What older people want from emergency care – a systematic review.

Authors:

James David van Oppen
1. Department of Health Sciences, University of Leicester, UK
2. Emergency Department, University Hospitals of Leicester NHS Trust, UK
George Davies Centre, Lancaster Road, Leicester, LE1 7HA
jvo3@leicester.ac.uk
07952872471
ORCiD: 0000-0002-2570-7112

Lisa Erica Keillor
2. Emergency Department, University Hospitals of Leicester NHS Trust, UK

Áine Mitchell
2. Emergency Department, University Hospitals of Leicester NHS Trust, UK

Timothy John Coats
2. Emergency Department, University Hospitals of Leicester NHS Trust, UK
3. Department of Cardiovascular Sciences, University of Leicester, UK
ORCiD: 0000-0003-2736-2784

Simon Paul Conroy
1. Department of Health Sciences, University of Leicester, UK
ORCiD: 0000-0002-4306-6064

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James van Oppen, Lisa Keillor, Áine Mitchell, Timothy Coats, Simon Conroy

Abstract

Objectives: To evaluate the expectations and preferred outcomes from emergency care among older people or their caregivers.

Methods: A review protocol was registered (PROSPERO CRD42018107050). Medline, Embase, CINAHL, PsychInfo, BNI, AgeInfo, and the Cochrane Database of Systematic Reviews were searched in their full date ranges to September 2018. Included articles were hand-searched for further citations. Citations were screened for (1) older people aged over 65, (2) emergency department settings, and (3) reporting expectations or preferred outcomes for emergency care (as opposed to experience or satisfaction). Quality appraisal and data extraction of eligible articles were undertaken by two reviewers. Themes were synthesised through content analysis and described narratively.

Results: Older people wished to have prompt waiting times, efficient care, clear communication, and comfortable environments. They had additional and unique expectations for holistic care and support in decision-making. The ED provoked a sense of vulnerability among older people who were likely to have had frailty.

Conclusion: The lack of dominant themes among included studies suggests that older people should be treated as individuals rather than a homogenous group. Establishing individuals' preferred outcomes could improve person-centred care.

What this paper adds

What is already known on this subject?

- Patients' healthcare expectations influence their subsequent experience and satisfaction. Understanding these could support individualised and person-centred care.
- Previous reviews have reported communication and timeliness to be prioritised above other aspects of care for the majority of ED patients.
- Older people have specific and complex needs that may be poorly served in fast-flowing Emergency Departments; they may have unique expectations for their healthcare and concerns about being in the ED.

What this study adds

- This systematic review indicates that older ED patients want efficient, comfortable, and informative ED care.
- Older people feel vulnerable in the ED. They have unique desires for holistic care and supported involvement in decision-making.

Background

Systematic reviews investigating emergency care experiences and satisfaction find that patients consider informative and compassionate communication and relief of pain to be the fundamentally important elements of Emergency Department (ED) care (1-3). *Experience* and *satisfaction* are influenced by patients' *expectations* , which can be subdivided to health outcome goals, healthcare preferences, and health priorities (4).

Healthcare preferences can be difficult to explore, with recall bias, evolving or changing perspectives over time, and fears of jeopardising treatment presenting methodological challenges. Due to their higher prevalence of cognitive impairment and communication barriers, these perspectives may be even harder to obtain from older people and particularly those living with frailty, who are among the most vulnerable of ED users (5). These people often have non-specific illness presentations and complex physical, psychological and social needs, which may be poorly served by fast-flowing ED care. There is some evidence that older people may respond better to interventions based on communication and elicitation of their priorities for multidisciplinary care rather than to technological innovation (6, 7).

Patient satisfaction improves when professionals understand their patients' expectations (8). Expectations among a cohort of predominantly younger ED patients included timeliness, cleanliness, and communication above many other aspects of care (9). There is less research reporting expectations for emergency care among older people and their carers (10). Those living with frailty are known to have poorer outcomes from acute care (11), and so may well have specific concerns and expectations. Understanding these could facilitate an individualised and tailored approach to person-centred care for older people.

This review summarises published evidence for expectations and preferred outcomes from Emergency Department (ED) care among older people.

Methods

Search strategy

The full protocol was registered with PROSPERO (ID: CRD42018107050). The search strategy was informed by a review of reviews in the field and the assistance of a medical librarian. The full date ranges of the Cochrane Database of Systematic Reviews, Medline, Embase, CINAHL, PsycInfo, BNI, and AgeInfo databases were searched with exploded MeSH headings and relevant keywords, restricted to English language. Databases were searched from inception to 20th September 2018, and references were managed using Endnote software. The reference lists of included full-texts were hand-searched for additional papers.

Indicative search terms are displayed below; these were modified accordingly for each database. The strategies used for the Medline and Embase databases are shown at Appendix 1.

Population: Health Services for the Aged/ or Geriatric Assessment/ or Frail Elderly/ or Frailty/ or Aging/ or (geriatric* or old* age* or older or elder* or frail*).tw.

Setting: Emergency Service, Hospital/ or (emergency department* or emergency care or emergency medic* or emergency room* or emergency ward* or urgent care or casualty).tw.

Outcome: Quality Of Health Care/ or Quality Indicators, Health Care/ or Attitude To Health/ or Patient Satisfaction/ or (qualit* or goal* or wish* or experience* or priorit* or expect* or

perception* or satisfaction or opinion* or preference or patient reported outcome measure* or attitude* or belief* or acceptability or feeling* or view* or perspective*).tw.

Eligibility

Duplicate articles were removed. One reviewer (JvO) screened all titles and abstracts, and then identified eligible full texts using pre-defined inclusion criteria (Table 1). The outcome of interest was healthcare *expectations*, which were defined as the preferred outcomes that older people hoped to gain during their ED attendance. Where these could be inferred from the later perceptions of *experience* and *satisfaction* (respectively occurring during or after ED attendance), these studies were included. We excluded systematic reviews, having completed a preparatory review of reviews.

A 25% random sample of citations were screened by a second reviewer (LK); Cohen's kappa statistic was calculated for inter-rater reliability.

LK second-screened all identified full texts. Cohen's kappa statistic was again calculated, and disagreements resolved through consensus with a third reviewer (AM). Reasons were recorded for exclusion of ineligible articles at the full-text stage (Appendix 2).

We deviated from our protocol, in which we stated that we would include only those studies with participants who had frailty as defined by clinical judgment or scoring tool. We found no articles which codified frailty in-keeping with recent developments in emergency medicine, for example by using the Clinical Frailty Score. The majority of studies used age as a pragmatic eligibility criterion, while some recruited patients with proxy markers of frailty including multiple co-morbidities, frequent ED attendances, or residence in a care home. Up to a quarter of participants could be expected to have had frailty (12), although the proportion may be under-represented in these studies that mainly excluded patients with cognitive impairment.

