Dynamic CO-CIN report to SAGE and NERVTAG (All cases)

Dynamic content updated: 2020-10-07 04:28:14.
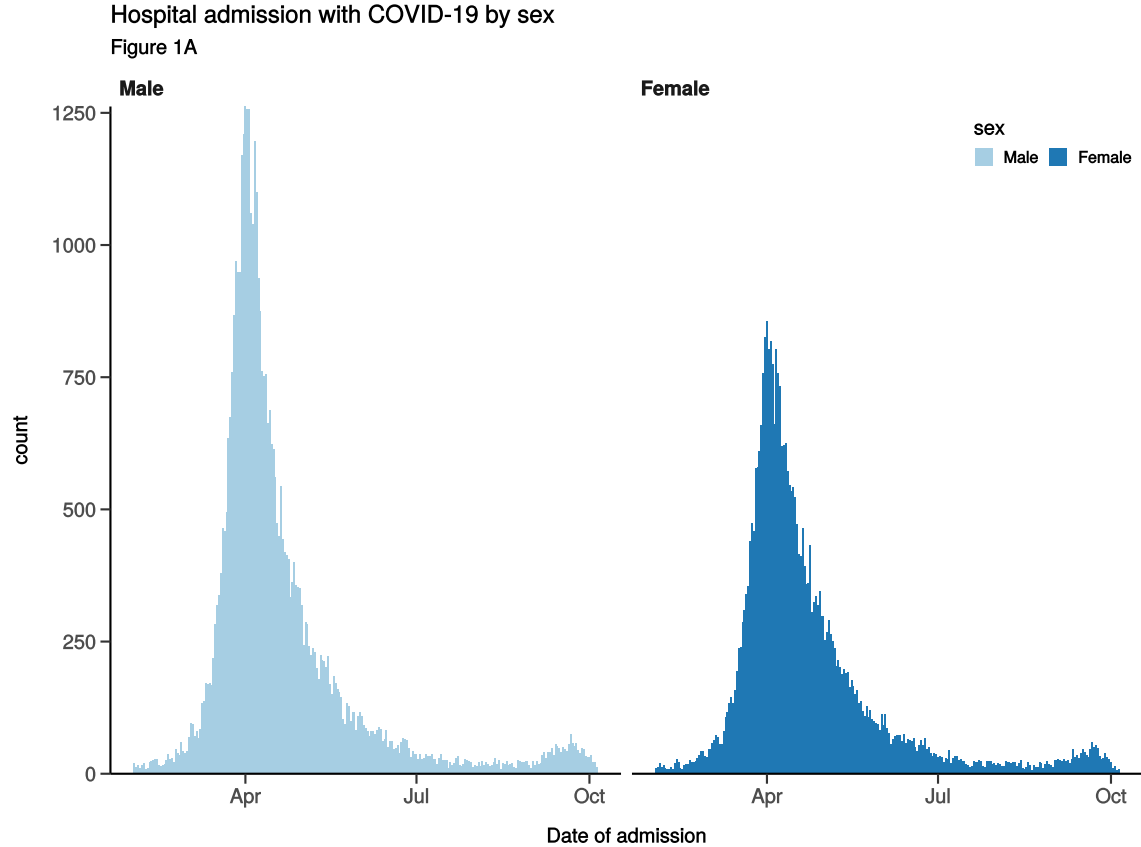
Executive summary

Includes all patients

There are 83983 patients included in CO-CIN. Of these, 24071 patient(s) have died and 11049 required ICU. 47640 have been discharged home.
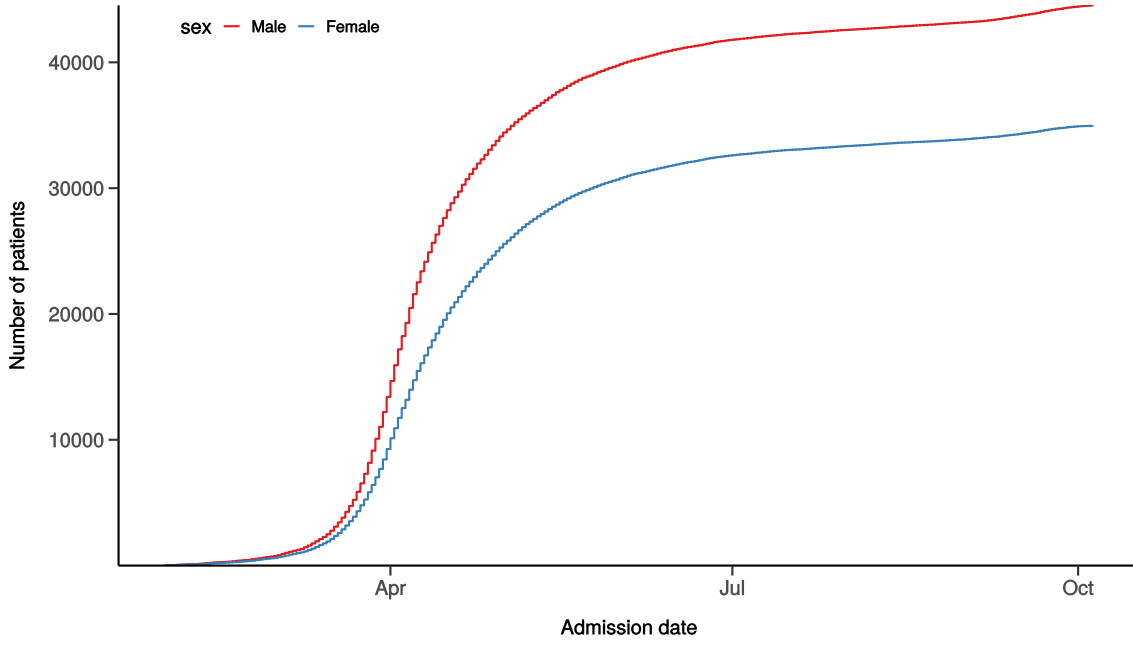
Admission

Figure 1

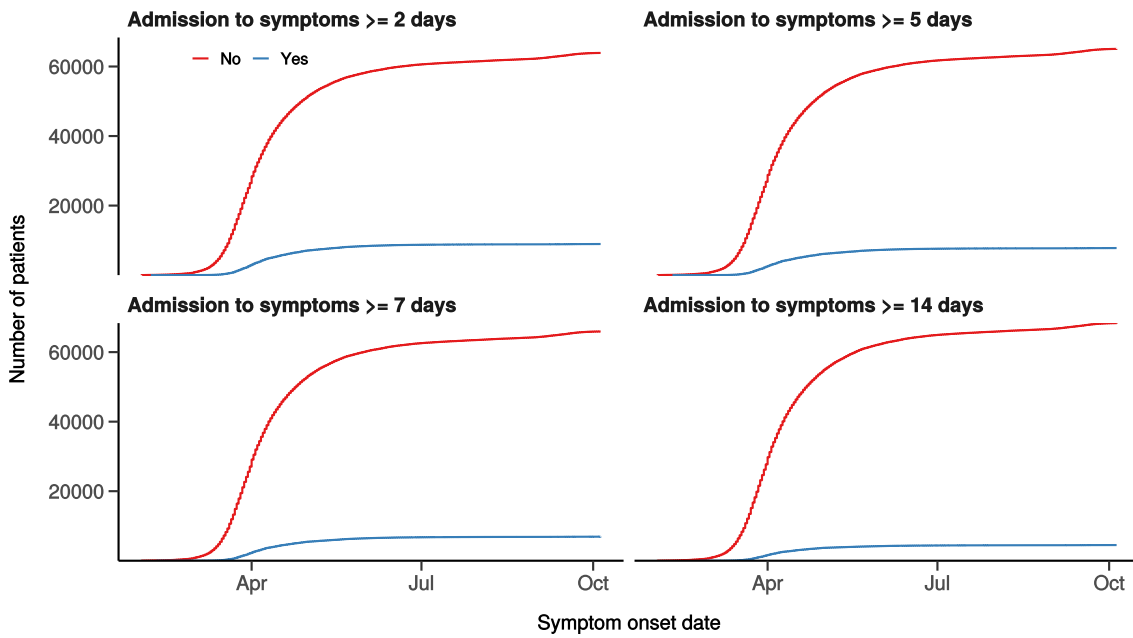Hospital admission with COVID-19 by sex

Figure 1A

Hospital admission with COVID-19 by sex
Figure 1B

Number with symptom onset occuring after admission to hospital
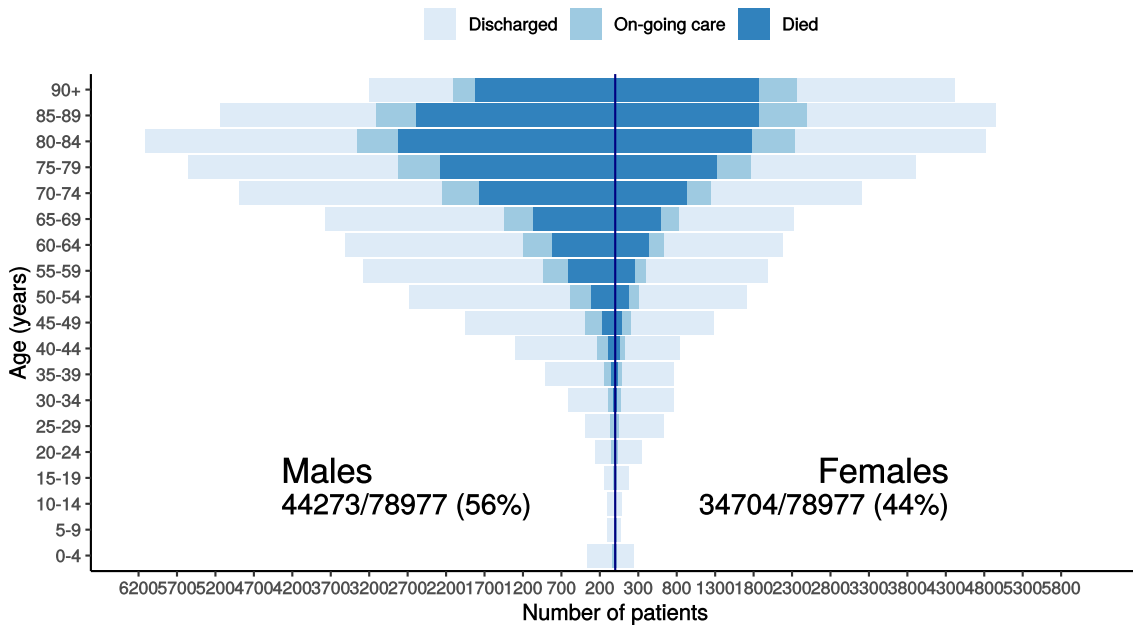### Figure 1C

Proportion with symptom onset occuring after hospital admission

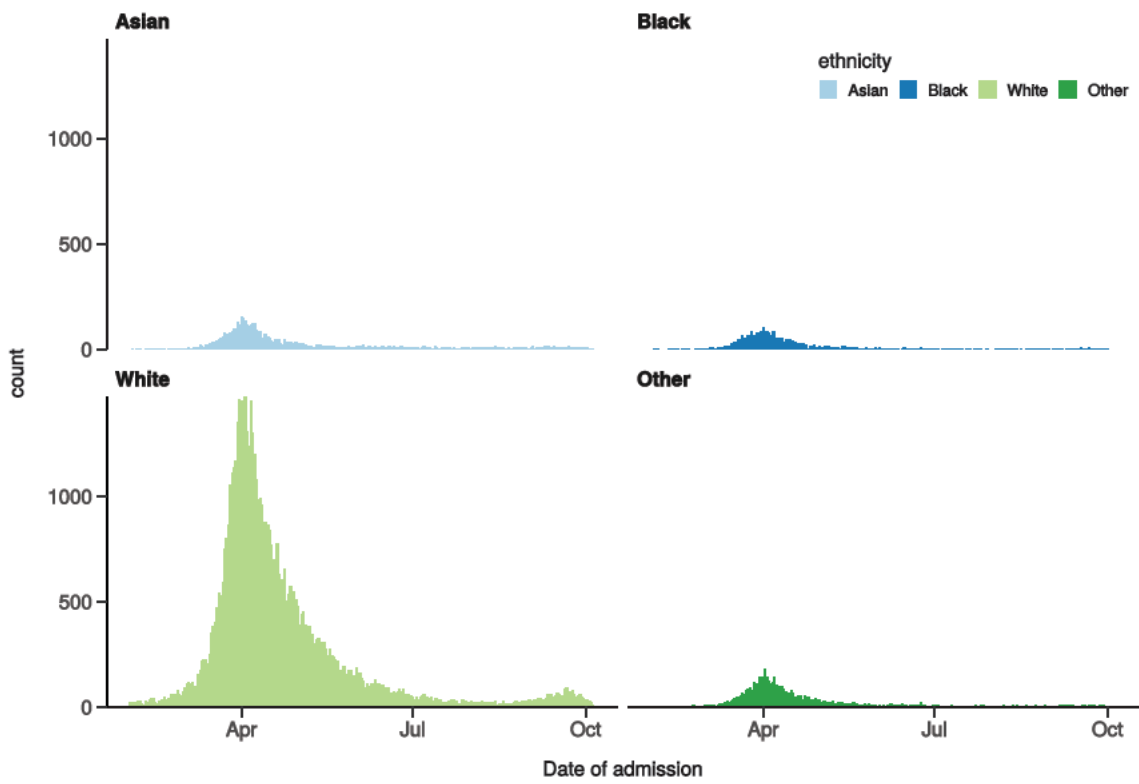Figure 1D - 7-day rolling percentage. n = 72852
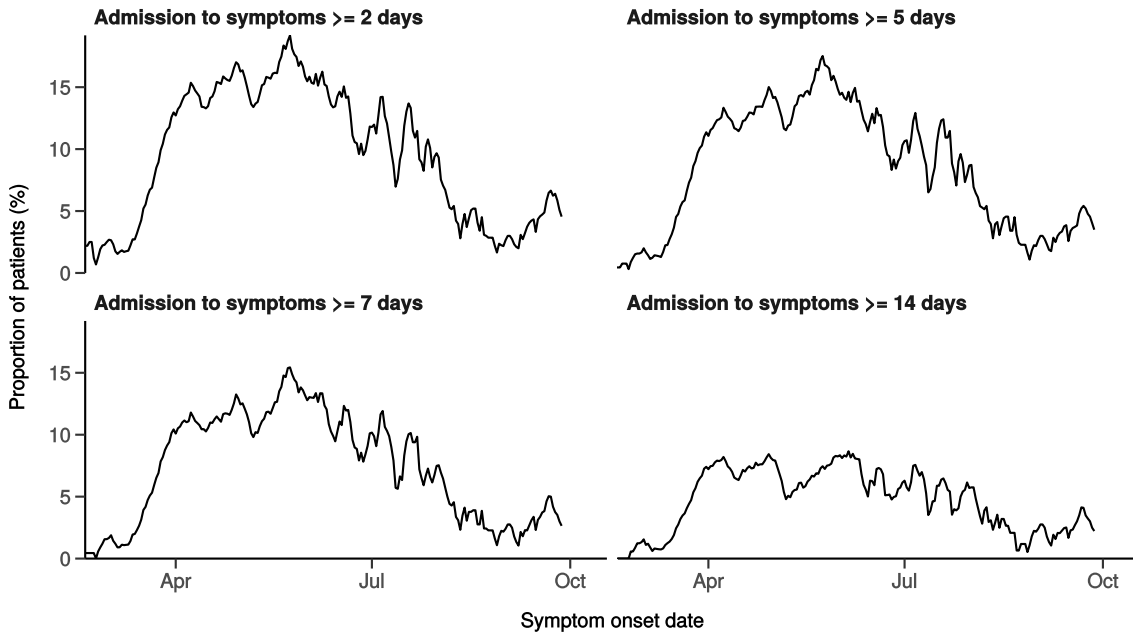
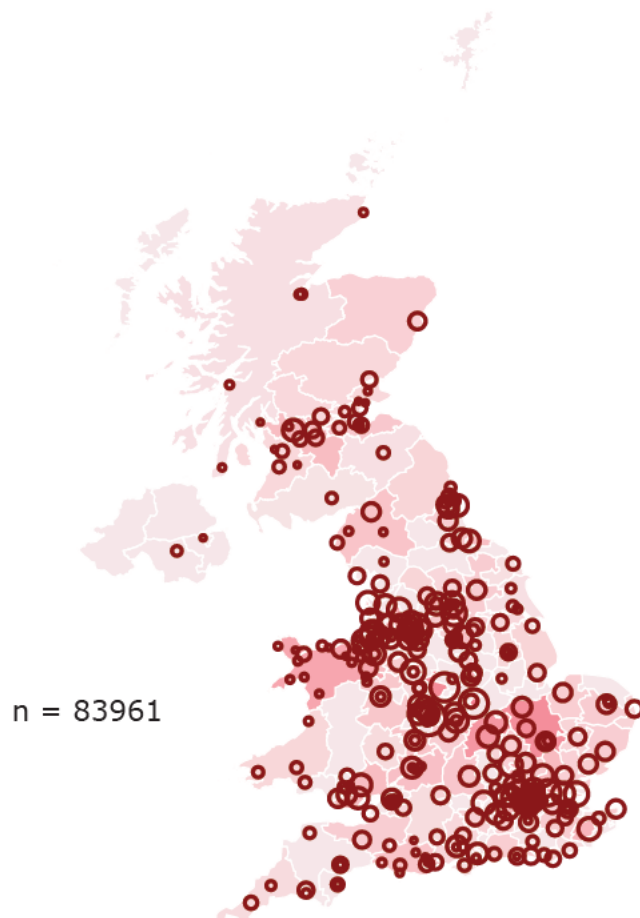## Patients with outcome stratified by age, and sex

