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Barriers and facilitators to implementing psychosocial digital health interventions for older adults presenting to emergency departments: a scoping review protocol

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ABSTRACT

Introduction Older adults can face challenges when seeking care from emergency departments (EDs) due to presenting with multiple comorbidities and non-specific symptoms. Psychosocial care is a possible target to help improve ED care for this population. It is possible that digital health technologies can be implemented within emergency settings to improve the provision of psychosocial care. However, it is unclear what the barriers and facilitators are to implementing digital psychosocial interventions for older adults presenting to the ED. Therefore, the scoping review aims to determine what are these barriers and facilitators.

Methods and analysis The scoping review will be conducted in line with the Joanna Briggs Institute guidelines and will use the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist. The databases Medline, Embase, PsycINFO and Scopus will be searched. The search strategy will be developed in consultation with a specialist research librarian and will cover three key concepts: EDs, digital health technologies and older adults. Additionally, the first 100 hits of a Google Scholar search will be screened for inclusion. We will include both qualitative and quantitative studies that investigate ED digital interventions for psychosocial care where the primary focus is the views, attitudes, experiences and perceptions of patients, families and staff. After extracting all data, analysis and synthesis will follow the 'best-fit framework synthesis' approach and the Theoretical Domains Framework will be used to identify barriers and facilitators.

Ethics and dissemination Ethics approval is not required for this scoping review since only publicly available data will be analysed and appraised. The findings of the scoping review will be disseminated through peer-reviewed publications and conference presentations.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The scoping review is designed in consultation with a multidisciplinary team with experts in mental health, emergency medicine, implementation science and information technology. Members of the research team have experience both working in and using emergency care facilities.
⇒ The search will be designed systematically and screening will follow the Joanna Briggs Institute guidelines. The findings will be reported using Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).
⇒ A comprehensive search strategy will be developed with a specialist research librarian to maximise the number of results captured.
⇒ This scoping review may miss studies included in information technology and computer science journals not indexed in the four databases we intend to search.
⇒ The search will not capture papers published in languages other than English.

INTRODUCTION

Globally, the population is ageing and by 2030 it is predicted that one in six people will be aged over 60.[1] Ageing is associated with a gradual decline in mental and physical capacity, and an increasing risk of disease and disability.[1] As a result older adults can face challenges receiving care as they are more likely to present with multiple comorbidities and non-specific symptoms.[2 3] These complex presentations place a greater burden on healthcare systems, resulting in increased demands on emergency departments (EDs).[4] Adults older than 80 years account for approximately 25% of ED admissions and are more likely to have repeat visits.[4] Furthermore,

Legramante and colleagues (2016) performed a retrospective study analysing ED admissions to identify the clinical and social characteristics associated with frequent presentations to the ED. They found that adults aged 65 years and older were more frequent users and had an increased risk of presenting with complex conditions requiring more urgent care.[3] Diverse definitions exist to describe the term older adults. The Australian Institute of Health and Welfare defines older people as 65 years and older, while the World Health Organization defines older adults as people 60 years and older.[1 5] However, as this scoping review is part of a larger body of research investigating informed psychosocial care of adults older than 70 in an emergency setting, older adults shall be defined as people aged 70 and older. This also aligns with previous studies investigating psychosocial care of older adults.[6]

In addition to age and other biological factors that increase the risk of poor health, psychosocial factors such as, level of independence, number of social interactions and mental health conditions can influence health outcomes.[1 7] Recent analysis from a prospective study of approximately 11 000 Australians 70 years and older found that depressive symptoms in otherwise healthy older adults increased the likelihood of admission to the ED within the next 3 years.[6] Therefore, it is important to provide older adults with psychosocial care. Psychosocial care includes mental healthcare as well as assessments of social well-being and is highlighted as a possible target to reduce the need for unplanned hospital visits by older adults.[8]

The use of digital health technologies, which include technology to improve healthcare systems and provide better care, is increasing.[9] These technologies comprise a variety of digital health interventions, including self-administered tools on portable electronic devices (PEDs), the use of virtual reality in the delivery of healthcare and internet-based interventions. These interventions have been developed to promote healthy ageing within older populations, and many have been implemented within non-clinical settings.[10 11] Additional digital health interventions have been implemented within EDs, with older adults reporting that self-assessments using PEDs are an acceptable way to collect information.[12] These interventions can target different aspects of a patient's journey through the ED; from admission to post discharge.[13] Digital interventions implemented within the ED have been developed for numerous conditions, with a predominant focus on interventions designed for improving care of cardiovascular diseases.[14] However, there have also been interventions designed to identify the need for psychosocial care, such as the use of applications and screening questionnaires on PEDs. In addition, these interventions can also facilitate referral to additional healthcare services.[12 15]