Category	**Inclusion criteria**	**Exclusion criteria**
Population	Patients aged over 65 years. Carers of patients aged over 65 years.	Population aged under 65 years. Insufficient sub-group reporting to enable analysis of subjects aged over 65 years within mixed population.
Intervention	Any intervention in the ED.	Interventions delivered wholly outside of the ED.
Outcome	Studies reporting patients' or carers' preferred outcomes for emergency healthcare.	Studies reporting outcomes described only by healthcare professionals. Studies reporting only experiences during or satisfaction after ED care, from which expectations could not be ascertained or inferred.
Setting	Care delivered in hospital-based Emergency Department(s).	Care wholly delivered outside of ED settings.
Study type	Qualitative and quantitative studies published in peer-reviewed journals.	Papers with insufficient data for analysis of subjects' expectations. Papers not available in English. Systematic reviews.

Table 1: *Inclusion and exclusion criteria*

Quality appraisal

Quantitative and qualitative full-texts were appraised by two reviewers using the Mixed-Methods Appraisal Tool (13).

Data extraction and synthesis

Two reviewers independently extracted data from each article into a standardised form (Appendix 3). Qualitative content analysis was undertaken (14), by assigning and categorising identifiers to text instances in the manuscripts. Categories were grouped and reviewed until themes emerged among people's reported perceptions, which the reviewers then discussed until consensus was reached. A meta-analysis was not planned; the reviewers were familiar with recent literature and anticipated identifying qualitative studies or heterogeneous quantitative methods.

Results

Study selection

Following de-duplication, 7233 citations were identified from database searches. 7135 articles were excluded during title and abstract screening (Figure 1). Of 98 full-texts, sixteen were excluded for ineligible populations, six for non-ED settings, and twenty-three (predominantly conference proceedings) had ineligible publication type or insufficient data for extraction and appraisal. Healthcare expectations were not established in twenty-seven papers. Hand-searching reference lists of eligible manuscripts yielded twenty-five further citations although none satisfied criteria for inclusion. Inter-rater agreement for citation exclusion in the 25% sample was perfect (k = 1). Agreement for full text exclusion was also strong (k = 0.83).

Overview of included studies

Twenty-six papers published between 1992 and 2018 were included. There were no studies of older people attending hospitals in Africa, Asia and South America. Six studies prospectively explored older patients' expectations for emergency care (Table 2). Four used qualitative interview methods (15-18) and two analysed interview or survey data quantitatively (19, 20). Healthcare preferences were determined from twenty further papers (reporting nineteen studies) which had experience- or satisfaction-based outcomes (Table 3). For example, older people reporting feeling controlled and ignored (21) was interpreted as their preference to be included in decision-making processes. Researchers used qualitative interviews (21-32) and focus groups (33-35), quantitative analyses of survey (36-38) and interview data (39), and a mixed-methods study of audit and interview data (40). Sample sizes ranged from 7 (29) to 2115 (36), with a total sample of 5116 participants.

Quality appraisal of included studies

No studies were excluded based on quality assessment. Star ratings (Tables 2 & 3) indicate whether MMAT criteria were reported; emphasis during synthesis reflected the rationale behind studies' quality ratings and whether they directly reported preferred healthcare outcomes. Quality appraisal was limited by some studies' availability only as conference abstracts (20, 31, 34, 35).

In five of six studies which directly explored preferred outcomes, data collection was carried out within one month of the ED attendance. Arendts *et al* (19) surveyed the expectations of care home residents who had not necessarily received emergency care, potentially reducing the recall bias introduced by subsequent experiences. Of these studies, those graded as stronger presented justifying evidence for their thematic construction (15, 17, 18), whereas weaker gradings were assigned to studies with limited reporting of their methods, qualitative framework, or outcomes and

implications (16, 20). Most of these studies excluded patients with significant cognitive impairment (15-19), limiting generalisability to many older people with frailty.

Of twenty papers where expectations were derived from context, six ensured representation of people with impaired capacity by including consultees (23, 28, 35, 38, 39), while four studies excluded patients with cognitive impairment (21, 33, 37, 40). The stronger studies in this group again integrated data supporting the researchers' observations (21-23), while others had small or restricted samples (25, 26, 28, 29, 36) or significant lead-time following ED attendance (27, 33).

Synthesis: older people's preferred outcomes for emergency care

The frequency of themes among included studies (Table 4) shows that older people did not report one single dominant set of preferred outcomes. Rather, various expectations were found by researchers in different study populations in different settings. Perceived expectations for care may vary with people's health context and the urgency of their condition. The heterogeneity in our results reiterates the need to treat older people as individuals rather than as a uniform group.

Efficient and comprehensive care

Older people and their carers wanted a comprehensive and easily accessible Emergency Department service (15, 18). They reported negative perspectives when care was rushed or lacked a holistic approach (30, 35). While people often accepted long waiting times (15) and made concessions for busy staff (18), they wanted regular updates and explanations for delays (17, 32). If the reasons for longer waits were not explained, subsequent satisfaction was reduced (19, 38). Two studies reported that older people expected to be fully assessed, investigated and to receive an accurate diagnosis (16, 18).

Older people attending with trauma valued a holistic approach to care, prioritising the management of their chronic conditions and transitions between care providers in addition to being able to return to their pre-injury baseline (31).

Sensitivity towards vulnerability

Those older people who were likely to have had frailty were afraid of being alone in the ED (19). They were afraid of their illness (15) and of losing independence (34), and felt that they had nowhere else to seek care (15). Older people wanted ED staff to take time to explain the likely trajectory of illness, and to use reassurance, courtesy and humour during interactions (17, 18, 32). They expected their clinician to be aware of their advance directives and preferences for end of life care, and wanted to discuss these in the ED (20).

Older people and their carers expected a suitable physical environment for care during their attendance (27, 28). They noted the importance of providing for physical needs (17, 18, 32, 37, 39) such as comfortable trolleys or beds, dimming lights, toileting, access to food and drink, and orientation around the department. Carers were clear that EDs should provide adequate staffing and an optimised environment for basic nursing care, specifically suggesting treating older people in a separate space away from the noisy and busy general ED (27).

Person- (and family-) centred holistic care and information provision

Older people expected consideration of their personal healthcare priorities. These included relief of symptoms (in particular of pain) (19, 38, 39) and improving their quality of life (34).

Table 4: Explored themes of older people's preferred outcomes. (**Bold:** studies directly reported these perceptions. *Italics:* indirect elicitation)	Efficient and comprehensive care	Person-centred care and information	Sensitivity towards vulnerability
Arendts 2017	•		
Baraff 1992	•	•	•
Bridges 2010	•		•
Considine 2010	•		•
Dresden 2014			•
Goodridge 2018	•		•
Hunold 2016	•	•	
Kihlgren 2004	•	•	•
Lawlor 2011	•	•	
Le Guen 2016		•	
Liu 2016			•
Lyons 2009	•	•	•
Majerovitz 1997		•	•
McCusker 2018	•	•	
Meyer, Spilsbury 1999	•	•	•
Morphet 2015	•		•
Nerney 2001	•	•	
Nikki 2012		•	•
Nyden 2003			•
Olofsson 2012	•		•
Padrez 2014	•	•	•
Richardson 2007		•	•
Smith 2017		•	
Stein-Parbury 2015	•	•	•
Watson 1999	•		•

Older people generally wished to take an active role in decision-making but may have lacked the necessary information or understanding (17, 18). Insufficient or poorly-understood explanations about diagnosis or discharge were associated with older people feeling less satisfied with their care (39). One study suggested that older people experienced different treatment in healthcare discussions because of their age or frailty: individuals with indications for Intensive Care transfer were rarely asked for their opinions about admission, and were less likely to be asked if they had cognitive impairment (36). Patients can only be involved in decision-making if professionals consider their views (38); this may require common communication barriers to be overcome, which include visual or hearing problems, cognitive impairment, and language (1).

