



## Literature review

# The use of functional and cognitive assessment in the emergency department to inform decision making: A scoping review

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## ABSTRACT

**Background:** The use of functional and/or cognitive assessment in the emergency department (ED) to inform decision making in the complex older adult is considered important, yet not routinely administered.

**Method:** Electronic databases were searched to identify eligible published research studies: older adults >65 years; the administration of a functional and/or cognition assessment instrument whilst the older adult is in any part of the ED; interventions resulting from the administration of the instrument; and a measured outcome post ED visit. A revised scoping review methodology was applied to chart study data and to identify key differences.

**Results:** Ten research studies were identified that met the criteria for review. There are a variety of assessments, aimed at different age groups, for several purposes and used at different times in the ED journey. Assessments are not being used in conjunction with routine medical assessment early in the ED patient journey.

**Conclusion:** This scoping review identified no consistent suite of tools being administered in the ED to influence the disposition decision with measurable outcomes. Further research is required to identify a suite of assessment instruments suitable for use in the ED setting aimed at improving disposition decision making in the complex elderly person.

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## Introduction

Developed countries are experiencing an increasing proportion of older adults presenting to emergency departments (EDs), bringing significant challenges to emergency staff and the broader health care system [1,2]. The signs and symptoms of acute illness in the older person can present differently to their younger counterparts [3]. Older people may present with a new injury or illness superimposed on a multitude of complex and interrelated problems. These problems may include: frailty; atypical appearance of diseases; complex social and ethical issues such as end of life decisions; polypharmacy; chronic diseases, combined with poor physiologic reserves to withstand a sudden change in health status [3–6]. A subset of these patients are at risk for adverse outcomes such as falls, delirium, unanticipated ED presentations, functional decline, long hospital stay and death [6]. Traditional ED models of care

were designed for the acutely ill and injured patient rather than medically complex and functionally impaired older person and consequently problems unique to the older person are frequently under-recognised [7–9]. Therefore, this cohort needs further and more detailed assessment than what is otherwise provided as routine assessment in the ED.

The assessment of physiological parameters and the application of diagnostic testing is routinely undertaken in the ED for all patients, including older adults [3]. However, the identification of modifiable geriatric problems through geriatric assessment is not routinely done as it can be viewed as challenging in the ED environment due to the time-consuming nature of the process, lack of or diminished access to geriatrician-led multidisciplinary teams and the ED clinical staff not recognising the significance of such syndromes on the presenting clinical picture [7,10,11]. This may indicate that common geriatric syndromes and functional impairment including physical, cognitive, emotional and social status is not being used to contribute to diagnostic and decision-making [7] or to improve the quality and safety of nursing care in the ED. Determining illness severity by combining measures of integrative functioning and physiologic measures enables emergency

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medicine physicians to combine the impact of acute on chronic illness of the whole person rather than on a single issue, diagnosis-driven decision [12]. The outcome of overlooking the complex older adult with multiple simultaneous challenges often results in physicians choosing the path of least resistance; admission [13]. This in turn increases the risk of adverse inpatient events such as irreversible decline and the contribution towards a cascade of interactions towards dysfunction, and the common pathway of entry into a residential aged care facility [14].

The assessment of an older person's function can be achieved from a range of sources including the use of validated assessment tools. However, clinicians seeking validated, standardised instruments suitable for use in the ED setting may have difficulty in identifying suitable instruments useful for decision making and guiding clinical care. International and domestic societies and commissions [15–17] recommend the use of certain geriatric assessment tools. Currently however, there remains a gap in the literature regarding a consistent suite of assessment tools suitable for use in the elderly population in the ED setting. A systematic review of a range of studies incorporating the assessment of function in the ED reveals that these assessments are designed: for different purposes; for different population groups; to use several different assessment tools; and result in a range of interventions and outcomes [18]. Several studies focus on the validity and reliability of functional assessment [18–20]. The lack of overall psychometric evidence renders the use of many of these tools invalid for clinical decision making [18]. Due to the wide variety of assessments, interventions and outcomes presented in the literature, we conducted a scoping review. This scoping review is aimed at exploring the utility of functional and cognitive assessment of older adults in the ED within the multidisciplinary team. In particular, we explored which tools are being used, who is conducting the assessment and in what area of the ED, and whether the information is being used to inform disposition decision making within the multidisciplinary team.