A systematic review by Hughes and colleagues (2019)[16] investigated the effect of diverse ED interventions for older adults, which included the use of telehealth and allied health providers, to reduce rehospitalisation and improve patient experiences. An additional systematic review by Louras *et al* (2023)[17] reported on the use of mobile health interventions by older adults. Similar to Hughes and colleagues (2019),[16] Louras *et al* (2023)[17] investigated how the implementation of several interventions, such as telehealth, healthcare provider training and mobile risk assessments, could reduce the use of emergency services by older adults.[17] However, to the best of our knowledge, the barriers and facilitators to the implementation of psychosocial digital health technologies designed for older adults presenting to the ED have not been identified.

The scoping review will be the first to aim to address this gap through identifying what factors act as barriers and facilitators to implementing digital psychosocial interventions that target older adults within ED. To achieve this existing evidence on barriers and facilitators to implementation of digital health technologies designed for older adults in ED settings will be consolidated and synthesised. The scoping review is part of a larger study investigating informed psychosocial care of adults 70 years and older who present to ED. Thus, the findings of the review will help inform the development of a novel psychosocial digital health technology that will be implemented in an ED to aid in the psychosocial assessment and care of older adults.

REVIEW QUESTION

What are the barriers and facilitators to implementing psychosocial digital health interventions for adults aged 70 years or older presenting to EDs?

METHODS AND ANALYSIS

The scoping review will be conducted and reported following the Joanna Briggs Institute[18] guidelines and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist[19] to ensure scientific rigour, transference and ability to be replicable. Following preliminary searching in February 2024, we plan to start the scoping review in June 2024 and is expected to be completed by November 2024.

Search strategy and terms

Searches will be conducted in four databases: Medline, Embase, PsycINFO and Scopus. The search strategy will be developed in consultation with a specialist research librarian and search terms including relevant subject headings will be used to cover three key concepts: Emergency department; Digital intervention and Older adults (please see online supplemental table 1 for detail and online supplemental table 2 to online supplemental table 6 for search strings run in each database and Google Scholar). Searches will include articles published since database inception until the search is run in June 2024. Through preliminary searches of the literature, key

articles that investigated the use and implementation of digital psychosocial technologies were identified.[12 15] These articles were then used to identify key subject headings and keywords that were included within the search strategy.

In addition, forwards and backwards citation tracking using the reference lists of included studies will be used to identify any further articles that have not been found by the searches. A search string will be developed to identify relevant grey literature on Google Scholar and the first 100 hits will be searched for any additional studies to be included in the scoping review.

Eligibility criteria

Population

The scoping review will consider articles that include older adults (70 years and older) who have received care in an ED setting or other stakeholders including patient families, clinical and other hospital staff involved in the care of older adults in ED.

Concept

Any digital health technology designed for older adults (70 years and older) and used to deliver psychosocial care or assess psychosocial needs. These may include but are not limited to applications on PEDs, digital screening tools, computer-delivered questionnaires and internet-based interventions. However, studies investigating the use of multimodal interventions, telehealth or remote patient monitoring will be excluded.

Context

The scoping review will include literature that investigates the use of digital health technologies in emergency care settings, including EDs and EDs simulations.

Additionally, qualitative, quantitative and mixed-methods research published in peer-reviewed journals as well as grey literature will be included in the scoping review. Observational, experimental and qualitative study designs, including conference proceeding papers and conference abstracts from computer science venues, will be included, provided they investigate the barriers and facilitators to implementing a digital psychosocial intervention designed for older adults presenting to the ED. However, barriers and facilitators can be identified by patients, patient families, clinical and other hospital staff or other stakeholders. Included studies must be published in English, as we do not have the capacity to translate studies in other languages.

The detailed eligibility criteria for the scoping review as indicated by the Sample, Phenomenon of Interest, Design, Evaluation and Research type (SPIDER) framework[20] is shown in table 1.

Study selection

All papers will be screened and assessed for eligibility by two independent reviewers (ND and DC). All papers will be uploaded to a purpose-built screening platform (Covidence)[21] and evaluated through a two-stage process:

Table 1 SPIDER criteria used in the scoping review

	Inclusion	Exclusion
Sample	Older adults (≥70 years)	<70 years
Phenomenon of interest	► Digital psychosocial intervention created for older adults implemented in the emergency department	► Not digital interventions ► Multimodal interventions ► Telehealth or telemedicine ► Remote patient monitoring
Design	► Interviews ► Focus groups ► Workshops ► Survey ► Questionnaire ► Case study ► Observational ► Randomised Control Trial ► Grey literature ► Conference proceeding papers	► Letters ► Editorials ► Protocol ► Proof of concept studies ► Feasibility studies ► Systematic reviews
Evaluation	► Experience ► View ► Attitudes ► Perceptions ► knowledge	► Effectiveness of intervention ► Development
Research type	► Qualitative ► Quantitative ► Mixed-methods	

SPIDER, Sample, Phenomenon of Interest, Design, Evaluation and Research.

