Characteristics of patients referred for assessment of decision-making capacity in the acute medical setting of an outer-metropolitan hospital—A retrospective case series

Author

Logan, B, Fleury, A, Wong, L, Fraser, S, Bernard, A, White, B

Published

2020

Journal Title

Australasian Journal on Ageing

Version

Accepted Manuscript (AM)

DOI

10.1111/ajag.12693

TITLE:

Characteristics of patients referred for assessment of decision-making capacity in the acute medical setting of an outer-metropolitan hospital – a retrospective case series.

Logan B[1], Fleury A[1], Wong L[1], Fraser S[1], Bernard A[2], White BP[3]

1. Logan Hospital, Meadowbrook, Queensland

2. QFAB Bioinformatics, Institute for Molecular Bioscience, University of Queensland, Brisbane, Queensland

3. Australian Centre for Health Law Research, Queensland University of Technology, Brisbane, Queensland

ABSTRACT

Objectives: To identify characteristics of older people referred for assessment of decision-making capacity in the acute hospital setting.

Methods: A retrospective chart audit was undertaken of 98 consecutive medical inpatients referred for capacity assessments between February 2015 and August 2017 in an outer-metropolitan hospital. The data were analysed using descriptive statistics and univariate analysis.

Results: In this case series, 56% of patients had a diagnosis of dementia. Social isolation was common; 70% were not presently married and 63% had no community services. For 90% of patients, the referral was to determine the person's capacity to make their own accommodation decisions - usually to return home on discharge. Of those with impaired capacity, 54% were discharged to residential aged care, whilst most who retained capacity were discharged home (73%). Those with impaired capacity were more likely to have a diagnosis of dementia and a prolonged length of stay (both $p < .001$).

KEY WORDS

Capacity

Geriatrics

Decision making

Dementia

Length of stay

INTRODUCTION

As the population ages and cognitive impairment becomes more prevalent, requests for assessments of decision-making capacity are increasing in frequency and complexity (1-3). Capacity is specific to the decision in question and so a person may have capacity for some decisions but not others (4). A determination about capacity can be confronting and intrusive. The process seeks to balance respecting the autonomy of the person, where that can be exercised, and protecting their interests (3, 5). Law's commitment to autonomy and individual agency means that a person is presumed to have capacity until it is proved otherwise.

This study primarily seeks to describe the characteristics of older people referred for assessment of their decision-making capacity in the acute medical setting. By articulating these characteristics, healthcare professionals may be better positioned to proactively identify those who would benefit from a comprehensive geriatric assessment (CGA) prior to the crisis-point of a capacity assessment being undertaken as an inpatient at the point of discharge planning.

The secondary aim of this study is to explore factors associated with loss of decision-making capacity. We note that dementia has been identified as a risk factor for impaired capacity in an older person (5-8). A New Zealand study found that a majority of patients referred for a capacity assessment had a prior diagnosis of dementia (6). Literature from North America recommends that in an assessment of decision-making capacity, in addition to dementia, that delirium, psychosis and mood disorders be considered (9). A British study showed increasing age and cognitive impairment were associated with a finding of incapacity (10). Yet, there is a paucity of data describing the clinical experience in the Australian setting.

METHODS

Study design, participants and data collection

This study is a retrospective audit of medical records of patients who were referred for a capacity assessment whilst an inpatient of a 448-bed outer-metropolitan secondary hospital of an Australian capital city. It was hypothesised that this patient group would be elderly, cognitively impaired, socially isolated, and have functional disability.

The hospital has a Geriatric Liaison Service (GLS), which supports all medical and mental health wards in the hospital. The GLS maintains a register of capacity referrals from medical inpatient teams that includes patient details, along with the reason for referral. All patients in the register were included in the study with data being collected retrospectively from admissions between February 2015 (when the GLS began its records) and August 2017. Data from surgical patients are not available because they have proactive geriatric medicine in-reach and therefore were not included in the GLS register.

