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What is the existing evidence base for adult medical Same Day Emergency Care in UK NHS hospitals? A scoping review protocol

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Disclaimer

Contributorship statement

SD proposed the initial idea for reviewing the topic of SDEC. JB proposed the idea for utilising a scoping review approach. SD wrote the initial drafts of the paper and undertook the initial preliminary review of the literature for this paper. JB commented on and revised drafts of this paper and formatted the pre-submission draft.

Competing interests

Sue Dean:

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Abstract

Objectives

Same Day Emergency Care (SDEC) is a new model of care, which has emerged over the past 5 years, building upon prior ambulatory care services. The NHS England National Strategy for SDEC suggests SDEC can meet local health needs by providing alternatives to emergency department attendance or hospital admission, for people with an urgent health care need, beyond the limited scope of an urgent treatment centre. This review focuses on acute medical SDEC, as medical patients represent a significant proportion of emergency admissions. The planned scoping review aims to map the existing evidence base.

Methods and Analysis

This is a protocol for a scoping review to be conducted in accordance with the format of the JBI methodology for scoping reviews. The databases to be searched will include EMBASE, MEDLINE and CINAHL, via EBSCOhost. Sources of unpublished studies, policies and grey literature will include Google Scholar, the Cochrane Library, TRIP database, ProQuest Dissertations and Theses Open, and the Health Management Information Consortium. Papers relating to acute medicine adult patients attending NHS SDEC services in the UK will be included. International papers will be excluded, as will those over five years old, and those where full text is not available. The results of the search and study inclusion / exclusion process will be reported and presented in a PRISMA-SCR flow diagram. Data will be extracted from papers included in the scoping review by two reviewers, using a JBI data extraction tool. Any differences of opinion will be discussed until consensus is reached. If needed, a third reviewer will be asked to join the review team to achieve consensus. Data and themes extracted will be summarised and presented in tables. A narrative thematic summary will accompany the presented results, describing how the results relate to the review objective. Literature gaps will be identified and recommendations for future research made.

Troubleshooting

Introduction

1 INTRODUCTION

Ambulatory care is an umbrella term used in the UK to describe acute hospital care that is distinct from outpatient, accident and emergency, urgent treatment centres, or inpatient

care, and is sometimes referred to as ambulatory emergency care (AEC) (1). In other countries, particularly in Northern America, Europe and Australia, the term ambulatory care is generally

used to describe primary care services, rather than hospital care provision, although countries such as Australia are starting to adopt the UK model (2). The diverse nature and format of ambulatory care services, both nationally and internationally, means that comparisons between services are difficult.

AEC developed over the last decade or so, mainly being promoted by emergency departments and acute medicine, and initially focussing on specific conditions, often termed ambulatory care

sensitive conditions (1). The British Association for Ambulatory Emergency Care was founded in 2011 to promote the development, adoption and expansion of the specialty of AEC across the NHS in the UK, and continues to promote the expansion of SDEC principles and practice today (3). Whilst the NHS England Urgent and Emergency Care Review Team issued guidance recommending that all NHS Trusts should implement AEC in 2015 (4), historically, there was no generic model; such services were heterogeneous and varied widely in their organisation

and service provision (1, 5). AEC tended to be provided in a clinic style setting, or within acute medical units, aiming to avoid admission and facilitate early discharge, but a variety of models were used, with some NHS Trusts embracing AEC, whereas others continued to operate more traditional models of admitting patients for assessment (6). In fact the Kings Fund demonstrated large variations in the rate of admission for ambulatory care sensitive conditions, when considered by local authority area, after adjusting for differences in age, gender and deprivation within local populations (7). However, by 2018 some 95% of UK hospitals had some form of ambulatory provision, according to a recent national audit (8).

Building on the previous work undertaken within AEC, to support non-admitted emergency care pathways, as part of urgent and emergency care transformation, Same Day Emergency Care (SDEC) is a new model of care that has been developed within the NHS (1), and was mandated by the NHS Long Term Plan (9). The National

Strategy for SDEC was released in 2021 (10). This review will focus on the UK only, given that this SDEC model, is unique to the UK.

