

Bone & Joint Open



Supplementary Material

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Table i. Baseline characteristics according to delirium status ascertained on admission for patients admitted from higher care settings including care homes, rehabilitation facilities, and acute hospitals. Univariable analyses to assess difference between those with and without delirium for each variable. Delirium = 4AT \geq 4.

Variable	Whole cohort (n = 394)	Delirium (n = 271)	No delirium (n = 123)	p- value*
Mean age, yrs (SD)	85.0 (8.0)	85.7 (7.2)	83.3 (9.5)	< 0.001
Female sex, n (%)	277 (70.3)	196 (72.1)	81 (65.9)	0.237
Pre-fracture residence, n (%)				
Care home	283 (71.8)	215 (79.3)	68 (55.3)	
Rehabilitation	31 (7.9)	16 (5.9)	15 (12.2)	
Acute hospital	80 (20.3)	40 (14.8)	40 (32.5)	
SIMD quintile, n (%)				0.709
1 (most deprived)	41 (10.4)	29 (10.7)	12 (9.8)	
2	90 (22.8)	60 (22.1)	30 (24.4)	
3	46 (11.7)	33 (12.2)	13 (10.6)	
4	64 (16.2)	48 (17.7)	16 (13.0)	
5 (least)	153 (38.8)	101 (37.3)	52 (42.3)	
ASA grade, n (%)				
1 (healthy)	0	0	0	

2	30 (7.6)	17 (6.3)	13 (10.6)	
3	289 (73.4)	199 (73.4)	90 (70.3)	
4	66 (16.8)	47 (17.3)	19 (15.4)	
5 (moribund)	9 (2.3)	8 (3.0)	1 (0.8)	
COVID-19-positive (< 30 days), n (%)	22 (5.6)	17 (6.3)	5 (4.1)	0.517

*Independent-samples *t*-test was used for continuous (parametric) variables; chi-squared test was used for categorical variables.

ASA, American Society of Anesthesiologists; SD, standard deviation; SIMD, Scottish Index of Multiple Deprivation.

Table ii. Patient outcomes according to delirium status, as assessed on admission, for patients admitted from higher care settings including care homes, rehabilitation facilities and acute hospitals. Univariable analyses assessing difference between those with and without delirium for each variable. Delirium = 4AT \geq 4.

Variable	Whole cohort (n = 394)	Delirium (n = 271)	No delirium (n = 123)	p-value*
Mortality, n (%)				
Within 30 days	60 (15.2)	44 (16.2)	16 (13.0)	0.500
Within 180 days	149 (37.8)	109 (40.2)	40 (32.5)	0.177
Discharge destination following acute hospital stay, n (%)				0.001
Own home	17 (4.3)	7 (2.6)	10 (8.1)	
Care home	254 (64.5)	190 (70.1)	64 (52.0)	
Rehabilitation facility	68 (17.3)	37 (13.7)	31 (25.2)	
Other acute care	22 (5.6)	13 (4.8)	9 (7.3)	
Died in hospital	33 (8.4)	24 (8.9)	9 (7.3)	
Median total length of stay in inpatient facilities, days (IQR)	10 (6 to 27)	9 (6 to 19)	13 (7 to 50)	0.001
Readmission to acute hospital, n (%)				
Within 30 days	58 (14.7)	31 (11.4)	27 (22.0)	0.010
Within 180 days	99 (25.1)	58 (21.4)	41 (33.3)	0.016

*Mann-Whitney U test for continuous (non-parametric) variables; chi-squared test for categorical variables.

Table iii. Uni- and multivariable logistic regression analysis of factors associated with 30- and 180-day mortality for all patients. Multivariable analysis adjusted for age, sex, Scottish Index of Multiple Deprivation, American Society of Anesthesiologists grade, COVID-19 within 30 days, and type of residence on admission (home/other care setting).