## Methods

A scoping review was conducted to provide an overview of the existing literature in order to identify gaps in the research knowledge base [21]. The methodological framework used was based on that presented by Arksey and O'Malley [22] with adaptations by Armstrong et al. [23]. The framework consists of five key stages including: 1) identifying the research question; 2) identifying relevant studies; 3) study selection; 4) charting the data; and 5) collating; summarising and reporting the results.

The aim of this scoping review was to explore the utility of using functional and cognitive assessment of older adults in the ED to inform disposition decision making within the multidisciplinary team. The research question was guided by an initial enquiry that sought to identify whether functional and cognitive assessment, as an aspect of comprehensive geriatric assessment, is being used to contribute to disposition decision making in the emergency department. An additional research question focused on which tools are being used, which staff are undertaking the assessment and in what area of the ED.

### Identification of studies

A comprehensive two-phased search strategy was performed. The following databases were searched: PUBMED, CINAHL, Scopus and Google Scholar. Search limits included restrictions to published in English as there were no funds available for translation; published between 2000 and 2017 as there were no further studies found prior to 2000; and interventional research studies. An initial list of Medical Subject Heading (MeSH) terms were compiled as

follows: 'aged', 'aged 80 and over', 'emergency service, hospital' and all variations. This initial search generated 3997 articles (see Table 1). A combination of additional MeSH and all field search terms were added including 'geriatric assessment', 'risk assessment', 'nursing assessment', 'patient outcome assessment', 'models, nursing', 'nursing process', 'falls' and 'cognition disorders' to further narrow results. Titles or the abstracts of these articles were read to select articles relevant to main review objectives. Secondly, reference lists of selected articles were hand-searched for additional papers. MeSH terms 'aged' and 'aged 80 and over' were used to capture all those aged >65 years.

### Selection of relevant papers

Selection of relevant papers was further refined during the entire study selection process to identify appropriate patient population, location of assessment, type of assessment performed, intervention secondary to assessment, outcome and the type of research conducted. Where uncertainty about study suitability arose, a final inclusion consensus decision was made with the other researchers.

For this scoping review, we sought to evaluate published research studies that included functional and cognitive assessments in the ED as a component of data collection. Therefore, instruments were only included if they assessed any aspect of functional ability, plus or minus the addition of a cognitive assessment.

#### Inclusion criteria:

- Older adults  $\geq 65$  years presenting to the emergency department
- Administration of a functional and/or cognition assessment instrument whilst the patient is in any part of the emergency department setting
- Clinical assessment tools addressing any aspect of functional ability, and/or cognition assessment
- The study must include an intervention of any description resulting from the outcome of the instrument administration
- There must be a measured outcome as a result of the ED based intervention.

#### Exclusion criteria:

- Evaluation of an assessment instrument as the primary outcome
- Studies that target an intervention of one primary diagnostic criterion e.g. stroke
- Review of literature
- Assessments or interventions not performed in the ED environment
- Studies only targeting residents of residential aged care facilities (RACFs).

Initial data charting was developed and refined to include small adjustments during the data charting process. The final version provides information on the author, year of publication, study design, outcomes measured, intervention, exclusions and study results (Table 2) [22].

## Results

Following the selection process ten studies were identified (see Table 3). These studies incorporated the administration of a functional and/or cognition assessment to inform a secondary intervention whilst the older adult patient was in the ED, with a measured outcome following the ED visit. In line with the methodological framework guiding this review, studies were charted to identify key differences.

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