Figure 1E

Hospital admission with COVID-19 by ethnicity
Figure 1F

Location by CCG / Healthboard

Figure 2

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

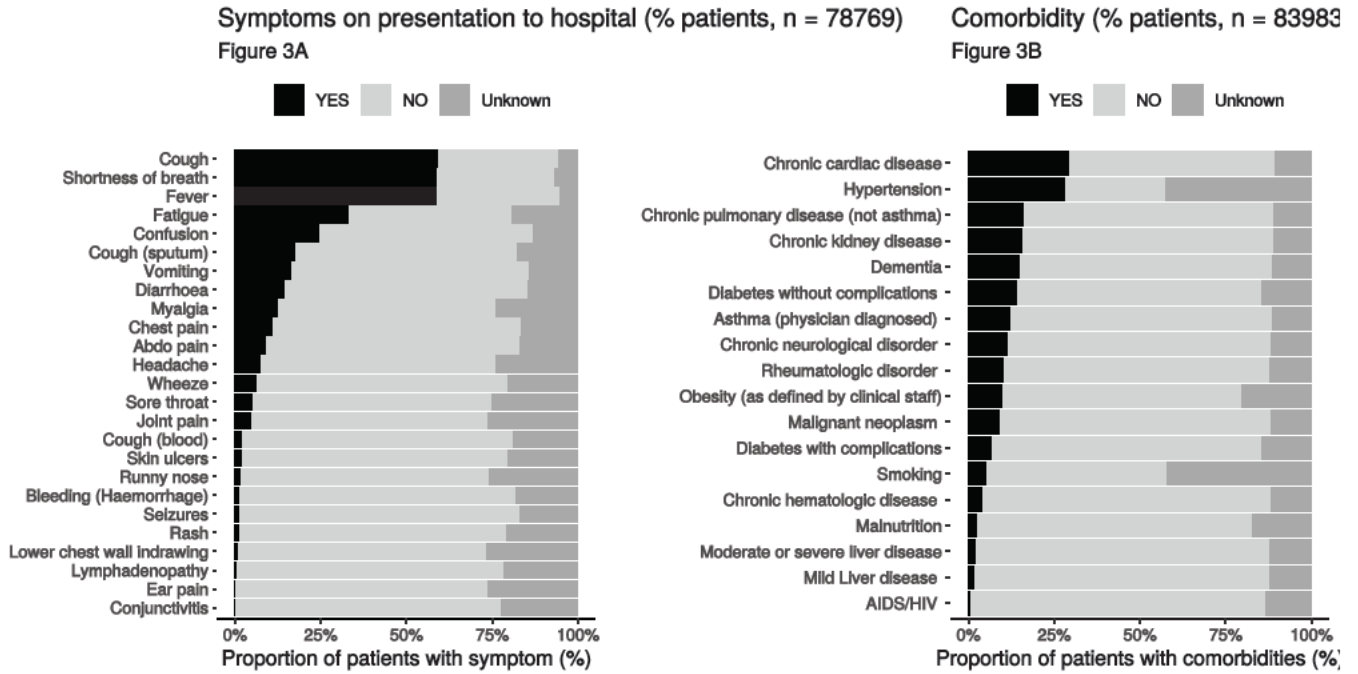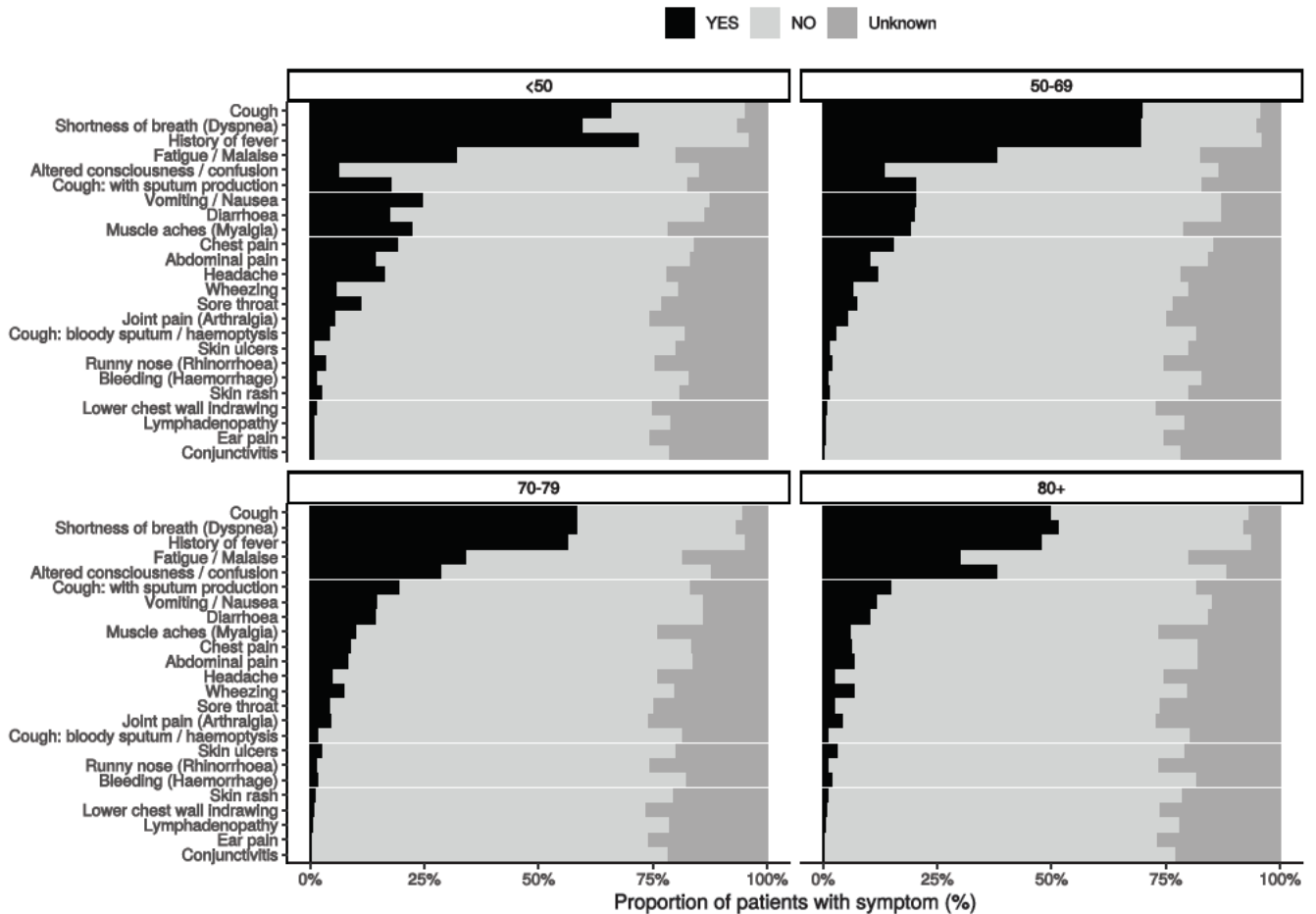n = 83961

Symptoms and comorbidity
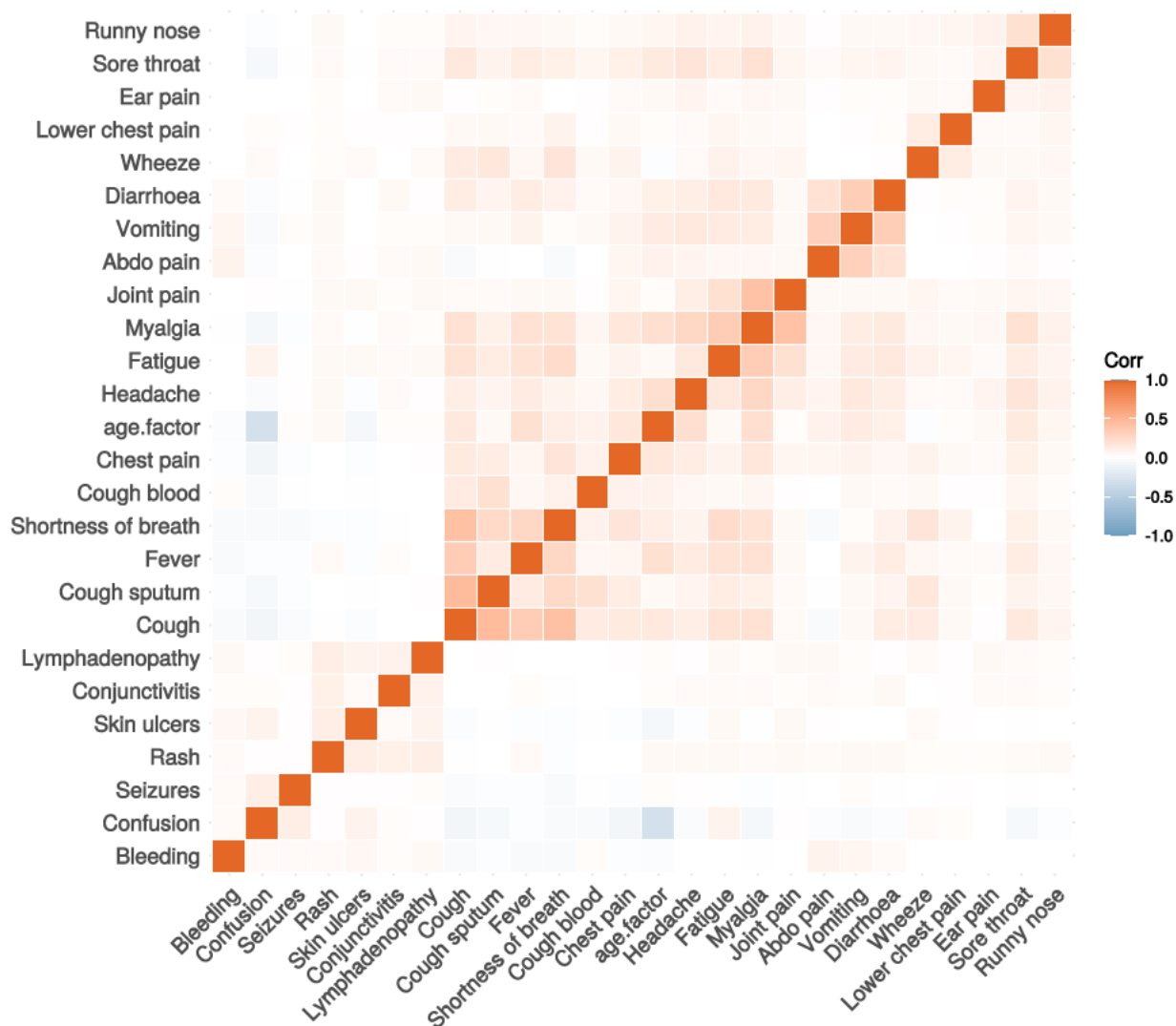
Figure 3A

Symptoms on presentation to hospital (% patients, n = 78769)
Figure 3A

Legend: YES (black), NO (light grey), Unknown (grey)

X-axis: Proportion of patients with symptom (%), 0% to 100%

Symptoms (top to bottom):
Cough, Shortness of breath, Fever, Fatigue, Confusion, Cough (sputum), Vomiting, Diarrhoea, Myalgia, Chest pain, Abdo pain, Headache, Wheeze, Sore throat, Joint pain, Cough (blood), Skin ulcers, Runny nose, Bleeding (Haemorrhage), Seizures, Rash, Lower chest wall indrawing, Lymphadenopathy, Ear pain, Conjunctivitis

Comorbidity (% patients, n = 83983)
Figure 3B

Legend: YES (black), NO (light grey), Unknown (grey)

