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MORNING BRIEF

Scientific Review

7 August 2020

The purpose of the Morning Brief is to summarize and present key information, research articles and other relevant publications pertaining to critical care and COVID-19.

Stellenbosch University Research Response Team

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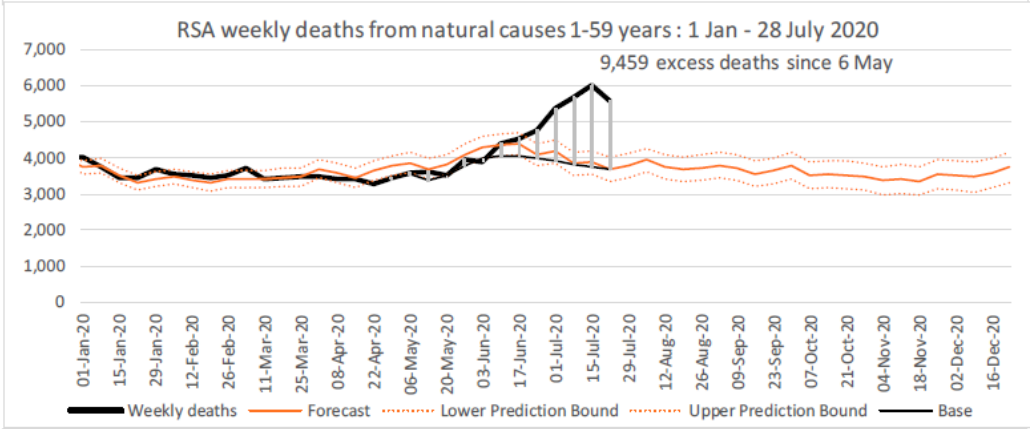
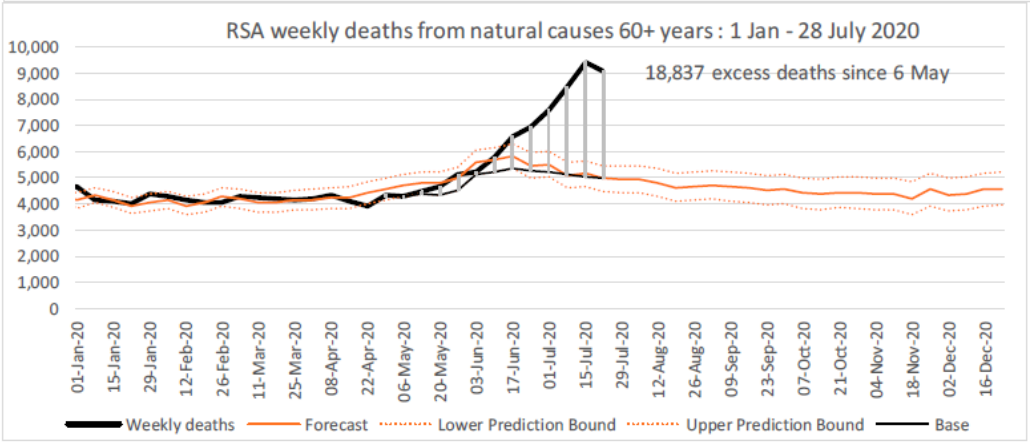
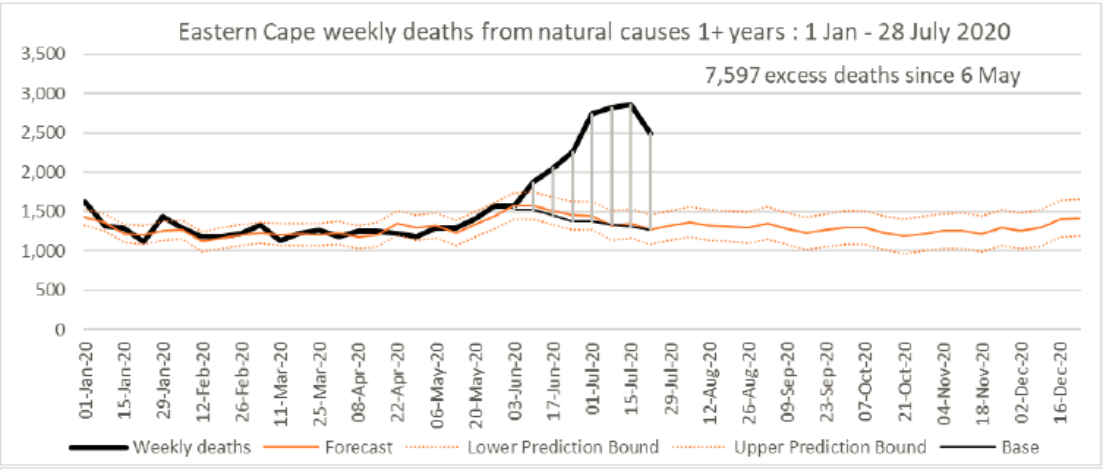
Content

