

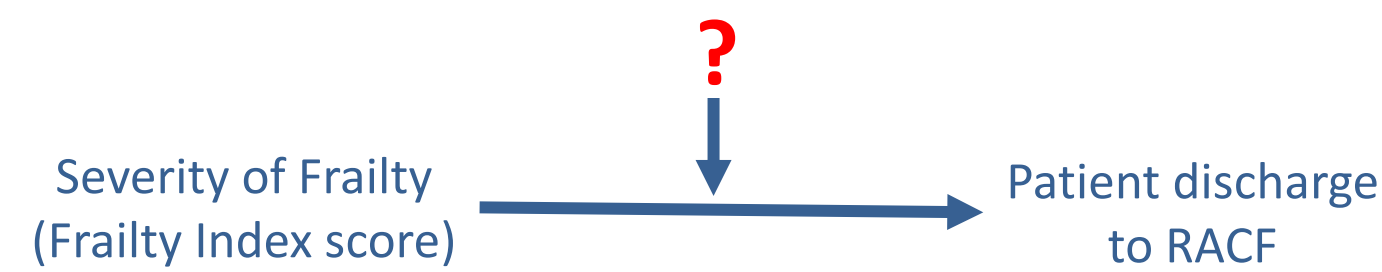
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BACKGROUND

- Frailty describes age-related physiological decline with vulnerability to adverse health outcomes and to institutionalization¹
 - Numerous instruments have been used to measure frailty, including the Frailty phenotype² and Frailty Index (FI)³
- In 2021, 191,000 Australians were living in Residential Aged Care Facilities⁴ with >80% of RACF residents considered frail or pre-frail^{5,6,7}
- However, older adults prefer to age in the community⁸; for example, the number of people using home care plans has tripled between 2010-2020²
- Our rapidly aging population highlights the importance of understanding factors affecting entry to RACF to support older adults' ability to age in the community