Carers also wanted to receive more information and be actively involved in healthcare discussions (18, 27, 28). Familiar caregivers' or relatives' presence in the ED was important to both older patients and their carers alike (28). Encouraging family presence can improve interaction (33), as they may act as patient advocates (18, 40) or help to overcome some of a person's communication barriers.

Discussion

Older people's healthcare preferences included efficiency, information provision, and environmental comfort; these concepts feature as National Patient Survey Programme domains and would appear valid among older people. Clear communication and explanation were also expected (3). The included studies did not, however, report an expectation for plain language. This is in contrast with research in younger populations (9), perhaps reflecting older people's familiarity with medical conditions. Older people wanted short waiting times, but also appeared resilient and tolerated (and perhaps expected) longer waits – particularly if delays were explained (32, 33).

Older people had some unique healthcare expectations. These were more common in studies that included people with stereotypical markers of frailty, although the available evidence did not specifically stratify frail populations. Older people who were more likely to be frail had health outcome goals of symptom relief and return to pre-morbid baseline. They felt vulnerable, anxious, and wanted reassurance in the ED. They were afraid of the uncertain trajectory of their illness, and of symptoms such as pain. They also feared being ignored by healthcare professionals, and needed supporting as active participants in care. To our knowledge, studies in younger populations have not identified these themes.

Strengths and limitations

We used a qualitative systematic review approach to integrate patients' views and perceptions into communicable themes. The risk of neglecting primary literature articles was minimised by searching multiple databases. Although three-quarters of citations were initially screened by only one reviewer, there was strong inter-rater agreement for the double-screened sample and full-texts.

We assigned greater focus to those studies which directly evaluated preferred healthcare outcomes. Findings are limited by the different objectives and methods of different research groups, and are limited to those perceptions which have been captured in literature reports. Extrapolation of expectations from patients' experiences should be interpreted cautiously.

None of the studies of older people's expectations for emergency care used a validated frailty assessment method as a recruitment inclusion criterion or to stratify outcomes. We therefore deviated from our protocol and included study populations based on age alone. Some studies included participants who had attributes stereotypically associated with frailty, including multiple co-morbidities, residence in a care home, or frequent use of emergency care. Most excluded individuals who had cognitive impairment, so our findings may not be generalisable to that significant proportion of older people. Prospective investigation of the views of people living with frailty, and comparison of healthcare expectations between older and younger people is warranted to confirm our findings.

Summary and implications for practice

Few studies have investigated expectations of treatment and concerns among older people receiving emergency care. There is no evidence about whether the presence or degree of frailty alters older people's expectations for emergency care. There was substantial heterogeneity in the approaches employed. Research was predominantly qualitative, and of limited methodological quality. There was no single dominant set of expectations apparent from our analysis. Recurring themes gave some indication that older people receiving emergency care had health outcome goals of symptom-relief and return to pre-morbid baseline. Healthcare preferences included active communication, involvement in decision-making, inclusion of familiar caregivers, and holistic approaches that minimise their sense of vulnerability.

Systems developing Geriatric Emergency Medicine services will wish to support better person-centred care. Partnered healthcare (the involvement of consumers in shared decision-making) includes understanding and planning delivery of patients' preferred healthcare outcomes. Patient Reported Outcomes Measures (PROMs) can capture these outcomes of interest and can be a powerful mechanism to change practice and focus care on that which is most important to patients. At the individual patient level, PROMs can drive improvements in diagnosis, communication and prioritisation of needs (41). At the population level, PROMs can be used for research, benchmarking, and fed-back to providers to inform service improvements. There is no existing evidence-based outcome measure for older people with urgent care needs. Our review confirms the importance of establishing the needs of individual *people* rather than the "older patients" group.

Table 2: Older people's healthcare expectations reported from prospective investigation

Author **Year** **Country** **Pub. type**	**Recruited Population**	**Funding** **Appraisal tool and rating** **Appraisal comments**	**Design**	**Outcome themes**			
				Efficient and comprehensive care	**Person-centred holistic care and information provision**	**Sensitivity towards vulnerability**	**Headline message**
Arendts 2017 (19) Australia Journal - Primary	Before ED attendance N=414 Community care facility residents	Australian Research Council MMAT - Quant desc *** Excluded significant proportion of target population (cognitive impairment)	Survey (discrete choice experiment)	Would be less satisfied with longer wait, when time spent alone, and with complications. More satisfied when symptoms relieved.			Context-specific but strong preference for ED transfer, with preferences for shorter waits, less time alone and higher symptom relief.
Goodridge 2018 (15) USA Journal - Primary	During attendance N=115 Patients >65 triaged as non-urgent	University of Saskatchewan MMAT - Qualitative **** Thematic construction presented with a small amount of evidence	Interviews, inductive analysis	Specialised care provision.		No accessible or available alternatives when conditions non-urgent. Attendances due to fear of illness.	Older people use the ED seeking comprehensive and accessible care.
Hunold 2016 (16) USA Journal - Primary	During attendance N=185 Patients aged >65	MMAT - Mixed *** Qualitative framework vague. Appropriate quantitative method	Response weight Interviews, framework analysis	Elements of successful visit: evaluation and treatment, timely care, good service.	Elements of successful visit: communication.	Elements of successful visit: environment.	Patients prioritised directed and efficient assessment.
Majerovitz 1997 (17) USA Journal - Primary	During attendance N=71 Patients >60 >3hrs in ED, or carers	MMAT - Quant desc **** Excluded cognitively impaired patients. Daytime recruitment.	Semi-structured interviews, framework analysis		>50% patients with incomplete understanding of their condition and treatment. 40% carers dissatisfied with level of communication.	25% patients cited problems with personal care in the ED. 42% cited problems with the ED environment.	Older people want to be active patients, but often lack information about their condition or treatment.
Smith 2017 (20) USA Conference abstract	During attendance N=248 OP >65 or caregivers	MMAT - Quant desc ** Limited reporting of methods and implications	Survey		40% wanted to discuss advance directives with their doctor (only 7% were asked).	82% patients felt their ED provider should know about their end-of-life preferences.	Most older people want clinicians to be aware of their care preferences. Many are not asked about their wishes in the ED.
Stein-Parbury 2015 (18) Australia Journal - Primary	<1 month from discharge N=10 OP >65 accompanied by carer, living independently	University of Technology, Sydney MMAT - Qualitative ***** Small and relatively limited sample. Rich data integrated.	Semi-structured interviews, interpretive analysis	Expected to have their condition fully assessed and tested, and to receive a diagnosis.	Lack of communication regarding condition and processes within the ED. Carers cite the requirement to be assertive in advocacy.	Persistent or worsening symptom trajectory preceding ED attendance. ED commonly poorly accessible from car.	Older peoples' and carers' needs for information are often unmet.