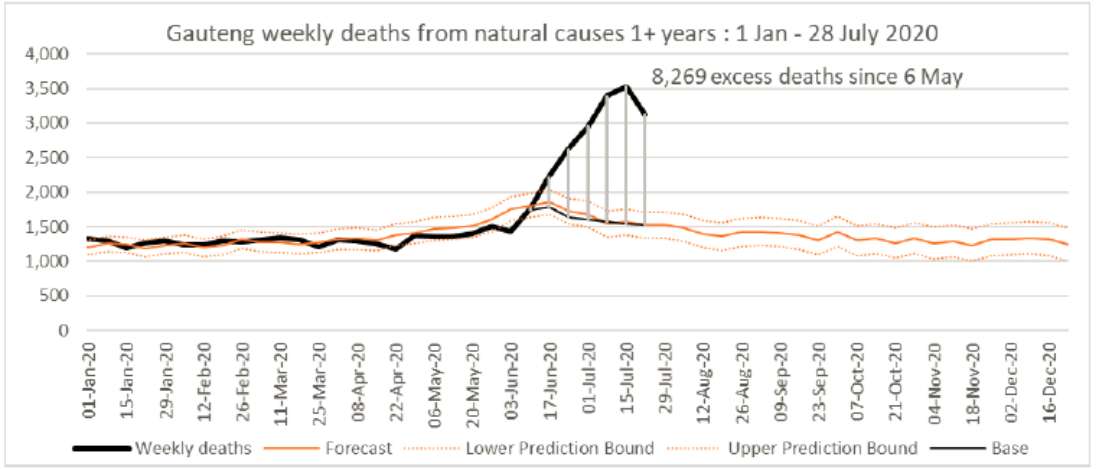
MRC excess mortality
Brief reports





Numbers have been scaled to the estimated actual number of death and for the last week has been adjusted for delayed registrations





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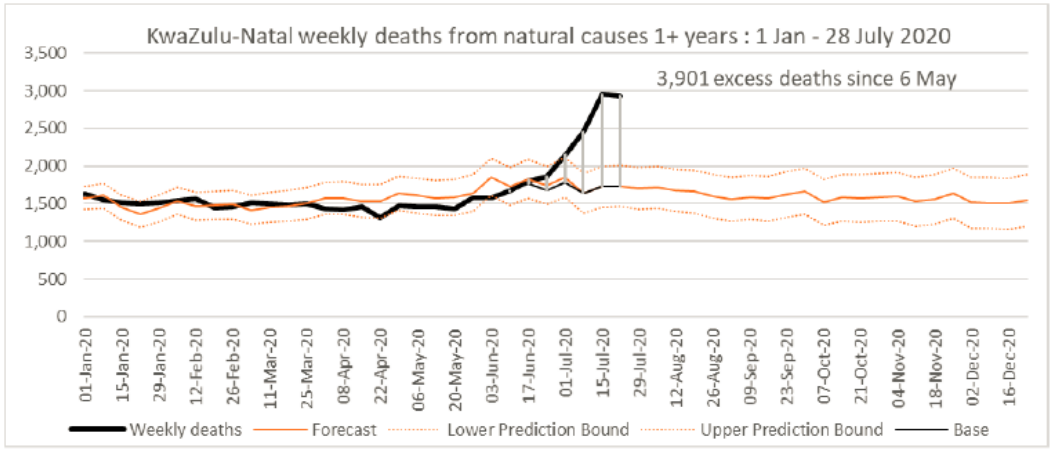