All assessments of decision-making capacity were undertaken by a consultant geriatrician as part of a CGA. The decision-making tools varied but included the 6 step approach proposed by Darzins, Molloy and Strang (11). The results of each assessment were relayed back to the treating team as a dichotomous response, either the person retained decision-making capacity, or they were found to have impaired capacity for the decision at hand.

For each patient included in the study, their record was retrieved, and data entered into the study audit tool (see Tables 1-4). This tool had been previously piloted on five patient charts to ensure feasibility and utility for the study. Data were collected by a member of team (BL) with initial data collection reviewed by others in the team (SF, AF, LW). Medical records included in the review were the hospital corporate records (demographic data) and inpatient notes including medical progress notes, nursing care plans, the pharmacist's medication action plan from admission, the allied health progress notes, and completed capacity assessments.

The project was approved by the human research ethics committee at [removed for de-identification] with a HREC number of [removed for de-identification].

Data analysis

Patient demographics, social situation and clinical situation at time of admission as well as inpatient assessment and management were described and reported as mean and standard deviation (SD) for normally distributed continuous data, or median and interquartile range (IQR) for non-normally distributed data. Shapiro-Wilk test was used to assess normality. Frequencies (raw counts and percentages) were presented for categorical data.

The relationship between capacity assessment outcome and continuous variables collected such as age, length of stay and number of medications at time of admission was assessed using a T-test or Mann-Whitney test when normality was not met in both capacity assessment groups.

Associations between capacity assessment decisions and categorical variables collected from patients' demographics, clinical situation at time of admission and inpatient assessment and management were tested using a Chi-square or Fisher's exact test (when appropriate).

On three occasions, no assessment of decision-making capacity was made as the assessing consultant geriatrician did not believe there was an appropriate trigger to question the person's capacity. These patients were included in the descriptive statistics but excluded from the univariate analysis.

All statistical analyses were performed using the R statistical software (R version 3.3.2) and p-values < 0.05 were considered statistically significant (12).

RESULTS

Who was referred for capacity assessment

98 consecutive medical inpatients were referred by their treating medical team to the GLS for assessment of decision-making capacity between February 2015 and August 2017. Women accounted for 51% of the study cohort, and patients' mean age was 75.5 years (SD ±10.7 years). Almost all patients spoke English (*n* = 94, 96%), and most were born in Australia (*n* = 59, 60%) (see Table 1).

There were markers of social isolation in our patient population. Most were not married which includes being widowed, separated or divorced (*n* = 69, 70%). Only 41% (*n* = 40) had a carer at time of admission. Most patients had not accessed community services (*n* = 62, 63%), and had not had an Aged Care Assessment Team (ACAT) assessment completed (*n* = 53, 53%). Alcohol excess was a current or prior problem for over a quarter of the group (*n* = 27, 27%).

There was also evidence of functional impairment with many patients using an aid for mobilizing at admission (*n* = 46, 47%). This had increased at the time of being assessed for capacity (*n* = 65, 66%), indicating in-hospital functional decline in a significant proportion of people.

The median length of stay for patients referred for assessment of decision-making capacity was 18.5 days (IQR 12.3 - 31.5) (see Table 2), which includes the acute and subacute length of stay and includes those who retained and had impaired capacity. At admission, the median number of medications prescribed was 8 (IQR 5 - 13). A history of cognitive impairment prior to admission was present in 47 patients (48%), with 18 of these having a formal diagnosis of dementia. A mood disorder history was documented in 31 patients (32%).

Reasons for capacity assessments and outcomes

Capacity assessment referrals came from doctors (*n* = 40, 41%), social workers (*n* = 19, 19%) and occupational therapists (*n* = 16, 16%). In most instances the matter in question was whether the person had the capacity to decide their own discharge destination (*n* = 88, 90%), be it to live at home or transition into a residential aged care facility. During their admission, as outlined in Table 3, concurrent psychiatry opinions were given in 32% of patients (*n* = 31). Their assessments were generally about mood or psychotic disorders rather than specifically on the matter of capacity.

