

Dynamic CO-CIN report to SAGE and NERVTAG

[OFFICIAL-SENSITIVE PROTECT]

Dynamic content updated: 2020-04-08 18:29:27.

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 08 April 2020, CO-CIN has recruited **9960 patients** with confirmed Coronavirus (Figure 1).

The CO-CIN dataset represents 16.4% (9960/60,773) of cases of confirmed Coronavirus cases in the UK, per the PHE daily reports (last updated 9am on 8 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 456 had travelled abroad recently, and 1511 reported visiting or working in a hospital where COVID-19 cases are being managed.

The median age is 72 (range: 0-104), Male/Female 4440/2842.

The most common symptoms were cough (71%), fever (69%) and shortness of breath (63%) (Figure 3A). 264/6325 (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) (20%) and chronic pulmonary disease (18%). 1541/6414 (24%) of patients have reported no co morbidity. 31/515 (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 - 7308 days).

The median length of hospital stay was 5 days (range: 1-163, n = 2648).

483/3613 (13%) patients required high-flow oxygen after day 1 of treatment.

Currently 1197 patient(s) have died and 1100 required ICU. 1634 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).

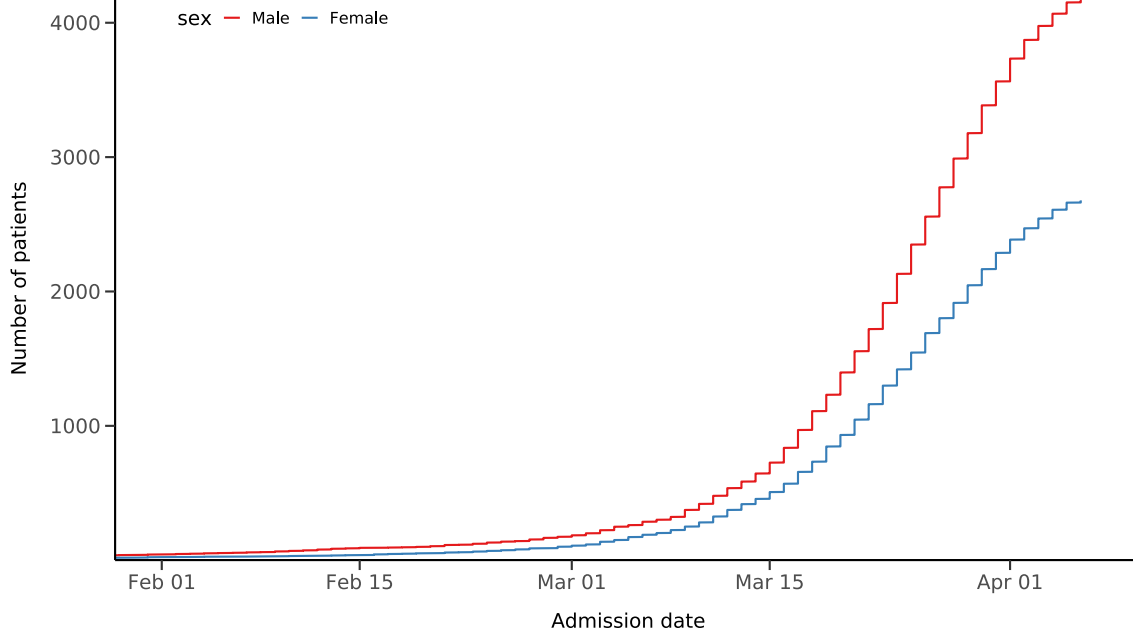
Analytics: Lisa Norman, Riinu Pius, Thomas Drake, Cameron Fairfield, Stephen Knight, Kenneth McLean, Katie Shaw.