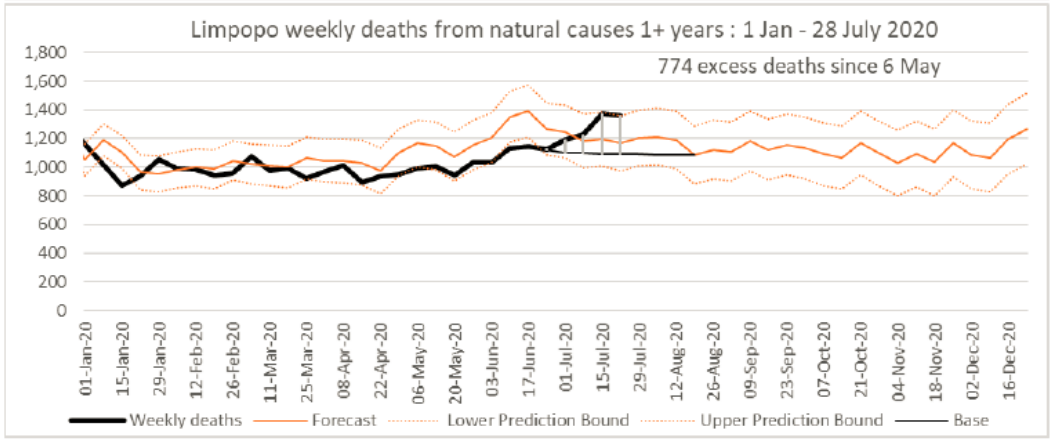

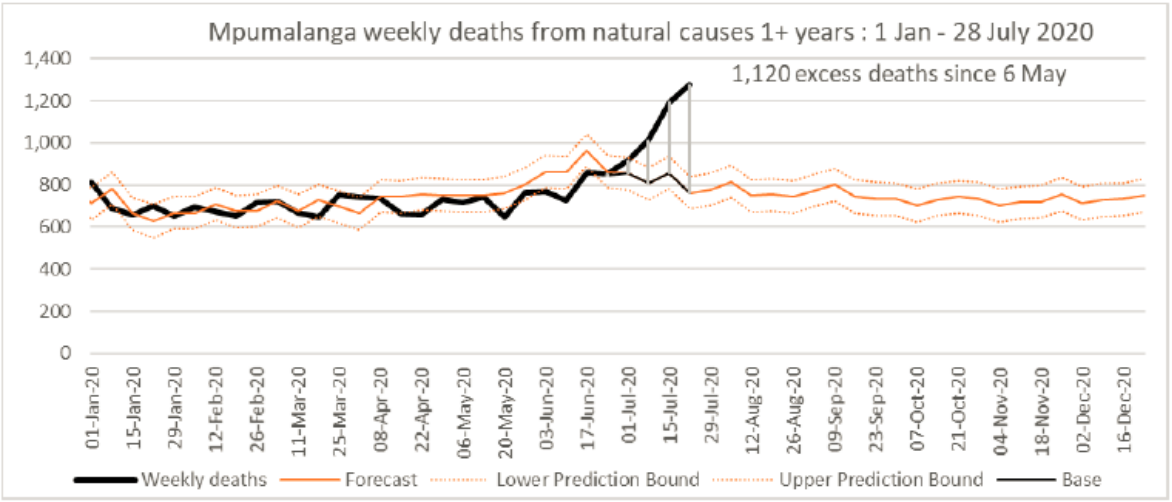

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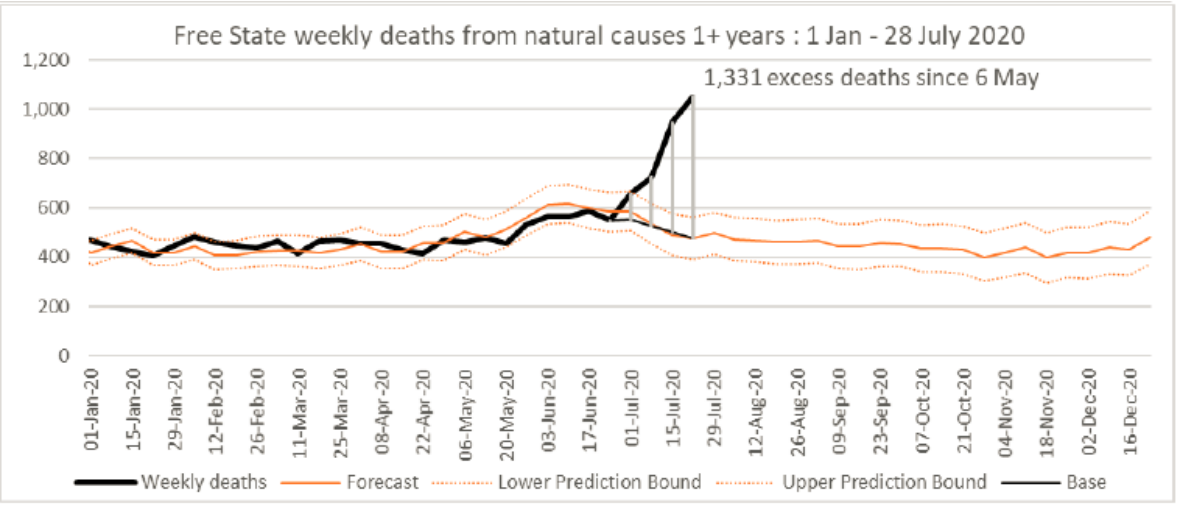