X-axis: Proportion of patients with comorbidities (%), 0% to 100%

Comorbidities (top to bottom):
Chronic cardiac disease, Hypertension, Chronic pulmonary disease (not asthma), Chronic kidney disease, Dementia, Diabetes without complications, Asthma (physician diagnosed), Chronic neurological disorder, Rheumatologic disorder, Obesity (as defined by clinical staff), Malignant neoplasm, Diabetes with complications, Smoking, Chronic hematologic disease, Malnutrition, Moderate or severe liver disease, Mild Liver disease, AIDS/HIV

Figure 3B - Symptoms by Age

Legend: YES (black), NO (light grey), Unknown (grey)

Panels: <50, 50-69, 70-79, 80+

Symptoms (top to bottom):
Cough, Shortness of breath (Dyspnea), History of fever, Fatigue / Malaise, Altered consciousness / confusion, Cough: with sputum production, Vomiting / Nausea, Diarrhoea, Muscle aches (Myalgia), Chest pain, Abdominal pain, Headache, Wheezing, Sore throat, Joint pain (Arthralgia), Cough: bloody sputum / haemoptysis, Skin ulcers, Runny nose (Rhinorrhoea), Bleeding (Haemorrhage), Skin rash, Lower chest wall indrawing, Lymphadenopathy, Ear pain, Conjunctivitis

X-axis: Proportion of patients with symptom (%), 0% to 100%

Age Group	Number of Patients included in Symptoms Plot
<50	11299

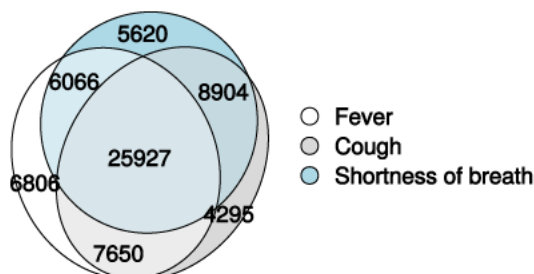| Age Group	Number of Patients included in Symptoms Plot
50-69	21473
70-79	17528
80+	28545

Figure 3C

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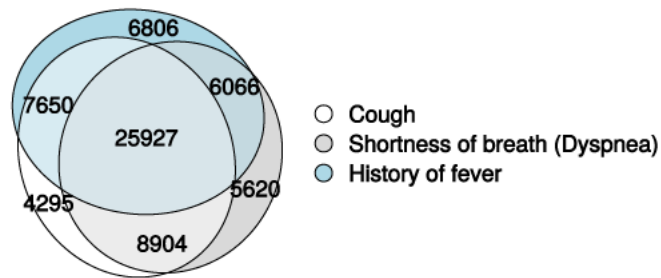

Symptoms (diagnostic criteria)

Figure 4A
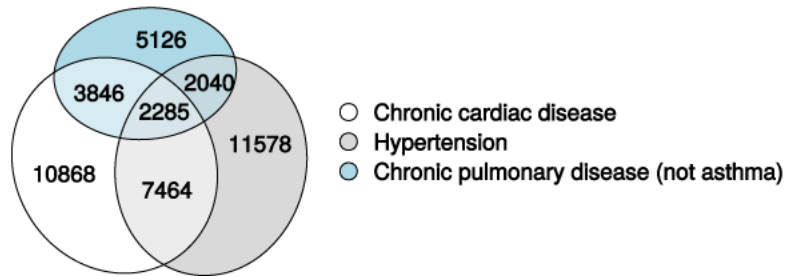
n = 78769

Symptoms (most common)

Figure 4B

n = 78769

Comorbidity (most common)

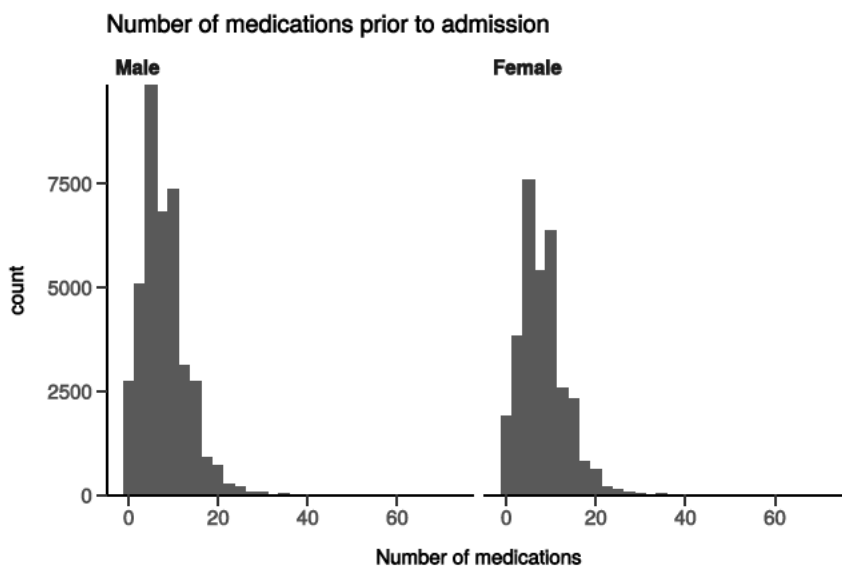Figure 4C

n = 83983

Medication prior to illness

Figure 5

Number of medications prior to admission

Preadmission treatment

Figure 6

Pre-admission treatment

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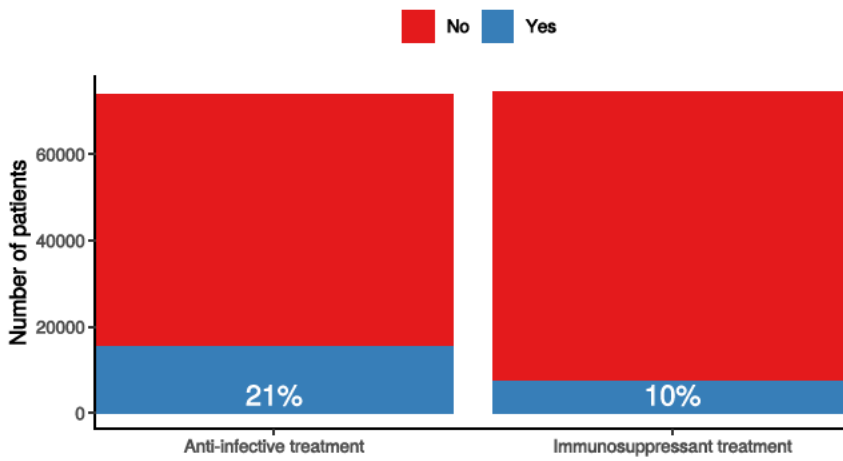
Patient flow

Figure 7A - All patients

N = 80573
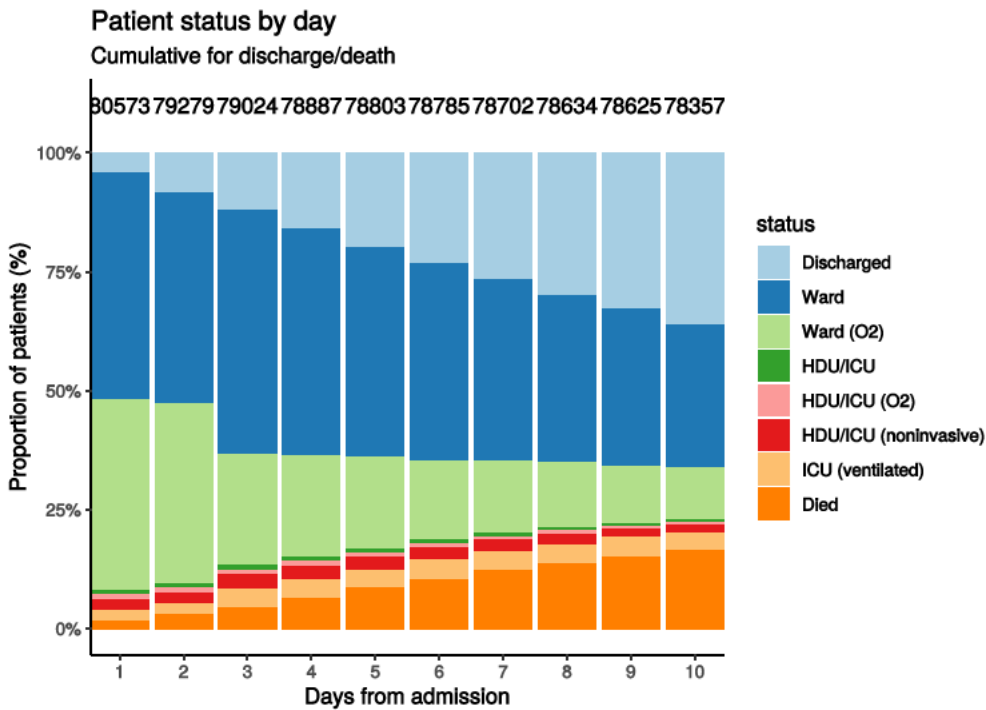
Figure 7B - Patients admitted >=14 days and <=28 days ago

N = 1175

Patient status by day
Cumulative for discharge/death

| 1175 | 829 | 824 | 811 | 811 | 811 | 808 | 806 | 806 | 795 |
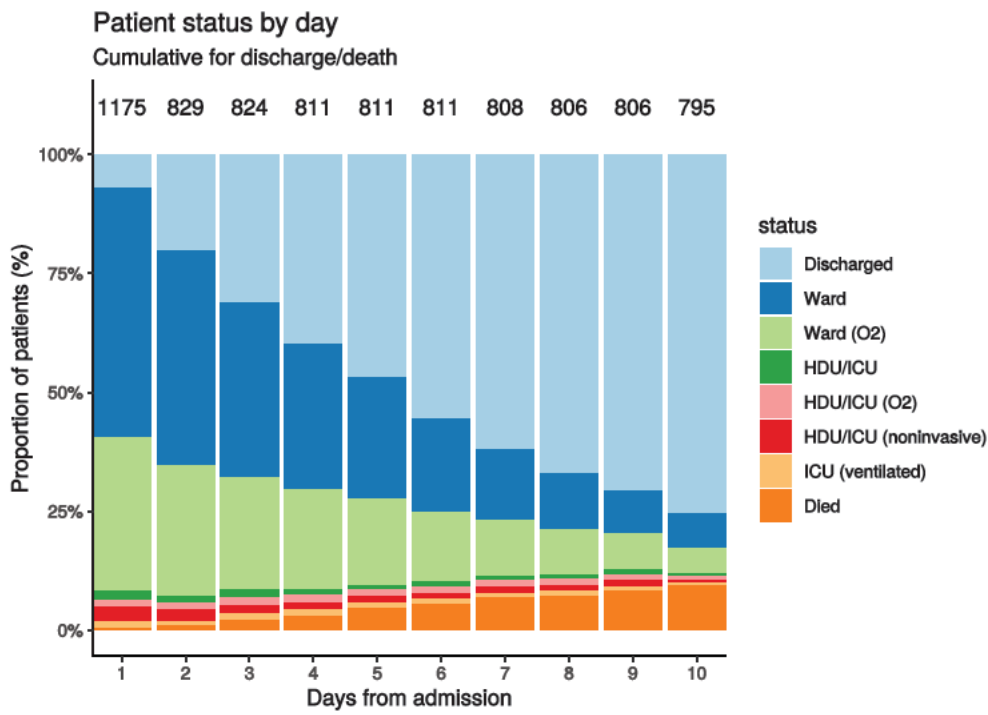
Oxygen requirement

Figure 8A - All patients

N = 76245
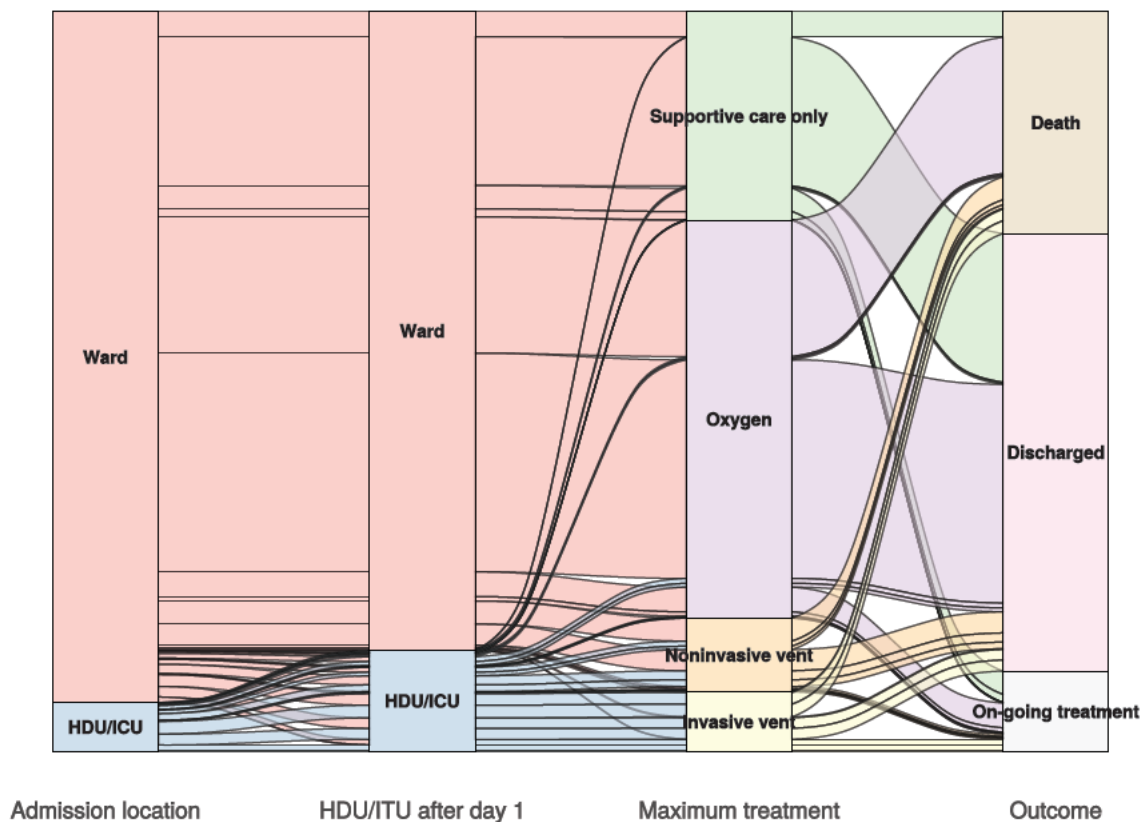
Figure 8B - Patients admitted >=14 days and <=28 days ago