The model suggests that SDEC can meet local health needs by providing an alternative to emergency department (ED) attendance or hospital admission. It is intended for people with an urgent or emergency health care need, requiring hospital level care and diagnostics, beyond the scope of an urgent treatment centre, and takes referrals from general practice, urgent treatment centres, ambulance services, the 111 service, as well as the ED. SDEC services are considered essential to the future provision of acute care, in an aging society with limited health care resources, and are endorsed by both the Royal College of Emergency Medicine, and the Society for Acute Medicine (11).

However, as with AEC, considerable service variation still exists within the SDEC model. Some organisations offer a broad range of specialties within their SDEC services, in addition to acute medicine: paediatrics; frailty; gynaecology; surgery; and oncology. Whereas other organisations focus their SDEC model predominantly on acute medicine. Further, within acute medicine, some SDEC services focus on specific pathways, for patients presenting with particular conditions, such as low risk chest pain, cellulitis, low risk pulmonary embolism etc. and exclude patients who do not fit a specific pathway (5). Some use a risk stratification tool such as the 'AMB' Score, a simple seven element scoring tool for ambulatory care (12-14), whereas others rely only on the National Early Warning Score, based on physiological observations (15), or other risk assessment tools (16, 17). Others take a more inclusive approach, taking all medical referrals, as long as clinically stable (18), this is often termed a process driven approach (19).

There is also variation in the staffing models for SDEC nationally, with some being consultant led, whereas other are led by advanced clinical practitioners (ACPs). Over the last decade or more, across the NHS, shortages of medical staff led to service transformation and a realisation that workforce development was required. This, in part, led to development opportunities for other registered clinicians, such as nurses and allied health professionals, into advanced practice roles. Advanced clinical practice is designed to enable the safe and effective development of skills, across traditional professional boundaries. ACPs are educated to Master's degree level or equivalent, with knowledge and skills that permit an expanded scope of practice, and undertake roles and responsibilities historically seen as being within the jurisdiction of medical staff (20). Advanced clinical practice was recognised in the NHS Long Term Plan (9) as being central to transforming

service delivery and meeting local health needs as a key part of contemporary workforce planning. There is a growing evidence base to support the safety and effectiveness of, and patient satisfaction with, ACP roles; whilst recognising that there is ambiguity and variability within ACP roles nationally (21), progress is being made towards role standardisation and accreditation (20). ACPs are ideally placed to support the development of SDEC services, given current medical workforce challenges.

This planned scoping review will focus on acute medical SDEC, as medical patients represent a significant proportion of emergency admissions in the NHS. Typically, up to 30% of these

patients are discharged within 24-hours of arrival, suggesting that admission avoidance, through the use of SDEC services, would meet that need and reduce pressure on inpatient beds (22), as recommended in The NHS Long Term Plan (9). Where necessary, SDEC patients can attend again on subsequent days, for further investigation or review, rather than being admitted, but there is limited data on the patient experience of SDEC, and on the impact on patients of the requirement for repeated or multiple visits. Some services are developing this further, through the use of Virtual Wards and Hospital at Home (5, 23), but these services are beyond the scope of this review, as they are distinct from SDEC.

An emerging evidence base suggests that ambulatory services in the UK may improve patient experience and reduce hospital admissions, reduce infection risk and deconditioning, and offer cost savings (24). However, ambulatory care provision has been heterogeneous, whereas SDEC now has a national strategy, with core requirements (10), although local variations remain significant, in terms of speciality coverage; and some ambulatory care services have simply been rebranded as SDEC. Embedding the SDEC national strategy should guide future service development in a more cohesive manner, leading to a more homogenous service across the seven NHS regions. This in turn will support future research, as comparisons between services will be less subject to confounding.

Given that the SDEC model has been operational for a relatively short period of time, a review of the evidence base is indicated to establish what research underpins the model. It

is not uncommon for new healthcare policies and initiatives to be rolled out, based on small pilot studies, in a top-down approach from the Department of Health, as political agendas often drive cost-savings and efficiency, rather than substantive workforce transformation priorities, given the ever-increasing

demand on the NHS (25-27). It remains to be seen whether medium- and long-term costs savings are produced by SDEC services, given the requirement for additional pathways, estate and staffing, or whether this approach simply delays admission and/or increases severity of illness at presentation, particularly in the older, frail population. Economic analysis and speciality SDEC such as frailty SDECs are not considered further, as the focus of this review is on acute medicine.