Admission

Figure 1

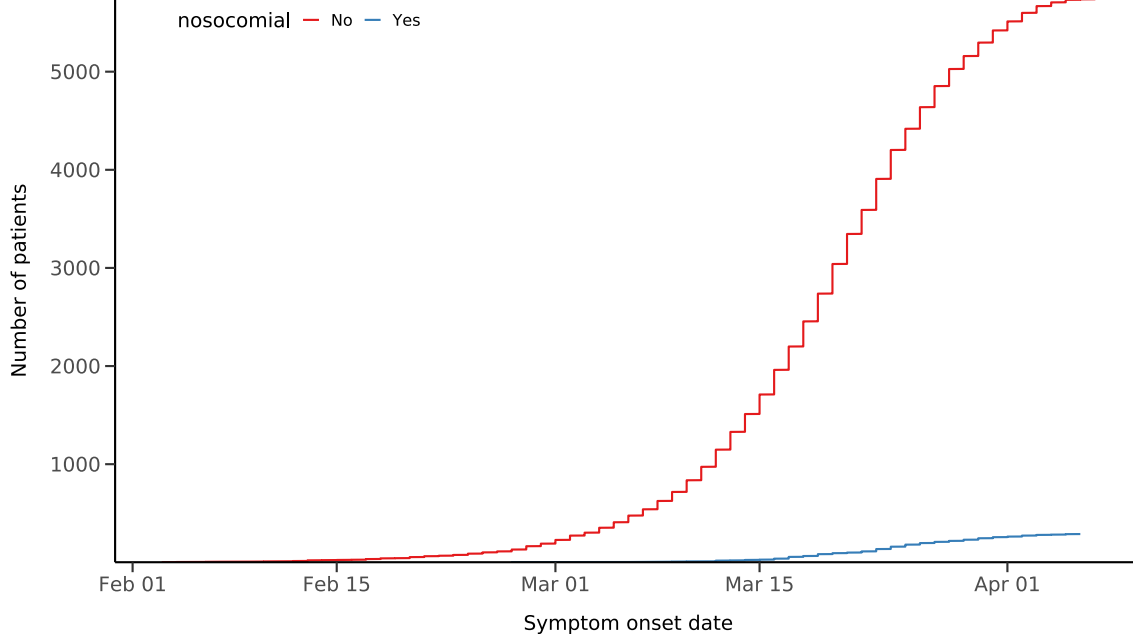
Hospital admission with COVID-19 by sex

Figure 1A

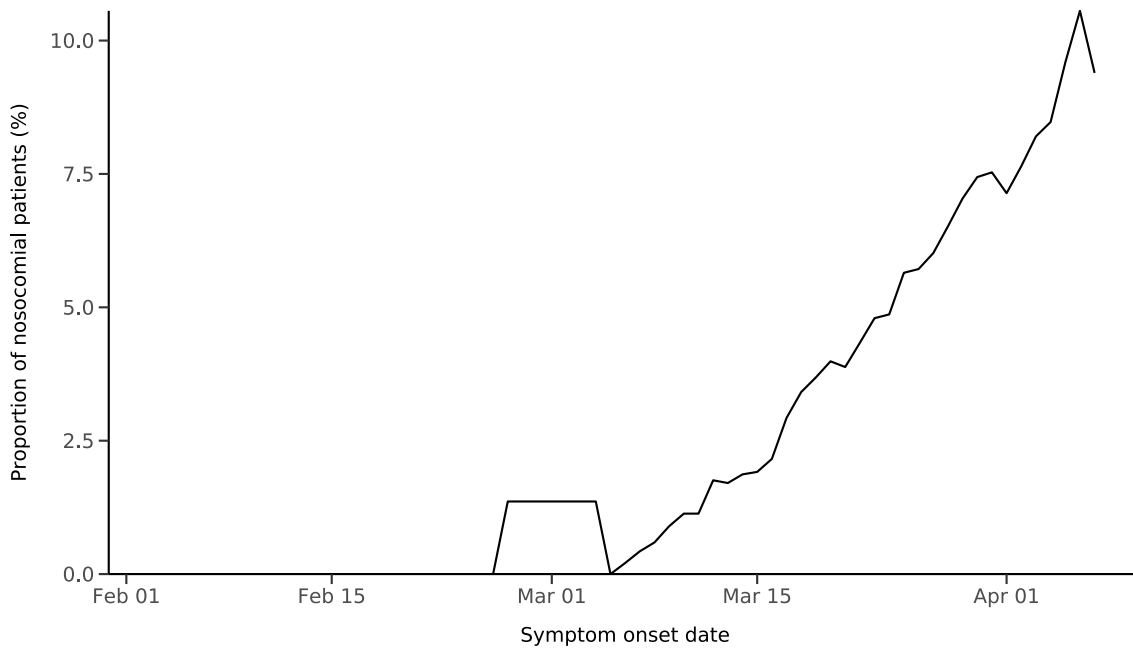


Nosocomial: symptom onset ≥ 14 days post admission

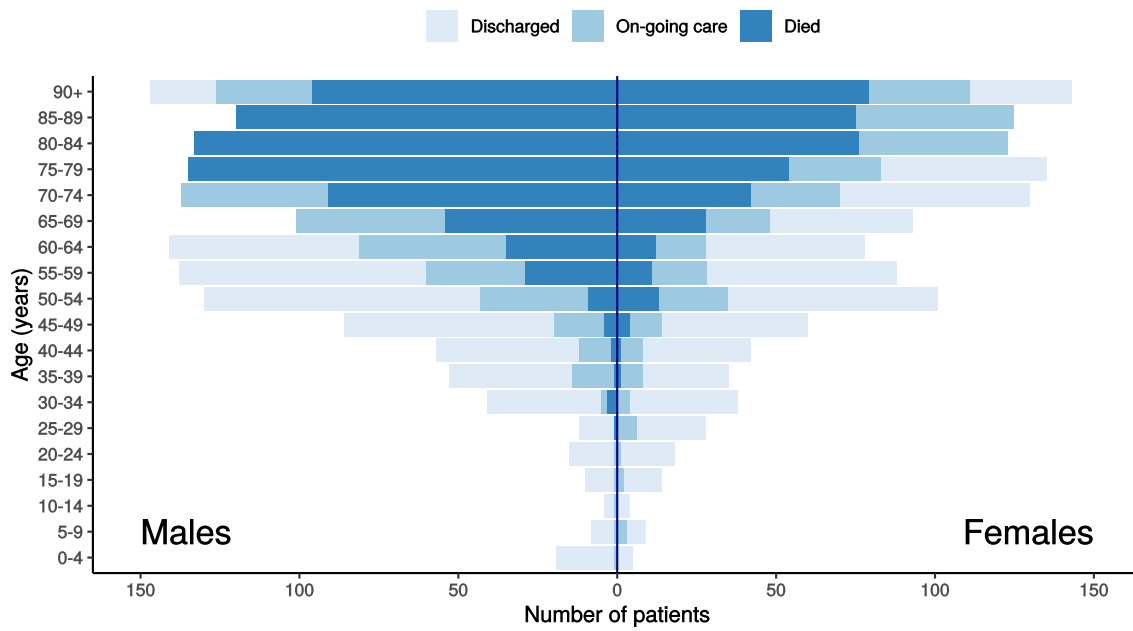
Figure 1B



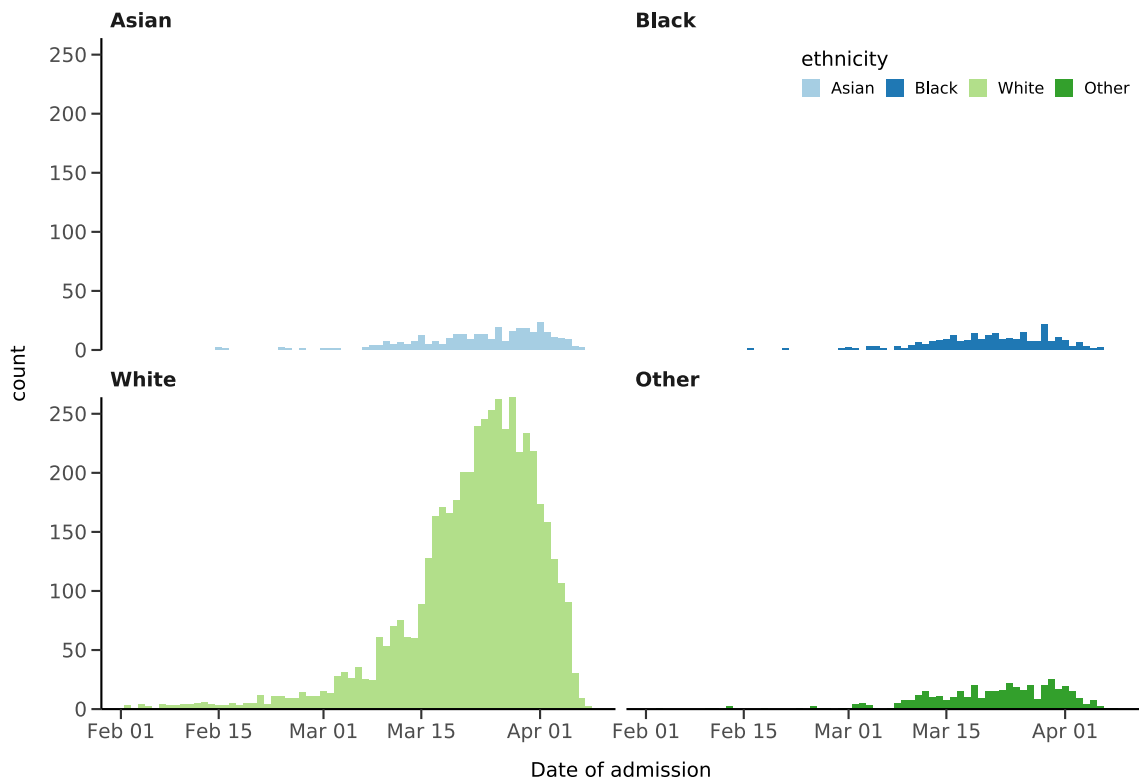
Proportion with symptom onset ≥ 14 days after admission
 Figure 1C - 7-day rolling percentage. n = 6033



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



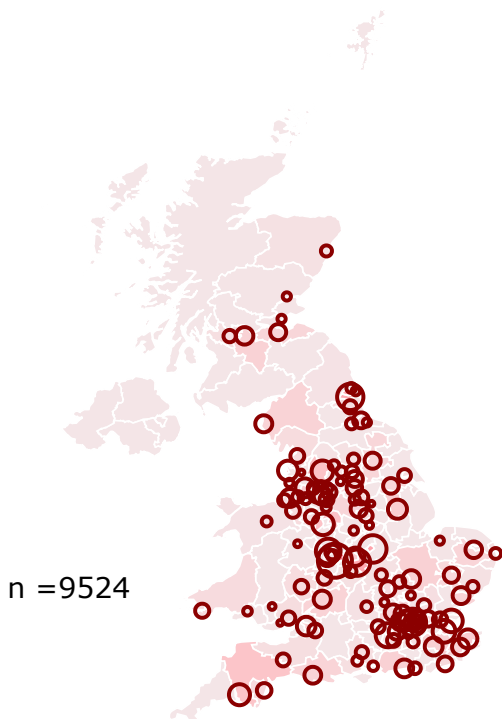
Hospital admission with COVID-19 by ethnicity
Figure 1E



Location by CCG / Healthboard

Figure 2

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

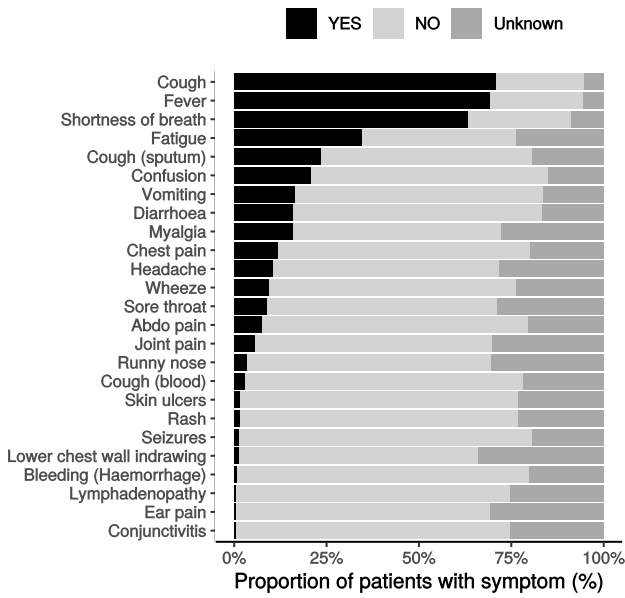


Symptoms and comorbidity

Figure 3A

Symptoms on presentation to hospital (% patients, n = 6233)

Figure 3A



Comorbidity (% patients, n = 6296)

Figure 3B

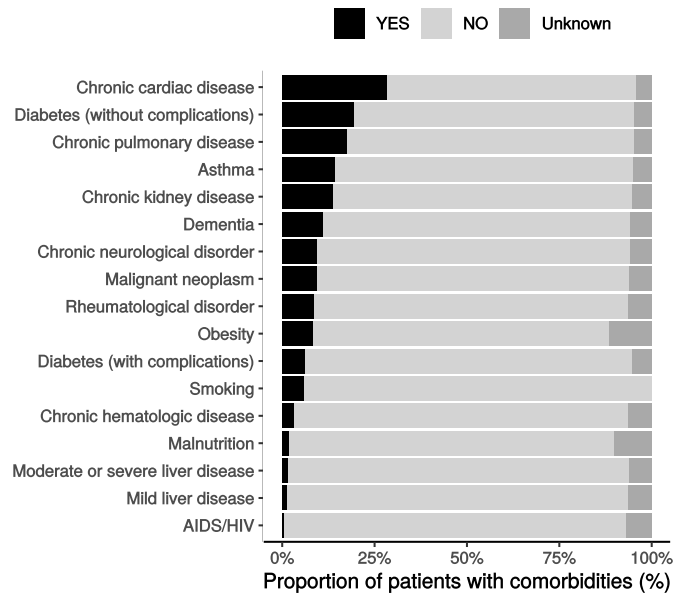
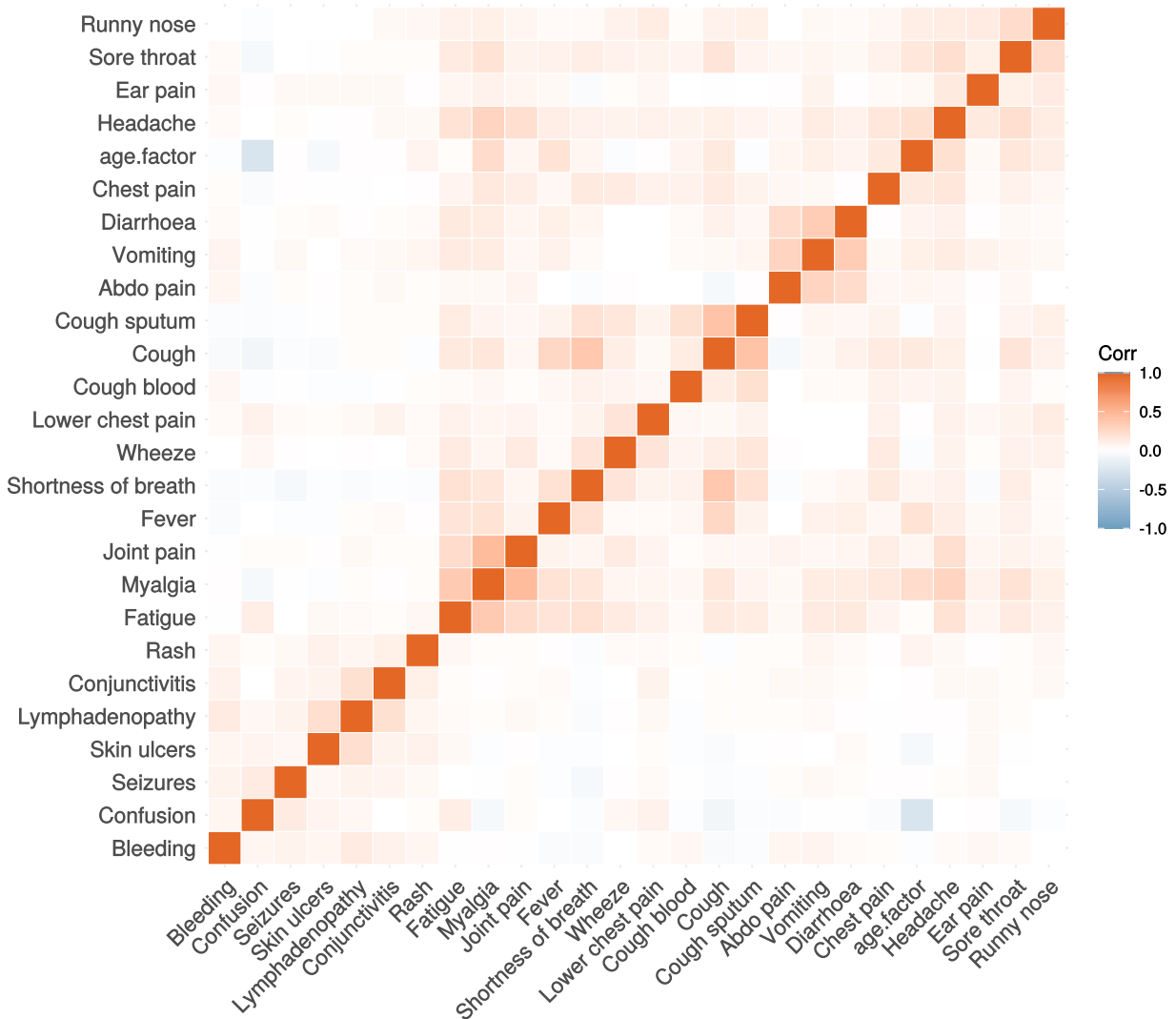


Figure 3C

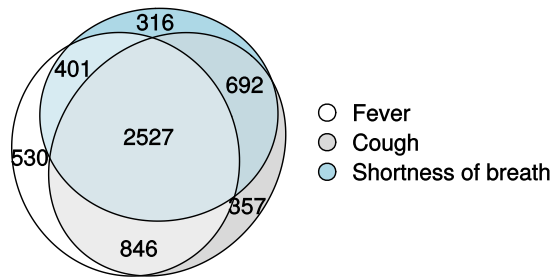
Correlation of symptoms in all pages. Note clusters, top right to bottom left, flu-like, coryzal, abdominal, respiratory, neurocutaneous.