Table 3: Expectations inferred from reported experience or satisfaction

Author Year Country Pub. type	Recruited Population	Funding Appraisal tool and rating Appraisal comments	Design	Outcome themes			
				Efficient and comprehensive care	Person-centred holistic care and information provision	Sensitivity towards vulnerability	Headline message
Baraff 1992 (33) USA Journal - Primary	<1 year from attendance N=unknown Ambulatory and articulate patients aged >65	John Hartford Foundation via SAEM MMAT - Qualitative ***** Population representation may have been limited.	Focus groups	Tolerant of a considerable wait – satisfied with quality of care.	Written instructions would alleviate confusion over ED environment processes.	Felt abandoned, appreciated kindness. Considerable anxiety regarding illness and care. Fear of falling and of violence. Cold, noisy environment, stretchers uncomfortable. Difficult to arrange transport home.	Older adults would benefit from education about their emergency care. Staff should be sensitive to their anxieties, and explain delays.
Bridges 2010 (21) UK Journal - Primary	<1 mo from discharge N=96 Patients >75 or their carers.	Burdett Trust for Nursing MMAT - Qualitative ***** Rich evidence. Excluded cognitively impaired patients.	Discovery interview techniques. Inductive analysis	Satisfied (relieved, grateful) with medical care but diminished self-perception related to long wait.		Power imbalance – felt controlled and ignored. Psychological and wider care needs variably met.	Ability to express needs was constrained by older people feeling they did not matter.
Considine 2010 (22) Australia Journal - Primary	<1 week from attendance N=27 Patients >65 or their carers, able to give consent.	Victorian Department of Health MMAT - Qualitative ***** Modest interpretations from rich evidence.	Interviews. Dual inductive thematic construction	Frustration over waiting times, but understanding of prioritisation.		Reluctant to access the ED and attend in desperation. Confusion around ED processes (e.g. triage). Financial concerns influenced access.	ED systems may need modification for the specific needs of older people.
Dresden 2014 (34) USA Conference abstract	<45 days from attendance N=30 Patients >65	 MMAT - Qualitative ** Abstract with limited reporting of evidence.	Focus groups. Constant comparative analysis.			Concerned about recovery to baseline. Feared loss of independence. Desired reassurance re impact of illness.	Evaluation of ED interventions should incorporate health-related quality of life measures.
Kihlgren 2004 (23) Sweden Journal - Primary	At ED arrival N=20 Patients >75 or their carers.	Swedish Foundation for Health Sciences and Allergy Research MMAT - Qualitative ***** Integrated data supporting observations. Exc. fractures or MI patients	Observation, interviews. Grounded theory analysis.	Long, unpleasant waits. Unnecessary delays.	Poor access to information.	Often left alone on uncomfortable bed. Cold. Lacked privacy. ED routines and process poorly understood.	The ED physical environment can be disconcerting and inhibit older patients' understanding.
Lawlor 2011 (35) Ireland Conference abstract	 N=20 Older patients or carers	 MMAT - Qualitative * Abstract with limited reporting of evidence.	Focus group	Generally positive towards quality of care. Negative perceptions of the waiting times and lack of holistic approach.	Lack of information, communication difficulties.	Lack of privacy. Felt as if care was rushed.	
Le Guen 2016 (36)	ED triage N=2115	 MMAT - Quant desc *****	Questionnaire			Older people or those with cognitive impairment were	Individuals' wishes were rarely sought when considering

France Journal - Primary	Patients >80 potentially needing critical care.	Patient preference was reported by the physician (may over-estimate)	Logistic regression.		13% patients were asked about their preference for ITU treatment.	less likely to be asked about their preferences.	admitting older people to the ITU.
Liu 2016 (37) Australia Journal - Primary	During ED attendance N=361 Patients >65 (reported sub-group). Exc. cognitive deficit	MMAT - Non-random. **** Limited population (day-time only, excluded cognitively impaired patients).	Survey Merged Likert scales, Chi-square comparison		Variability in quality of explanations.	Often unsure how the ED system worked or how to call for help. Older patients were less afraid of their illness and felt less ignored.	Older people were resilient. Staff should provide clear information about illness and treatment, and explain how to call for help.
Lyons 2009 (24) UK Journal – Primary	After attendance N=20 Patients >65, able to consent	MMAT - Qualitative ***** Unclear time between attendance and recruitment.	Interviews Constant comparative analysis	Identifying, investigating, and managing problems was the priority. Confident in clinicians' abilities. All commented on wait and appreciated updates during delays	Important to be kept up to date.	Wanted to be treated in a caring manner. Physical comfort, hygiene and nutrition all important.	Physical, cognitive and emotional wellbeing of older patients should be considered in emergency care environments
McCusker 2018 (39) Canada Journal - Primary	<1 week from attendance N=412 Patients >75 or relatives	Quebec Research Fund-Health MMAT - Quant desc ***** Development and validation of experience measure	Interviews. Multiple correspond. analysis Linear mixed model	Overall time and time waiting for physician were perceived differently. Negative perceptions regarding pain control	Problems and tests communicated poorly. Negative reflections of information provided at discharge.	Did not feel appropriately respected.	
Meyer, Spilsbury 1999 (25, 26) UK Journal - Primary	<1 mo from attendance N=12 Patients >75 (purposive sample)	Local (Trust-commissioned) MMAT - Qualitative **** Recruitment and interview methods not clearly described.	Observation, interviews Framework	Low expectations of care. Understood staffing constraints. Aim for comprehensive assessment on arrival.	Would appreciate information at time of arrival. Overall lacking information.	Disorientating waiting time – would value explanation and acknowledgement. Consider safety, privacy and comfort.	'Little gaps' in staff actions. If related to attitudes towards ageing, these need to be uncovered.
Morphet 2015 (27) Australia Journal - Primary	1-4 years after attendance N=24 Relatives of older patients	Nurses Board of Victoria Legacy Grant MMAT - Qualitative **** Long time period – possible recall bias.	Semi-structured interviews. Inductive coding.	ED staff and environment resources perceived to be inadequate to provide specialised care for older people.	Relatives represent a valuable information source but often excluded from decision-making.	Older people felt invisible. Attitudes towards them were perceived as indifferent.	
Nerney 2001 (38) USA Journal - Primary	During attendance N=778 Patients >65 or their proxies	Chicago Community Trust, Retirement Research Foundation MMAT - Quant desc ***** Validation of experience measure, timely recruitment.	Questionnaire and follow-up survey. Logistic regression	70% rated care as excellent or very good. Pain control improved satisfaction.	More satisfied when questions answered clearly and investigations explained. Appreciated involvement in care decisions.	Appreciated time spent with staff and prompt assistance.	Satisfaction often influenced by ED staff factors (and not just pre-determined factors).
Nikki	During attendance		Interviews.			Stressful environment, lacking support.	Lack of understanding regarding holistic care.

