Unknown	372 (3.0)
	(Missing)	4403 (35.7)
Asthma	YES	1102 (8.9)
	NO	6407 (52.0)
	Unknown	399 (3.2)
	(Missing)	4424 (35.9)
Chronic kidney disease	YES	1086 (8.8)
	NO	6395 (51.9)
	Unknown	411 (3.3)
	(Missing)	4440 (36.0)
Moderate/severe liver disease	YES	126 (1.0)
	NO	7297 (59.2)
	Unknown	471 (3.8)
	(Missing)	4438 (36.0)
Mild Liver disease	YES	118 (1.0)
	NO	7284 (59.1)
	Unknown	487 (3.9)
	(Missing)	4443 (36.0)
Chronic neurological disorder	YES	769 (6.2)
	NO	6650 (53.9)
	Unknown	466 (3.8)
	(Missing)	4447 (36.1)
Malignancy	YES	736 (6.0)
	NO	6683 (54.2)
	Unknown	479 (3.9)
	(Missing)	4434 (36.0)

Stratified: all**all**

Chronic hematologic disease	YES	249 (2.0)
	NO	7153 (58.0)
	Unknown	484 (3.9)
	(Missing)	4446 (36.1)
AIDS/HIV	YES	35 (0.3)
	NO	7337 (59.5)
	Unknown	528 (4.3)
	(Missing)	4432 (35.9)
Obesity	YES	674 (5.5)
	NO	6224 (50.5)
	Unknown	924 (7.5)
	(Missing)	4510 (36.6)
Diabetes with complications	YES	487 (3.9)
	NO	7009 (56.8)
	Unknown	409 (3.3)
	(Missing)	4427 (35.9)
Diabetes without complications	YES	1530 (12.4)
	NO	6013 (48.8)
	Unknown	375 (3.0)
	(Missing)	4414 (35.8)
Rheumatologic disorder	YES	684 (5.5)
	NO	6697 (54.3)
	Unknown	486 (3.9)
	(Missing)	4465 (36.2)
Dementia	YES	869 (7.0)
	NO	6563 (53.2)
	Unknown	457 (3.7)
	(Missing)	4443 (36.0)
Malnutrition	YES	151 (1.2)
	NO	6911 (56.0)
	Unknown	784 (6.4)
	(Missing)	4486 (36.4)
Smoking	YES	370 (3.0)
	NO	5763 (46.7)
	(Missing)	6199 (50.3)