Symptoms (diagnostic criteria)

Figure 4A

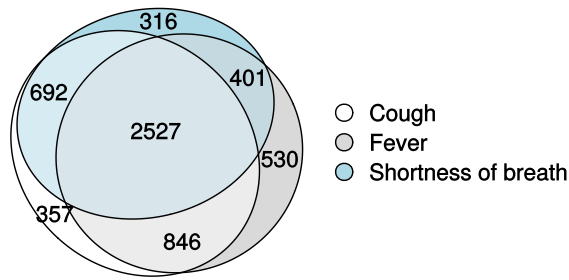
n = 6233



Symptoms (most common)

Figure 4B

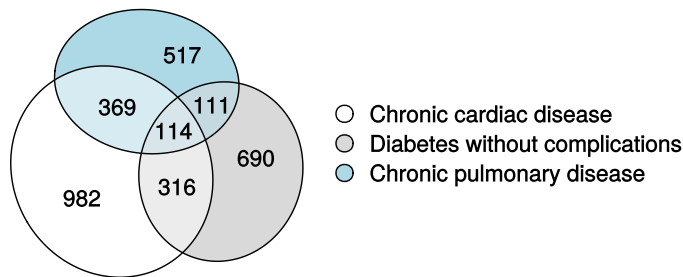
n = 6233



Comorbidity (most common)

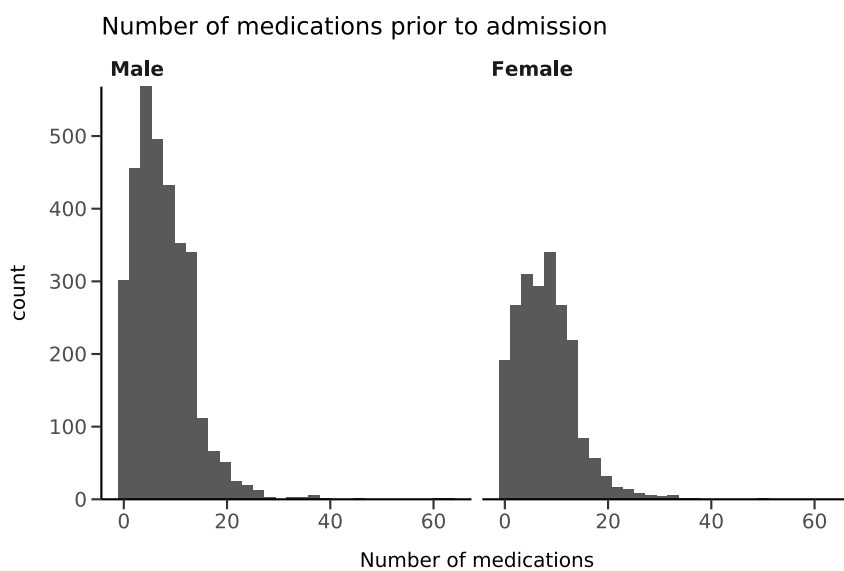
Figure 4C

n = 6296



Medication prior to illness

Figure 5

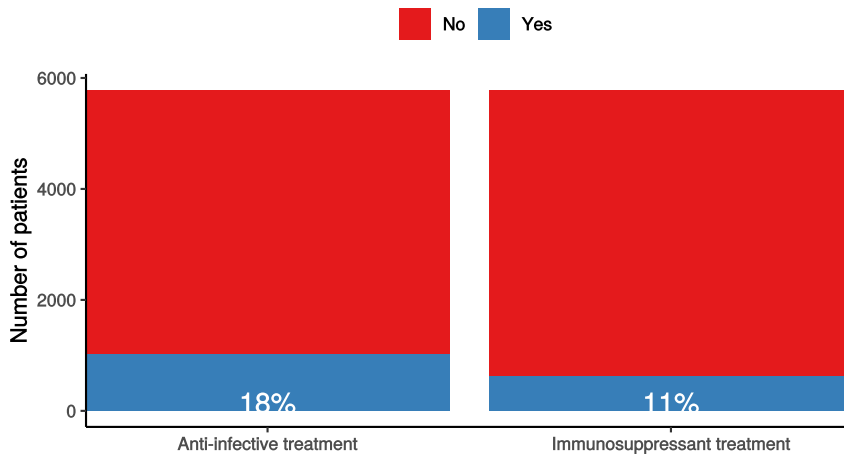


Preadmission treatment

Figure 6

Pre-admission treatment

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



Patient flow

Figure 7A - All patients

N = 6420

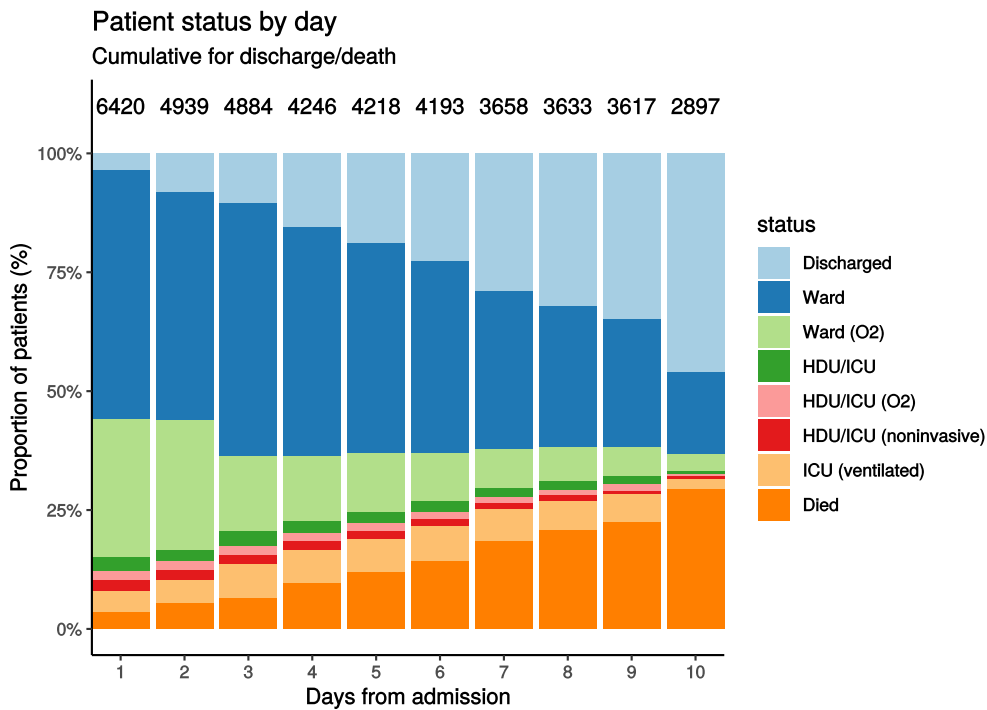
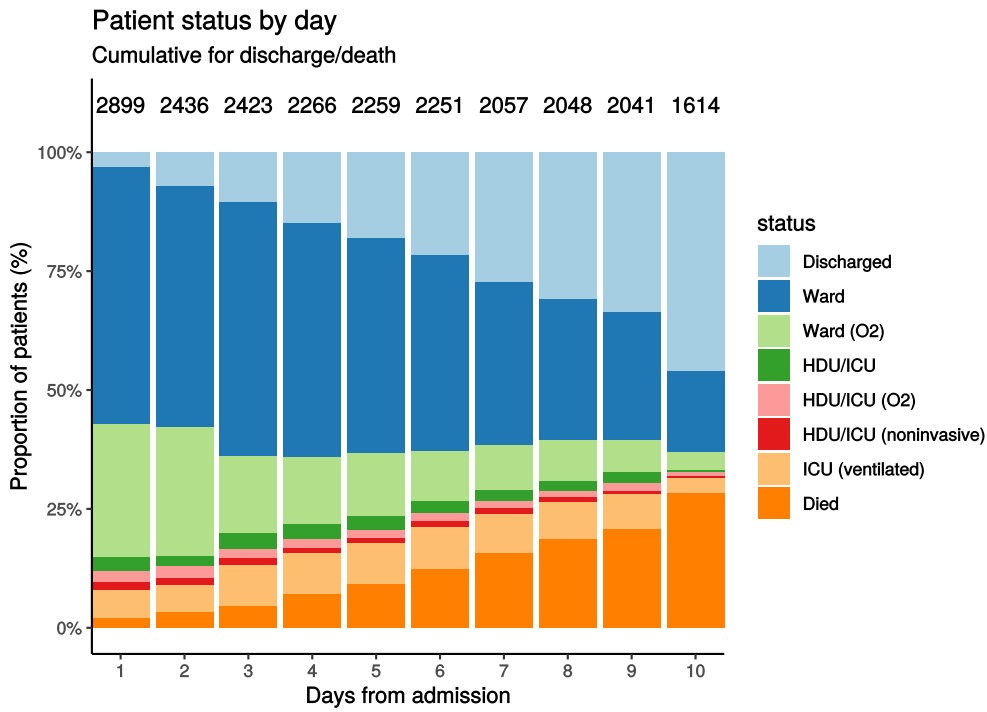


