Interventions to manage use of the emergency and urgent care system by people from vulnerable groups: a mapping review

Andrew Booth, Louise Preston,* Susan Baxter, Ruth Wong, Duncan Chambers and Janette Turner

School of Health and Related Research, University of Sheffield, Sheffield, UK

*Corresponding author l.r.preston@sheffield.ac.uk

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Scientific summary

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Background

The increasing demand for urgent and emergency care is not well understood and diverse reasons for this rapidly increasing demand have been proposed. Hypothesised reasons have included the ageing population and the increased number of people living with frailty; the challenges faced in accessing primary care; and a population that encompasses an increasing number of vulnerable groups, who may have poorer health and difficulty in accessing routine primary care (and who may therefore seek care from emergency and urgent care services when their health needs might actually be better met elsewhere). Vulnerable people may be frequent users of the emergency department and the wider urgent and emergency care system, either because of poorer health or because of a perceived need to access health care urgently for a low-acuity health problem.

Our review aimed to identify any interventions and initiatives that had been specifically designed for use with vulnerable people to manage their use of the emergency department (which may be seen as inappropriate or excessive) and to assess whether or not there is any evidence of their effectiveness in terms of health service utilisation.

Research questions

The review aimed to answer the following research questions:

- What interventions exist to manage use of the emergency and urgent care system by people from vulnerable groups?
- What are the characteristics of these interventions?
- Is there evidence regarding the service delivery outcomes (for patients and the health service) that may result from these interventions?

Definition

Our preferred definition of vulnerability is that proposed by the European Union VulnerABLE project: 'a social phenomenon, affected by multiple processes of exclusion that can lead to or result from health problems' [Balfour R, Arora L, Farrar P, Hughes P, Morosi M. *VulnerABLE: Pilot Project Related to the Development of Evidence-based Strategies to Improve the Health of Isolated and Vulnerable Persons*. 2017. Reproduced with permission. © European Union, 2017. URL: https://ec.europa.eu/health/sites/health/files/social_determinants/docs/2017_vulnerable_literaturereview_en.pdf (accessed 7 September 2019). The reuse policy of European Commission documents is regulated by Decision 2011/833/EU (OJ L 330, 14.12.2011, p. 39)]. This definition encompasses the wider social determinants of health and the inextricable link between exclusion and ill health. The vulnerable groups specified by the National Institute for Health Research Health Services and Delivery Research programme team were socioeconomically deprived people, people living in rural or isolated areas, new migrants, existing minority ethnic groups, the long-term unemployed, people who are homeless/at risk of homelessness and people with substance misuse problems.

Our definition of emergency and urgent care was limited to emergency departments and urgent community-based care. We considered looking at the services offered, such as same-day/out-of-hours general practitioner access, walk-in centres, district nursing and telephone helplines, but felt that limiting the scope to the emergency department and ambulance/paramedic services would allow interventions to be better compared.

Methods

The review was undertaken in three phases:

1. an initial systematic mapping review of interventions delivered to seven prespecified vulnerable groups within the emergency and urgent care setting
2. a detailed intervention analysis using an evidence-based framework
3. a search and review of initiatives delivered within the UK setting to these vulnerable groups to manage their use of the urgent care system.

Inclusion and exclusion criteria

In the first instance (systematic mapping review), we sought interventions that had been specifically tailored for and targeted at the seven prespecified vulnerable groups. We therefore excluded interventions targeted at a general population or in which the inclusion of vulnerable groups could not be determined. Following this mapping review process, and in view of the identified shortage of available evidence, we expanded our search and review to initiatives for which there was reason to believe that vulnerable populations would benefit from the intervention. Typically, this latter conceptualisation was articulated within the discourse of 'frequent users'. All health service outcomes, quantitative or qualitative (e.g. increase/reduction in admissions, referrals, patient satisfaction), were eligible for inclusion. We excluded specific clinical measures related to particular conditions.

Data sources

The initial mapping review and interventions review searched for evidence published in the last 10 years that was indexed in the following databases: MEDLINE, Web of Science (Science and Social Science Citation Indices, Conference Proceedings Citation Index – Science, and Conference Proceedings Citation Index – Social Science & Humanities) and the Cumulative Index to Nursing and Allied Health Literature. A structured search was developed and undertaken by an experienced information specialist.

The initiatives search in the third phase used search engines (Google, Google Inc. Mountain View, CA, USA) and the nhs.uk domain to supplement the systematic mapping review search. In addition to screening for peer-reviewed literature, we also included evidence from press reports and commissioning plans and evidence of good practice. Iterative search processes ensured that the full breadth of available evidence was captured.

Evidence for the systematic mapping review and intervention review was restricted to the USA, the UK, Canada, Australia, New Zealand and Europe for health system and societal comparability. We included evidence from 2008 onwards. Evidence for the initiatives review was limited to the UK only.

Data extraction and assessment of validity

Data relating to interventions identified in the mapping review were entered into a data-extraction table in a Microsoft Word® document (Word 2010, Microsoft Corporation, Redmond, WA, USA). A GRADE (Grading of Recommendations, Assessment, Development and Evaluations) approach was used to evaluate the risk of bias, imprecision, inconsistency, indirectness and publication bias and overall grade for each group of studies.