2012 (28) Finland Journal - Primary	N=9 Relatives of medical patients >65	MMAT - Qualitative ***** Small sample size. Restricted to medical patients (justified – prolonged stays).	Inductive analysis.		Relatives satisfied when giving information and feeling actively involved. Unhappy when excluded or unable to access information.		Need for broader involvement of family members in ED care.
Nyden 2003 (29) Sweden Journal - Primary	N=7 Patients >65 (selected sample)	MMAT - Qualitative ***** Small sample size, selected by nurse manager. Duration since attendance not reported.	Interviews. Framework analysis.	Little or no attention paid to patients with non-urgent health problems.	Wanted to be well-informed. No patients discussed active decision-making.	Long waits on hard trolleys, without attention or food. Needed affection and belongingness, but perceived staff as too busy to attend to existential needs. Felt safer waiting in corridor than alone.	Basic needs, including safety, must be supported in the ED to assist older people to take an active role in health processes.
Olofsson 2012 (30) Sweden Journal - Primary	During attendance N=14 Patients >70, at least 3 ED visits /1year	NU-Hospital Group MMAT - Qualitative ***** Small sample. Integrated supportive data.	Interviews. Inductive analysis.	Triage: prompt and competent, short wait. After triage: long delays, inattention to pain.		Triage: personal touch, attentive listening. After triage: perception of indifference and disinterest.	Contradictory experiences between positive triage encounters and subsequent neglected, long wait
Padrez 2014 (31) USA Conference abstract	At hospital discharge N=21 Patients >55 or carers	MMAT - Qualitative ** Abstract with limited reporting of evidence.	Interviews. Modified grounded-theory analysis.	Returning to pre-injury baseline and management of chronic illness perceived as important.	Education and advocacy important.	Supported care transitions and arranging access to services at home.	Identified themes of care for injured older people. Care transitions was an area for improvement.
Richardson 2007 (40) New Zealand Journal – Primary	During attendance N=95 Patients >80 exc. cognitively impaired	MMAT - Mixed methods ** Limited purposive sample for the qualitative element.	Patient flow audit. Interviews. Deductive framework	Nurses caring for many other patients and frequently reallocated. Transfer times often prompt.	Generally patients received very little information.	Patients felt as though they relinquished control to the system.	Important to understand older peoples' ED experiences to enable effective and efficient patient-friendly service.
Watson 1999 (32) USA Journal - Primary	<72 hrs from attendance N=12 Sampling not specified	MMAT - Qualitative **** Small sample. Recruitment and eligibility not reported. Unclear description of data analysis methods.	Interviews. Content analysis	Waiting time was always noticed, and explanations for delays appreciated. Sensitive to the needs of other patients.		Wanted to understand care processes and what could be expected. Importance of humour and courtesy – avoiding patronising. Uncomfortable beds. Departments difficult to access.	Suggested a number of innovations to improve the care of older patients.

References

1. Shankar KN, Bhatia BK, Schuur JD. Toward patient-centered care: a systematic review of older adults' views of quality emergency care. Annals of Emergency Medicine. 2014;63(5):529-50.e1.
2. Hoon LS, Mackey S, Hong-Gu H. Elderly patients' experiences of care received in the emergency department: a systematic review. JBI Libr Syst Rev. 2012;10(23):1363-409.
3. Gordon J, Sheppard LA, Anaf S. The patient experience in the emergency department: A systematic synthesis of qualitative research. Int Emerg Nurs. 2010;18(2):80-8.
4. Naik AD, Dindo LN, Van Liew JR, Hundt NE, Vo L, Hernandez-Bigos K, et al. Development of a Clinically Feasible Process for Identifying Individual Health Priorities. J Am Geriatr Soc. 2018;66(10):1872-9.
5. Banerjee J, Conroy S, Cooke MW. Quality care for older people with urgent and emergency care needs in UK emergency departments. Emergency Medicine Journal. 2013;30(699-700).
6. Hogan TM, Malsch A. Communication Strategies for Better Care of Older Individuals in the Emergency Department. Clin Geriatr Med. 2018;34(3):387-97.
7. Blaum CS, Rosen J, Naik AD, Smith CD, Dindo L, Vo L, et al. Feasibility of Implementing Patient Priorities Care for Older Adults with Multiple Chronic Conditions. J Am Geriatr Soc. 2018;66(10):2009-16.
8. Curran J, Cassidy C, Chiasson D, MacPhee S, Bishop A. Patient and caregiver expectations of emergency department care: A scoping literature review. Int Emerg Nurs. 2017;32:62-9.
9. Cooke T, Watt D, Wertzler W, Quan H. Patient expectations of emergency department care: phase II -- a cross-sectional survey. CJEM: Canadian Journal of Emergency Medicine. 2006;8(3):148-57.
10. Melady D. Geriatric emergency medicine: Research priorities to respond to "The Silver Boom". Canadian Journal of Emergency Medicine. 2018;20(3):327-8.
11. Keeble E, Roberts HC, Williams CD, Van Oppen J, Conroy SP. Outcomes of hospital admissions among frail older people: a 2-year cohort study. Br J Gen Pract. 2019.
12. Clegg A, Young J, Iliffe S, Rikkert MO, Rockwood K. Frailty in elderly people. Lancet. 2013;381(9868):752-62.
13. Hong Q, Pluye P, Fàbregues S, Bartlett G, Boardman F, Cargo M, et al. Mixed Methods Appraisal Tool (MMAT), version 2018. Canadian Intellectual Property Office, Industry Canada; 2018.
14. Elo S, Kyngas H. The qualitative content analysis process. J Adv Nurs. 2008;62(1):107-15.
15. Goodridge D, Stempien J. Understanding why older adults choose to seek non-urgent care in the emergency department: the patient's perspective. CJEM Canadian Journal of Emergency Medical Care. 2018:1-6.
16. Hunold KM, Pereira GF, Jones CW, Isaacs CG, Braz VA, Gadi SR, et al. Priorities of Care Among Older Adults in the Emergency Department: A Cross-sectional Study. Academic Emergency Medicine. 2016;23(3):362-5.
17. Majerovitz SD, Greene MG, Adelman RD, Brody GM, Leber K, Healy SW. Older patients' understanding of medical information in the emergency department. Health Communication. 1997;9(3):237-51.
18. Stein-Parbury J, Gallagher R, Fry M, Chenoweth L, Gallagher P. Expectations and experiences of older people and their carers in relation to emergency department arrival and care: A qualitative study in Australia. Nursing & Health Sciences. 2015;17(4):476-82.
19. Arendts G, Jan S, Beck MJ, Howard K. Preferences for the emergency department or alternatives for older people in aged care: a discrete choice experiment. Age & Ageing. 2017;46(1):124-9.
20. Smith A, Manfredi RA, Gharehdaghi P, Shapiro E, Harmanli A, Nadendla R, et al. Care conundrum in the emergency department: The gap between clinician awareness and patient expectations about advance directives. Academic Emergency Medicine. 2017;24.