Figure 7B - Patients admitted ≥ 14 days and ≤ 28 days ago

N = 2899



Oxygen requirement

Figure 8A - All patients

N = 5985

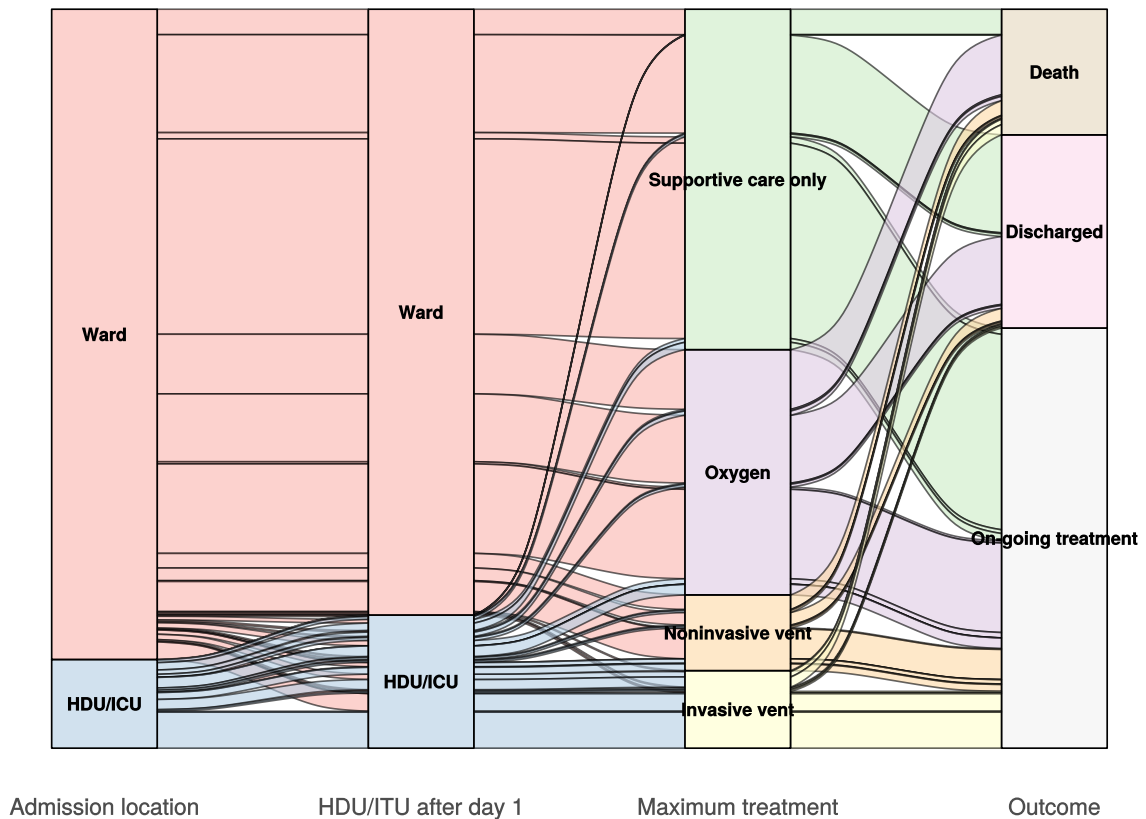
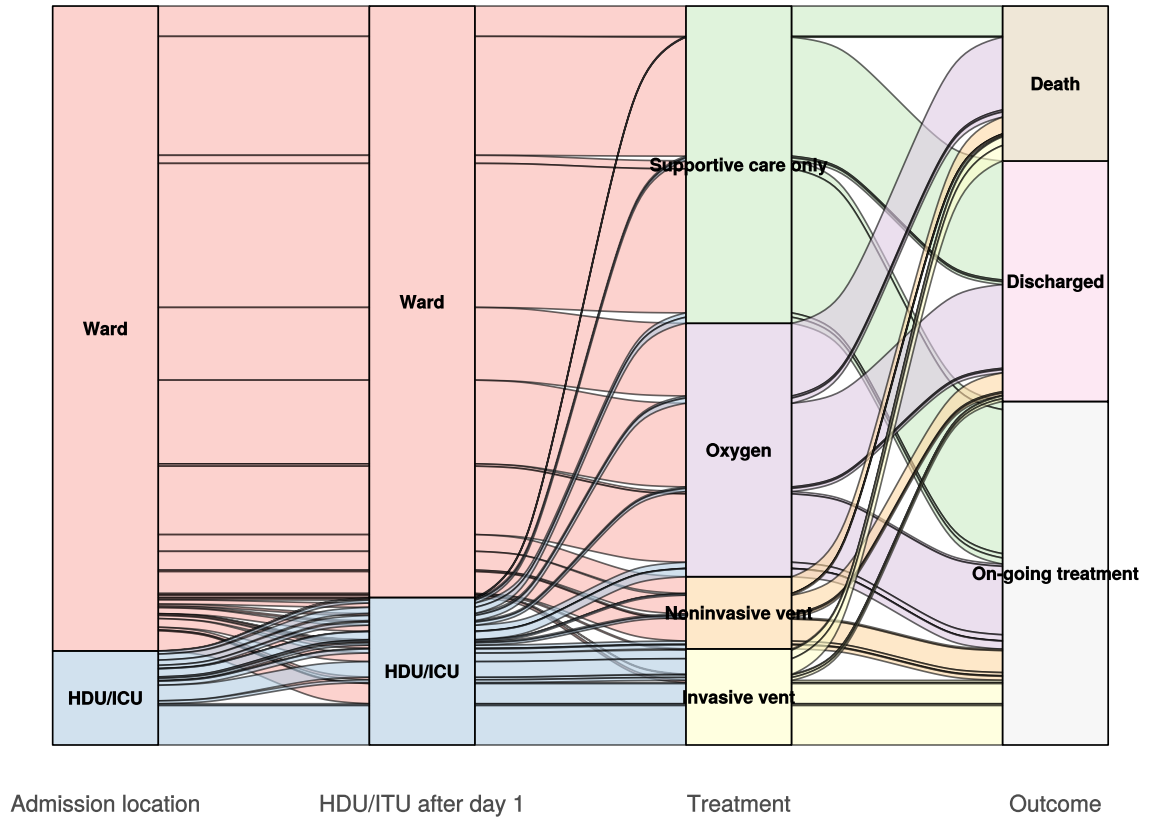


Figure 8B - Patients admitted ≥ 14 days and ≤ 28 days ago

N = 2753

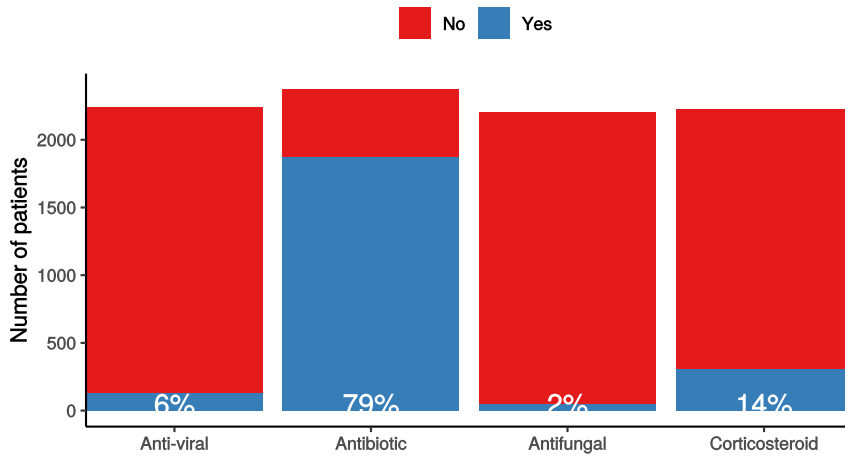


In-hospital medical treatment

Figure 9

In-hospital treatment

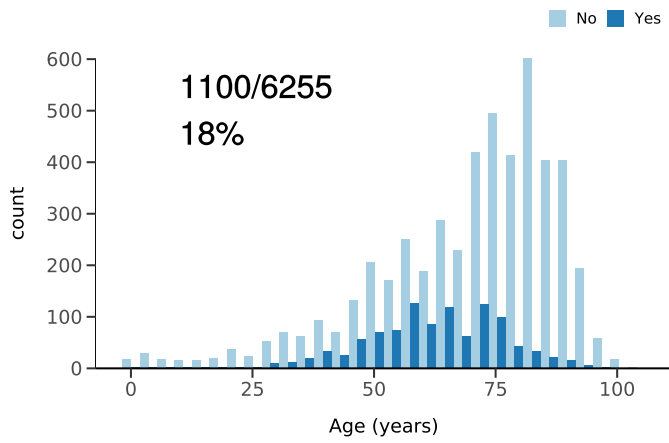
Anti-virals, antibiotics, corticosteroids, and anti-fungals for patients who have coi