- In the first stage titles and abstracts will be screened independently by two reviewers who will assign each article 'Yes', 'No' or 'Maybe.
- Articles assigned 'Yes' or 'Maybe' by both reviewers will be included in the next stage of study selection, articles assigned 'No' by both reviewers will be excluded;
- When selections do not match, the two reviewers will discuss to reach consensus. A third reviewer (AW) will be consulted if a consensus cannot be reached.
- In the second stage, the full text of the papers included in stage one will be reviewed using the same process as described in stage one.

Data extraction

Following study selection, reviewers will use prepiloted data extraction forms to extract data in Covidence (see online supplemental table 7 and online supplemental table 8). This will include the collection of study characteristics specific to general study information, methodology and outcomes. General study information will include article reference, country of origin and language of the publication. Study methodological characteristics will include primary and secondary study objectives, use of conceptual or theoretical framework, study design, participant characteristics (eg, participant number, participant age, methods of recruitment), living situation (ie, whether participants were living in the community or residential aged care), methodological approach, start and end date of study, funding sources, whether ethics approval was secured, digital intervention description, description of psychosocial factor/s intervention targets, description of the practice environment in which the intervention was implemented and analyses. Outcome data extracted will include barriers and/or facilitators to implementation, timing of outcome measurement (eg, preimplementation or postimplementation), implementation strategies, study limitations (author reported) and risk of bias. Two reviewers will extract data from included studies and compare after 10% of studies have been extracted. Following comparison, reviewers will continue to extract data and compare regularly, to ensure consensus on all included studies.

To extract data from the different study designs included in this scoping review, specific data extraction forms will be created for qualitative and quantitative data. When extracting data from qualitative studies, in-depth details of data collection methods (eg, semistructured interviews, focus groups, observations) will be extracted. To extract outcome data from qualitative studies, quotations and author-reported themes will be captured and categorised as either barriers or facilitators to implementation. A similar process will be used when appropriate for extracting quantitative data on barriers and facilitators.

Risk of bias assessment will be undertaken using validated critical appraisal tools. Methodological limitations will be assessed using an appropriate checklist from the Critical Appraisal Skills Programme (CASP).[22] Both qualitative and quantitative research will be included in the scoping review, therefore, quality assessment tools for the different study designs will be used when appropriate.

Data synthesis

Following data extraction, data analysis and synthesis will be performed using the 'best fit framework synthesis' approach[23] as recommended by The Cochrane Qualitative Review Methods Group.[24] The Theoretical Domains Framework (TDF)[25] will be used to identify the barriers and facilitators to the implementation of different digital psychosocial interventions in hospital departments. Using this approach will involve deductive analysis to map identified barriers and facilitators to TDF domains. For qualitative data, quotes (or when quotes are unavailable author interpretations) will be coded against the 14 domains of the TDF. Anything that is not coded deductively will be coded inductively to identify any themes that do not align with the domains of the TDF. A similar approach will be undertaken with the quantitative data extracted from the included studies. Empirical data from surveys or questionnaires as well as author conclusions associated with barriers and facilitators to implementation will be synthesised and coded into the TDF domains. Two reviewers will independently deductively code the extracted data into the TDF domains using NVivo V.14. If codes do not match the two reviewers will discuss to reach consensus. Furthermore, a count of barriers and facilitators reported in each included study will be reported as frequency per study. Each barrier or facilitator will be only counted once per study and when studies investigate multiple stakeholder perspectives, barriers and facilitators will be counted once per stakeholder group.

Patient and public involvement

This scoping review is a continuation of previous work investigating the experiences of older people receiving care within the ED and the practice and understanding of ED clinicians. Previous studies included semistructured interviews with both patients and staff, examining ED experiences and potential future interventions to improve care. In addition, this review is one component of a multi-study project which includes ongoing workshops with patients and clinicians to develop a digital intervention to improve holistic care.

To ensure currency and relevance, we have strived to maintain a multidisciplinary research team that includes current clinicians working in the ED, older researchers and those who have had a personal experience of being a patient in the hospital.

ETHICS AND DISSEMINATION

Since the scoping review will analyse and appraise data from publicly available materials no ethics approval is required. The findings of this study will be disseminated through peer-reviewed publications and conference presentations.

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Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting or dissemination plans of this research. Refer to the Methods section for further details.

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