N = 1113

In-hospital medical treatment

Figure 9

In-hospital treatment

Anti-virals, antibiotics, corticosteroids,
and anti-fungals for patients who have completed journey.
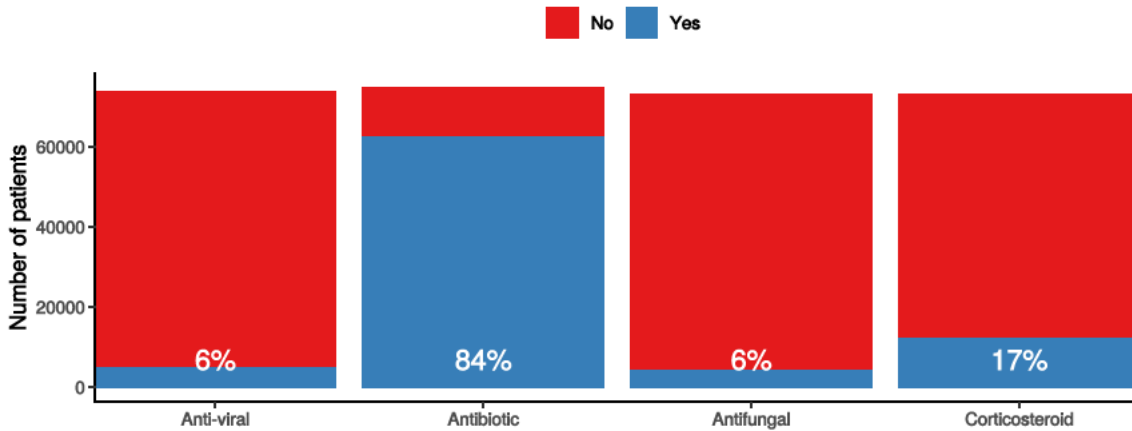
Treatment

Figure 10

ICU/HDU admission
Figure 10A

11049/79142
14%
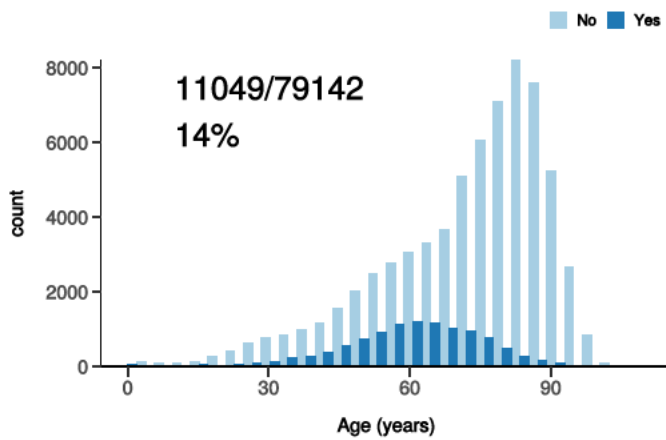
High flow oxygen
Figure 10B

57687/78374
74%

Noninvasive ventilation
Figure 10C

11663/77853
15%
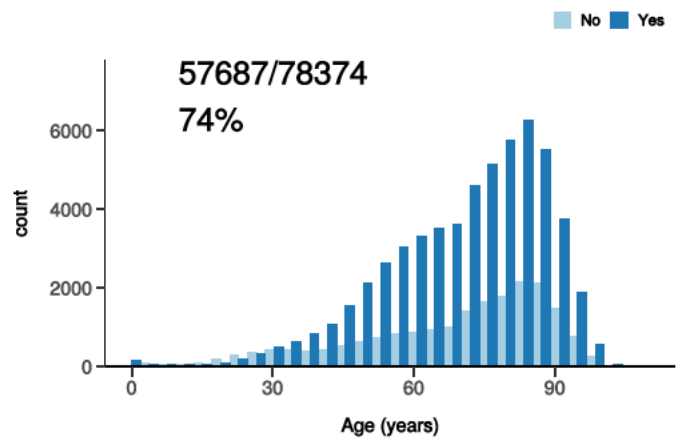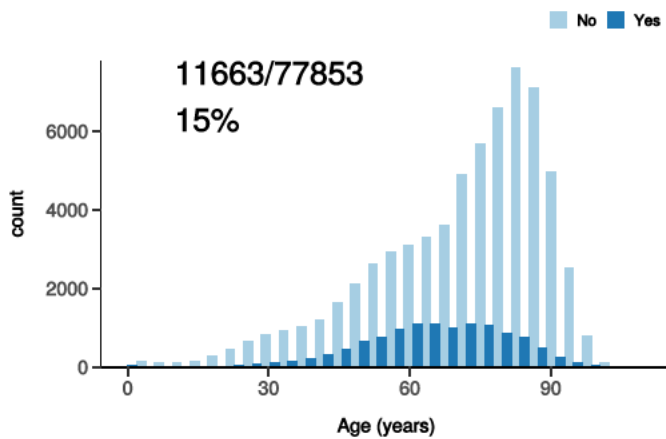
Invasive ventilation
Figure 10D

6524/78046
8%
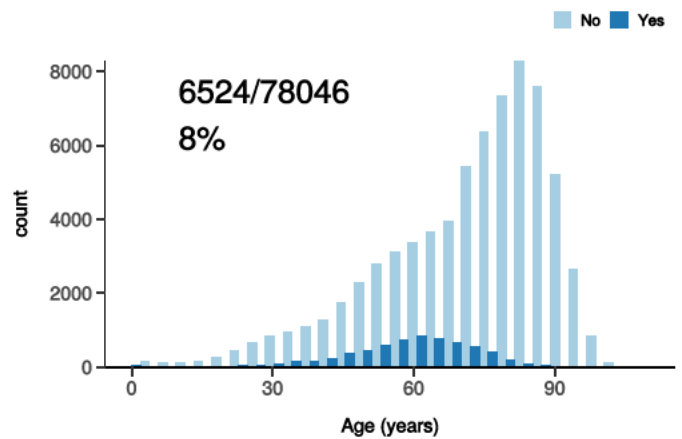
Status in patients admitted >=14 days from today

Figure 11

All: status in patients admitted >=14 days ago
Figure 11A

Died	On-going care	Discharged alive
23921/78820	7631/78820	47133/78820
30%	10%	60%
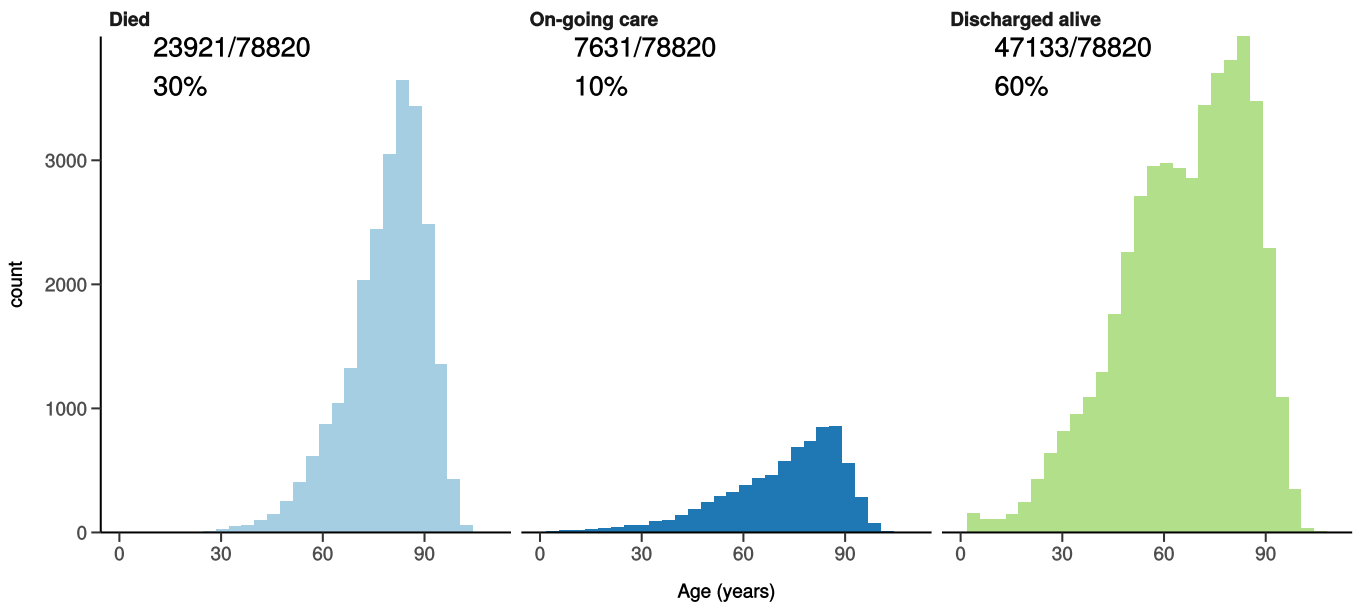
ICU/HDU admissions: status in patients admitted >=14 days ago
Figure 11B

Died	On-going care	Discharged alive
3924/10738	1626/10738	5174/10738
37%	15%	48%
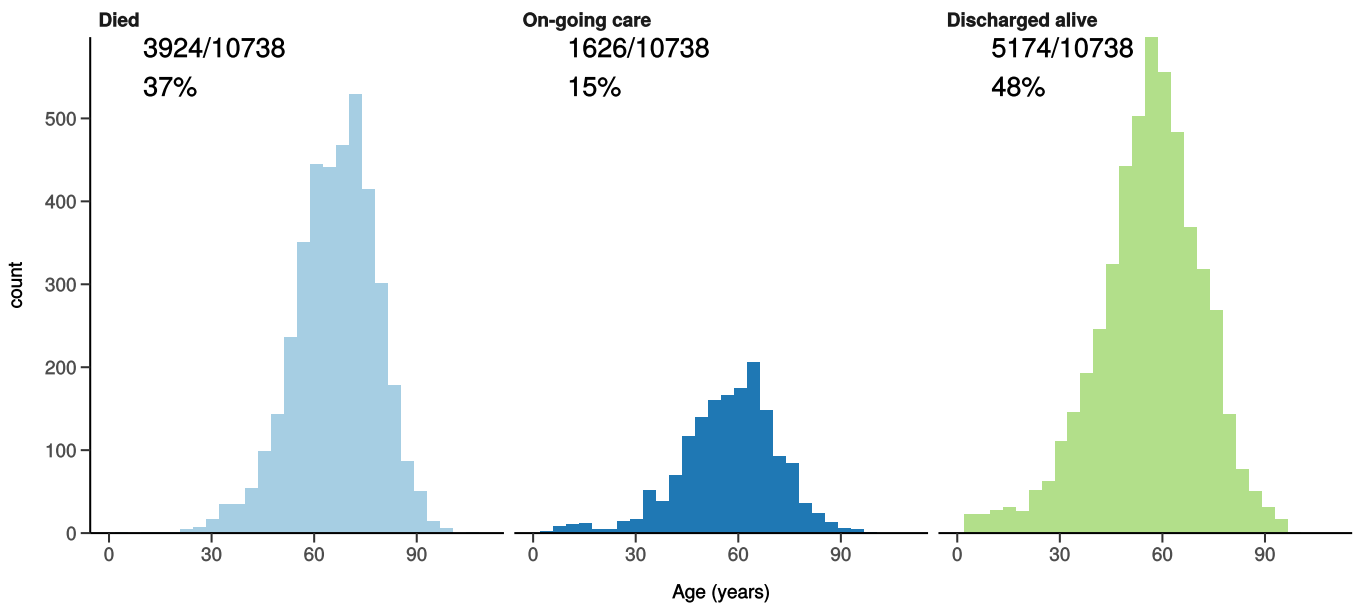
Invasive ventilation: status in patients admitted >=14 days ago
Figure 11c

Died	On-going care	Discharged alive
2719/6374	1248/6374	2403/6374
43%	20%	38%
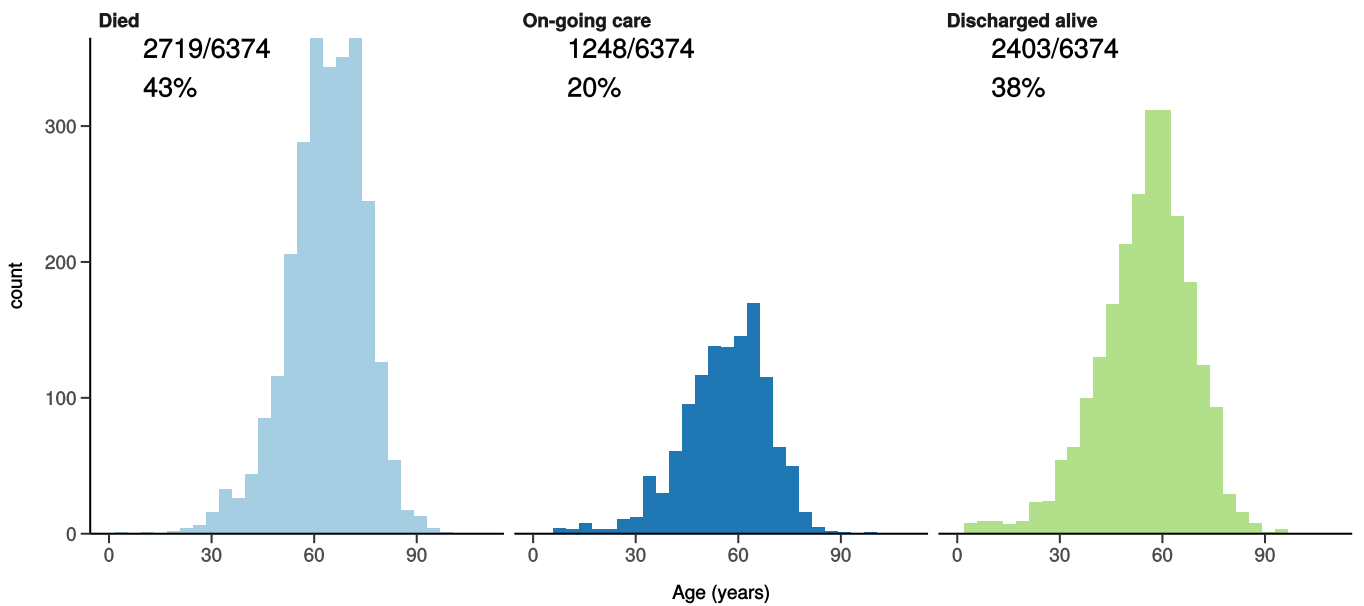
Length of stay stratified by age