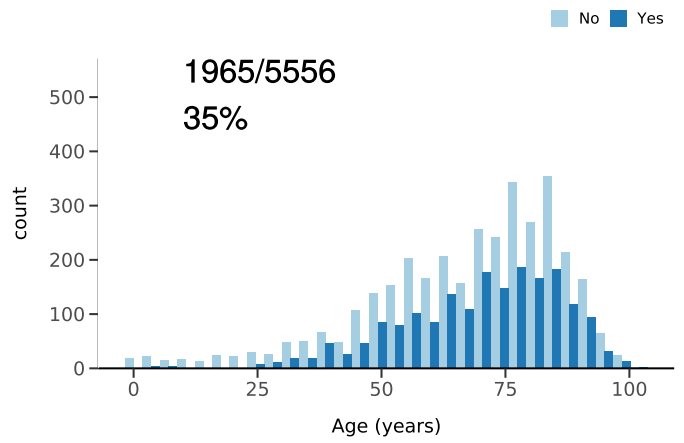
Treatment

Figure 10

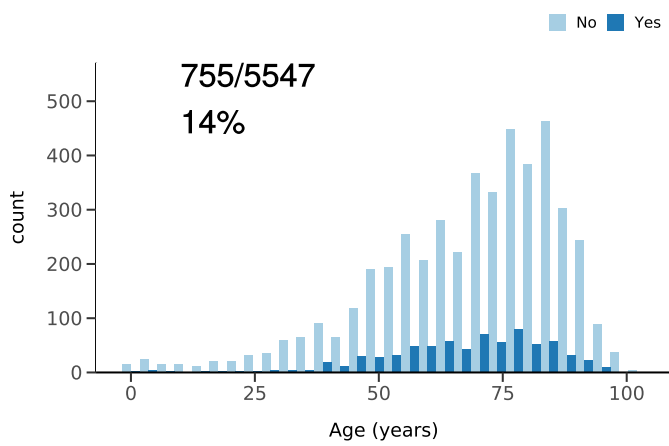
ICU/HDU admission
Figure 10A



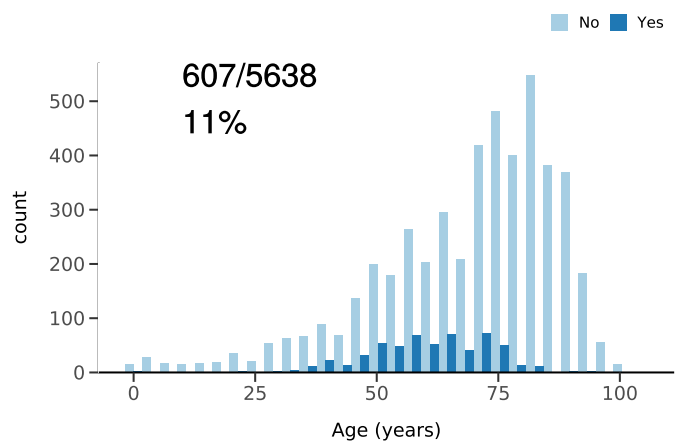
High flow oxygen
Figure 10B



Noninvasive ventilation
Figure 10C



Invasive ventilation
Figure 10D

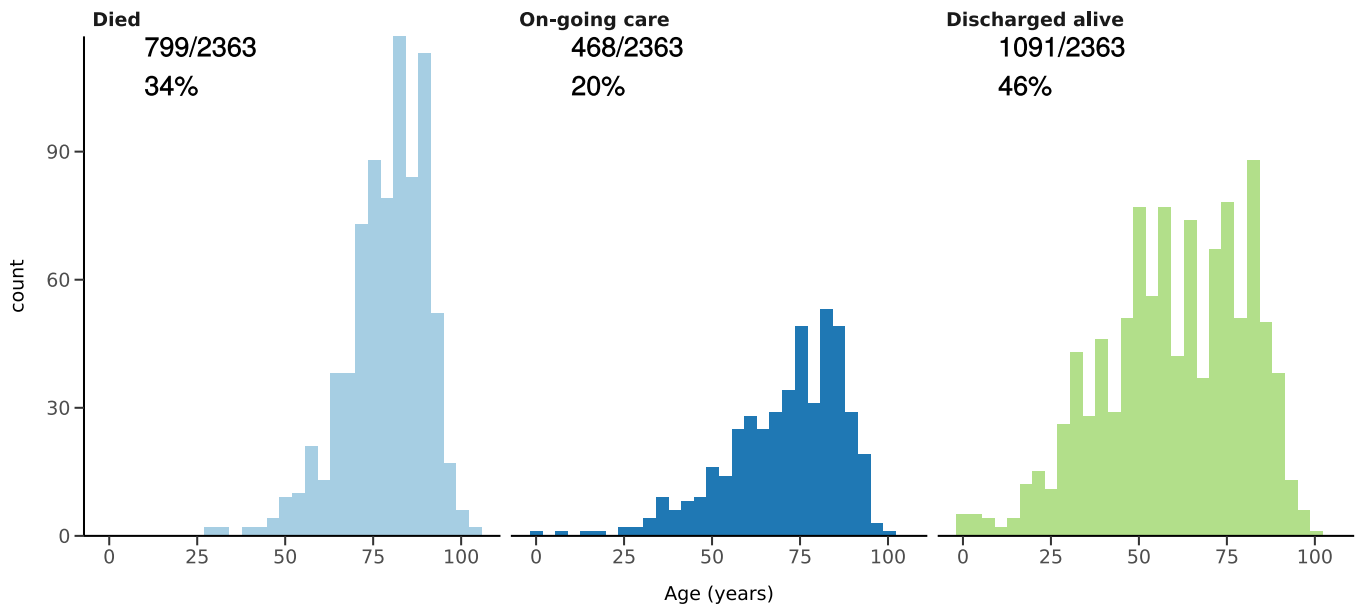


Status in patients admitted ≥ 14 days from today

Figure 11

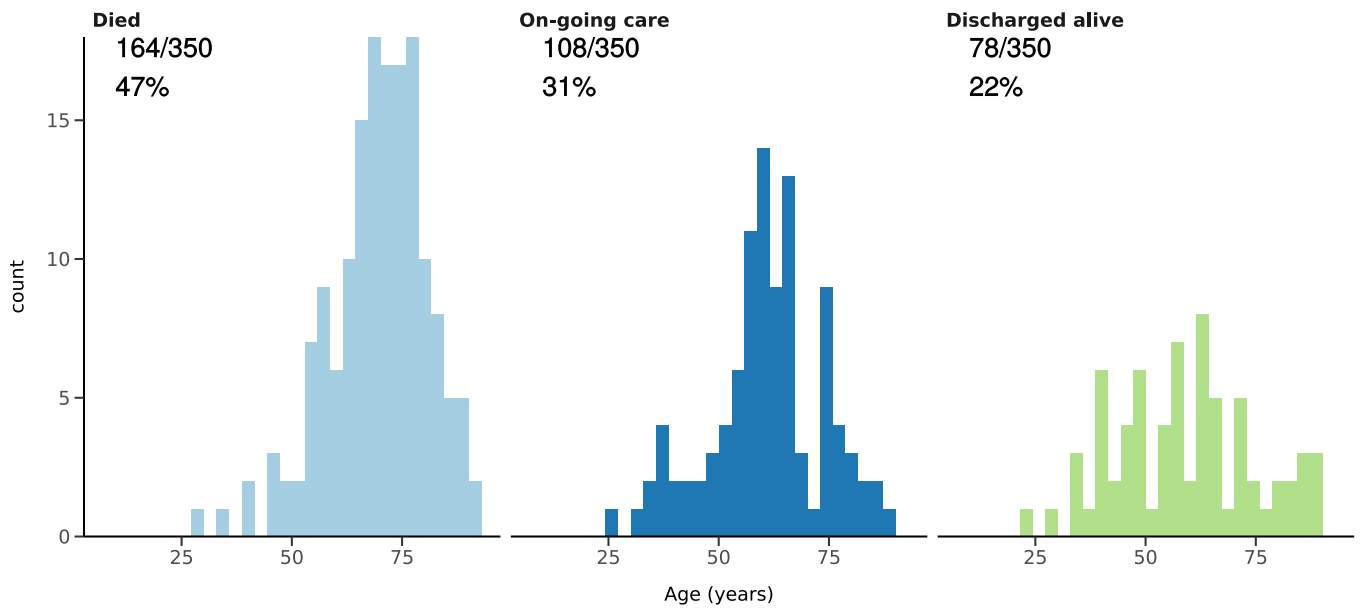
All: status in patients admitted ≥ 14 days ago

Figure 11A



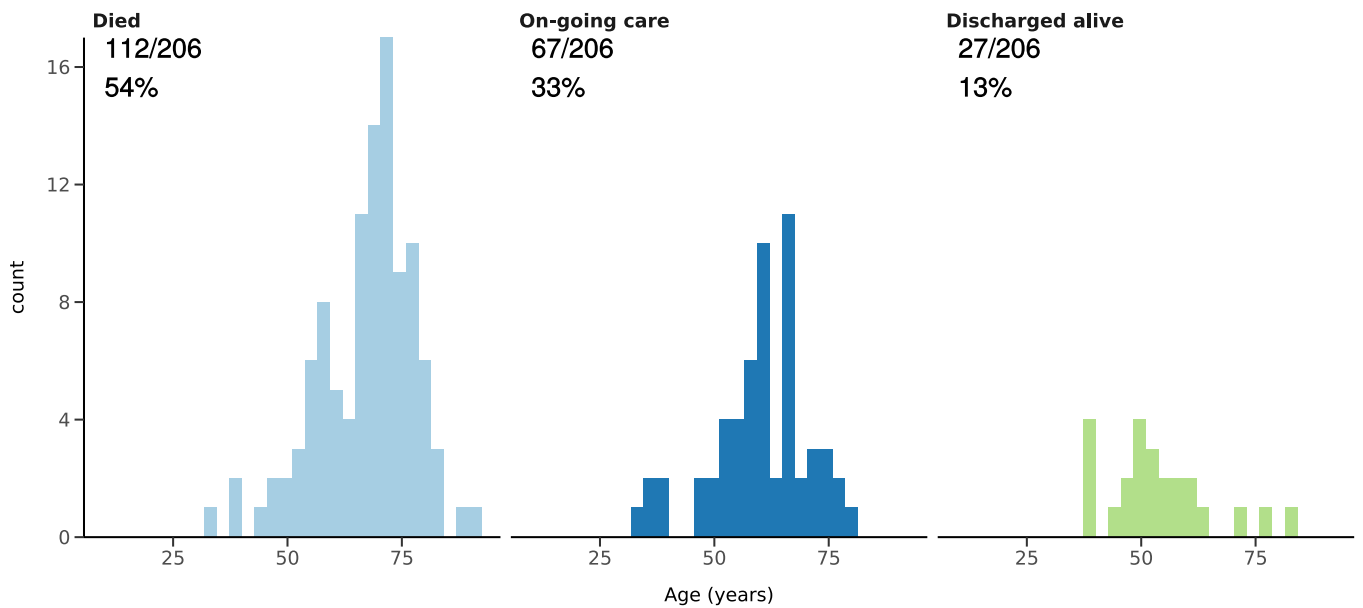
ICU/HDU admissions: status in patients admitted ≥ 14 days ago

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	310 (96.0)	13 (4.0)	•		
	50-69	368 (73.7)	131 (26.3)		8.49 (4.89-16.04, p<0.001)	12.67 (5.90-33.01, p<0.001)
	70-79	203 (48.2)	218 (51.8)		25.61 (14.79-48.28, p<0.001)	33.00 (15.33-86.18, p<0.001)
	80+	249 (36.9)	425 (63.1)		40.70 (23.79-76.06, p<0.001)	46.50 (21.73-121.04, p<0.001)
Sex at Birth	Male	673 (56.6)	517 (43.4)	•		
	Female	491 (62.9)	289 (37.1)		0.77 (0.64-0.92, p=0.005)	0.82 (0.64-1.05, p=0.114)
Chronic cardiac disease	NO	842 (67.4)	407 (32.6)	•		
	YES	246 (44.0)	313 (56.0)		2.63 (2.15-3.23, p<0.001)	1.34 (1.04-1.73, p=0.026)
Chronic pulmonary disease	NO	941 (63.8)	533 (36.2)	•		
	YES	141 (43.8)	181 (56.2)		2.27 (1.78-2.90, p<0.001)	1.42 (1.05-1.92, p=0.022)
Chronic neurological disorder	NO	1000 (62.2)	608 (37.8)	•		
	YES	66 (42.3)	90 (57.7)		2.24 (1.61-3.14, p<0.001)	1.78 (1.17-2.75, p=0.008)
Chronic hematologic disease	NO	1043 (61.4)	656 (38.6)	•		
	YES	24 (38.1)	39 (61.9)		2.58 (1.55-4.39, p<0.001)	2.47 (1.24-5.06, p=0.011)
Chronic kidney disease	NO	967 (64.0)	545 (36.0)	•		
	YES	109 (39.6)	166 (60.4)		2.70 (2.08-3.52, p<0.001)	1.76 (1.26-2.47, p=0.001)
Dementia	NO	994 (63.7)	566 (36.3)	•		
	YES	74 (35.4)	135 (64.6)		3.20 (2.38-4.35, p<0.001)	1.68 (1.16-2.46, p=0.007)
Obesity	NO	927 (61.6)	578 (38.4)	•		
	YES	89 (58.6)	63 (41.4)		1.14 (0.81-1.59, p=0.463)	1.91 (1.25-2.92, p=0.003)
Malignancy	NO	976 (62.0)	599 (38.0)	•		
	YES	95 (49.2)	98 (50.8)		1.68 (1.25-2.27, p=0.001)	1.24 (0.86-1.79, p=0.253)

Number in dataframe = 3898, Number in model = 1529, Missing = 2369, AIC = 1649.3, C-statistic = 0.781, H&L = Chi-sq(8) 8.49 (p=0.387)

Figure 11 - Adjusted odds ratio plot

Death

Age on admission (years)	50-69	12.67 (5.90-33.01, p<0.001)
	70-79	33.00 (15.33-86.18, p<0.001)
	80+	46.50 (21.73-121.04, p<0.001)
Sex at Birth	Female	0.82 (0.64-1.05, p=0.114)
Chronic cardiac disease	YES	1.34 (1.04-1.73, p=0.026)
Chronic pulmonary disease	YES	1.42 (1.05-1.92, p=0.022)
Chronic neurological disorder	YES	1.78 (1.17-2.75, p=0.008)
Chronic hematologic disease	YES	2.47 (1.24-5.06, p=0.011)
Chronic kidney disease	YES	1.76 (1.26-2.47, p=0.001)
Dementia	YES	1.68 (1.16-2.46, p=0.007)
Obesity	YES	1.91 (1.25-2.92, p=0.003)
Malignancy	YES	1.24 (0.86-1.79, p=0.253)

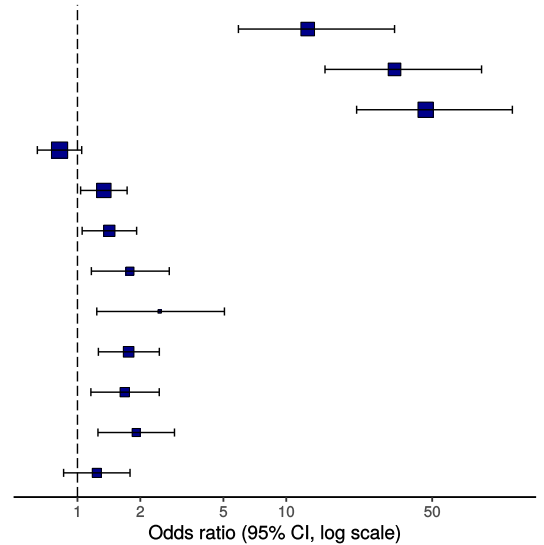
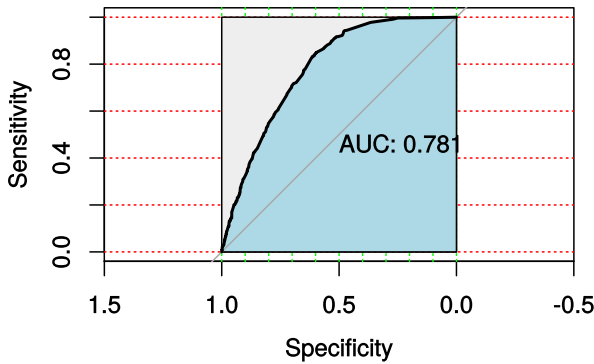