21. Bridges J, Nugus P. Dignity and significance in urgent care: Older people's experiences. Journal of Research in Nursing. 2010;15(1):43-53.
22. Considine J, Smith R, Hill K, Weiland T, Gannon J, Behm C, et al. Older peoples' experience of accessing emergency care. Australasian Emergency Nursing Journal. 2010;13(3):61-9.
23. Kihlgren A, Nilsson M, Skovdahl K. Older patients awaiting emergency department treatment. Scandinavian Journal of Caring Sciences. 2004;18(2):169-76.
24. Lyons I, Paterson R. Experiences of older people in emergency care settings. Emergency Nurse. 2009;16(10):26-31.
25. Meyer J, Bridges J, Spilsbury K. Focus. Caring for older people in acute settings: lessons learned from an action research study in accident and emergency. NT Research. 1999;4(5):327-39.
26. Spilsbury K, Meyer J, Bridges J, Holman C. Older adults' experiences of A&E care. Emergency Nurse. 1999;7(6):24-31.
27. Morphet J, Decker K, Crawford K, Innes K, Williams AF, Griffiths D. Aged care residents in the emergency department: the experiences of relatives. Journal of Clinical Nursing. 2015;24(23-24):3647.
28. Nikki L, Lepistö S, Paavilainen E. Experiences of family members of elderly patients in the emergency department: A qualitative study. International Emergency Nursing. 2012;20(4):193-200.
29. Nyden K, Petersson M, Nystrom M. Unsatisfied basic needs of older patients in emergency care environments - obstacles to an active role in decision making. Journal of Clinical Nursing. 2003;12(2):268-74.
30. Olofsson P, Carlstrom ED, Back-Pettersson S. During and beyond the triage encounter: chronically ill elderly patients' experiences throughout their emergency department attendances. International emergency nursing. 2012;20(4):207-13.
31. Padrez KA, Carr BG, Delgado MK, Holena DN, Dahodwala N. Improving care for injured older adults: A qualitative study of providers and patients. Annals of Emergency Medicine. 2014;64(4).
32. Watson WT, Marshall ES, Fosbinder D. Elderly patients' perceptions of care in the emergency department. Journal of Emergency Nursing. 1999;25(2):88-92.
33. Baraff LJ, Bernstein E, Bradley K, Franken C, Gerson LW, Hannegan SR, et al. Perceptions of emergency care by the elderly: results of multicenter focus group interviews. Annals of Emergency Medicine. 1992;21(7):814-8.
34. Dresden SM, McCarthy Danielle M, Engel Kirsten G, Aldeen A, Courtney DM. Gedi wise: Geriatric emergency department patients' priorities for health-related quality of life-a qualitative study. Annals of Emergency Medicine. 2014;64(4).
35. Lawlor G, O'Keeffe J, Carey T, Tan KM, O'Shea D, Hughes G. Older people's experience of using an emergency department. Irish Journal of Medical Science. 2011;180:S349-S.
36. Le Guen J, Saint-Jean O, Boumendil A, Guidet B, Corvol A, Somme D. Are elderly patients' opinions sought before admission to an intensive care unit? Results of the ICE-CUB study. Age and Ageing. 2016;45(2):303-9.
37. Liu B, Taylor DM, Ling SLY, MacGibbon P. Non-medical needs of older patients in the emergency department. Australasian Journal on Ageing. 2016;35(3):174-9.
38. Nerney MP, Chin MH, Jin L, Karrison TG, Walter J, Mulliken R, et al. Factors associated with older patients' satisfaction with care in an inner-city emergency department. Annals of Emergency Medicine. 2001;38(2):140-5.
39. McCusker J, Cetin-Sahin D, Cossette S, Ducharme F, Vadeboncoeur A, Vu TTM, et al. How Older Adults Experience an Emergency Department Visit: Development and Validation of Measures. Annals of Emergency Medicine. 2018;71(6):755-.
40. Richardson S, Casey M, Hider P. Following the patient journey: Older persons' experiences of emergency departments and discharge. Accident & Emergency Nursing. 2007;15(3):134-40.
41. Marshall S, Haywood K, Fitzpatrick R. Impact of patient-reported outcome measures on routine practice: a structured review. Journal of Evaluation in Clinical Practice. 2006;12(5):559-68.

Declarations

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Ethics approval

Not applicable.

Clinical trial registration

Not applicable. The systematic review protocol was registered (PROSPERO CRD42018107050).

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Competing interest

None declared.

Contributorship statement

JvO and SC planned the review. JvO, LK, and AM extracted and analysed data. All authors contributed to the narrative synthesis and manuscript drafting.

Appendix 1: Search strategy

Indicative search terms (MEDLINE via OVID SP)

1. Health Services for the Aged/ or Geriatric Assessment/ or FRAIL ELDERLY/ or Frailty/ or Aging/
2. (geriatric* or old* age* or older or elder* or frail*).tw.
3. Emergency Service, Hospital/
4. (emergency department* or emergency care or emergency medic* or emergency room* or emergency ward* or urgent care or casualty).tw.
5. "QUALITY OF HEALTH CARE"/ or QUALITY INDICATORS, HEALTH CARE/ or ATTITUDE TO HEALTH/ or PATIENT SATISFACTION/
6. (qualit* or goal* or wish* or experience* or priorit* or expect* or perception* or satisfaction or opinion* or preference* or patient reported outcome measure* or attitude* or belief* or acceptability or feeling* or view* or perspective*).tw.
7. 1 or 2
8. 3 or 4
9. 5 or 6
10. 7 and 8 and 9
11. limit 10 to english language

Indicative search terms (EMBASE via HDAS)

"(((GERIATRICS/ OR "ELDERLY CARE"/ OR "FRAIL ELDERLY"/ OR "GERIATRIC ASSESSMENT"/ OR (geriatric* OR old* age* OR older OR elder* OR frail*).ti,ab) AND ("EMERGENCY MEDICAL SERVICE"/ OR "EMERGENCY MEDICAL CARE"/ OR "EMERGENCY HEALTH SERVICE"/ OR (emergency department* OR emergency care OR emergency medic* OR emergency room* OR emergency ward* OR urgent care OR casualty).ti,ab)) AND ("HEALTH CARE QUALITY"/ OR "ATTITUDE TO HEALTH"/ OR "PATIENT ATTITUDE"/ OR "PATIENT SATISFACTION"/ OR (goal* OR wish* OR experience* OR priorit* OR expect* OR perception* OR satisfaction OR opinion* OR preference* OR "patient reported outcome measure*" OR attitude* OR belief* OR acceptability OR feeling* OR view* OR perspective*).ti,ab)) [English language]"

Medline (Ovid) 1946 to 20 Sept 2018
Embase (Ovid via HDAS) 1974 to 20 Sept 2018
CINAHL (EbscoHost via HDAS) 1937 to 20 Sept 2018
PsycInfo (ProQuest via HDAS) 1806 to 20 Sept 2018
BNI (ProQuest via HDAS) 1992 to 20 Sept 2018
AgeInfo to 20 Sept 2018
Cochrane Library to 20 Sept 2018