As part of the CGA, 37 new diagnoses of dementia were made (38%), making a total of 55 patients (56%) who had a dementia diagnosis prior to admission or made during the admission. In 50% (*n* = 49) of assessments, the person was found to retain capacity for the decision in question. As shown in Table 4, most of the patients with retained capacity were discharged home (*n* = 36, 73%). For those with impaired capacity for decision making, 54% patients were discharged to a residential aged care facility (*n* = 25).

Factors associated with impaired decision-making capacity

Length of stay and a diagnosis of dementia were the two characteristics statistically significantly different between those with retained and impaired capacity.

Patients found to have impaired capacity stayed significantly longer than patients with retained capacity. The median length of stay for a person with capacity was 14 days (Interquartile range (IQR) 9-19 days) as opposed to 25.5 days (IQR 17.25-38.75 days) in those who had impaired capacity ($p < .001$).

Having a diagnosis of dementia (either prior to admission, or newly made by the geriatrician in their CGA) was statistically significantly related to capacity assessment outcome ($p<0.001$). 67% ($n = 36$ out of 54) of patients with dementia had impaired capacity, whereas only 24% ($n = 10$ out of 41) of patients without a formal dementia diagnosis had impaired capacity (Table 5).

No other characteristic such as age, number of medications or mobility status were associated with the outcome of the assessment of capacity. It may be that our study was underpowered to detect any such differences.

DISCUSSION

In our retrospective case series, we are the first to describe characteristics of people referred for assessment of decision-making capacity in an acute hospital setting in Australia. Our study confirms what is experienced daily in clinical practice; cognitive and functional impairment together with social isolation is common. These issues are likely to increase as our population continues to age.

Most referrals for assessment of decision-making capacity related to one decision: where to live. On review, for many patients, CGA was needed to assist with complex discharge planning rather than assessment of their decision-making capacity per se. These decisions are very challenging, both ethically and logistically, for healthcare teams, especially when caring for a person with functional and cognitive impairment with no social supports.

Our secondary aim was to explore factors associated with impaired decision-making capacity. A diagnosis of dementia, either prior to admission or made during admission, was found to be significantly associated. The finding of 56% of our population having a prior or new diagnosis of dementia was higher than the prevalence of dementia in Australian hospitals of 20.7% reported by Travers *et al* in 2012 (13). It is however consistent with findings from New Zealand which identified dementia in 72% of those referred for capacity assessment in the outpatient setting (6).

It should be noted that not all patients with dementia had impaired capacity, which is not surprising given the broad range of clinical manifestations of this illness. This reinforces the importance of applying the presumption of capacity, and assessing each person's ability to make the specific decision in question, rather than making a global assessment of capacity.

We also found that people with impaired capacity had a length of stay (LOS) more than 13 days longer than those with preserved capacity. In our institution both the acute and subacute LOS occurred in the same physical location. The LOS for both groups is much longer than the average length of stay for all public hospitals patients in Australia of 2.7 days (14). The delays in discharge are likely to be a combination of factors including time given to recover from the acute illness and potential delirium and, to multi-disciplinary rehabilitative effort. It is also likely that the logistics of guardianship and arranging residential aged care accommodation for those with impaired capacity is also a time-consuming process.

Limitations

This study has a number of limitations. The sample size was small, which limited the study's power, although was is in keeping with other international studies on capacity (6). Given the retrospective nature of our work, there were constraints as to the quality of data available. Our study was a single-centre study and we excluded surgical patients in study design therefore its generalizability is limited. The high prevalence of English speakers in our study at 96% was unexpected, as our area is culturally and linguistically diverse. This finding is likely multi-factorial, but it was beyond the scope of this study to explore further. It would also have been useful to compare age-matched patients who weren't referred for capacity assessment, however we compared our findings to the literature which overcomes some of this limitation.

CONCLUSIONS

Our study shows that patients referred for assessment of decision-making capacity are likely to be socially isolated and have functional and cognitive impairment. We have also highlighted that people with impaired capacity have a longer hospital admission and that dementia is strongly associated with impaired capacity.

In profiling this patient group, we hope to enable healthcare professionals to identify earlier patients who would benefit from a comprehensive geriatric assessment as part of multidisciplinary team care. Doing so may avoid a crisis-point of a patient's capacity being questioned in an inpatient setting, where they may be at their functional and cognitive nadir. This approach may also have healthcare system benefits, although further study is needed to assess this further.