Figure 12 - ROC

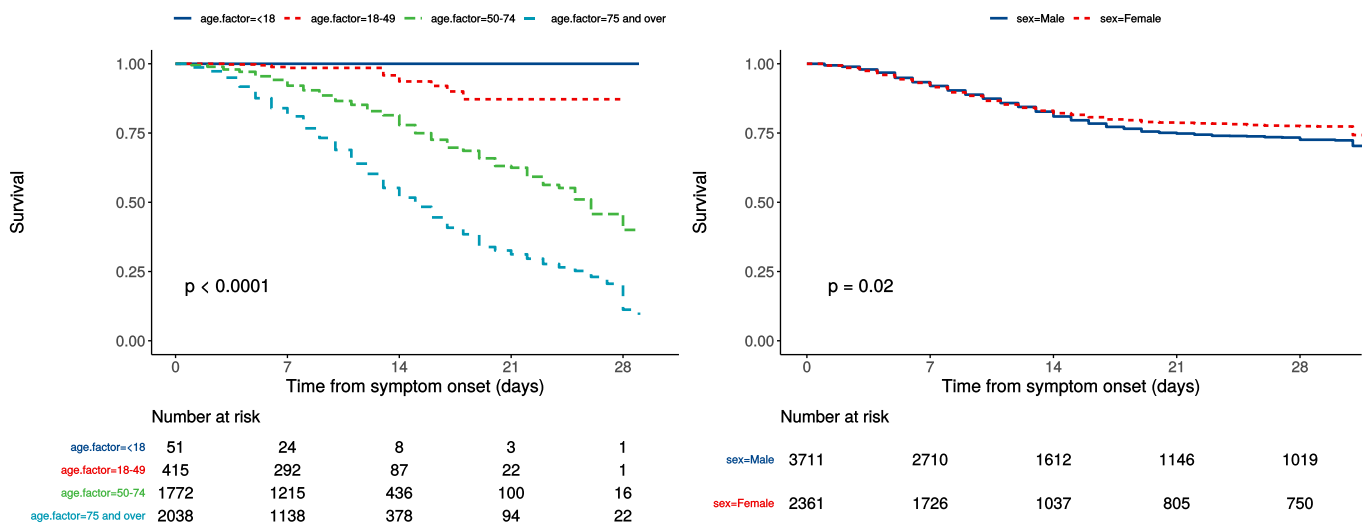


Survival models

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	549 (11.6)	•	•
	50-69	1426 (30.2)	5.01 (2.85-8.81, p<0.001)	6.18 (2.52-15.18, p<0.001)
	70-79	1154 (24.4)	11.26 (6.46-19.64, p<0.001)	12.85 (5.26-31.35, p<0.001)
	80+	1600 (33.8)	16.60 (9.58-28.77, p<0.001)	15.23 (6.26-37.04, p<0.001)
Sex at Birth	Male	3025 (62.9)	•	•
	Female	1785 (37.1)	1.06 (0.93-1.20, p=0.360)	1.07 (0.90-1.27, p=0.462)
qSOFA score on admission	0	1139 (37.7)	•	•
	1	1469 (48.6)	1.36 (1.15-1.60, p<0.001)	1.38 (1.15-1.66, p=0.001)
	2	381 (12.6)	1.88 (1.52-2.33, p<0.001)	2.07 (1.64-2.62, p<0.001)
	3	31 (1.0)	3.40 (2.02-5.75, p<0.001)	3.67 (2.11-6.37, p<0.001)
Symptomatic at presentation	No symptoms	87 (1.9)	•	•
	Symptoms	4443 (98.1)	0.56 (0.36-0.86, p=0.008)	•
Abdominal symptoms at presentation	No	3157 (71.0)	•	•
	Yes	1288 (29.0)	0.63 (0.54-0.73, p<0.001)	•
Chronic cardiac disease	NO	2969 (68.4)	•	•
	YES	1372 (31.6)	1.80 (1.58-2.04, p<0.001)	1.10 (0.92-1.30, p=0.306)
Chronic pulmonary disease	NO	3514 (81.3)	•	•
	YES	809 (18.7)	1.62 (1.39-1.89, p<0.001)	1.23 (1.01-1.50, p=0.036)
Asthma	NO	3654 (85.0)	•	•
	YES	647 (15.0)	0.84 (0.69-1.02, p=0.075)	•
Chronic kidney disease	NO	3658 (85.8)	•	•
	YES	606 (14.2)	2.08 (1.78-2.43, p<0.001)	1.17 (0.95-1.44, p=0.129)
Moderate/severe liver disease	NO	4164 (98.3)	•	•
	YES	72 (1.7)	1.58 (0.98-2.55, p=0.063)	•
Chronic neurological disorder	NO	3737 (88.2)	•	•
	YES	501 (11.8)	1.13 (0.94-1.35, p=0.182)	•
Malignancy	NO	3822 (90.3)	•	•
	YES	412 (9.7)	1.85 (1.53-2.24, p<0.001)	1.67 (1.33-2.10, p<0.001)
Chronic hematologic disease	NO	4076 (96.5)	•	•
	YES	150 (3.5)	1.76 (1.32-2.35, p<0.001)	•

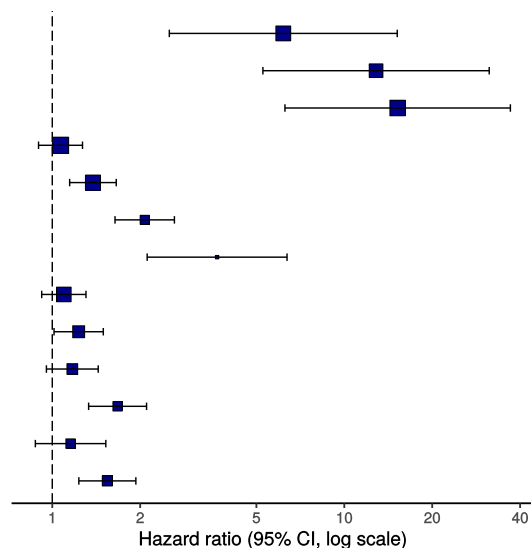
Dependent: Surv(time, status)		all	HR (univariable)	HR (multivariable)
Obesity	NO	3559 (89.5)	•	•
	YES	419 (10.5)	0.92 (0.74-1.16, p=0.492)	1.16 (0.88-1.53, p=0.309)
Diabetes with complications	NO	4004 (93.8)	•	•
	YES	266 (6.2)	1.25 (0.97-1.60, p=0.086)	•
Rheumatologic disorder	NO	3824 (91.0)	•	•
	YES	380 (9.0)	1.37 (1.12-1.68, p=0.003)	•
Dementia	NO	3738 (87.9)	•	•
	YES	515 (12.1)	2.58 (2.18-3.05, p<0.001)	1.54 (1.23-1.93, p<0.001)
Malnutrition	NO	3954 (97.9)	•	•
	YES	85 (2.1)	2.07 (1.44-2.99, p<0.001)	•
Smoking	NO	3387 (94.7)	•	•
	YES	191 (5.3)	1.33 (0.97-1.81, p=0.072)	•

Number in dataframe = 5427, Number in model = 2476, Missing = 2951, Number of events = 637, Concordance = 0.709 (SE = 0.011), R-squared = 0.107 (Max possible = 0.967), Likelihood ratio test = 281.192 (df = 13, p = 0.000)

Figure 14 - Multivariable Cox proportional hazards model

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

Age on admission (years)	50-69	6.18 (2.52-15.18, p<0.001)
	70-79	12.85 (5.26-31.35, p<0.001)
	80+	15.23 (6.26-37.04, p<0.001)
Sex at Birth	Female	1.07 (0.90-1.27, p=0.462)
qSOFA score on admission	1	1.38 (1.15-1.66, p=0.001)
	2	2.07 (1.64-2.62, p<0.001)
	3	3.67 (2.11-6.37, p<0.001)
Chronic cardiac disease	YES	1.10 (0.92-1.30, p=0.306)
Chronic pulmonary disease	YES	1.23 (1.01-1.50, p=0.036)
Chronic kidney disease	YES	1.17 (0.95-1.44, p=0.129)
Malignancy	YES	1.67 (1.33-2.10, p<0.001)
Obesity	YES	1.16 (0.88-1.53, p=0.309)
Dementia	YES	1.54 (1.23-1.93, p<0.001)



ROC = 0.7085221

Figure 15 - Predictions calibration plot

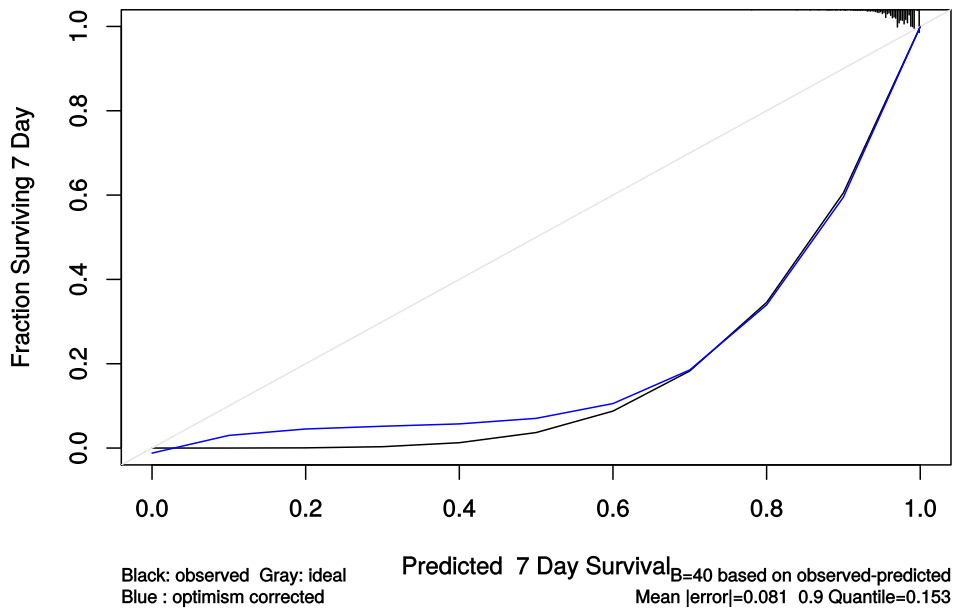


Figure 16 - Prognostic model predictions

Again, for demonstration of methods.