Figure 12

Length of stay stratified by age and mortality
Proportion who reach outcome by day 14 shown
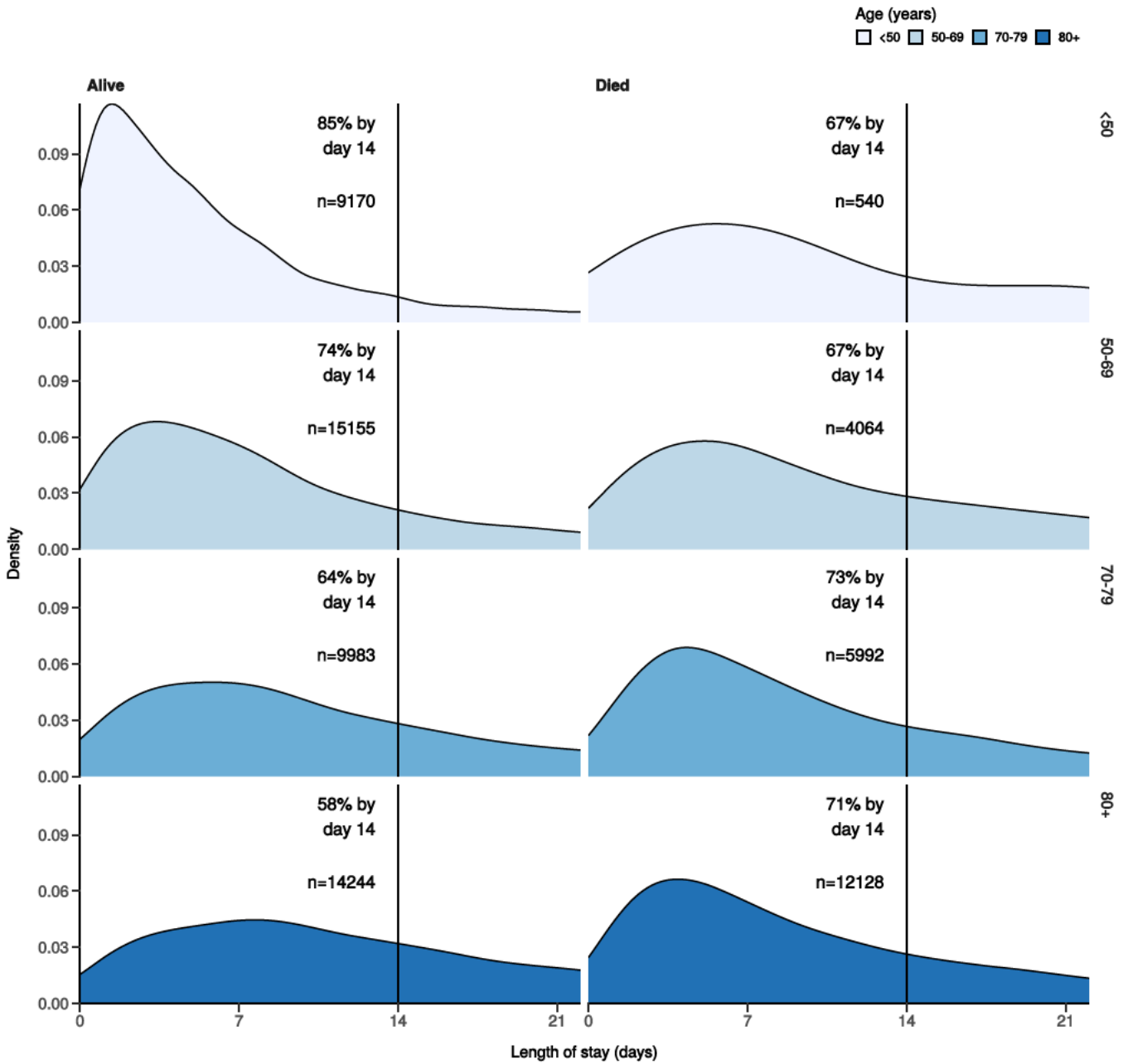
Predictors of death: logistic regression multivariable model

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	10505 (94.8)	578 (5.2)	•	•
	50-69	16806 (79.8)	4262 (20.2)	4.61 (4.22-5.05, p<0.001)	4.31 (3.90-4.78, p<0.001)
	70-79	11037 (63.8)	6272 (36.2)	10.33 (9.45-11.30, p<0.001)	8.69 (7.85-9.64, p<0.001)
	80+	15616 (55.1)	12714 (44.9)	14.80 (13.58-16.16, p<0.001)	12.39 (11.20-13.74, p<0.001)

Dependent: death		No	Yes	OR (univariable)	OR (multivariable)
Sex at Birth	Male	29191 (66.9)	14422 (33.1)	•	•
	Female	24815 (72.5)	9422 (27.5)	0.77 (0.75-0.79, p<0.001)	0.70 (0.68-0.73, p<0.001)
	Not specified	0 (NaN)	0 (NaN)	•	•
Chronic cardiac disease	NO	36484 (74.2)	12659 (25.8)	•	•
	YES	14114 (59.2)	9710 (40.8)	1.98 (1.92-2.05, p<0.001)	1.15 (1.11-1.20, p<0.001)
Chronic pulmonary disease (not asthma)	NO	42752 (71.5)	17007 (28.5)	•	•
	YES	7726 (59.8)	5186 (40.2)	1.69 (1.62-1.76, p<0.001)	1.25 (1.19-1.31, p<0.001)
Chronic neurological disorder	NO	44299 (70.6)	18483 (29.4)	•	•
	YES	5846 (62.5)	3515 (37.5)	1.44 (1.38-1.51, p<0.001)	1.16 (1.10-1.23, p<0.001)
Chronic hematologic disease	NO	48049 (69.9)	20676 (30.1)	•	•
	YES	1944 (61.5)	1215 (38.5)	1.45 (1.35-1.56, p<0.001)	1.15 (1.05-1.25, p=0.002)
Chronic kidney disease	NO	43012 (72.1)	16674 (27.9)	•	•
	YES	7326 (57.3)	5461 (42.7)	1.92 (1.85-2.00, p<0.001)	1.28 (1.22-1.34, p<0.001)
Dementia	NO	43614 (72.6)	16470 (27.4)	•	•
	YES	6579 (54.0)	5609 (46.0)	2.26 (2.17-2.35, p<0.001)	1.37 (1.30-1.44, p<0.001)
Obesity (as defined by clinical staff)	NO	39831 (69.6)	17432 (30.4)	•	•
	YES	5687 (73.3)	2075 (26.7)	0.83 (0.79-0.88, p<0.001)	1.28 (1.20-1.36, p<0.001)
Malignant neoplasm	NO	45828 (71.0)	18684 (29.0)	•	•
	YES	4195 (56.4)	3243 (43.6)	1.90 (1.81-1.99, p<0.001)	1.46 (1.38-1.55, p<0.001)

Number in dataframe = 79804, Number in model = 61809, Missing = 17995, AIC = 67211.9, C-statistic = 0.714, H&L = Chi-sq(8) 123.90 (p<0.001)

Figure 13 - Adjusted odds ratio plot

Death

Age on admission (years)	<50	-	
	50-69	4.31 (3.90-4.78, p<0.001)	
	70-79	8.69 (7.85-9.64, p<0.001)	
	80+	12.39 (11.20-13.74, p<0.001)	
Sex at Birth	Male	-	
	Female	0.70 (0.68-0.73, p<0.001)	
	Not specified	-	
Chronic cardiac disease	YES	1.15 (1.11-1.20, p<0.001)	
Chronic pulmonary disease (not asthma)	YES	1.25 (1.19-1.31, p<0.001)	
Chronic neurological disorder	YES	1.16 (1.10-1.23, p<0.001)	
Chronic hematologic disease	YES	1.15 (1.05-1.25, p=0.002)	
Chronic kidney disease	YES	1.28 (1.22-1.34, p<0.001)	
Dementia	YES	1.37 (1.30-1.44, p<0.001)	
Obesity (as defined by clinical staff)	YES	1.28 (1.20-1.36, p<0.001)	
Malignant neoplasm	YES	1.46 (1.38-1.55, p<0.001)	

Odds ratio (95% CI, log scale)

Figure 14 - ROC

AUC: 0.714
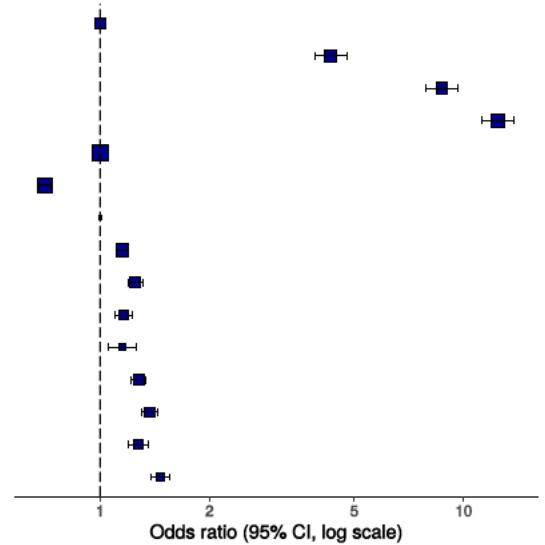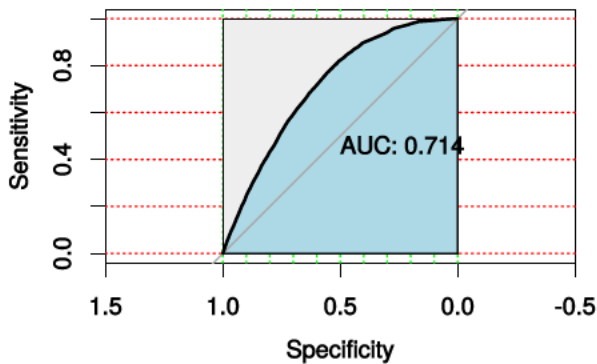
Survival models

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

Figure 15

P-value is log-rank test.
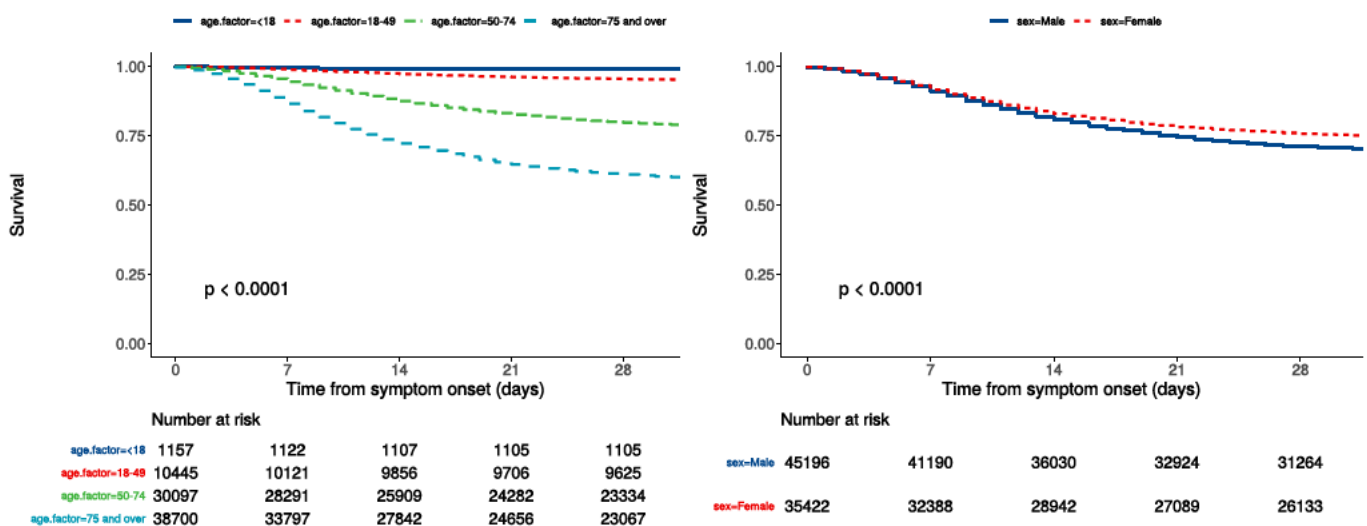
Cox proportional hazards model

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	11602 (14.4)	•	•
	50-69	21871 (27.2)	4.21 (3.86-4.60, p<0.001)	4.11 (3.69-4.57, p<0.001)
	70-79	17840 (22.2)	8.52 (7.82-9.29, p<0.001)	8.05 (7.24-8.95, p<0.001)
	80+	29092 (36.2)	11.47 (10.55-12.47, p<0.001)	10.57 (9.51-11.74, p<0.001)
Sex at Birth	Male	45196 (56.1)	•	•
	Female	35422 (43.9)	0.81 (0.79-0.83, p<0.001)	0.79 (0.77-0.82, p<0.001)
qSOFA score on admission	0	29513 (42.9)	•	•
	1	30860 (44.8)	1.61 (1.56-1.66, p<0.001)	1.71 (1.65-1.78, p<0.001)
	2	7636 (11.1)	3.06 (2.94-3.19, p<0.001)	2.86 (2.74-3.00, p<0.001)
	3	850 (1.2)	4.97 (4.56-5.42, p<0.001)	4.51 (4.09-4.97, p<0.001)
Symptomatic at presentation	No symptoms	4078 (5.2)	•	•
	Symptoms	74568 (94.8)	1.56 (1.46-1.67, p<0.001)	•
Chronic cardiac disease	NO	50489 (67.4)	•	•
	YES	24370 (32.6)	1.77 (1.73-1.82, p<0.001)	1.13 (1.10-1.17, p<0.001)
Chronic kidney disease	NO	61287 (82.4)	•	•
	YES	13069 (17.6)	1.72 (1.67-1.78, p<0.001)	1.22 (1.17-1.26, p<0.001)
Moderate or severe liver disease	NO	72189 (98.0)	•	•
	YES	1456 (2.0)	1.28 (1.18-1.40, p<0.001)	1.43 (1.28-1.59, p<0.001)
Chronic neurological disorder	NO	64467 (87.1)	•	•
	YES	9534 (12.9)	1.38 (1.33-1.43, p<0.001)	•
Malignant neoplasm	NO	66243 (89.7)	•	•
	YES	7576 (10.3)	1.66 (1.60-1.72, p<0.001)	1.34 (1.28-1.40, p<0.001)
Chronic hematologic disease	NO	70531 (95.6)	•	•
	YES	3210 (4.4)	1.34 (1.27-1.43, p<0.001)	•
Obesity (as defined by clinical staff)	NO	58749 (88.1)	•	•
	YES	7966 (11.9)	0.85 (0.81-0.89, p<0.001)	1.17 (1.11-1.23, p<0.001)
Diabetes without complications	NO	60005 (83.7)	•	•
	YES	11724 (16.3)	1.25 (1.21-1.30, p<0.001)	•
Rheumatologic disorder	NO	65080 (88.5)	•	•
	YES	8482 (11.5)	1.19 (1.14-1.24, p<0.001)	•

Dependent: Surv(time, status)		all		HR (univariable)	HR (multivariable)
Dementia	NO	61739 (83.3)	•		•
	YES	12389 (16.7)		2.00 (1.94-2.06, p<0.001)	1.17 (1.13-1.22, p<0.001)
Malnutrition	NO	67438 (97.2)	•		•
	YES	1944 (2.8)		1.44 (1.34-1.55, p<0.001)	•
smoking_mhyn_2levels	NO	43822 (57.7)	•		•
	YES	4236 (5.6)		0.87 (0.81-0.92, p<0.001)	•
	N/K	27899 (36.7)		1.24 (1.20-1.27, p<0.001)	•