In conclusion, further studies are required to further characterise this group and to research models of care, especially in the community, which can help older cognitively and functionally impaired people remain at home and independent as long as possible.

REFERENCES

1. Purser KJ, Rosenfeld T. Evaluation of legal capacity by doctors and lawyers: the need for collaborative assessment. The Medical journal of Australia. 2014;201(8):483-5.
2. Parmar J, Bremault-Phillips S, Charles L. The development and implementation of a decision-making capacity assessment model. Canadian geriatrics journal : CGJ. 2015;18(1):15-28.
3. Skelton F, Kunik ME, Regev T, Naik AD. Determining if an older adult can make and execute decisions to live safely at home: a capacity assessment and intervention model. Archives of gerontology and geriatrics. 2010;50(3):300-5.
4. Bremault-Phillips SC, Parmar J, Friesen S, Rogers LG, Pike A, Sluggett B. An Evaluation of the Decision-Making Capacity Assessment Model. Canadian geriatrics journal : CGJ. 2016;19(3):83-96.
5. Spreng RNP, Karlawish JM, Marson DCM. Cognitive, social, and neural determinants of diminished decision-making and financial exploitation risk in aging and dementia: A review and new model. Journal of elder abuse & neglect. 2016;28(4-5):320-44.
6. Astell H, Lee JH, Sankaran S. Review of capacity assessments and recommendations for examining capacity. The New Zealand medical journal. 2013;126(1383):38-48.
7. Bennett H, Hallen P. Guardianship and financial management legislation: what doctors in aged care need to know. Internal medicine journal. 2005;35(8):482-7.
8. Moye J, Marson DC. Assessment of decision-making capacity in older adults: an emerging area of practice and research. The journals of gerontology Series B, Psychological sciences and social sciences. 2007;62(1):P3-p11.
9. Seyfried L, Akinyemi E, Kim S. Informed decision-making and the evaluation of decision-making capacity. In: Williams B, Malani P, Wesorick D, Williams BC, Malani PN, Wesorick DH, editors. Hospitalists' Guide to the Care of Older Patients. Somerset, UNITED STATES: John Wiley & Sons, Incorporated; 2013.
10. Raymont V, Bingley W, Buchanan A, David AS, Hayward P, Wessely S, et al. Prevalence of mental incapacity in medical inpatients and associated risk factors: cross-sectional study. Lancet (London, England). 2004;364(9443):1421-7.
11. Darzins PJ, Molloy WD, Strang D. Who Can Decide? The six step capacity assessment process. Australia: Memory Australia Press, South Australia; 2000.
12. R Core Team. R: A language and environment for statistical computing. Vienna, Austria.: R Foundation for Statistical Computing.; 2012. 73-80 p.
13. Travers C, Byrne G, Pachana N, Klein K, Gray L. Prospective observational study of dementia and delirium in the acute hospital setting. Internal medicine journal. 2013;43(3):262-9.
14. Australian Institute of Health and Welfare. Australia's hospitals at a glance 2015-16 Canberra: AIHW; 2017.

TABLES

Table 1: Patient demographics and social situation, at time of admission

Characteristic	N (%)
Age – mean (± SD)	75.5 (± 10.7)
Gender	50 (51%)
Female	48 (49%)
Male	
Language	
English only	89 (91%)
English and another language	5 (5%)
A language other than English only	4 (4%)
Country of birth	
Australia	59 (60%)
Outside of Australia	39 (40%)
Aboriginal and Torres Strait Islander	
Yes	1 (1%)
No	97 (99%)
Marital status	
Never married	22 (22%)
Married	28 (29%)
Separated	6 (6%)
Divorced	15 (15%)
Widowed	26 (27%)
Unknown	1 (1%)
Stairs in the home	
Yes	44 (45%)
No	33 (34%)
Unknown	21 (21%)
Existing community services	
Yes	35 (36%)
No	62 (63%)
Unknown	1 (1%)
Carer	
Formal	7 (7%)
Informal	33 (34%)
None	57 (58%)
Unknown	1 (1%)
Alcohol use**	
Current excess	19 (19%)
Prior excess	8 (8%)
No history of excess	63 (64%)
Unknown	8 (8%)
Prior ACAT assessment	
Yes	29 (30%)
No	53 (53%)
Unknown	17 (17%)
GP named on chart	
Yes	72 (73%)
No	26 (27%)
Mobility status prior to admission	
Independent	46 (47%)
Mobilises with an aid	52 (53%)
Mobility status at time of assessment	
Independent	33 (34%)
Mobilises with an aid	65 (66%)