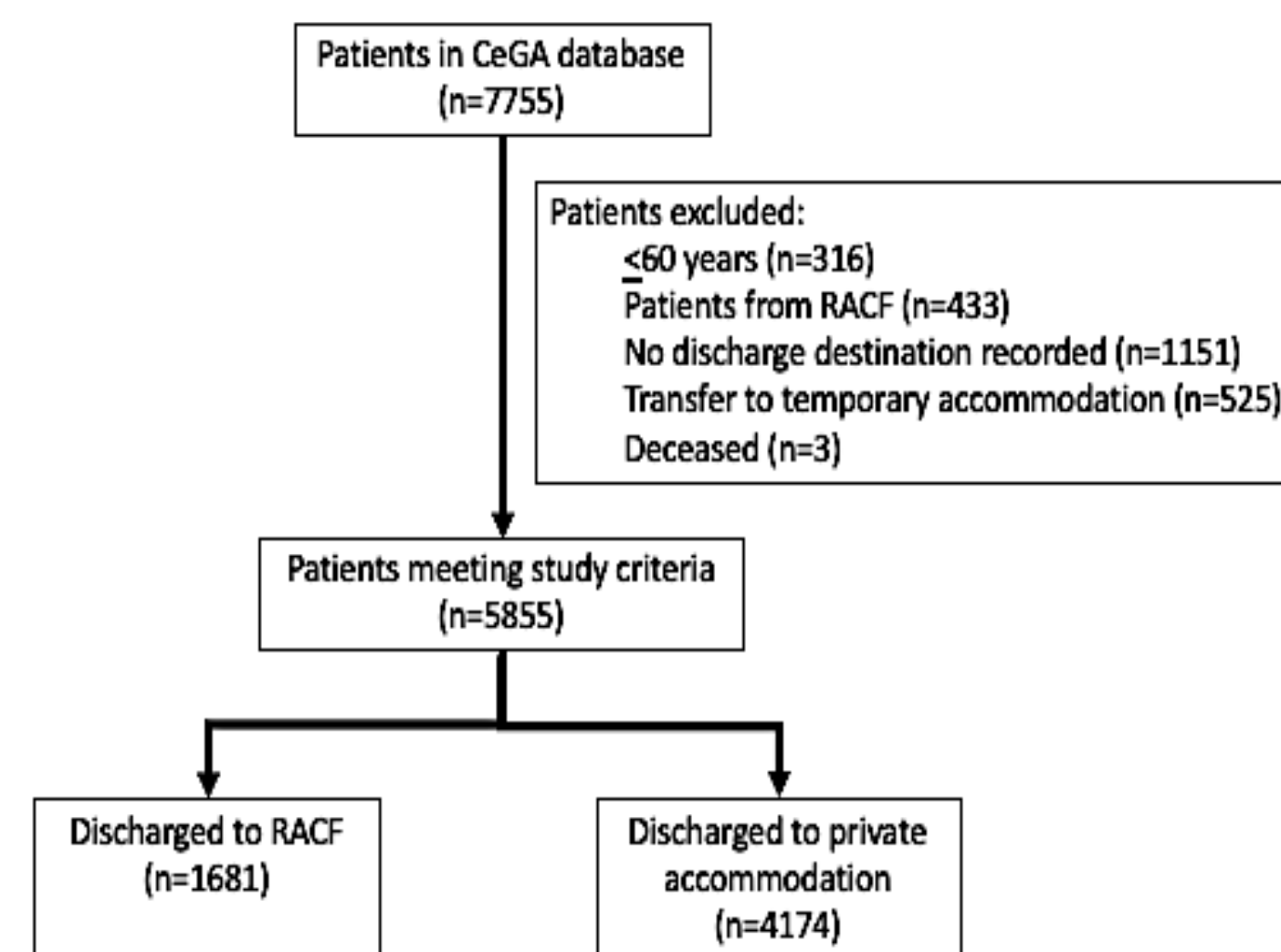
OBJECTIVE

- To identify factors that moderate risk of entry to residential aged care facilities (RACF) in a population of frail older inpatients



METHODS

- 7755 patients from the Comprehensive electronic Geriatric Assessment (CEGA) database from inpatients referred for geriatric consultation
- Data collected between March 2007 and December 2018
- 27 hospitals in Queensland



- Frailty Index (FI) is a comprehensive biopsychosocial assessment used to measure inpatient frailty. The following variables were included:

- Age
- Country of birth
- Bowel continence
- Length of hospital stay
- Gender
- BMI
- Marital status
- Behavioural and psychological symptoms of dementia (BPSD)
- Number of medications
- Number of diagnoses
- Prior living arrangement
- Frailty Index score

RESULTS

Table 1. Patient demographics.

Variable	All patients (n=5855)	Residential (n=1681)	Care	Private Residence (n=4174)	χ^2	p-value
Age, years, mean (SD)	79.7 (8.2)	81.4 (8.2)		79.0 (8.1)		<0.001
Sex, female, n (%)	3,159 (54.0%)	912 (54.3%)		2,247 (53.8%)	0.085	0.770
Marital status:					60.003	<0.001
Not married/in relationship	3651 (62.4%)	1,177 (70.02%)		2,474 (59.29%)		
Married/de facto	2203 (37.6%)	504 (29.98%)		1,699 (40.71%)		
Country of birth - Australia	4277 (73.0)	1,223 (73%)		3,054 (73%)		0.750
Prior living arrangement:					25.849	<0.001
Alone/institution	2664 (45.5%)	838 (49.9%)		1,826 (43.7%)		
With others	3191 (54.5%)	843 (50.1%)		2,348 (56.3%)		
Body mass index (kg/m ²)	25 (6)	24 (6)		26 (6)		<0.001
Length of hospital stay (days)	28 (16-48)	37 (23-60)		25 (14-42)		<0.001
Number of medications	9.0 (6.0-11.0)	8.0 (6.0-11.0)		9.0 (6.0-12.0)		<0.001
Number of diagnoses	7.0 (5.0-10.0)	7.0 (5.0-10.0)		7.0 (5.0-10.0)		0.260
BPSD					176.199	<0.001
No	5041 (86.0%)	1,281 (76.39%)		3,760 (90.17%)		
Yes	806 (13.8%)	396 (23.61%)		410 (9.83%)		
Bowel Continence					141.675	<0.001
Continent	4263 (72.8%)	1,039 (61.92%)		3,224 (77.35%)		
Incontinent	1412 (24.1%)	580 (34.56%)		832 (19.96%)		
Did not occur	171 (2.9%)	59 (3.52%)		112 (2.69%)		
Frailty index score, mean (SD)	0.441 (0.140)	0.500 (0.139)		0.417 (0.133)		<0.001

BPSD=behavioural and psychological symptoms of dementia, SD=standard deviation

Univariate association of risk factors with discharge destination

- All risk factors, except sex, showed significant differences between discharge destination
- Patients discharged to private residence were significantly more likely to be married, live with others, be continent of bowel and were less likely to have BPSD.