Number in dataframe = 80977, Number in model = 56312, Missing = 24665, Number of events = 16386, Concordance = 0.718 (SE = 0.002), R-squared = 0.159(Max possible = 0.998), Likelihood ratio test = 9766.835 (df = 13, p = 0.000)

Figure 16a - Multivariable Cox proportional hazards model

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

Age on admission (years)	<50	-
	50-69	4.11 (3.69-4.57, p<0.001)
	70-79	8.05 (7.24-8.95, p<0.001)
	80+	10.57 (9.51-11.74, p<0.001)
Sex at Birth	Female	0.79 (0.77-0.82, p<0.001)
qSOFA score on admission	0	-
	1	1.71 (1.65-1.78, p<0.001)
	2	2.86 (2.74-3.00, p<0.001)
	3	4.51 (4.09-4.97, p<0.001)
Chronic cardiac disease	YES	1.13 (1.10-1.17, p<0.001)
Chronic kidney disease	YES	1.22 (1.17-1.26, p<0.001)
Moderate or severe liver disease	YES	1.43 (1.28-1.59, p<0.001)
Malignant neoplasm	YES	1.34 (1.28-1.40, p<0.001)
Obesity (as defined by clinical staff)	YES	1.17 (1.11-1.23, p<0.001)
Dementia	YES	1.17 (1.13-1.22, p<0.001)

Hazard ratio (95% CI, log scale)
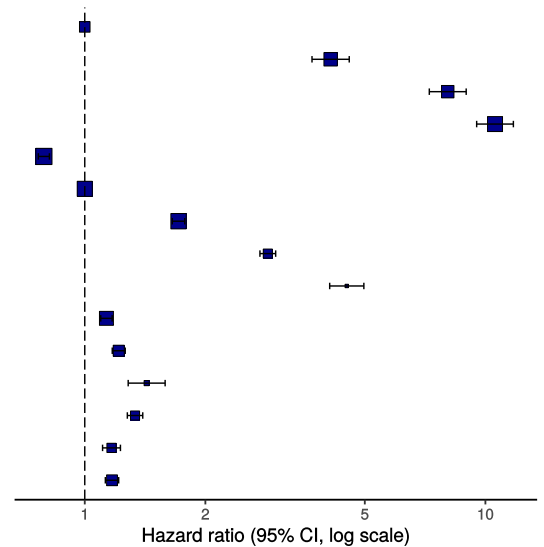
Figure 16b - Multivariable Cox proportional hazards model (age, sex, comorbidities only)

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

Age on admission (years)	<50	-
	50-69	4.08 (3.70-4.50, p<0.001)
	70-79	7.58 (6.88-8.36, p<0.001)
	80+	9.97 (9.05-10.98, p<0.001)
Sex at Birth	Female	0.76 (0.74-0.79, p<0.001)
Chronic cardiac disease	YES	1.12 (1.08-1.15, p<0.001)
Chronic pulmonary disease (not asthma)	YES	1.17 (1.13-1.21, p<0.001)
Chronic kidney disease	YES	1.20 (1.16-1.25, p<0.001)
Malignant neoplasm	YES	1.30 (1.24-1.35, p<0.001)
Obesity (as defined by clinical staff)	YES	1.19 (1.13-1.25, p<0.001)
Dementia	YES	1.31 (1.27-1.36, p<0.001)

Hazard ratio (95% CI, log scale)
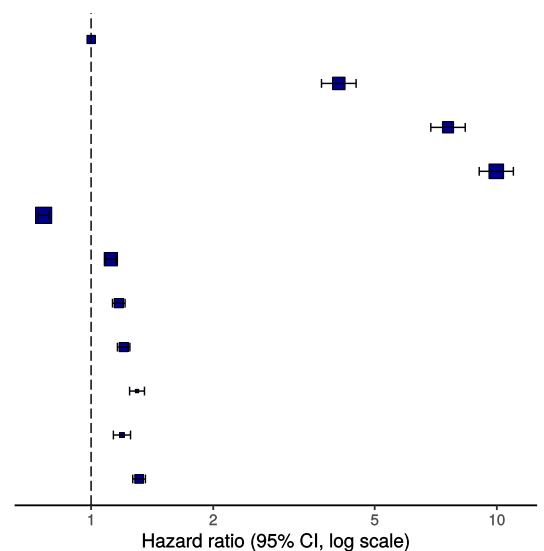
ROC = 0.7176274

Figure 17 - Predictions calibration plot

Black: observed Gray: ideal
Blue : optimism corrected

Predicted 7 Day Survival B=40 based on observed-predicted
Mean |error|=0.2 0.9 Quantile=0.364
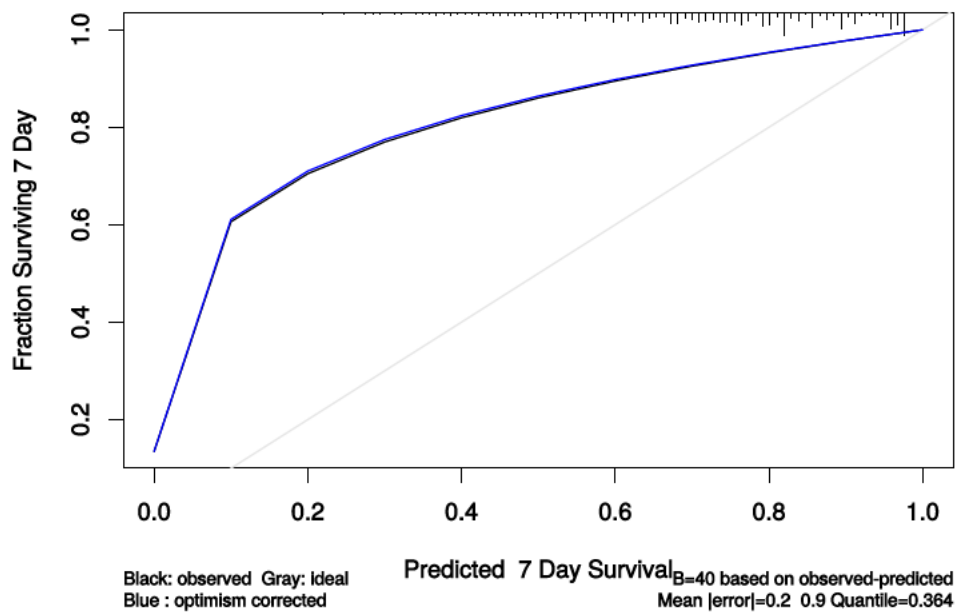
Figure 18 - Prognostic model predictions

Again, for demonstration of methods.
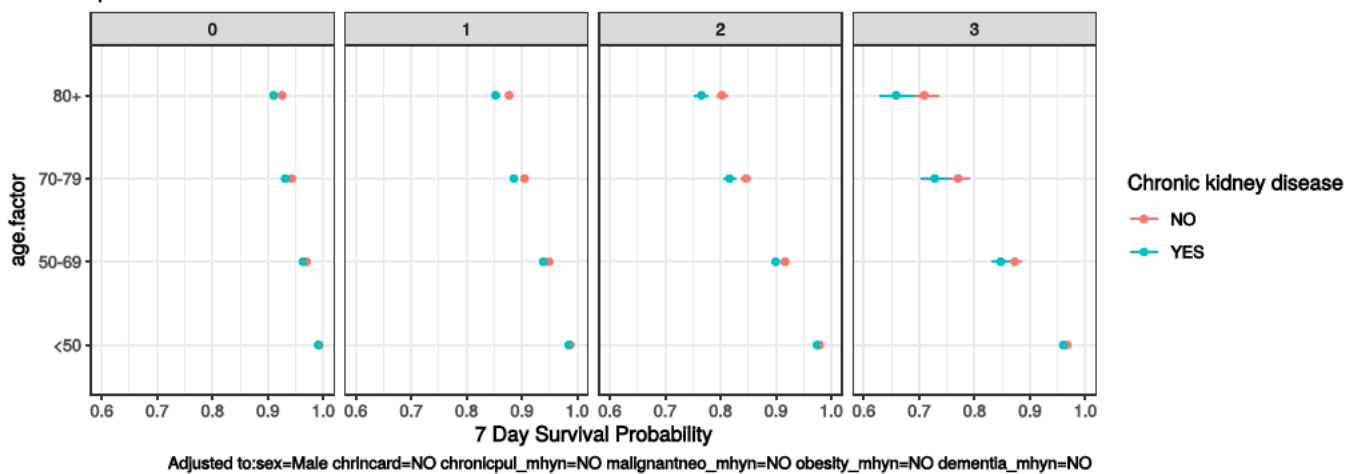
Figure 19 - Death by severity (NEWS) on admission

Number of deaths by NEWS score at admission
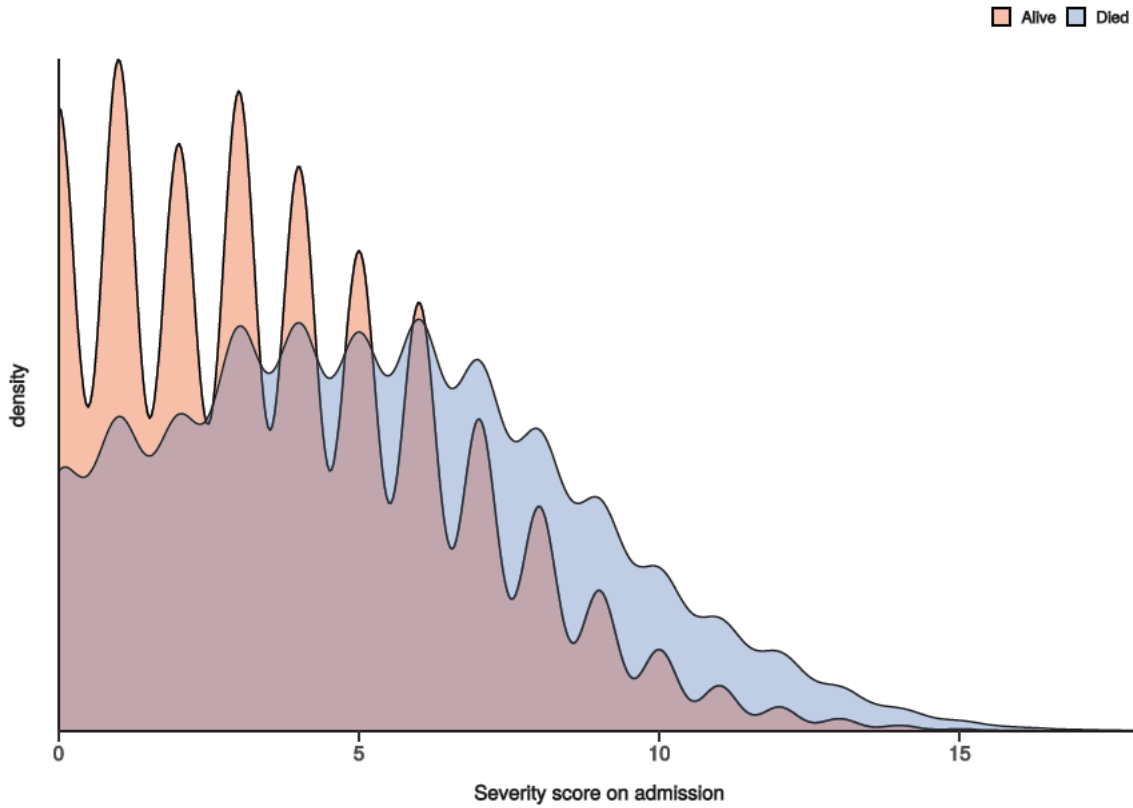
Figure 20 - Death by severity (NEWS) on admission stratified by age

Number of deaths by NEWS score at admission
Stratified by age
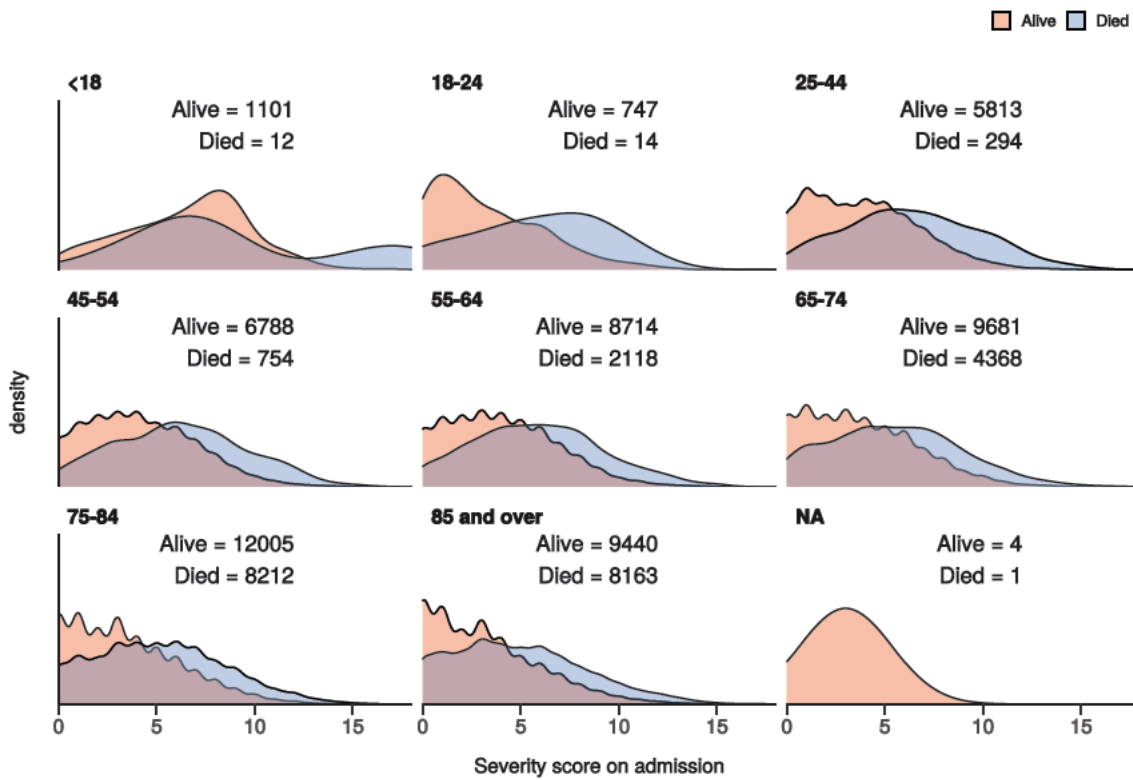
Figure 21 - Death by severity (qSOFA) on admission stratified by age