Establishing existing evidence underpinning the SDEC model will identify gaps that require investigation through further research. Initial searches suggest that there is little published literature to date, so a scoping review was chosen as the appropriate type of literature review to map emerging evidence (28-31). The Joanna Briggs Institute (JBI) methodology for scoping reviews (32) was chosen to provide structure to the review, and to support the development of a comprehensive overview of the available evidence in relation to adult medical SDEC in the NHS.

A preliminary search of MEDLINE, the Cochrane Database of Systematic Reviews, JBI Evidence Synthesis and PROSPERO was undertaken to ascertain if this topic had been investigated previously, and no current, or in progress, systematic reviews or scoping reviews on the topic were identified.

Review Question

- 2 What is the existing evidence base for adult medical Same Day Emergency Care in UK NHS hospitals?

Objective

To determine the existing evidence base in relation to medical Same Day Emergency Care, in the NHS, in the UK.

Keywords for searching

Ambulatory Emergency Care; AEC; Same Day Emergency Care; SDEC.

Eligibility Criteria

Participants - Adult patients (over 18).

Concept - Same Day Emergency Care model of care delivery, acute medicine specialty, excluding all other specialty SDECs.

Context - NHS hospitals in the UK only.

Types of Sources -

This scoping review will consider all study designs, including randomised controlled trials, non-randomised controlled trials, before and after studies and interrupted time-series studies. Observational studies including prospective and retrospective cohort studies, case-control studies and cross-sectional studies will be considered for inclusion. This review will also consider descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies for inclusion (32).

Qualitative studies will also be considered that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research. Text and opinion papers, including policy papers and grey literature, will also be considered for inclusion (32).

Methods

- 3 A variety of evidence synthesis methodologies are available, including a range of different types of review, including systematic reviews, mixed methods reviews, realist synthesis etc., all aiming to inform policy, practice and/or further research, through rigorous, explicit and systematic methods (33). If answers to clinically meaningful questions or to produce practice guidance are required a systematic review is likely to be the preferred option, whereas to identify the types of evidence available in a particular area, to identify key characteristics or factors, and to identify and analyse knowledge gaps, a scoping review is likely to be more suitable (30). A scoping review offers an initial evaluation of the possible volume and range of existing research literature. Its primary goal is to recognize the nature and breadth of research evidence, often encompassing ongoing studies as well. Whilst in contrast a systematic review involves a thorough and methodical search for, evaluation, and integration of research evidence, typically following the guidelines set by the Cochrane Collaboration for conducting systematic reviews. However, in contrast to systematic reviews, scoping reviews are not typically considered a

conclusive outcome on their own due to their inherent limitations in rigor and duration, making them more susceptible to bias. One noted drawback of scoping reviews is the lack of a quality assessment process, which means that conclusions may be based more on the quantity of studies rather than their actual intrinsic quality. Consequently, the findings from scoping reviews cannot be relied upon to provide recommendations for policy or practice, whilst in contrast systematic reviews can be used as such (31).

Considering the objectives of this review, a scoping review was selected as the appropriate methodological approach to systematically identify and map the evidence, across a wide range of sources, relating to SDEC. This will assist in clarifying the evidence base and identify key characteristics and/or factors relating to SDEC, as well as identifying and analysing gaps in knowledge to support future research initiatives.

The guidance provided by the JBI Manual for Evidence Synthesis, Chapter 11: Scoping Reviews (32) offers a robust, structured framework, that builds on and refines previous iterations of scoping review frameworks (31). This guidance recommends that an a priori protocol is required to support a systematic scoping review, that established methodological guidance should be followed and that reporting standards, such as the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) guidelines, should be utilised (31, 33, 34).

In accordance with the JBI methodology for scoping reviews (32) this methods section follows the recommended structure of: Search strategy; Study/Source of Evidence selection; Data Extraction; Data Analysis and Presentation.

Search Strategy

The search strategy will aim to locate both published and unpublished studies. An initial limited search of MEDLINE and CINAHL, via EBSCOhost, was undertaken to identify articles on the topic. The words contained in the titles and abstracts of relevant articles were used to develop a full search strategy. The search strategy, including all identified keywords, will be adapted for each database and/or information source. The reference lists of all included sources of evidence will be screened for additional studies (32).