Data synthesis

As the evidence from the three stages of the review was diverse and diffuse, the method of synthesis was primarily narrative. Intervention content was analysed using an abbreviated version of the Template for Intervention Description and Replication (TIDieR), which specifies the content of interventions, with each intervention type being the unit of analysis. A composite TIDieR was populated for each intervention type from data accumulated from multiple study reports, including the intervention purpose (why), intervention materials and procedures (what), who provided the intervention, how and where the intervention was delivered, and with what frequency (when) and intensity (how much) the intervention was delivered, together with any tailoring or modifications. Each template concluded with details on how well (planned) and the extent to which [how well (actual)] these plans were realised.

Patient and public involvement

Members of a public advisory group provided input during all stages of the review. They had a particular role in helping to refine our definitions of vulnerability and assisted with interpretation and understanding of the evidence identified.

Results

The systematic mapping review of interventions and the initiatives review found a paucity of evidence relating to interventions specifically targeted at vulnerable groups and delivered within an emergency and urgent care setting. We identified only 16 studies for the mapping review, four studies for the intervention analysis and 15 UK initiatives.

Interventions/initiatives tended to be targeted either at managing demand from general populations of emergency and urgent care users or at a specific group of emergency and urgent care users who used emergency and urgent care more than other 'frequent attenders'. However, the extent to which the group of frequent attenders also included people who were vulnerable was unclear.

Evidence from the mapping review demonstrated limited effectiveness of specific interventions, which tended to be targeted at frequent users of the emergency department, who may or may not have been vulnerable (e.g. people with substance misuse problems). A number of systematic reviews were included that brought together evidence of interventions targeted at managing demand, but many of these did not fit into the inclusion criteria of this review as they were delivered outside the emergency and urgent care system.

Combining evidence from the three reviews identified a typology of nine different intervention types delivered across the emergency and urgent care system: care navigators, care planning, case finding, case management, care planning, front of accident and emergency general practice/front-door streaming model, migrant support programme, outreach services and teams, rapid access doctor/paramedic/urgent visiting services and urgent care clinics (one systematic review – moderate). Supporting information for these interventions was then scrutinised for evidence of delivery and improved outcomes for our population groups and the likely benefit to them.

The emergent evidence from the mapping review, intervention review and initiatives review allowed the review team to develop other ways to conceptualise vulnerability, including vulnerability because of a lack of ability to navigate the health system (e.g. new migrants or those familiar with other health systems), vulnerability because of a lack of ability to physically access health care (e.g. rural/coastal communities), vulnerability because of a lack of ability to prove eligibility for health care (e.g. homeless people or migrants), vulnerability because of an unmet need for multiagency health and social care (e.g. the homeless or long-term unemployed) or vulnerability because of a requirement for both health care and social support/interaction.

Conclusions

The paucity of evidence identified during all three stages of the review limits the extent to which generalisable conclusions can be made. This lack of evidence underpinned our decision to take a three-phase approach, which was broader than carrying out an effectiveness review. The challenge of defining vulnerability, and its varied understanding in the wider literature, meant that evidence has been drawn from interventions delivered to populations that are more representative of the general population or that represent frequent users of the emergency department.

In addition to examining a broad range of evidence types, we widened the intervention and initiative review to consider those interventions delivered only partially within the emergency and urgent care system. Evidence relates to users who use the emergency and urgent care system frequently because of ill health or who use it frequently for low-acuity problems – because of either preference or difficulties in access. The limited evidence base for interventions suggests that there needs to be further examination of how alternative service provision can be tailored to meet the needs of these populations of vulnerable people. This may be carried out using primary mixed-methods approaches and including realist elements to understand more about what works for whom and in what circumstances.

Implications for health care

- The evidence highlights that the reasons for increased patterns of use of the emergency department by vulnerable groups are complicated and encompass a wide variety of drivers, including burden of disease, access to primary care and patient preference.
- The evidence indicated that the specific needs of and barriers for each subpopulation among those categorised as vulnerable may differ, requiring a nuanced understanding of these diverse populations.
- The review found a notable shortage of interventions designed specifically to reduce demand for emergency department services from vulnerable groups, and existing interventions are mostly delivered within the community setting.
- The review found that the majority of interventions aim to tackle the problem of increased patterns of emergency department use by vulnerable groups at a general population level (such as front of accident and emergency general practice or urgent care clinic approaches) or target frequent attenders as a discrete subgroup.

Recommendations for research

- The review found that interventions specifically targeting the vulnerable groups identified in this report need to be designed, developed, trialled and rigorously evaluated.
- The evidence indicates that it is likely that evaluations of these types of interventions will require mixed-methods approaches, such as that currently being undertaken for general practitioner involvement within an emergency department.
- The review suggests that interventions may also require an explicit and conceptually sound theoretical basis, particularly in understanding vulnerability and how it affects emergency department use.
- The findings of the review indicate the potential for realist evaluation approaches, especially as several of the interventions identified seem to be heavily context dependent.

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