Number of deaths by qSOFA score at admission
Stratified by age
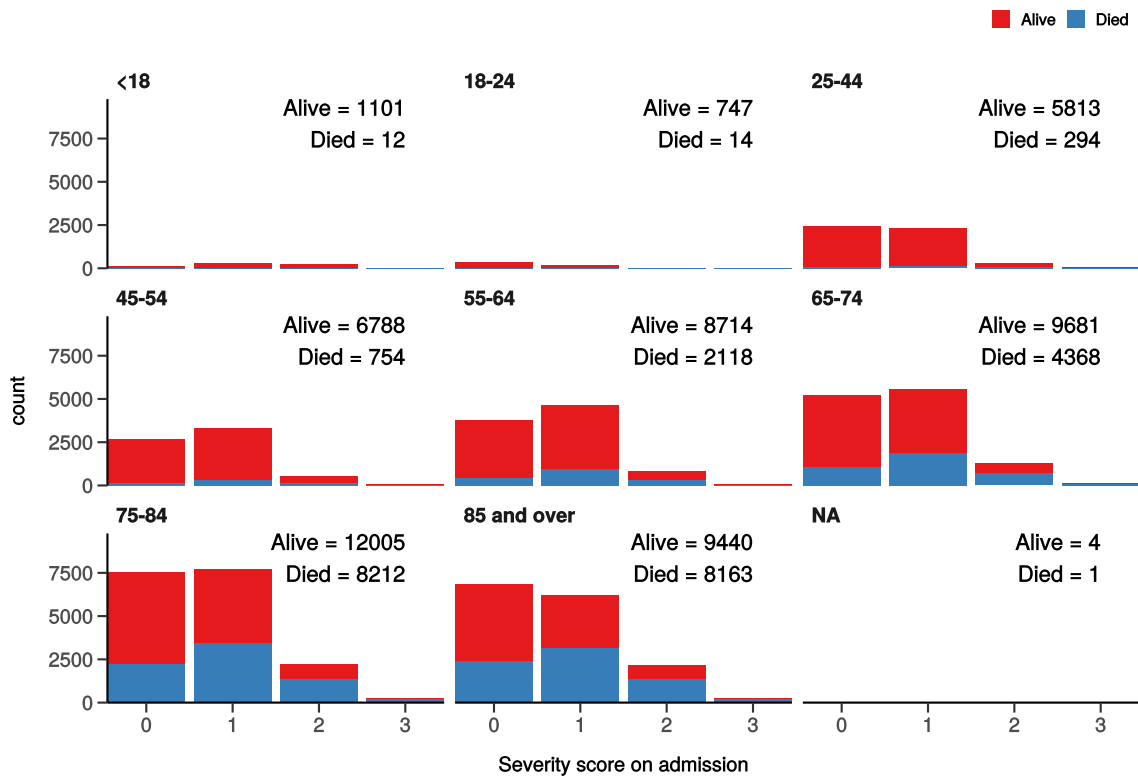
Healthcare workers

Employed as a healthcare worker?		NO	YES	p
Total N (%)		70014 (95.2)	3530 (4.8)	
NEWS score on admission	Median (IQR)	4.0 (4.0)	4.0 (4.0)	0.001
Death	No	45396 (67.5)	3187 (92.6)	<0.001
	Yes	21838 (32.5)	253 (7.4)	

Admission (detail)

Table 1

label	levels	all
Total N (%)		83983 (100.0)
Age on admission (years)	Mean (SD)	69.9 (20.2)
Sex at Birth	Male	46387 (55.2)
	Female	36377 (43.3)
	Not specified	150 (0.2)
	(Missing)	1069 (1.3)
Employed as a healthcare worker?	YES	3530 (4.2)
	NO	70014 (83.4)
	N/A	8097 (9.6)
	(Missing)	2342 (2.8)

label	levels	all
Employed in a microbiology laboratory?	YES	90 (0.1)
	NO	26255 (31.3)
	N/A	3133 (3.7)
	(Missing)	54505 (64.9)
Onset to admission (days)	Mean (SD)	5.3 (1401.0)
Transfer from other facility?	Yes-other facility is a study site	2172 (2.6)
	Yes-other facility is not a study site	3931 (4.7)
	No	69364 (82.6)
	N/A	3454 (4.1)
	(Missing)	5062 (6.0)
Travel in the 14 days prior to first symptom onset?	Yes	831 (1.0)
	No	22986 (27.4)
	N/A	4543 (5.4)
	(Missing)	55623 (66.2)
If YES, state location: Country	Afghanistan	0 (0.0)
	Albania	0 (0.0)
	Algeria	0 (0.0)
	Andorra	1 (0.0)
	Angola	0 (0.0)
	Antigua and Barbuda	4 (0.0)
	Argentina	1 (0.0)
	Armenia	0 (0.0)
	Aruba	0 (0.0)
	Australia	3 (0.0)
	Austria	21 (0.0)
	Azerbaijan	2 (0.0)
	Bahamas (The)	6 (0.0)
	Bahrain	0 (0.0)
	Bangladesh	1 (0.0)
	Barbados	18 (0.0)
	Belarus	0 (0.0)
	Belgium	4 (0.0)
	Belize	0 (0.0)
	Benin	0 (0.0)
	Bhutan	0 (0.0)
	Bolivia	0 (0.0)

label	levels	all
	Bosnia and Herzegovina	0 (0.0)
	Botswana	0 (0.0)
	Brazil	3 (0.0)
	Brunei	0 (0.0)
	Bulgaria	3 (0.0)
	Burkina Faso	0 (0.0)
	Burma	0 (0.0)
	Burundi	0 (0.0)
	Cambodia	1 (0.0)
	Cameroon	1 (0.0)
	Canada	2 (0.0)
	Cabo Verde	1 (0.0)
	Central African Republic	1 (0.0)
	Chad	0 (0.0)
	Chile	1 (0.0)
	China	3 (0.0)
	Colombia	0 (0.0)
	Comoros	0 (0.0)
	Congo (Republic of the)	0 (0.0)
	Costa Rica	0 (0.0)
	Cote dIvoire	0 (0.0)
	Croatia	0 (0.0)
	Cuba	1 (0.0)
	Curacao	0 (0.0)
	Cyprus	27 (0.0)
	Czechia	2 (0.0)
	Denmark	1 (0.0)
	Djibouti	0 (0.0)
	Dominica	0 (0.0)
	Dominican Republic	3 (0.0)
	Ecuador	0 (0.0)
	Egypt	8 (0.0)
	El Salvador	0 (0.0)
	Equatorial Guinea	0 (0.0)
	Eritrea	0 (0.0)
	Estonia	0 (0.0)

label	levels	all
	Ethiopia	0 (0.0)
	Fiji	0 (0.0)
	Finland	0 (0.0)
	France	36 (0.0)
	Gabon	0 (0.0)
	Gambia (The)	0 (0.0)
	Georgia	0 (0.0)
	Germany	8 (0.0)
	Ghana	2 (0.0)
	Greece	2 (0.0)
	Grenada	0 (0.0)
	Guatemala	0 (0.0)
	Guinea	0 (0.0)
	Guinea-Bissau	0 (0.0)
	Guyana	0 (0.0)
	Haiti	0 (0.0)
	Holy See	0 (0.0)
	Honduras	0 (0.0)
	Hong Kong	1 (0.0)
	Hungary	4 (0.0)
	Iceland	1 (0.0)
	India	12 (0.0)
	Indonesia	1 (0.0)
	Iran	7 (0.0)
	Iraq	0 (0.0)
	Ireland	8 (0.0)
	Israel	0 (0.0)
	Italy	90 (0.1)
	Jamaica	3 (0.0)
	Japan	6 (0.0)
	Jordan	1 (0.0)
	Kazakhstan	0 (0.0)
	Kenya	1 (0.0)
	Kiribati	0 (0.0)
	Korea (South)	0 (0.0)
	Kosovo	0 (0.0)

label	levels	all
	Kuwait	1 (0.0)
	Kyrgyzstan	0 (0.0)
	Laos	0 (0.0)
	Latvia	0 (0.0)
	Lebanon	0 (0.0)
	Lesotho	0 (0.0)
	Liberia	0 (0.0)
	Libya	0 (0.0)
	Liechtenstein	0 (0.0)
	Lithuania	0 (0.0)
	Luxembourg	0 (0.0)
	Macau	0 (0.0)
	Macedonia	0 (0.0)
	Madagascar	1 (0.0)
	Malawi	0 (0.0)
	Malaysia	4 (0.0)
	Maldives	1 (0.0)
	Mali	0 (0.0)
	Malta	2 (0.0)
	Marshall Islands	0 (0.0)
	Mauritania	0 (0.0)
	Mauritius	1 (0.0)
	Mexico	4 (0.0)
	Micronesia	0 (0.0)
	Moldova	0 (0.0)
	Monaco	0 (0.0)
	Mongolia	0 (0.0)
	Montenegro	0 (0.0)
	Morocco	4 (0.0)
	Mozambique	0 (0.0)
	Namibia	0 (0.0)
	Nauru	0 (0.0)
	Nepal	3 (0.0)
	Netherlands	9 (0.0)
	New Zealand	3 (0.0)
	Nicaragua	0 (0.0)

label	levels	all
	Niger	0 (0.0)
	Nigeria	2 (0.0)
	North Korea	0 (0.0)
	Norway	2 (0.0)
	Oman	0 (0.0)
	Pakistan	10 (0.0)
	Palau	0 (0.0)
	Palestinian Territories	0 (0.0)
	Panama	1 (0.0)
	Papua New Guinea	0 (0.0)
	Paraguay	0 (0.0)
	Peru	0 (0.0)
	Philippines	5 (0.0)
	Poland	3 (0.0)
	Portugal	22 (0.0)
	Qatar	1 (0.0)
	Romania	6 (0.0)
	Russia	0 (0.0)
	Rwanda	0 (0.0)
	Saint Kitts and Nevis	0 (0.0)
	Saint Lucia	0 (0.0)
	Saint Vincent and the Grenadines	0 (0.0)
	Samoa	0 (0.0)
	San Marino	0 (0.0)
	Sao Tome and Principe	0 (0.0)
	Saudi Arabia	2 (0.0)
	Senegal	0 (0.0)
	Serbia	0 (0.0)
	Seychelles	0 (0.0)
	Sierra Leone	1 (0.0)
	Singapore	4 (0.0)
	Sint Maarten	0 (0.0)
	Slovakia	1 (0.0)
	Slovenia	1 (0.0)
	Solomon Islands	0 (0.0)
	Somalia	2 (0.0)

label	levels	all
	South Africa	10 (0.0)
	South Korea	1 (0.0)
	South Sudan	0 (0.0)
	Spain	204 (0.2)
	Sri Lanka	0 (0.0)
	Sudan	0 (0.0)
	Suriname	0 (0.0)
	Swaziland	1 (0.0)
	Sweden	0 (0.0)
	Switzerland	8 (0.0)
	Syria	0 (0.0)
	Taiwan	1 (0.0)
	Tajikistan	0 (0.0)
	Tanzania	0 (0.0)
	Thailand	8 (0.0)
	Timor-Leste	0 (0.0)
	Togo	0 (0.0)
	Tonga	0 (0.0)
	Trinidad and Tobago	0 (0.0)
	Tunisia	0 (0.0)
	Turkey	8 (0.0)
	Turkmenistan	0 (0.0)
	Tuvalu	0 (0.0)
	Uganda	0 (0.0)
	Ukraine	0 (0.0)
	United Arab Emirates	11 (0.0)
	United Kingdom	117 (0.1)
	United States	33 (0.0)
	Uruguay	0 (0.0)
	Uzbekistan	0 (0.0)
	Vanuatu	0 (0.0)
	Venezuela	0 (0.0)
	Vietnam	0 (0.0)
	Yemen	1 (0.0)
	Zambia	0 (0.0)
	Zimbabwe	1 (0.0)

label	levels	all
	(Missing)	83181 (99.0)
	Afghanistan	0 (0.0)
	Albania	0 (0.0)
	Algeria	1 (0.0)
	Andorra	0 (0.0)
	Angola	0 (0.0)
	Antigua and Barbuda	1 (0.0)
	Argentina	0 (0.0)
	Armenia	0 (0.0)
	Aruba	1 (0.0)
	Australia	3 (0.0)
	Austria	4 (0.0)
	Azerbaijan	0 (0.0)
	Bahamas (The)	0 (0.0)
	Bahrain	0 (0.0)
	Bangladesh	0 (0.0)
	Barbados	2 (0.0)
	Belarus	0 (0.0)
	Belgium	1 (0.0)
	Belize	0 (0.0)
	Benin	0 (0.0)
	Bhutan	0 (0.0)
	Bolivia	0 (0.0)
	Bosnia and Herzegovina	0 (0.0)
	Botswana	0 (0.0)
	Brazil	0 (0.0)
	Brunei	0 (0.0)
	Bulgaria	2 (0.0)
	Burkina Faso	0 (0.0)
	Burma	0 (0.0)
	Burundi	0 (0.0)
	Cambodia	0 (0.0)
	Cameroon	0 (0.0)
	Canada	2 (0.0)
	Cabo Verde	0 (0.0)
	Central African Republic	0 (0.0)

label	levels	all
	Chad	0 (0.0)
	Chile	0 (0.0)
	China	0 (0.0)
	Colombia	0 (0.0)
	Comoros	0 (0.0)
	Congo (Republic of the)	0 (0.0)
	Costa Rica	0 (0.0)
	Cote dIvoire	0 (0.0)
	Croatia	0 (0.0)
	Cuba	0 (0.0)
	Curacao	0 (0.0)
	Cyprus	3 (0.0)
	Czechia	1 (0.0)
	Denmark	0 (0.0)
	Djibouti	0 (0.0)
	Dominica	0 (0.0)
	Dominican Republic	0 (0.0)
	Ecuador	0 (0.0)
	Egypt	2 (0.0)
	El Salvador	0 (0.0)
	Equatorial Guinea	0 (0.0)
	Eritrea	0 (0.0)
	Estonia	0 (0.0)
	Ethiopia	0 (0.0)
	Fiji	0 (0.0)
	Finland	0 (0.0)
	France	9 (0.0)
	Gabon	0 (0.0)
	Gambia (The)	0 (0.0)
	Georgia	0 (0.0)
	Germany	3 (0.0)
	Ghana	0 (0.0)
	Greece	0 (0.0)
	Grenada	0 (0.0)
	Guatemala	0 (0.0)
	Guinea	0 (0.0)