Variable	Within 30 days		p-value	Within 180 days		p-value
	Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)		Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)	
Age Per year	1.05 (1.03 to 1.07)	1.04 (1.02 to 1.07)	0.001	1.04 (1.03 to 1.07)	1.05 (1.03 to 1.06)	< 0.001
Sex			0.005			< 0.001
Male	Ref	Ref		Ref	Ref	
Female	0.59 (0.40 to 0.86)	0.54 (0.35 to 0.83)		0.52 (0.40 to 0.66)	0.45 (0.34 to 0.59)	
SIMD quintile						
1 (most deprived)	Ref	Ref		Ref	Ref	
2	1.18 (0.60 to 2.32)	1.19 (0.55 to 2.57)	0.659	1.07 (0.70 to 1.62)	0.94 (0.59 to 1.48)	0.779
3	0.90 (0.42 to 1.94)	0.79 (0.32 to 1.93)	0.173	0.56 (0.34 to 0.93)	0.46 (0.27 to 0.80)	0.006
4	0.79 (0.37 to 1.70)	0.78 (0.33 to 1.84)	0.571	0.81 (0.52 to 1.28)	0.68 (0.41 to 1.12)	0.128

5 (least)	1.53 (0.81 to 2.86)	1.16 (0.55 to 2.43)	0.695	1.28 (0.87 to 1.89)	1.00 (0.65 to 1.54)	0.997
ASA grade						
1 (healthy)	-	-	-	-	-	-
2	0.26 (0.12 to 0.54)	0.40 (0.19 to 0.87)	0.020	0.31 (0.21 to 0.45)	0.47 (0.32 to 0.70)	< 0.001
3	Ref	Ref	Ref	Ref	Ref	Ref
4	2.32 (1.39 to 3.87)	1.96 (1.15 to 3.34)	0.014	2.49 (1.75 to 3.55)	2.20 (1.50 to 3.21)	< 0.001
5 (moribund)	-	-	-	-	-	-
Delirium status: 4AT \geq 4	3.43 (2.37 to 4.98)	1.31 (0.80 to 2.14)	0.28	3.25 (2.54 to 4.17)	1.54 (1.13 to 2.10)	0.007
COVID-19-positive (< 30 days)	2.36 (1.21 to 4.61)	2.36 (1.13 to 4.93)	0.022	1.70 (1.02 to 2.84)	1.56 (0.88 to 2.75)	0.127
Pre-fracture residence			0.003			< 0.001
Home	Ref	Ref		Ref	Ref	
Higher care setting	3.62 (2.49 to 5.27)	2.1 (1.29 to 3.43)		3.51 (2.72 to 4.52)	1.85 (1.35 to 2.54)	

ASA, American Society of Anesthesiologists; CI, confidence interval; OR, odds ratio; SIMD, Scottish Index of Multiple Deprivation.

Sensitivity analyses, including only patients admitted from home with a 4AT score recorded in ED (n = 975)

Table iv. Uni- and multivariable logistic regression analysis of factors associated with 180-day mortality in patients admitted from home. Multivariable analysis adjusted for age, sex, Scottish Index of Multiple Deprivation, American Society of Anesthesiologists grade, and COVID-19 within 30 days.

Variable	Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)	p-value
Age Per year	1.07 (1.04 to 1.09)	1.06 (1.03 to 1.09)	< 0.001
Sex			< 0.001
Male	Ref	Ref	
Female	0.56 (0.39 to 0.82)	0.48 (0.32 to 0.73)	
SIMD quintile			
1 (most deprived)	Ref	Ref	
2	1.13 (0.59 to 2.16)	0.98 (0.49 to 1.97)	0.965
3	0.57 (0.26 to 1.23)	0.42 (0.18 to 0.97)	0.041
4	1.05 (0.53 to 2.08)	0.75 (0.35 to 1.58)	0.444
5 (least)	1.50 (0.82 to 2.74)	1.15 (0.60 to 2.22)	0.672
ASA grade*			
1 (healthy)	-	-	-
2	0.24 (0.14 to 0.43)	0.31 (0.18 to 0.56)	< 0.001
3	Ref	Ref	Ref
4	3.00 (1.71 to 5.27)	3.15 (1.73 to 5.75)	< 0.001
5 (moribund)	-	-	-
Delirium status 4AT \geq 4	2.79 (1.78 to 4.38)	1.71 (1.03 to 2.83)	0.038
COVID-19-positive (< 30 days)	1.90 (0.88 to 4.10)	1.69 (0.73 to 3.92)	0.219

*No patients ASA grade 1 died within 180 days; all patients ASA grade 5 died within 30 days.