**Note: 'Frequency (%)' does not tally 100% given rounding

Table 2: Clinical situation, at time of admission

Characteristic	N (%)
Length of stay in days – median (IQR)	18.5 (12.3-31.5)
Number of medications – median (IQR)	8 (5-13)
Prior history of cognitive impairment	
Yes	47 (48%)
No	51 (52%)
Prior cognitive assessment	
Yes	39 (40%)
Mini Mental State Examination (MMSE)	*20*
Montreal Cognitive Assessment (MOCA)	*12*
Rowland Universal Dementia Assessment Scale (RUDAS)	*7*
No	59 (60%)
Prior diagnosis of dementia	
Yes	18 (18%)
Alcohol	*2*
Alzheimers	*4*
Lewy Body	*2*
Vascular	*5*
Unknown	*5*
No	80 (82%)
Mood disorder history	
Yes	31 (32%)
No	67 (68%)
Psychosis history	
Yes	5 (5%)
No	93 (95%)
Prescribed antidepressants	
Yes	31 (32%)
No	67 (68%)
Prescribed antipsychotics	
Yes	10 (10%)
No	88 (90%)
Prescribed benzodiazepines	
Yes	20 (20%)
No	78 (80%)
Prescribed cholinesterase inhibitors	
Yes	1 (1%)
No	97 (99%)

Table 3: Inpatient assessment and management

Variable	N (%)
Initial concerns raised by**	
Family members	9 (9%)
GP	2 (2%)
Social work	19 (19%)
Occupational therapist	16 (16%)
Treating team	40 (41%)
Psychiatry team	1 (1%)
Unknown	11 (11%)
Capacity question to be addressed	
Capacity to return home	88 (90%)
Other	10 (10%)
Psychiatry opinion given	
Yes	31 (32%)
No	67 (68%)
Assessment method by Occupational Therapist	
Mini Mental State Examination (MMSE)	30 (31%)
Montreal Cognitive Assessment (MOCA)	30 (31%)
Rowland Universal Dementia Assessment Scale (RUDAS)	14 (14%)
Mental State Questionnaire (MSQ)	1 (1%)
Not assessed during admission	23 (23%)
Diagnosis of delirium during admission	
Yes	31 (32%)
No	67 (68%)
New diagnosis of dementia	
Yes	37 (38%)
No	61 (62%)
Diagnosis of dementia (prior AND new)	
Yes	55 (56%)
No	43 (44%)
Capacity assessment	
Patient has capacity	49 (50%)
Patient does not have capacity	46 (47%)
Capacity not called	3 (3%)

**Note: 'Frequency (%)' does not tally 100% given rounding

Table 4: Discharge destination following capacity assessment

Discharge destination	Has capacity	Lacks capacity
Home	36 (73%)	8 (17%)
Interim care	4 (8%)	11 (24%)
Nursing home	4 (8%)	25 (54%)
Other	5 (10%)	2 (4%)
Total	49 (100%)	46 (100%)

Note: 'Frequency (%)' does not tally 100% given rounding.
Also, total sample is 95 as 3 were excluded due to the geriatrician not making a determination on capacity.

Table 5: Dementia versus capacity

	Diagnosed with dementia	No dementia diagnosis
Patient has capacity	18 (33%)	31 (76%)
Patient lacks capacity	36 (67%)	10 (24%)
Total	54 (100%)	41 (100%)

Note: Total sample is 95 as 3 were excluded due to the geriatrician not making a determination on the patient's capacity.