Univariate association of risk factors with frailty index

- Logistic regression analyses show all risk factors except sex were significantly associated with frailty (Table 2).
- Logistic regression was used to examine the relationship between risk factors and discharge to RACF or private residence (Table 3).

Table 2. Univariate unstandardized linear regression coefficients for the association of individual risk factors with frailty index.

Variable	Frailty Index Mean (SD)	Coefficient (95% CI)	SE	p-value
Sex		-0.00 (-0.01 - 0.00)	0.003	0.338
Male	0.44 (0.14)			
Female	0.44 (0.14)			
Marital status		0.03 (0.03 - 0.04)	0.004	<0.001
Married/de Facto	0.46 (0.14)			
Not married	0.42 (0.14)			
Prior living arrangement		0.05 (0.04 - 0.06)	0.003	<0.001
Alone	0.42 (0.13)			
With others	0.46 (0.14)			
BPSD		0.12 (0.11 - 0.13)	0.005	<0.001
Has BPSD	0.55 (0.14)			
No BPSD	0.42 (0.13)			
Bowel Continence		0.11 (0.11 - 0.12)	0.003	<0.001
Continent	0.40 (0.12)			
Incontinent	0.54 (0.13)			

Variable	RRR (95% CI)	SE	p-value
Marital status	0.34 (0.20 - 0.57)	0.091	<0.001
Prior living arrangement	0.57 (0.35 - 0.92)	0.140	0.022
BPSD	9.62 (4.93 - 18.80)	3.287	<0.001
Bowel Continence	1.48 (0.83 - 2.66)	0.441	0.187

Table 3. Multivariate logistic regression for risk factors with discharge destination. Discharge to private residence was used as the baseline comparison group.

Results (cont'd)

Mediators of the association between frailty and risk of discharge to RACF

- Participants who were married and those with fewer BPSD were more likely to be discharged to private residence.

Variable	Coefficient (95% CI)	SE	p-value
Marital status	1.09 (0.05 - 2.12)	0.528	0.040
Prior living arrangement	0.13 (-0.87 - 1.13)	0.509	0.798
BPSD	-3.28 (-4.51 - -2.06)	0.625	<0.001
Bowel Continence	-0.66 (-1.77 - 0.45)	0.565	0.244

Table 4. Multivariate logistic regression analysis showing interaction terms for frailty by sex, bowel continence, marital status, BPSD, and living arrangement, on risk of discharge to RACF.