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

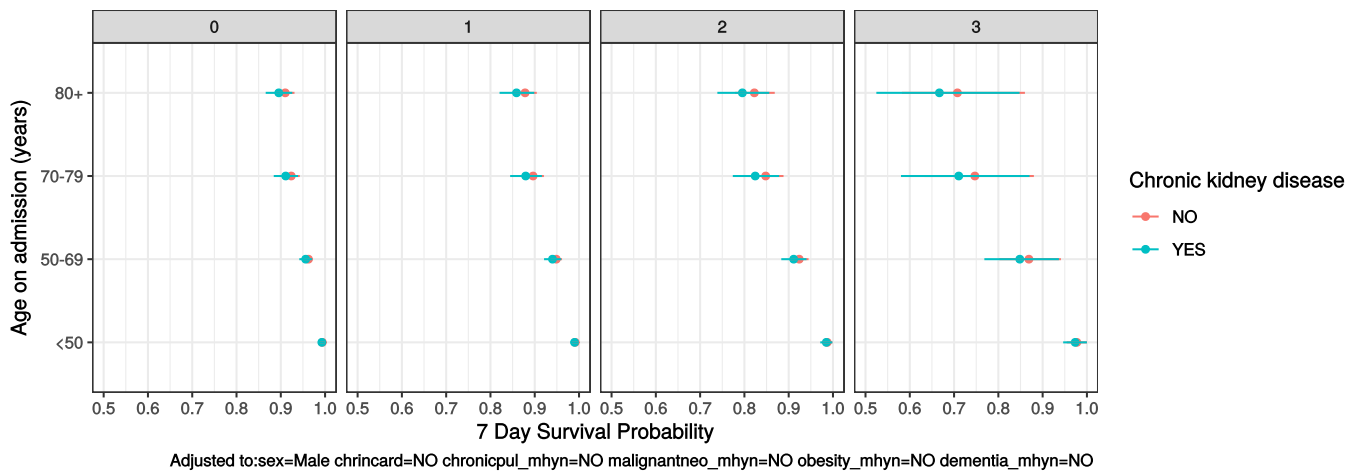


Figure 17 - Death by severity (NEWS) on admission

Number of deaths by NEWS score at admission

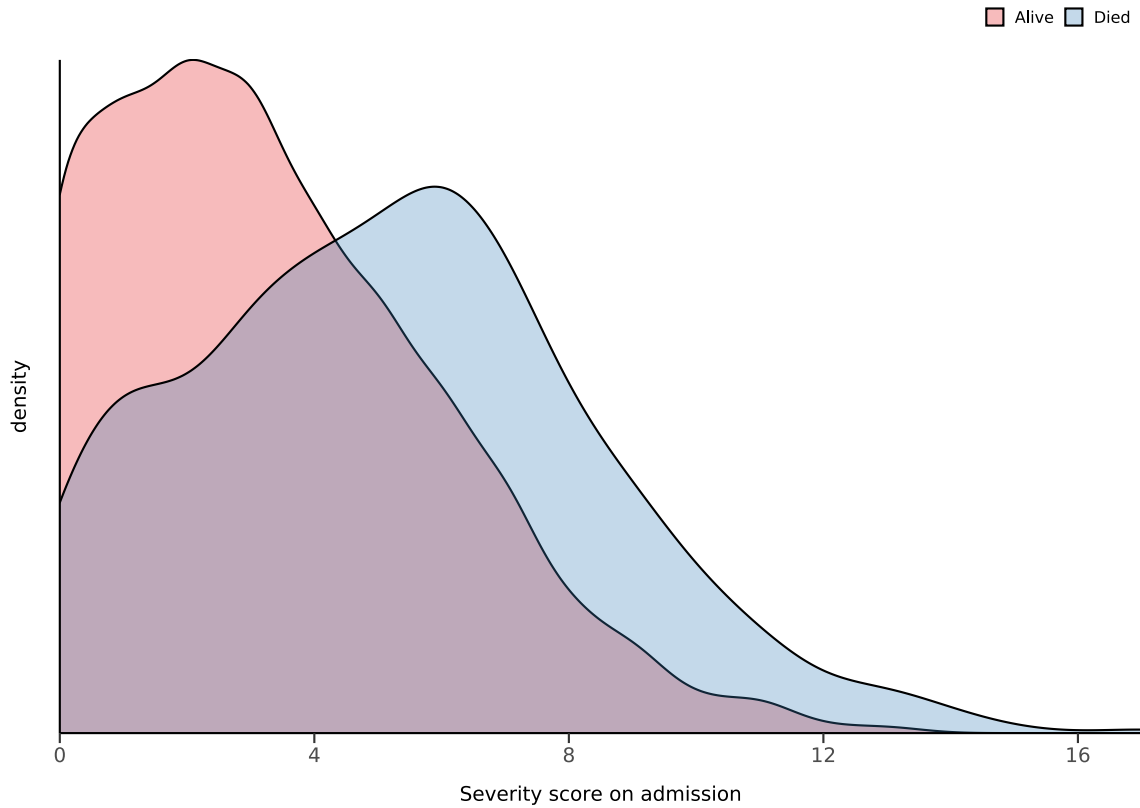


Figure 18 - Death by severity (NEWS) on admission stratified by age

Number of deaths by NEWS score at admission
Stratified by age

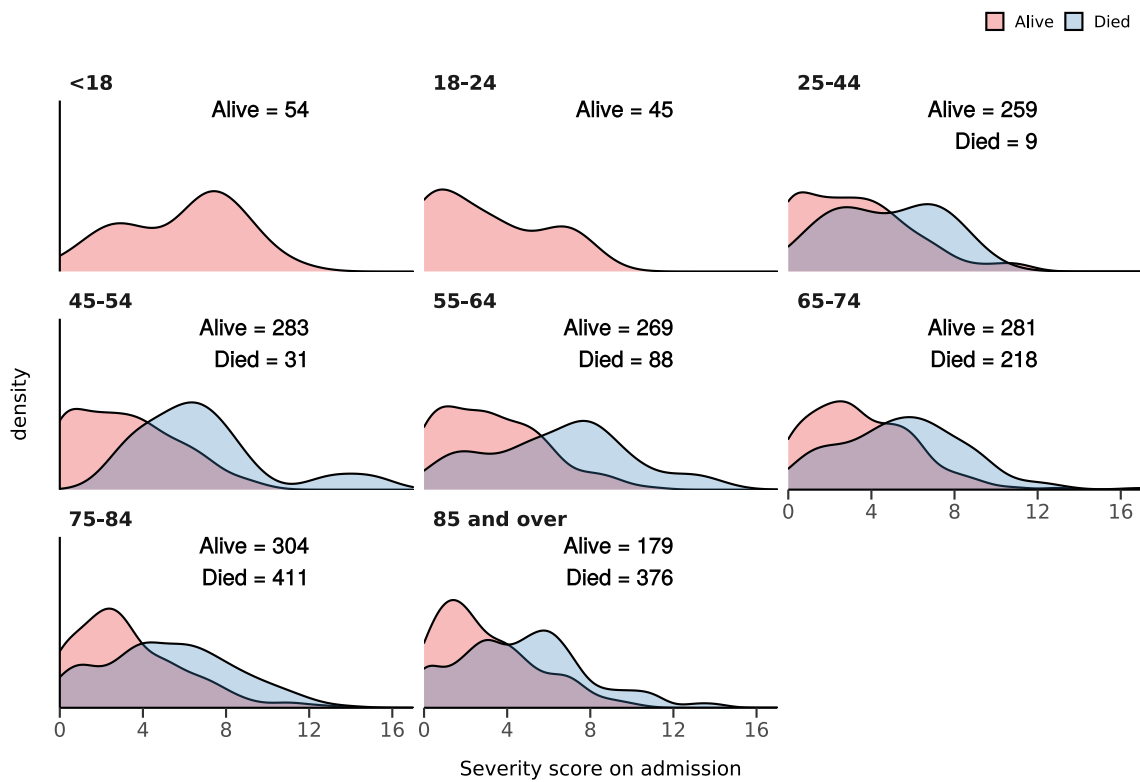
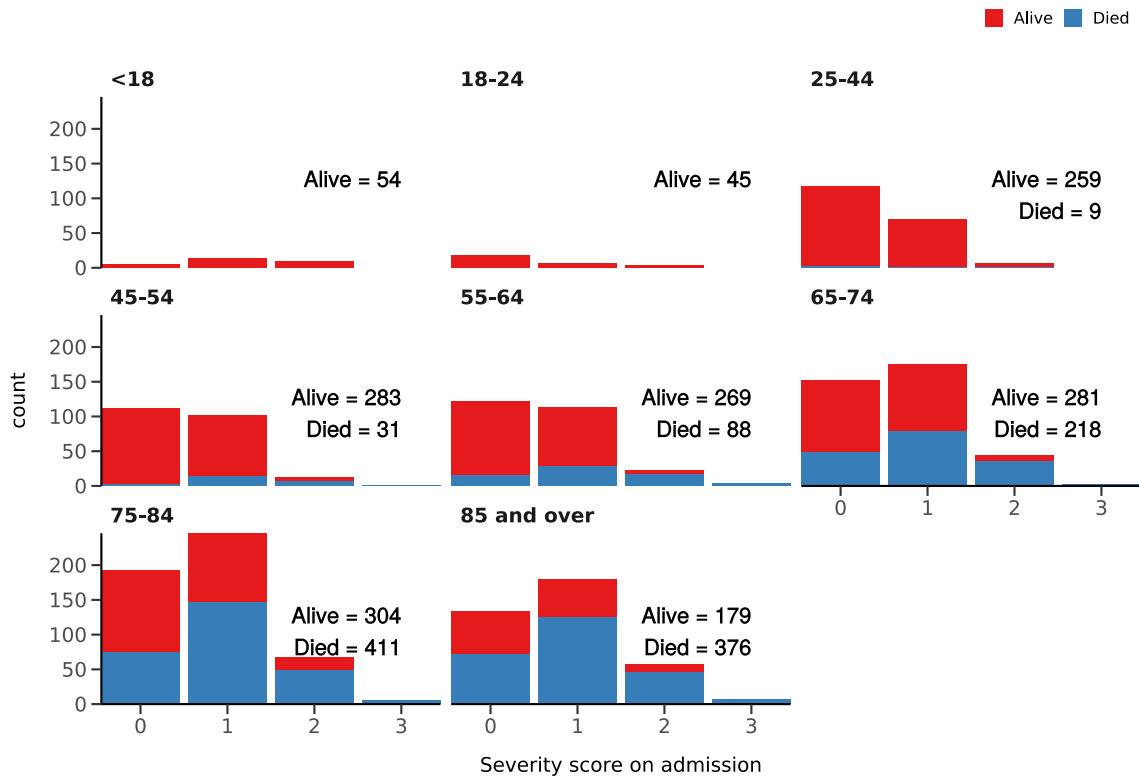


Figure 19 - Death by severity (qSOFA) on admission stratified by age

Number of deaths by qSOFA score at admission
Stratified by age



Healthcare workers

Healthcare worker		NO	YES	p
Total N (%)		6053 (96.4)	225 (3.6)	
NEWS score on admission	Median (IQR)	4.0 (4.0)	4.0 (4.0)	0.376
Death	No	1403 (57.5)	96 (96.0)	<0.001
	Yes	1035 (42.5)	4 (4.0)	

Admission (detail)