Appendix 2: Ineligible full-text articles and reasons for exclusion

Citation
Ineligible population
1. Acharya P, Laeeq A, Carmody M, Lown BA. Through the patient's eyes: Identifying risk factors for hospital readmissions. Journal of General Internal Medicine. 2016;31(2).
2. Acosta AM, Lima MA. Frequent users of emergency services: associated factors and reasons for seeking care. Revista latino-americana de enfermagem. 2015;23(2):337-44.
3. Benjamin M, Holger J, Carr M. Personal preferences regarding family member presence during resuscitation. Academic Emergency Medicine. 2004;11(7):750-3.
4. Bos N, Seccombe IJ, Sturms LM, Stellato R, Schrijvers AJP, Stel HF. A comparison of the quality of care in accident and emergency departments in England and the Netherlands as experienced by patients. Health Expectations. 2016;19(3):773-84.
5. Capp R, Camp-Binford M, Sobolewski S, Bulmer S, Kelley L. Do Adult Medicaid Enrollees Prefer Going to Their Primary Care Provider's Clinic Rather Than Emergency Department (ED) for Low Acuity Conditions? Medical Care. 2015;53(6):530-3.
6. Cooke T, Watt D, Wertzler W, Quan H. Patient expectations of emergency department care: phase II -- a cross-sectional survey. CJEM: Canadian Journal of Emergency Medicine. 2006;8(3):148-57.
7. Davis MA, Hoffman JR, Hsu J. Impact of patient acuity on preference for information and autonomy in decision making. Academic Emergency Medicine. 1999;6(8):781-5.
8. Ekwall A, Gerdtz M, Manias E. The influence of patient acuity on satisfaction with emergency care: perspectives of family, friends and carers. Journal of Clinical Nursing. 2008;17(6):800-9.
9. Karro J, Dent AW, Farish S. Patient perceptions of privacy infringements in an emergency department. Emergency Medicine Australasia. 2005;17(2):117-23.
10. Kit Delgado M, Ginde AA, Pallin DJ, Camargo Jr CA. Multicenter study of preferences for health education in the emergency department population. Academic Emergency Medicine. 2010;17(6):652-8.
11. Krebs L, Chetram R, Kirkland SW, Nikel T, Voaklander B, Davidson A, et al. Non-urgent presentations to the emergency department: Patients' reasons for presentation. Canadian Journal of Emergency Medicine. 2016;18.
12. Lin Y-K, Lin C-J. Factors predicting patients' perception of privacy and satisfaction for emergency care. Emergency Medicine Journal. 2011;28(7):604-8.
13. Minnick N, Nouhan PP. Name calling in the emergency department: How do patients want to be addressed?: 373. Academic Emergency Medicine. 2013;20(5):S153.
14. Pearson C, Kim DS, Mika VH, Imran Ayaz S, Millis SR, Dunne R, et al. Emergency department visits in patients with low acuity conditions: Factors associated with resource utilization. American Journal of Emergency Medicine. 2018;36(8):1327-31.
15. Son H, Yom YH. Factors influencing satisfaction with emergency department medical service: Patients' and their companions' perspectives. Japan Journal of Nursing Science: JJNS. 2017;14(1):27-37.
16. Turris SA, Finamore S. Reducing delay for women seeking treatment in the emergency department for symptoms of potential cardiac illness. Journal of Emergency Nursing. 2008;34(6):509-15.
Ineligible setting
17. Ae R, Kojo T, Okayama M, Tsuboi S, Makino N, Kotani K, et al. Caregiver daily impression could reflect illness latency and severity in frail elderly residents in long-term care facilities: A pilot study. Geriatrics & Gerontology International. 2016;16(5):612-7.
18. Bluemel M, Traweger C, Kinzl J. Expectations of patients, nurses and physicians in geriatric nursing home emergencies. Emergency Medicine Journal. 2011;28(4):283-6.
19. Canvin K, MacLeod CA, Windle G, Sacker A. Seeking assistance in later life - how do older people evaluate their need for assistance? Age and Ageing, vol 47, no 3, May 2018. 2018:pp 466-73.
20. Coppola KM, Ditto PH, Danks JH, Smucker WD. Accuracy of primary care and hospital-based physicians' predictions of elderly outpatients' treatment preferences with and without advance directives. Archives of Internal Medicine. 2001;161(3):431-40.
21. Jacelon CS. The dignity of elders in an acute care hospital. Qualitative Health Research. 2003;13(4):543-56.
22. Rule A, Bridges J, Adams J. Discharge decision making for older people leaving hospital: a literature review...39th annual conference and exhibition of the College of Occupational Therapists, Brighton and Sussex, England. June 30-July 2, 2015. British Journal of Occupational Therapy. 2015;78:44-.
Patients' expectations not established
23. Afilalo M, Boivin JF, Grad R, Monette J, Xue X, Colacone A, et al. Factors associated with non-urgent visits to the emergency department for the discharged elderly population. Academic Emergency Medicine. 2015;22(S1):S130-S1.
24. Albert SM, Lunney JR, Ye L, Boudreau R, Ives D, Satterfield S, et al. Are Preferences for Aggressive Medical Treatment Associated with Healthcare Utilization in the Very Old? Journal of Palliative Medicine. 2017;23:23.
25. Arendts G, Popescu A, Howting D, Quine S, Howard K. 'They never talked to me about…': Perspectives on aged care resident transfer to emergency departments. Australasian Journal on Ageing. 2015;34(2):95-102.
26. Arendts G, Quine S, Howard K. Decision to transfer to an emergency department from residential aged care: A systematic review of qualitative research. Geriatrics and Gerontology International. 2013;13(4):825-33.
27. Burkett E, Gray LC, Martin-Khan MG. Quality indicators in the care of older persons in the emergency department: A systematic review of the literature. Australasian journal on ageing. 2017;36(4):286-98.
28. Cheek J, Ballantyne A, Roder-Allen G. Factors influencing the decision of older people living in independent units to enter the acute care system. Journal of Clinical Nursing. 2005;14 Suppl 1:24-33.
29. Claver ML. Deciding to use the emergency room: a qualitative survey of older veterans. Journal of Gerontological Social Work. 2011;54(3):292-308.
30. de Souza Scolari GA, Rissardo LK, Antoniassi Baldissera VD, Carreira L. Emergency care units and dimensions of accessibility to health care for the elderly. Revista Brasileira de Enfermagem. 2018;71:811-7.
31. Dermody G, Sawyer P, Kennedy R, Williams C, Brown CJ. ED Utilization and Self-Reported Symptoms in Community-Dwelling Older Adults. Journal of Emergency Nursing. 2017;43(1):57-69.
32. Eastwood A, Jaye C. After hours healthcare for older patients in New Zealand - Barriers to accessing care. New Zealand Medical Journal. 2006;119(1239).
33. Finta MK, Shah MN, Borkenhagen A, Werner NE, Duckles J, Lampo D, et al. Patient perspectives on accessing acute illness care. Western Journal of Emergency Medicine. 2017;18(4):569-76.
34. FitzGerald G, Toloo GS, Aitken P, Keijzers G, Scuffham P. Public use and perceptions of emergency departments: A population survey. Emergency Medicine Australasia. 2015;27(4):336-42.
35. Grief CL. Patterns of ED use and perceptions of the elderly regarding their emergency care: a synthesis of recent research. Journal of Emergency Nursing. 2003;29(2):122-6.