Table 1 – Search strategy

Keywords: Same AND Day AND Emergency AND Care OR SDEC OR Ambulatory AND Emergency AND Care OR AEC, using Boolean operators
Eligibility Criteria
<i>Participants</i>
Adults (over 18)
<i>Concept</i>
Same Day Emergency Care model of care delivery and acute medicine specialty, excluded condition specific papers and papers relating to other specialties
<i>Context</i>
NHS hospitals in the UK

Studies published in English will be included, as this review focuses on UK SDEC services. Studies published in the past five years will be included, due to the recent initiation of the SDEC model, the specific focus on SDEC, and the wide-ranging differences between the former heterogenous AEC services. The introductory section of the scoping review will consider the wider context of papers beyond 5 years, as will the ensuing discussion section of the paper, but the scoping review itself will focus on up to 5 years, as that is the general timeline for operation of SDEC services.

Inclusion criteria: English

language, within the last 5 years, full text available, UK only, Adults (over 18), acute medicine specialty.

Exclusion criteria: Foreign language, older than 5 years, no full text available, non-UK papers, paediatrics (under 18), specialties other than acute medicine.

The databases to be searched will include EMBASE, MEDLINE and CINAHL, via EBSCOhost. Sources of unpublished studies, policies and grey literature will include Google Scholar, the Cochrane Library, TRIP database, ProQuest Dissertations and Theses Open, and the Health Management Information Consortium. Planned search dates will be in August 2023.

Study/Source of Evidence selection

Following the search, all identified citations will be collated and uploaded into EndNote Web (35) and duplicates removed. Titles and abstracts will be screened against the inclusion criteria, by one reviewer. Potentially relevant papers will be retrieved in full. The full text of selected papers will be assessed, against the inclusion criteria, by two reviewers. Reasons for exclusion of papers, at the full text stage, that do not meet the inclusion criteria will be recorded and reported (32). The results of the search, and the study inclusion process, will be reported in the final scoping review and presented in a PRISMA flow diagram, as the consensus reporting tool for scoping reviews (34).

Data Extraction

Data will be independently extracted from papers included in the scoping review by two reviewers, using a data extraction tool based on the JBI data tool (32). The data extracted will include specific details about the participants, concept, context, study methods, and key findings relevant to the review question. Information on the case-mix, staffing and capability of SDEC services will be extracted where available. Any differences of opinion will be discussed until consensus is reached. If the need arises, a third reviewer will be asked to join the review team to achieve consensus.

According to Peters *et al.* (32), critical appraisal of individual sources of evidence is generally not required for scoping reviews that map the evidence base, hence no critique, assessment of study quality, or risk of bias, will be offered in the final review.

The PRISMA-ScR checklist will be used to guide reporting (34), providing a comprehensive report structure, as per the JBI guidance.

DATA ANALYSIS AND PRESENTATION

Data from the extraction tool will be summarised and presented in tabular form. Types of papers and key categories or themes will be identified a priori, using an iterative approach, and presented in graphical form, to map the type of publications, and key themes identified within them. There is limited guidance on how scoping review data analysis and presentation should be conducted, beyond the use of frequency counts, tabular/graphical presentation, and basic qualitative content analysis to identify key factors or issues (36).

A narrative summary will accompany the presented results and describe, through the use of themes, how the results relate to the review objective. Gaps in the literature will be identified and recommendations for future research will be made.

STRENGTHS AND LIMITATIONS OF THIS STUDY

A significant strength of the JBI scoping review methodology is that it provides a structured and systematic approach for conducting scoping reviews, which utilises the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping reviews checklist (PRISMA-ScR) as a reporting framework.

Scoping reviews as a form of evidence synthesis address broad research questions and map evidence from a variety of sources to examine practice, policy and research, and to highlight gaps in the evidence base to inform future research.

Critical appraisal and risk of bias assessments are not required in scoping reviews; some methodologists suggest that this is a limitation.

Evidence from the previous iteration of SDEC, ambulatory care, may offer developmental insights into the preliminary commencement of SDEC services, but other than informing the introduction to the topic, papers over 5 years old have been excluded from this planned scoping review as SDEC is a new innovation in healthcare delivery incepted over the past 5 years. This may be a limitation.

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