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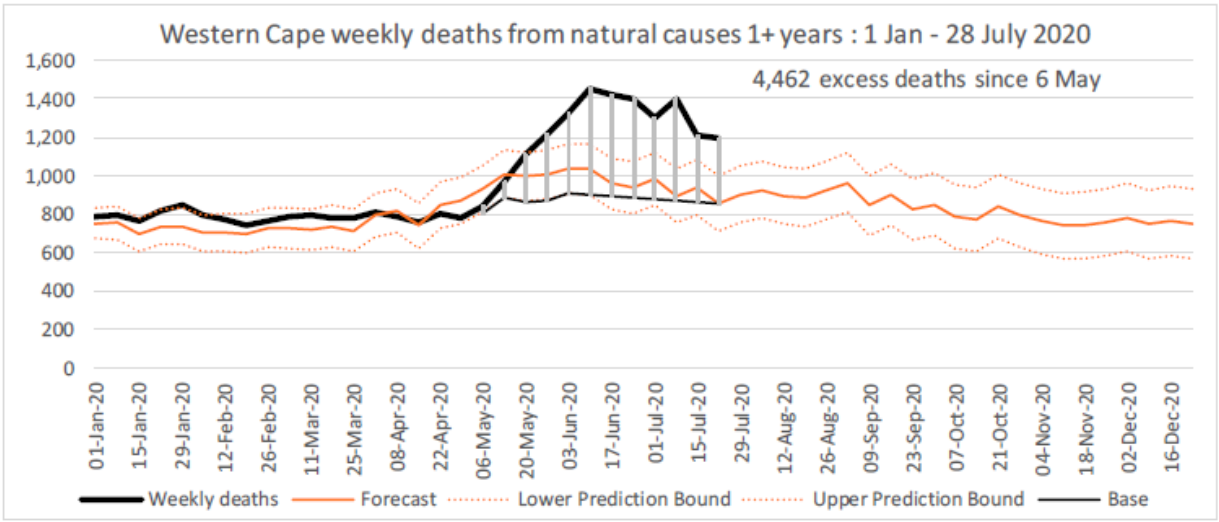

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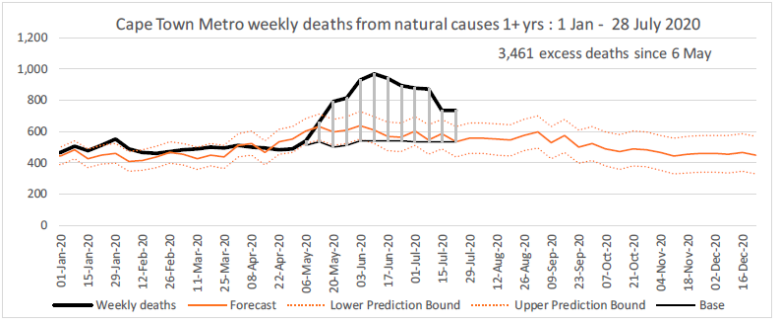