36. Hall AG, Schumacher JR, Brumback B, Harman JS, Lutz BJ, Hendry P, et al. Health-related quality of life among older patients following an emergency department visit and emergency department-to-home coaching intervention: A randomized controlled trial. International Journal of Care Coordination. 2017;20(4):162-70.
37. Hastings S, Stechuchak K, Oddone E, Weinberger M, Tucker D, Knaack W, et al. Older veterans and emergency department discharge information. BMJ Quality & Safety. 2012;21(10):835-42.
38. Hedges JR, Singal BM, Rousseau EW, Sanders AB, Bernstein E, McNamara RM, et al. Geriatric patient emergency visits part II: Perceptions of visits by geriatric and younger patients. Annals of Emergency Medicine. 1992;21(7):808-13.
39. Ho B, Dresden S, Aldeen A, Courtney DM, Adams JG. Comparison of geriatric and non-geriatric patient perspectives on seeking care in the emergency department. Annals of Emergency Medicine. 2014;64(4).
40. Kraaijvanger N, Rijpsma D, van Leeuwen H, Edwards M. Self-referrals in the emergency department: reasons why patients attend the emergency department without consulting a general practitioner first-a questionnaire study. International Journal of Emergency Medicine. 2015;8(1):46.
41. Littlechild R, Glasby J. Emergency hospital admissions - older patients' perceptions. Education and Ageing. 2001;16(1):pp 77-90.
42. Lutz BJ, Hall AG, Vanhille SB, Jones AL, Schumacher JR, Hendry P, et al. A Framework Illustrating Care-Seeking Among Older Adults in a Hospital Emergency Department. Gerontologist. 2018;58(5):942-52.
43. Miller PA, Sinding C, Griffiths LE. Seniors' narratives of asking (and not asking) for help after a fall - implications for identity. Ageing and Society. 2016;36(2):240-58.
44. Nguyen B-L, Tremblay D, Mathieu L, Groleau D. Mixed method exploration of the medical, service-related, and emotional reasons for emergency room visits of older cancer patients. Supportive Care in Cancer. 2016;24(6):2549-56.
45. Parboosingh EJ, Larsen DE. Factors influencing frequency and appropriateness of utilization of the emergency room by the elderly. Medical Care. 1987;25(12):1139-47.
46. Steinmiller J, Routasalo P, Suominen T. Older people in the emergency department: a literature review. International Journal of Older People Nursing. 2015;10(4):284-305.
47. Taylor D, Liu B, Liversidge X, Ling S, MacGibbon P. The specific psychological needs of older emergency department patients. Emergency Medicine Australasia. 2015;27:49-50.
48. Uscatescu V, Turner A, Ezer H. Return visits to the emergency department: what can we learn from older adults' experiences? Journal of Gerontological Nursing. 2014;40(7):32-40; quiz 2-3.
49. Wu T, Gang M, Shin J. Emergency department advance directives: Heightening the responsibility: 751. Academic Emergency Medicine. 2015;22(5):S327.

Insufficient data to infer patients' expectations from context

50. Aghajani M, Naierre N. The patient's privacy in the care of elderly people and its correlation with satisfaction in emergency department. European Psychiatry. 2010;25.
51. Atchinson PRA, Roginski MA, Taenzer AH, MacMartin MA. Goals of care determination prior to transfer: A missed opportunity. Annals of Emergency Medicine. 2017;70(4).
52. Bradley M, Browne G. Assessment of the patient pathway for elderly patients in the acute medical setting. Irish Journal of Medical Science. 2016;185(Supplement 5).
53. Considine J, Wellington P, Hill K, Smith R, Gannon J, Graco M, et al. Analysis of the emergency care experience of older people and their carers...2009 CENA International Conference for Emergency Nursing. Australasian Emergency Nursing Journal. 2009;12(4):174-5.

Conference abstracts with insufficient data to establish patients' expectations or appraise quality

54. Berahman T, Karounos M, Hochman S, Schultz R, Christensen M, Sadi M, et al. Effects of patient liaison in a geriatric emergency department. Journal of the American Geriatrics Society. 2014;62.
55. Chan EKH, Sawatzky R, Gadermann AM, Cohen SR. (208.2) PROMs and PREMs for elderly patients in acute care and their families: An EMPRO evaluation. Quality of Life Research. 2015;24(S1):55.
56. Dallaire CD, Aubin KA, Poitras J. ELDERLY perceptions as to why they come to the emergency department by ambulance while emergency physicians judge it unnecessary. Canadian Journal of Emergency Medicine. 2010;12(3):275-6.
57. D'Amore DT, Mintzer MJ, Beaulaurier RL, Torres M. Social factors in non-urgent use of an emergency department by the elderly. Journal of the American Geriatrics Society. 2016;64.
58. Dickson VV, Caceres B, Martelly MT, Sadarangani T, Blecker S, Grudzen C, et al. "I regret not coming in sooner": A qualitative descriptive study of the reasons for emergency department visits and care preferences of older adults with heart failure. Journal of Cardiac Failure. 2016;22:S83.
59. Grudzen C, Torres J, Ortiz J, Stone S, Mohanty S, Lorenz KA, et al. "I want to be taking my own last breath": Patients' reflections on illness when presenting to an emergency department at the end of life (723). Journal of Pain and Symptom Management. 2011;41(1):285-6.
60. Hirschman KB, Abbott KM, Naylor MD. Hospitalizations among elderly long-term care recipients: Improving transitions. Journal of the American Geriatrics Society. 2011;59.
61. Narayan K, Karlawish J. Impact of a caregiver on satisfaction, disposition, and outpatient followup in the emergency department. Academic Emergency Medicine. 2012;19.
62. Phongtankuel V, Adelman R, Reid MC, Finley A, Martin A, Dennis J. Reasons for emergency room visits or hospitalization among home hospice patients through the eyes of the primary caregiver: a155. Journal of the American Geriatrics Society. 2015;63.
63. Way R. The experiences of older people using the emergency care system. Accident & Emergency Nursing. 2006;14(2):121-.

Ineligible publication type

64. Adams J. [Not Available]. Nursing Older People. 2003;15(4):8.
65. Anonymous. Communicating a patient's wishes in A&E. End of Life Care. 2008;2(3):80-1.
66. Duffin C. Older patients daunted by urgent care. Nursing Older People. 2008;20(8):5-.
67. Grief CL. Perceptions of quality of care received for emergency health conditions by the elderly. 2004:102 p.
68. Hoon LS, Mackey S, Hong-Gu H. Elderly patients' experiences of care received in the emergency department: a systematic review. JBI Libr Syst Rev. 2012;10(23):1363-409.
69. Jablonski RA. Making the decision to transfer an elder from the nursing home to the emergency department: the experience of key decision makers. 2003:243 p.
70. Newbern VB, Burnside I. Needs of older persons in the emergency department. Journal of Gerontological Nursing. 1994;20(7):53-6.
71. Malone ML, Biese K. Improving the Emergency Department Care of Older Adults in North America. Clinics in Geriatric Medicine. 2018;34(3).
72. Shankar KN, Bhatia BK, Schuur JD. Toward patient-centered care: a systematic review of older adults' views of quality emergency care. Annals of Emergency Medicine. 2014;63(5):529-50.e1.

Appendix 3: Data extraction form

Citation	Ref ID Author Country Year	
Methods	Research Question Qualitative / Quantitative / Mixed Quantitative design type Intervention(s) *A priori* outcomes Qualitative methods Population inclusion criteria Population exclusion criteria Recruitment point (in ED 'journey') Data analysis methods	
Results	Number of subjects Outcomes measured Outcome effect sizes and confidence intervals Qualitative outcomes Any other information	
Quality	MMAT tool used Researcher profession (& specialty) Funding source	
Overview	Headline message	

Figure legends

Figure 1: study selection flowchart