ASA, American Society of Anesthesiologists; CI, confidence interval; OR, odds ratio; SIMD, Scottish Index of Multiple Deprivation.

Table v. Uni- and multivariable logistic regression analysis of factors associated with post-acute inpatient rehabilitation following the acute inpatient stay (including care home, rehabilitation facility, or other acute care setting) in patients admitted from home. Multivariable analysis adjusted for age, sex, Scottish Index of Multiple Deprivation, American Society of Anesthesiologists grade, and COVID-19 within 30 days.

Variable	Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)	p-value
Age Per year	1.07 (1.05-1.09)	1.06 (1.04-1.08)	< 0.001
Sex			0.297
Male	Ref	Ref	
Female	0.89 (0.66 to 1.20)	0.84 (0.61 to 1.16)	
SIMD quintile			
1 (most deprived)	Ref	Ref	
2	1.19 (0.75 to 1.90)	1.03 (0.62 to 1.72)	0.899
3	1.12 (0.69 to 1.83)	0.93 (0.54 to 1.59)	0.786
4	1.12 (0.69 to 1.83)	0.87 (0.51 to 1.49)	0.604
5 (least)	1.15 (0.74 to 1.80)	0.88 (0.54 to 1.44)	0.607
ASA grade			
1 (healthy)	0.09 (0.02 to 0.39)	0.19 (0.04 to 0.86)	0.031
2	0.28 (0.20 to 0.39)	0.36 (0.26 to 0.51)	< 0.001
3	Ref	Ref	
4	1.67 (0.98 to 2.86)	1.67 (0.95 to 2.94)	0.075
5 (moribund)	-	-	0.970
Delirium status 4AT \geq 4	3.33 (2.24 to 4.95)	2.17 (1.42 to 3.32)	< 0.001
COVID-19- positive (< 30 days)	2.68 (1.40 to 5.15)	2.60 (1.28 to 5.31)	0.009

ASA, American Society of Anesthesiologists; CI, confidence interval; OR, odds ratio; SIMD, Scottish Index of Multiple Deprivation.

Table vi. Uni- and multivariable logistic regression analysis of factors associated with readmission to an acute hospital from home within 180 days. Multivariable analysis adjusted for age, sex, Scottish Index of Multiple Deprivation, American Society of Anesthesiologists grade, and positive COVID-19 diagnosis within 30 days.

Variable	Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)	p-value
Age Per year	1.04 (1.03 to 1.06)	1.03 (1.01 to 1.05)	0.002
Sex Male Female	Ref 0.83 (0.57 to 1.20)	Ref 0.82 (0.55 to 1.22)	0.326
SIMD (quintile) 1 (most deprived) 2 3 4 5 (least)	Ref 0.86 (0.49 to 1.51) 0.71 (0.38 to 1.30) 0.96 (0.53 to 1.73) 0.97 (0.57 to 1.65)	Ref 0.90 (0.49 to 1.65) 0.72 (0.37 to 1.37) 0.93 (0.49 to 1.77) 1.00 (0.56 to 1.80)	0.738 0.311 0.829 0.986
ASA grade 1 (healthy) 2 3 4 5 (moribund)	0.10 (0.02 to 0.43) 0.39 (0.27 to 0.56) Ref 2.38 (1.03 to 5.49) -	0.16 (0.04 to 0.69) 0.45 (0.31 to 0.66) Ref 2.39 (1.00 to 5.68) -	0.015 < 0.001 0.049 -
Delirium status: 4AT \geq 4	2.89 (1.57 to 5.34)	2.00 (1.04 to 3.85)	0.037
COVID-19- positive (< 30 days)	3.22 (1.15 to 8.98)	3.26 (1.11 to 9.62)	0.032

Patients discharged out of catchment area were excluded from readmission analysis. No patients with ASA Grade 5 went home.

ASA, American Society of Anesthesiologists; CI, confidence interval; OR, odds ratio; SIMD, Scottish Index of Multiple Deprivation.