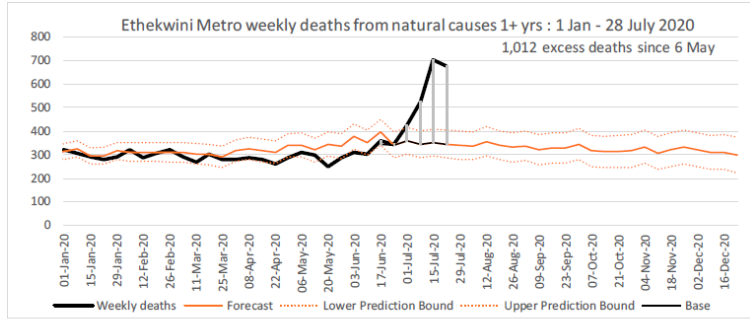

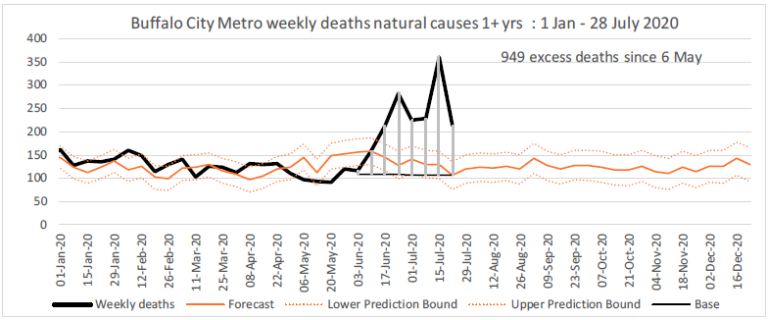

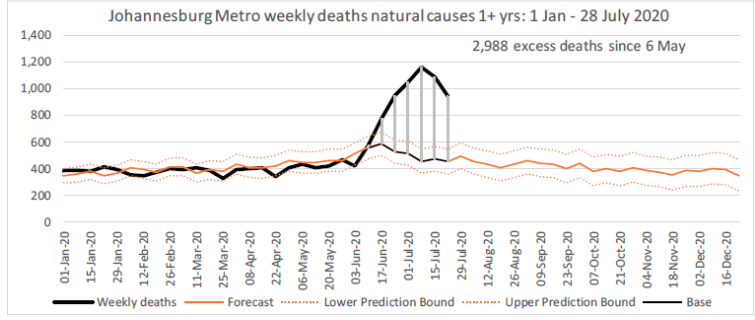

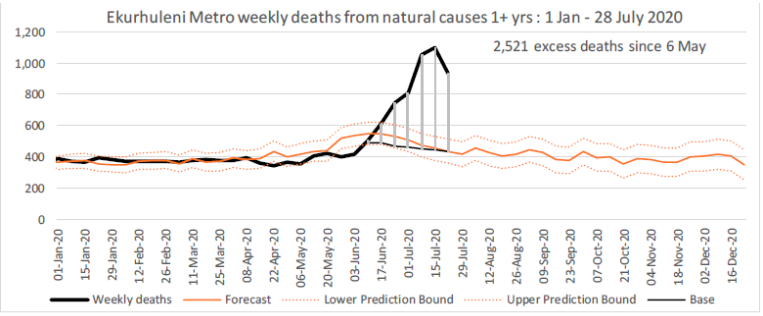

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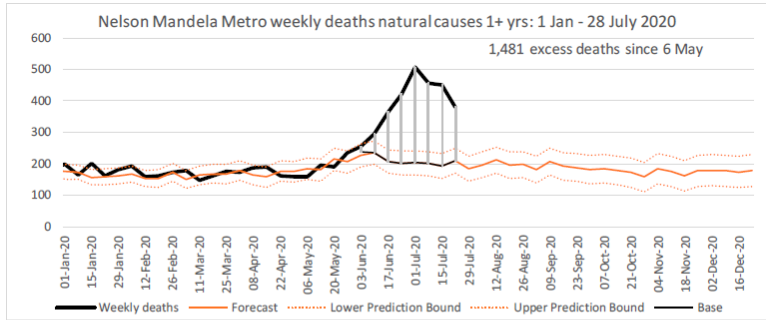