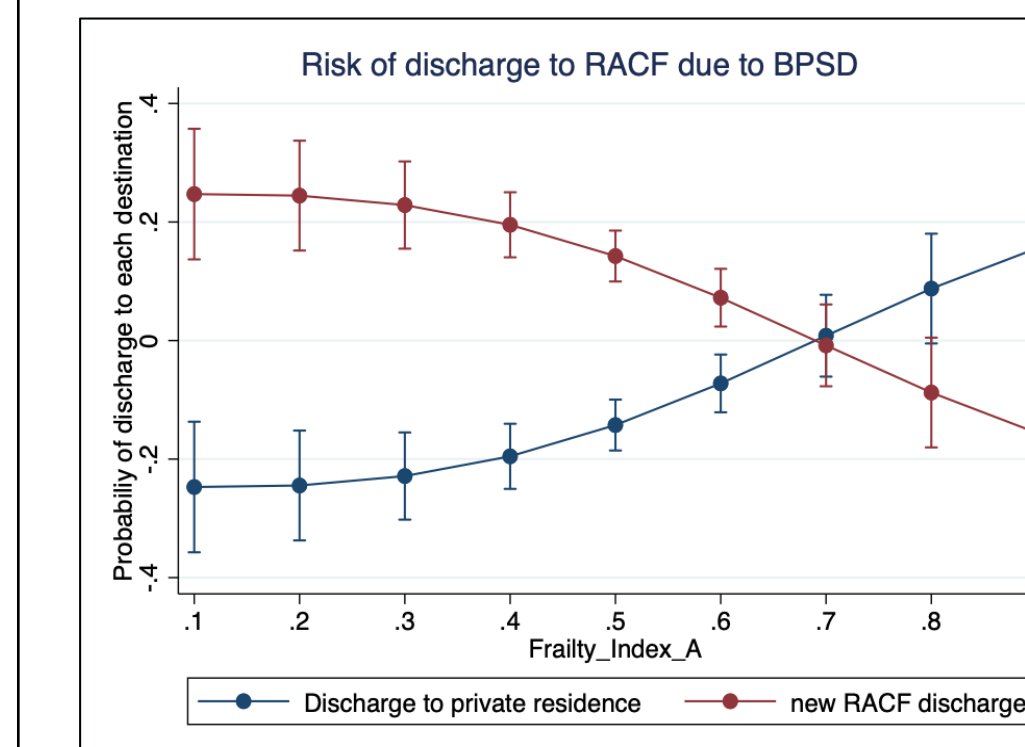


Figure 2. Probability of discharge to private residence (blue line) or RACF (red line) by frailty index score for participants with increasing BPSD.

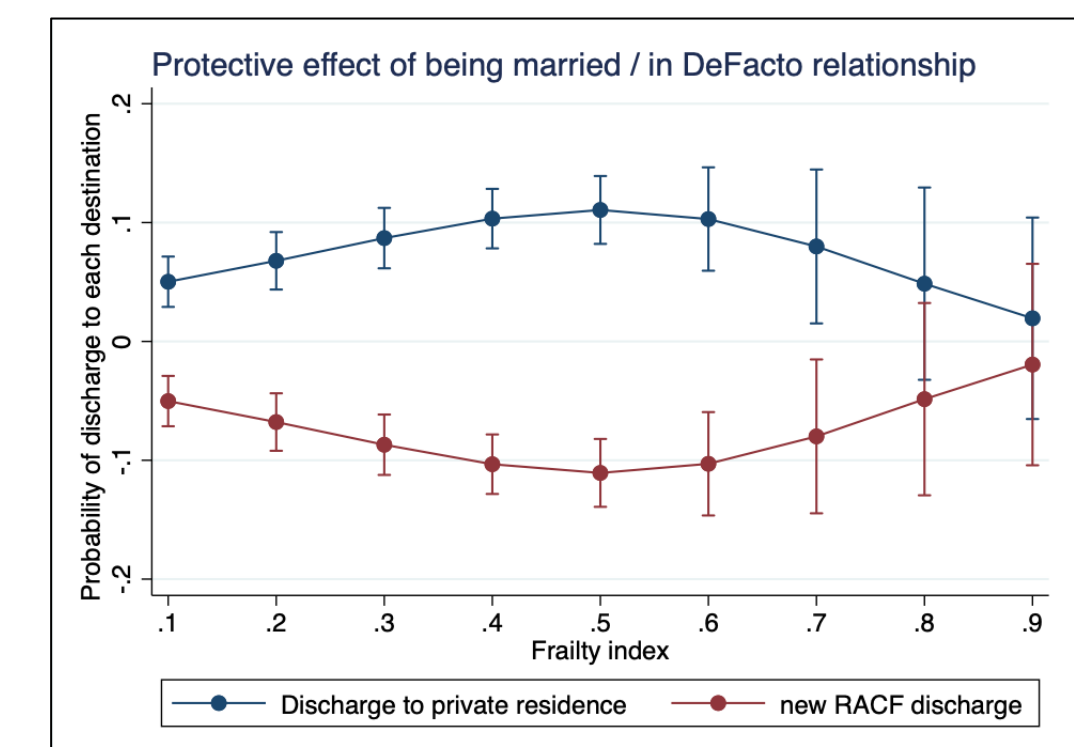


Figure 3. Probability of discharge to private residence (blue line) or RACF (red line) by frailty index score for participants who are married or in a defacto relationship.

CONCLUSION

- Frailty is associated with risk of discharge to RACF
- Fixed (being married) and mutable (BPSD) factors can moderate the association between frailty and discharge to RACF
- There are potential benefits of early identification and intervention of these protective and risk factors

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