label	levels	all
	Guinea-Bissau	0 (0.0)
	Guyana	0 (0.0)
	Haiti	0 (0.0)
	Holy See	0 (0.0)
	Honduras	0 (0.0)
	Hong Kong	0 (0.0)
	Hungary	0 (0.0)
	Iceland	0 (0.0)
	India	5 (0.0)
	Indonesia	1 (0.0)
	Iran	0 (0.0)
	Iraq	0 (0.0)
	Ireland	1 (0.0)
	Israel	1 (0.0)
	Italy	16 (0.0)
	Jamaica	1 (0.0)
	Japan	0 (0.0)
	Jordan	0 (0.0)
	Kazakhstan	0 (0.0)
	Kenya	0 (0.0)
	Kiribati	0 (0.0)
	Korea (South)	0 (0.0)
	Kosovo	0 (0.0)
	Kuwait	0 (0.0)
	Kyrgyzstan	0 (0.0)
	Laos	0 (0.0)
	Latvia	0 (0.0)
	Lebanon	0 (0.0)
	Lesotho	0 (0.0)
	Liberia	0 (0.0)
	Libya	0 (0.0)
	Liechtenstein	0 (0.0)
	Lithuania	0 (0.0)
	Luxembourg	0 (0.0)
	Macau	0 (0.0)
	Macedonia	0 (0.0)

label	levels	all
	Madagascar	0 (0.0)
	Malawi	0 (0.0)
	Malaysia	0 (0.0)
	Maldives	0 (0.0)
	Mali	0 (0.0)
	Malta	0 (0.0)
	Marshall Islands	0 (0.0)
	Mauritania	0 (0.0)
	Mauritius	0 (0.0)
	Mexico	0 (0.0)
	Micronesia	0 (0.0)
	Moldova	0 (0.0)
	Monaco	0 (0.0)
	Mongolia	0 (0.0)
	Montenegro	0 (0.0)
	Morocco	1 (0.0)
	Mozambique	0 (0.0)
	Namibia	0 (0.0)
	Nauru	0 (0.0)
	Nepal	0 (0.0)
	Netherlands	2 (0.0)
	New Zealand	0 (0.0)
	Nicaragua	0 (0.0)
	Niger	0 (0.0)
	Nigeria	0 (0.0)
	North Korea	0 (0.0)
	Norway	0 (0.0)
	Oman	0 (0.0)
	Pakistan	1 (0.0)
	Palau	0 (0.0)
	Palestinian Territories	0 (0.0)
	Panama	0 (0.0)
	Papua New Guinea	0 (0.0)
	Paraguay	0 (0.0)
	Peru	0 (0.0)
	Philippines	0 (0.0)

label	levels	all
	Poland	0 (0.0)
	Portugal	2 (0.0)
	Qatar	1 (0.0)
	Romania	0 (0.0)
	Russia	0 (0.0)
	Rwanda	0 (0.0)
	Saint Kitts and Nevis	0 (0.0)
	Saint Lucia	0 (0.0)
	Saint Vincent and the Grenadines	0 (0.0)
	Samoa	0 (0.0)
	San Marino	0 (0.0)
	Sao Tome and Principe	0 (0.0)
	Saudi Arabia	0 (0.0)
	Senegal	0 (0.0)
	Serbia	0 (0.0)
	Seychelles	0 (0.0)
	Sierra Leone	0 (0.0)
	Singapore	0 (0.0)
	Sint Maarten	0 (0.0)
	Slovakia	0 (0.0)
	Slovenia	0 (0.0)
	Solomon Islands	0 (0.0)
	Somalia	0 (0.0)
	South Africa	1 (0.0)
	South Korea	0 (0.0)
	South Sudan	0 (0.0)
	Spain	21 (0.0)
	Sri Lanka	0 (0.0)
	Sudan	0 (0.0)
	Suriname	0 (0.0)
	Swaziland	0 (0.0)
	Sweden	0 (0.0)
	Switzerland	1 (0.0)
	Syria	0 (0.0)
	Taiwan	0 (0.0)
	Tajikistan	0 (0.0)

label	levels	all
	Tanzania	0 (0.0)
	Thailand	1 (0.0)
	Timor-Leste	0 (0.0)
	Togo	0 (0.0)
	Tonga	0 (0.0)
	Trinidad and Tobago	0 (0.0)
	Tunisia	0 (0.0)
	Turkey	4 (0.0)
	Turkmenistan	0 (0.0)
	Tuvalu	0 (0.0)
	Uganda	0 (0.0)
	Ukraine	0 (0.0)
	United Arab Emirates	0 (0.0)
	United Kingdom	1 (0.0)
	United States	4 (0.0)
	Uruguay	0 (0.0)
	Uzbekistan	0 (0.0)
	Vanuatu	0 (0.0)
	Venezuela	0 (0.0)
	Vietnam	1 (0.0)
	Yemen	0 (0.0)
	Zambia	0 (0.0)
	Zimbabwe	0 (0.0)
	(Missing)	83882 (99.9)
Contact with animals, raw meat or insect bi…symptom onset?	Yes	108 (0.1)
	No	11170 (13.3)
	Unknown	15321 (18.2)
	N/A	1855 (2.2)
	(Missing)	55529 (66.1)
If YES, specify the animal/insect	2 Budgerigars and 26 Cats at home	1 (0.9)
	2 dogs	1 (0.9)
	Bee Sting	1 (0.9)
	Bird (pet)	1 (0.9)
	Birds at home	1 (0.9)
	Budgie	1 (0.9)
	budgies	1 (0.9)

label	levels	all
	cat	3 (2.8)
	Cat	1 (0.9)
	CAT	1 (0.9)
	Cat (pet)	1 (0.9)
	Cat / Dog	1 (0.9)
	Cat, Dog (pets)	1 (0.9)
	cats	3 (2.8)
	Cats	1 (0.9)
	chicken & beef	1 (0.9)
	Chickens	2 (1.9)
	COWS	1 (0.9)
	Cows, Rabbits, Pigs, Goats	1 (0.9)
	DAILY CONTACT WITH DOMESTIC PET CAT	1 (0.9)
	dog	6 (5.7)
	Dog	12 (11.3)
	DOG	2 (1.9)
	DOG FAMILY PET	1 (0.9)
	Dog, domestic animla living in their home.	1 (0.9)
	Dogs	1 (0.9)
	dogs and cats	1 (0.9)
	Dogs at home	1 (0.9)
	domestic	1 (0.9)
	Domestic pet dog	1 (0.9)
	DOMESTIC ANIMAL	2 (1.9)
	Domestic animal and faeces/nest	1 (0.9)
	domestic animal living in his home	1 (0.9)
	domestic animals	1 (0.9)
	Domestic animals living in his/her home	1 (0.9)
	Domestic Animals living in his/her home	1 (0.9)
	Domestic animals living in home	1 (0.9)
	Domestic cats	1 (0.9)
	domestic dog	1 (0.9)
	domestic Dog	1 (0.9)
	Domestic Per (dog)	1 (0.9)
	Domestic pest (cats)	1 (0.9)
	Domestic Pet	5 (4.7)

label	levels	all
	Domestic Pet (Dog)	6 (5.7)
	Domestic pet cat	1 (0.9)
	Domestic pet Dog	1 (0.9)
	Domestic pet, dog	1 (0.9)
	Domestic pets	1 (0.9)
	Domestic Pets	2 (1.9)
	Domestic pets (dog)	1 (0.9)
	Domestic Pets Cat and Dog	1 (0.9)
	FARM ANIMALS - LAMBS	1 (0.9)
	Farm animals, cattle	1 (0.9)
	Guinea Pig	1 (0.9)
	HORSES	1 (0.9)
	Livestock including pigs	1 (0.9)
	pet dog	2 (1.9)
	Pet dog	2 (1.9)
	Pet dog -ongoing daily contact	1 (0.9)
	pet dog at home	1 (0.9)
	Pet dog ongoing daily contact	1 (0.9)
	Prepared raw chicken	1 (0.9)
	Rabbits	1 (0.9)
	raw chicken	1 (0.9)
	Raw Chicken	1 (0.9)
	Rodent	1 (0.9)
	she has a cat	1 (0.9)
	SHEEP	1 (0.9)
	Sheep & Cattle	1 (0.9)
	Two cats	1 (0.9)
	unknown	1 (0.9)

Symptoms (detail)

Table 2

Stratified: all		all
Total N (%)		83983 (100.0)
History of fever	YES	46449 (55.3)
	NO	28220 (33.6)
	Unknown	4100 (4.9)

Stratified: all		all
	(Missing)	5214 (6.2)
Cough	YES	46776 (55.7)
	NO	27520 (32.8)
	Unknown	4477 (5.3)
	(Missing)	5210 (6.2)
Cough: with sputum production	YES	13946 (16.6)
	NO	50747 (60.4)
	Unknown	13989 (16.7)
	(Missing)	5301 (6.3)
Cough: bloody sputum / haemoptysis	YES	1670 (2.0)
	NO	62044 (73.9)
	Unknown	14952 (17.8)
	(Missing)	5317 (6.3)
Sore throat	YES	4334 (5.2)
	NO	54669 (65.1)
	Unknown	19673 (23.4)
	(Missing)	5307 (6.3)
Runny nose (Rhinorrhoea)	YES	1324 (1.6)
	NO	56879 (67.7)
	Unknown	20460 (24.4)
	(Missing)	5320 (6.3)
Ear pain	YES	267 (0.3)
	NO	57638 (68.6)
	Unknown	20751 (24.7)
	(Missing)	5327 (6.3)
Wheezing	YES	5240 (6.2)
	NO	57422 (68.4)
	Unknown	15999 (19.1)
	(Missing)	5322 (6.3)
Chest pain	YES	8759 (10.4)
	NO	56845 (67.7)
	Unknown	13089 (15.6)
	(Missing)	5290 (6.3)
Muscle aches (Myalgia)	YES	10075 (12.0)
	NO	49676 (59.2)
	Unknown	18919 (22.5)

Stratified: all		all
	(Missing)	5313 (6.3)
Joint pain (Arthralgia)	YES	3763 (4.5)
	NO	54209 (64.5)
	Unknown	20673 (24.6)
	(Missing)	5338 (6.4)
Fatigue / Malaise	YES	26241 (31.2)
	NO	37271 (44.4)
	Unknown	15160 (18.1)
	(Missing)	5311 (6.3)
Shortness of breath (Dyspnea)	YES	46517 (55.4)
	NO	26796 (31.9)
	Unknown	5483 (6.5)
	(Missing)	5187 (6.2)
Lower chest wall indrawing	YES	700 (0.8)
	NO	56986 (67.9)
	Unknown	20956 (25.0)
	(Missing)	5341 (6.4)
Headache	YES	5961 (7.1)
	NO	54035 (64.3)
	Unknown	18662 (22.2)
	(Missing)	5325 (6.3)
Altered consciousness / confusion	YES	19391 (23.1)
	NO	49164 (58.5)
	Unknown	10135 (12.1)
	(Missing)	5293 (6.3)
Seizures	YES	1101 (1.3)
	NO	64322 (76.6)
	Unknown	13229 (15.8)
	(Missing)	5331 (6.3)
Abdominal pain	YES	7168 (8.5)
	NO	58105 (69.2)
	Unknown	13396 (16.0)
	(Missing)	5314 (6.3)
Vomiting / Nausea	YES	12986 (15.5)
	NO	54648 (65.1)
	Unknown	11067 (13.2)

Stratified: all		all
	(Missing)	5282 (6.3)
Diarrhoea	YES	11605 (13.8)
	NO	55634 (66.2)
	Unknown	11451 (13.6)
	(Missing)	5293 (6.3)
Conjunctivitis	YES	254 (0.3)
	NO	60856 (72.5)
	Unknown	17539 (20.9)
	(Missing)	5334 (6.4)
Skin rash	YES	997 (1.2)
	NO	61288 (73.0)
	Unknown	16369 (19.5)
	(Missing)	5329 (6.3)
Skin ulcers	YES	1641 (2.0)
	NO	60851 (72.5)
	Unknown	16156 (19.2)
	(Missing)	5335 (6.4)
Lymphadenopathy	YES	456 (0.5)
	NO	61151 (72.8)
	Unknown	17034 (20.3)
	(Missing)	5342 (6.4)
Bleeding (Haemorrhage)	YES	1243 (1.5)
	NO	63313 (75.4)
	Unknown	14083 (16.8)
	(Missing)	5344 (6.4)
If Bleeding (others)	YES	531 (0.6)
	NO	21914 (26.1)
	Unknown	5794 (6.9)
	(Missing)	55744 (66.4)

Comorbidity (detail)

Table 3

Stratified: all		all
Total N (%)		83983 (100.0)
Chronic cardiac disease	ES	24463 (29.1)
	NO	50648 (60.3)

Stratified: all		all
	Unknown	3798 (4.5)
	(Missing)	5074 (6.0)
Chronic pulmonary disease (not asthma)	YES	13297 (15.8)
	NO	61508 (73.2)
	Unknown	4105 (4.9)
	(Missing)	5073 (6.0)
Asthma (physician diagnosed)	YES	10185 (12.1)
	NO	64404 (76.7)
	Unknown	4292 (5.1)
	(Missing)	5102 (6.1)
Chronic kidney disease	YES	13125 (15.6)
	NO	61477 (73.2)
	Unknown	4303 (5.1)
	(Missing)	5078 (6.0)
Moderate or severe liver disease	YES	1458 (1.7)
	NO	72427 (86.2)
	Unknown	5002 (6.0)
	(Missing)	5096 (6.1)
Mild Liver disease	YES	1165 (1.4)
	NO	72539 (86.4)
	Unknown	5178 (6.2)
	(Missing)	5101 (6.1)
Chronic neurological disorder	YES	9575 (11.4)
	NO	64664 (77.0)
	Unknown	4644 (5.5)
	(Missing)	5100 (6.1)
Malignant neoplasm	YES	7621 (9.1)
	NO	66441 (79.1)
	Unknown	4826 (5.7)
	(Missing)	5095 (6.1)
Chronic hematologic disease	YES	3223 (3.8)
	NO	70756 (84.3)
	Unknown	4890 (5.8)
	(Missing)	5114 (6.1)
AIDS/HIV	YES	285 (0.3)
	NO	72674 (86.5)

Stratified: all		all
	Unknown	5919 (7.0)
	(Missing)	5105 (6.1)
Obesity (as defined by clinical staff)	YES	7986 (9.5)
	NO	58947 (70.2)
	Unknown	11899 (14.2)
	(Missing)	5151 (6.1)
Diabetes with complications	YES	5436 (6.5)
	NO	66410 (79.1)
	Unknown	6974 (8.3)
	(Missing)	5163 (6.1)
Diabetes without complications	YES	11767 (14.0)
	NO	60204 (71.7)
	Unknown	6850 (8.2)
	(Missing)	5162 (6.1)
Rheumatologic disorder	YES	8510 (10.1)
	NO	65292 (77.7)
	Unknown	5064 (6.0)
	(Missing)	5117 (6.1)
Dementia	YES	12434 (14.8)
	NO	61937 (73.7)
	Unknown	4533 (5.4)
	(Missing)	5079 (6.0)
Malnutrition	YES	1956 (2.3)
	NO	67643 (80.5)
	Unknown	9249 (11.0)
	(Missing)	5135 (6.1)
Smoking	YES	4249 (5.1)
	NO	43957 (52.3)
	N/K	28003 (33.3)
	(Missing)	7774 (9.3)