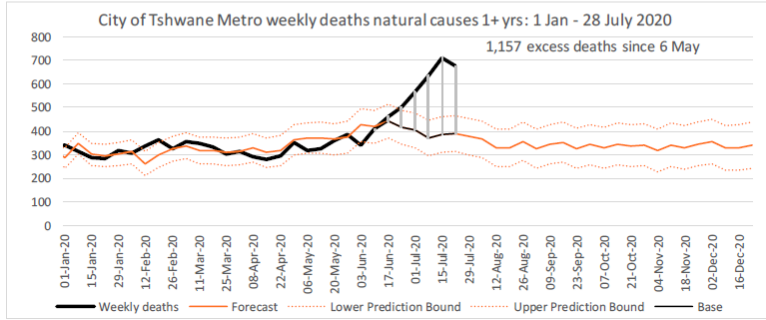

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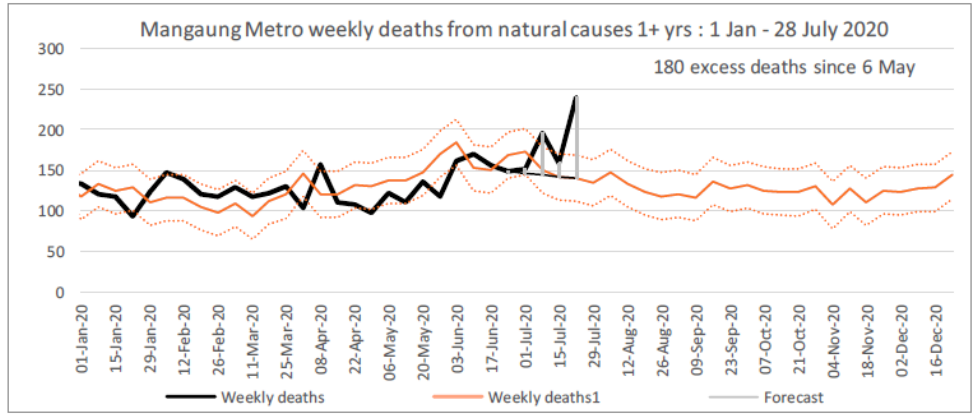

BJA

British Journal of Anaesthesia, xxx (xxx): xxx (xxxx)

CORRESPONDENCE

Body mass index and acute respiratory distress severity in patients with and without SARS-CoV-2 infection

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Aimed to investigate whether mechanically ventilated with Covid-19 ARDS had higher BMI compared to historical cohort of consecutive ARDS patients on mechanical ventilation

- 140 consecutive Covid-19 cases, 2 centers Italy, 25 Feb to 19 April, PCR confirmed
- 247 consecutive ARDS patients for previous/ongoing studies, same centers, dates not given

Median BMI 28 IQR 25 – 31 in Covid-19 vs 25 and 22-29 in other ARDS, p < 0.0001

Proportion overweight 49% vs 33%, p < 0.0001

Proportion obese 29% vs 16%, p < 0.0001

No reporting on comorbidities

Table 1 Baseline characteristics of study population. Quantitative data are expressed as mean (standard deviation, SD) or median (inter-quartile range) as appropriate. Categorical data are presented as *n* (%). Student's *t*-test or Wilcoxon–Mann–Whitney *U*-test, as appropriate, were used for continuous variable analysis, whereas χ^2 test was used for categorical variable analysis. Statistical analysis was performed with Stata 16 (StataCorp. Statistical Software: Release 16.0. Stata Corporation, College Station, TX, USA). *P<0.05. ARDS, acute respiratory distress; BMI, body mass index; SAPS II, Simplified Acute Physiology Score II.

Baseline characteristics	C-ARDS (*n*=140)	'Other ARDS' (*n*=247)	P
Age, yr	61 (10)	60 (16)	0.22
Male sex	84 (118)	68 (167)	<0.0001
Weight, kg	80 (75–90)	74 (61–85)	<0.0001
BMI, kg m^{-2}	28 (25–31)	25 (22–29)	<0.0001
BMI subclasses			
Underweight (BMI <18.5)	0 (0)	6 (14)*	<0.001
Healthy weight (BMI 18.5–24.9)	22 (30)	45 (111)*	
Overweight (BMI 25–29.9)	49 (69)	33 (82)*	
Obese class I (BMI 30–34.9)	18 (25)	8 (20)*	
Obese class II (BMI 35–39.9)	9 (13)	3 (9)	
Obese class III (BMI ≥40)	2 (3)	5 (11)	
SAPS II	33 (28–41)	41 (32–54)	<0.0001
PEEP, cm H_2O	12 (10–14)	10 (10–12)	<0.0001
PaO_2/FiO_2 ratio, mm Hg	120 (90–165)	169 (127–216)	<0.0001
ARDS severity			<0.0001
Mild	14 (19)	31 (78)*	
Moderate	50 (70)	56 (138)	
Severe	36 (51)	13 (31)*	