Table 1

label	levels	all
Total N (%)		10080 (100.0)
Age on admission (years)	Mean (SD)	68.2 (18.4)
Sex at Birth	Male	4484 (44.5)
	Female	2864 (28.4)
	Not specified	12 (0.1)
	(Missing)	2720 (27.0)
Healthcare worker	YES	225 (2.2)
	NO	6053 (60.0)
	N/A	566 (5.6)
	(Missing)	3236 (32.1)

label	levels	all
Microbiology lab worker	YES	18 (0.2)
	NO	6247 (62.0)
	N/A	577 (5.7)
	(Missing)	3238 (32.1)
Onset to admission (days)	Mean (SD)	5.4 (126.3)
Transfer from other facility	Yes-facility is a study site	115 (1.1)
	Yes-facility is not a study site	335 (3.3)
	No	6121 (60.7)
	N/A	146 (1.4)
	(Missing)	3363 (33.4)
Travel in 14 d prior to symptoms	Yes	443 (4.4)
	No	4968 (49.3)
	N/A	817 (8.1)
	(Missing)	3852 (38.2)
Country	Antigua and Barbuda	1 (0.0)
	Australia	3 (0.0)
	Austria	14 (0.1)
	Barbados	10 (0.1)
	Brazil	1 (0.0)
	Bulgaria	2 (0.0)
	China	2 (0.0)
	Cyprus	12 (0.1)
	Czechia	1 (0.0)
	Dominican Republic	1 (0.0)
	Egypt	4 (0.0)
	France	24 (0.2)
	Germany	7 (0.1)
	Ghana	1 (0.0)
	Greece	1 (0.0)
	Hungary	2 (0.0)
	Iceland	1 (0.0)
	India	5 (0.0)
	Indonesia	1 (0.0)
	Iran	5 (0.0)
Ireland	3 (0.0)	
Italy	73 (0.7)	

label	levels	all
	Japan	3 (0.0)
	Malaysia	3 (0.0)
	Morocco	3 (0.0)
	Netherlands	6 (0.1)
	New Zealand	1 (0.0)
	Nigeria	2 (0.0)
	Norway	1 (0.0)
	Pakistan	1 (0.0)
	Philippines	4 (0.0)
	Poland	2 (0.0)
	Portugal	8 (0.1)
	Romania	4 (0.0)
	Saudi Arabia	1 (0.0)
	Singapore	2 (0.0)
	Somalia	1 (0.0)
	South Africa	3 (0.0)
	Spain	96 (1.0)
	Swaziland	1 (0.0)
	Switzerland	7 (0.1)
	Thailand	3 (0.0)
	Turkey	4 (0.0)
	United Arab Emirates	7 (0.1)
	United Kingdom	70 (0.7)
	Yemen	1 (0.0)
	(Missing)	9672 (96.0)
Country 2	Antigua and Barbuda	1 (0.0)
	Aruba	1 (0.0)
	Australia	2 (0.0)
	Austria	3 (0.0)
	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)

label	levels	all
	Germany	2 (0.0)
	India	1 (0.0)
	Indonesia	1 (0.0)
	Italy	11 (0.1)
	Portugal	1 (0.0)
	Qatar	1 (0.0)
	Spain	14 (0.1)
	Switzerland	1 (0.0)
	Thailand	1 (0.0)
	Turkey	3 (0.0)
	(Missing)	10025 (99.5)
Animal, raw meat, insect bites 14 d prior	Yes	48 (0.5)
	No	2464 (24.4)
	Unknown	3546 (35.2)
	N/A	307 (3.0)
	(Missing)	3715 (36.9)
Animal / insect	Bee Sting	1 (2.2)
	Bird (pet)	1 (2.2)
	bird (pigeon)	1 (2.2)
	Cat	1 (2.2)
	Cat (pet)	1 (2.2)
	cats	2 (4.4)
	chicken & beef	1 (2.2)
	Chickens	1 (2.2)
	COWS	1 (2.2)
	cows, rabbits, pigs goats	1 (2.2)
	dog	2 (4.4)
	Dog	5 (11.1)
	Dog Pet	1 (2.2)
	Dog, domestic animla living in their home.	1 (2.2)
	Dogs at home	1 (2.2)
	Domestic pet dog	1 (2.2)
	Domestic animal	1 (2.2)
	DOMESTIC ANIMAL	2 (4.4)
	domestic animals	1 (2.2)
	Domestic Animals living in his/her home	1 (2.2)

label	levels	all
	Domestic animals living in home	1 (2.2)
	domestic dog	1 (2.2)
	Domestic pest (cats)	1 (2.2)
	Domestic Pet	2 (4.4)
	Domestic pet cat	1 (2.2)
	Domestic pets	1 (2.2)
	Domestic Pets	1 (2.2)
	Domestic pets (dog)	1 (2.2)
	Domestic Pets Cat and Dog	1 (2.2)
	FARM ANIMALS - LAMBS	1 (2.2)
	pet dog	1 (2.2)
	Pet dog	1 (2.2)
	Prepared raw chicken	1 (2.2)
	Rodent - hamster,	1 (2.2)
	she has a cat	1 (2.2)
	Two cats	1 (2.2)
	unknown	1 (2.2)

Symptoms (detail)

Table 2

Stratified: all		all
Total N (%)		10080 (100.0)
Fever	YES	4358 (43.2)
	NO	1596 (15.8)
	Unknown	342 (3.4)
	(Missing)	3784 (37.5)
Cough	YES	4469 (44.3)
	NO	1503 (14.9)
	Unknown	326 (3.2)
	(Missing)	3782 (37.5)
Cough (sputum)	YES	1461 (14.5)
	NO	3546 (35.2)
	Unknown	1194 (11.8)
	(Missing)	3879 (38.5)
Cough (blood)	YES	179 (1.8)
	NO	4659 (46.2)

Stratified: all

all

	Unknown	1345 (13.3)
	(Missing)	3897 (38.7)
Sore throat	YES	557 (5.5)
	NO	3827 (38.0)
	Unknown	1788 (17.7)
	(Missing)	3908 (38.8)
Runny nose	YES	217 (2.2)
	NO	4062 (40.3)
	Unknown	1892 (18.8)
	(Missing)	3909 (38.8)
Ear pain	YES	34 (0.3)
	NO	4217 (41.8)
	Unknown	1912 (19.0)
	(Missing)	3917 (38.9)
Wheeze	YES	583 (5.8)
	NO	4119 (40.9)
	Unknown	1463 (14.5)
	(Missing)	3915 (38.8)
Chest pain	YES	736 (7.3)
	NO	4209 (41.8)
	Unknown	1235 (12.3)
	(Missing)	3900 (38.7)
Muscle ache	YES	990 (9.8)
	NO	3468 (34.4)
	Unknown	1715 (17.0)
	(Missing)	3907 (38.8)
Joint pain	YES	351 (3.5)
	NO	3940 (39.1)
	Unknown	1869 (18.5)
	(Missing)	3920 (38.9)
Fatigue	YES	2131 (21.1)
	NO	2577 (25.6)
	Unknown	1468 (14.6)
	(Missing)	3904 (38.7)
Shortness of breath	YES	3977 (39.5)
	NO	1739 (17.3)

Stratified: all

all

	Unknown	559 (5.5)
	(Missing)	3805 (37.7)
Lower chest wall indrawing	YES	83 (0.8)
	NO	3976 (39.4)
	Unknown	2097 (20.8)
	(Missing)	3924 (38.9)
Headache	YES	651 (6.5)
	NO	3766 (37.4)
	Unknown	1743 (17.3)
	(Missing)	3920 (38.9)
Confusion	YES	1281 (12.7)
	NO	3974 (39.4)
	Unknown	926 (9.2)
	(Missing)	3899 (38.7)
Seizures	YES	85 (0.8)
	NO	4888 (48.5)
	Unknown	1194 (11.8)
	(Missing)	3913 (38.8)
Abdominal pain	YES	473 (4.7)
	NO	4424 (43.9)
	Unknown	1273 (12.6)
	(Missing)	3910 (38.8)
Nausea/vomiting	YES	1021 (10.1)
	NO	4144 (41.1)
	Unknown	1018 (10.1)
	(Missing)	3897 (38.7)
Diarrhoea	YES	997 (9.9)
	NO	4155 (41.2)
	Unknown	1029 (10.2)
	(Missing)	3899 (38.7)
Conjunctivitis	YES	25 (0.2)
	NO	4580 (45.4)
	Unknown	1555 (15.4)
	(Missing)	3920 (38.9)
Skin rash	YES	91 (0.9)
	NO	4651 (46.1)

Stratified: all		all
	Unknown	1422 (14.1)
	(Missing)	3916 (38.8)
Skin ulcers	YES	94 (0.9)
	NO	4656 (46.2)
	Unknown	1417 (14.1)
	(Missing)	3913 (38.8)
Lymphadenopathy	YES	35 (0.3)
	NO	4562 (45.3)
	Unknown	1560 (15.5)
	(Missing)	3923 (38.9)
Bleeding (Haemorrhage)	YES	56 (0.6)
	NO	4863 (48.2)
	Unknown	1240 (12.3)
	(Missing)	3921 (38.9)
If Bleeding (others)	YES	94 (0.9)
	NO	4704 (46.7)
	Unknown	1306 (13.0)
	(Missing)	3976 (39.4)

Comorbidity (detail)

Table 3

Stratified: all		all
Total N (%)		10080 (100.0)
Chronic cardiac disease	YES	1801 (17.9)
	NO	4294 (42.6)
	Unknown	262 (2.6)
	(Missing)	3723 (36.9)
Chronic pulmonary disease	YES	1116 (11.1)
	NO	4952 (49.1)
	Unknown	298 (3.0)
	(Missing)	3714 (36.8)
Asthma	YES	918 (9.1)
	NO	5111 (50.7)
	Unknown	321 (3.2)
	(Missing)	3730 (37.0)
Chronic kidney disease	YES	870 (8.6)

Stratified: all**all**

	NO	5120 (50.8)
	Unknown	340 (3.4)
	(Missing)	3750 (37.2)
Moderate/severe liver disease	YES	102 (1.0)
	NO	5844 (58.0)
	Unknown	388 (3.8)
	(Missing)	3746 (37.2)
Mild Liver disease	YES	90 (0.9)
	NO	5842 (58.0)
	Unknown	397 (3.9)
	(Missing)	3751 (37.2)
Chronic neurological disorder	YES	603 (6.0)
	NO	5348 (53.1)
	Unknown	376 (3.7)
	(Missing)	3753 (37.2)
Malignancy	YES	596 (5.9)
	NO	5351 (53.1)
	Unknown	391 (3.9)
	(Missing)	3742 (37.1)
Chronic hematologic disease	YES	203 (2.0)
	NO	5728 (56.8)
	Unknown	397 (3.9)
	(Missing)	3752 (37.2)
AIDS/HIV	YES	25 (0.2)
	NO	5882 (58.4)
	Unknown	433 (4.3)
	(Missing)	3740 (37.1)
Obesity	YES	535 (5.3)
	NO	5014 (49.7)
	Unknown	729 (7.2)
	(Missing)	3802 (37.7)
Diabetes with complications	YES	398 (3.9)
	NO	5609 (55.6)
	Unknown	333 (3.3)
	(Missing)	3740 (37.1)
Diabetes without complications	YES	1241 (12.3)

Stratified: all

all

	NO	4811 (47.7)
	Unknown	303 (3.0)
	(Missing)	3725 (37.0)
Rheumatologic disorder	YES	551 (5.5)
	NO	5362 (53.2)
	Unknown	402 (4.0)
	(Missing)	3765 (37.4)
Dementia	YES	700 (6.9)
	NO	5255 (52.1)
	Unknown	377 (3.7)
	(Missing)	3748 (37.2)
Malnutrition	YES	115 (1.1)
	NO	5535 (54.9)
	Unknown	646 (6.4)
	(Missing)	3784 (37.5)
Smoking	YES	298 (3.0)
	NO	4670 (46.3)
	(Missing)	5112 (50.7)