

## Multivariable associations between covariates and non-beneficial treatment, full variable list

Characteristics	Odds ratios (95% CIs)	P-value
<b>Hospital</b>		
A (reference category)	1.0	
B*	2.66 (1.22 to 5.95)	0.015
C*	6.64 (3.03 to 15.18)	< 0.001
<b>Personal characteristics</b>		
Age (+ 10 years)*^	1.46 (1.17 to 1.86)	0.001
Male	0.85 (0.51 to 1.44)	0.553
Non-English speaking background	2.01 (0.84 to 4.55)	0.103
Married/de facto	0.92 (0.54 to 1.57)	0.753
Alcohol use	1.68 (0.78 to 3.5)	0.182
Smoker*	0.37 (0.13 to 0.94)	0.047
Is a carer	2.67 (0.93 to 7.18)	0.058
Aged care resident*	0.27 (0.1 to 0.72)	0.011
<b>Activities of daily living</b>		
Independent (reference category)	1.0	
Partially dependent	1.02 (0.5 to 2.08)	0.951
Dependent	1.87 (0.62 to 5.64)	0.264
<b>Exercise tolerance</b>		
No limits (reference category)	1.0	
Ordinary activities result in fatigue/symptoms*	2.61 (1.04 to 6.94)	0.046
Less than ordinary activities result in fatigue/symptoms*	4.87 (1.72 to 14.71)	0.003
Bed bound	3.74 (0.79 to 17.78)	0.096
Missing	0.82 (0.16 to 3.42)	0.800
<b>Previous admissions over the past 3 years</b>		
0 (reference category)	1.0	
1	1.04 (0.49 to 2.19)	0.917
2	0.54 (0.21 to 1.31)	0.186
3 or more	0.84 (0.41 to 1.7)	0.619
<b>End of life planning</b>		
Advance care planning in place	0.26 (0.05 to 1.12)	0.084
Advance health directive	1.3 (0.41 to 3.75)	0.643
Enduring power of attorney*	7.73 (1.91 to 38.1)	0.007
Palliative care review	0.76 (0.11 to 4.22)	0.765
Acute resuscitation plan	0.55 (0.08 to 3.3)	0.527
Not-for-resuscitation order	3.05 (0.41 to 20.82)	0.263
<b>Admission characteristics</b>		
Interregional transfer*	2.12 (1.12 to 4.02)	0.021
Admitted to ICU*	5.8 (2.27 to 14.59)	< 0.001
Death in ICU	0.4 (0.15 to 1.1)	0.075
Conflict in medical team*	8.44 (2.56 to 29.23)	< 0.001
Conflict involving family*	10.52 (4.27 to 26.49)	< 0.001
Decision not to treat or to withdraw treatment	0.82 (0.38 to 1.89)	0.629

<b>Medical speciality</b>		
Other (reference category)	1.0	
Cardiology	1.08 (0.31 to 3.18)	0.890
Emergency	0.30 (0.04 to 1.43)	0.180
General Medicine	1.23 (0.60 to 2.53)	0.570
Neuro	0.90 (0.23 to 3.04)	0.870
Oncology	0.65 (0.16 to 2.15)	0.500
Respiratory	2.27 (0.70 to 6.77)	0.160
<b>SP ICT items<sup>#</sup></b>		
Needs help with personal care	1.41 (0.64 to 3.08)	0.394
Unplanned admissions in past 6 months	0.64 (0.32 to 1.31)	0.221
Weight loss	1.51 (0.77 to 2.91)	0.219
Persistent, troublesome symptoms	1.24 (0.59 to 2.61)	0.576
At risk of dying from a sudden, acute deterioration	1.19 (0.62 to 2.10)	0.603
Patient requests treatment withdrawal	1.11 (0.24 to 4.36)	0.882
Would be surprised if this patient is alive in 12 months	1.02 (0.42 to 2.35)	0.970
<b>Cause of death category<sup>+,a</sup></b>		
Diseases and Disorders of the Kidney And Urinary Tract	2.53 (0.27 to 17.66)	0.370
Diseases and Disorders of the Male Reproductive System	1.81 (0.03 to 64.25)	0.780
Neoplastic disorders (haematological and solid neoplasms)	0.98 (0.24 to 3.74)	0.970
Infectious and Parasitic DDs (Systemic or unspecified sites)	0.52 (0.11 to 2.24)	0.400
Alcohol/drug use and alcohol/drug induced organic mental disorders	0.1 (0.01 to 0.66)	0.030
Diseases and Disorders of the Respiratory System	0.63 (0.2 to 1.97)	0.420
Diseases and Disorders of the Circulatory System	0.83 (0.28 to 2.46)	0.730
Diseases and Disorders of the Digestive System	1.91 (0.34 to 9.57)	0.440
Diseases and Disorders of the Hepatobiliary System And Pancreas	0.03 (0 to 0.66)	0.030
2 categories	0.78 (0.3 to 2.05)	0.600
3 or more categories	0.73 (0.21 to 2.46)	0.620

ICU=intensive care unit

\*: p&lt;0.05

^: Age was modelled in ten year increments by dividing the age covariate by 10

#: Full SP ICT item descriptions are in Supplementary File 1

+: Cause of death was coded according to the Major Diagnostic Categories (MDCs) as defined in the World Health Organisation International Classification of Diseases<sup>27</sup>

a: Categories with zero observations are not reported, these include: DDs of the eye; ear, nose, mouth and throat; musculoskeletal system and connective tissue; skin, subcutaneous tissue and breast; and mental DDs.