In Young Adults with COVID-19, Obesity Is Associated with Adverse Outcomes

2020 | **Author(s):** Steinberg, Eric; Wright, Ellsworth; Kushner, Beth

Investigated whether mortality, need for mechanical ventilation, hospitalisation were associated with obesity in patients younger than 45y

Retrospective record review, tertiary center and community hospital

210 Patients who presented to emergency department, PCR confirmed Covid-19

18/210 (9%) died

35/210 (17%) mech ventilation

94/210 (45%) hospitalised

102 (89%) discharged patients successfully followed up and confirmed to be alive within 1 week of emergency department consultation

Comorbidities not reported

Table. Descriptive statistics by outcome.

Group	Mean BMI	SD	Sample size	Range
In-hospital mortality	37.97	7.27	18	24.98-58.48
Alive at end of study period	29.74	6.21	192	19.28-55.32
Required mechanical ventilation	35.72	6.98	36	23.94-58.48
Did not require mechanical ventilation	29.82	6.95	174	19.38-47.48
Admitted to hospital	32.47	7.28	94	20.76-58.48
Discharged from ED	29.3	6.49	116	19.38-47.48

BMI, body mass index; *SD*, standard deviation; *ED*, emergency department.

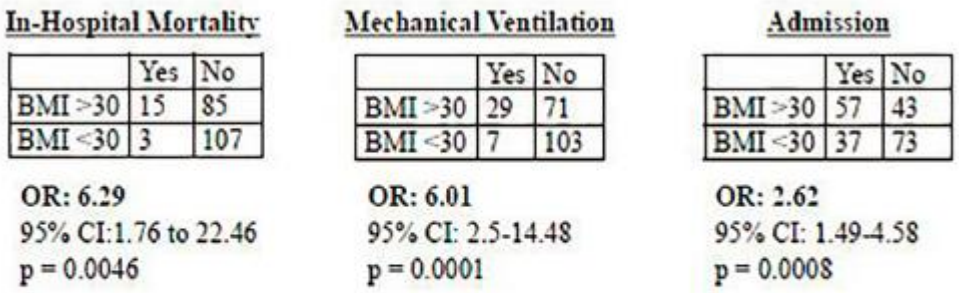

Figure. Odds ratio for BMI and primary outcomes.
BMI, body mass index; *OR*, odds ratio; *CI*, confidence interval.

Investigated post-discharge venous thromboembolism
Two hospitals, London
Covid-19 patients routinely received thromboprophylaxis with enoxaparin, but discharged only with advice to return if leg pain or shortness of breath
Compare Covid-19 patients admitted between 3 March and 7 May 2020 to hospital admissions in 2019
2863 Covid-19 admissions, 1877 discharged by 7 May
208 admitted to critical care
84 episodes of VTE, 9 (11%) post-discharge, at median of 8 days, range 3 – 33 days (2 DVT, 7 pulmonary embolism)
1 in critical care during hospital admission, 8 received thromboprophylaxis
4.8 per 1000 Covid-19 discharges developed post-discharge VTE

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2019
18159 discharges
85 post-discharge VTE, median 29 days, IQR 15 – 51
57% pulmonary embolism,
3.1 per 1000 discharges

Odds ratio for post-discharge VTE in Covid-19 vs 2019, 1.6 (95% CI, 0.77 – 3.1; P=0.2).
Sensitivity analysis for effect of missing events due to patients not presenting – OR only becomes significant in a scenario of no missed events in 2019, and 50% missed in Covid-19

No evidence for empiric post-discharge thromboprophylaxis

Limitations
Did not screen for VTE, only diagnosed symptomatic events

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This summary was prepared by Dr E Maasdorp as part of the daily brief to the TBH ICU team.