Interventions to minimise hospital winter pressures related to discharge planning and integrated care: a rapid mapping review of UK evidence

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Scientific summary

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Introduction

The term 'winter pressures' refers to 'how hospitals cope with the challenges of maintaining regular service over the winter period'. Attention often focuses on additional demands on accident and emergency services but pressures are exerted in terms of increased demand across the entire health and social care system. Increased prevalence of respiratory and cardiovascular illnesses during the winter places severe demands upon systems that already face difficulties in matching service provision to demand. Better or earlier planning and/or increasing service provision across integrated care systems and related sectors, such as housing, constitute just two of the possible responses to increased demand.

Winter pressures are a familiar phenomenon within the National Health Service and represent the most extreme of many regular demands placed on health service provision. The impact of winter pressures is pervasive and operates along a continuum from public health, in mitigation via immunisation campaigns, through to discharge into social care and the community. Interventions target multiple points along this continuum, as well as whole-system approaches.

This mapping review focuses on one stage of the pathway, considered particularly problematic, namely the discharge process from hospital. Studies of discharge interventions and transfers of care are plentiful and international initiatives have been reviewed in a recent scoping review. However, a considerable challenge lies in identifying interventions that specifically are articulated as an explicit response to 'winter pressures'. There is strong rationale for focusing on the subgroup of 'winter pressure' interventions as specific interventions implemented in response to acute and severe system pressure. This contrasts with interventions that seek to improve discharge within a system in 'steady state'. While commentators on the current context articulate that the system experiences 'winter pressures' all year round, until recently, responses have targeted the context of winter pressures. Potentially, this set of studies therefore represents a highly relevant evidence base on discharge related interventions to inform current National Health Service (NHS) planning.

This mapping review aims to chart and document the evidence in relation to winter pressures in the United Kingdom, together with either discharge planning to increase discharge (both a reduction in patients waiting to be discharged and patients being discharged to the most appropriate place) and/or integrated care. For the purposes of this review, 'integrated care' involves partnerships of organisations that come together to plan and deliver joined-up health and care services within NHS England.

The primary objective of the mapping review is to address the question:

- Which interventions in relation to discharge planning/integrated care have been suggested, tried or evaluated in seeking to address winter pressures in the United Kingdom?

The secondary review question is:

- Which research or evaluation gaps exist in relation to service- or system-level interventions as a response to discharge planning/integrated care in the context of winter pressures?

In addressing this question the mapping review will seek:

- To identify a potential winter pressures research agenda in relation to discharge planning/integrated care to inform commissioning of future research.

Methods

We conducted a mapping review of UK evidence published 2018–22. For the mapping review, we used a two-stage search process to search for the evidence. Initially, we searched MEDLINE, Health Management Information Consortium, Social Care Online, Social Sciences Citation Index and the King's Fund Library to find relevant interventions. The search was broad for terms for winter pressures. Searches on Google Scholar (Google Inc., Mountain View, CA, USA), which searches the full text instead of just title and abstract, included terms for discharge and integrated care. Study screening and selection was undertaken in Microsoft Excel® (Microsoft Corporation, Redmond, WA, USA) by three reviewers who independently screened the title and abstracts of the 723 references that were retrieved by the search. Study eligibility was based on following aspects – population, exposure, comparative, outcome(s), study types:

- users of UK health and/or social care systems (population)
- winter pressures impacting on discharge, to social care and the community, and integrated care (exposure)
- other foreseeable, unusual or exceptional periods of demand (if appropriate) (comparison – may or may not be present)
- increased smart discharge (both a reduction in patients waiting to be discharged and patients being discharged to the most appropriate place), system effects, health and health service outcomes, effects on patients, carers and staff (outcomes)
- eligible types of study design (primary research study, evidence synthesis or research report) (study types).

To classify within the broader thematic groups of interventions, we developed a taxonomy documenting the candidate interventions together with other relevant supporting literature. Our team started from categories developed by the Cochrane Effective Practice and Organisation of Care Group for their systematic reviews of discharge planning. These were further expanded using categories from a rapid review produced by the Centre for Clinical Effectiveness, Monash University. This process resulted in the following broad groupings: structural, changing staff behaviour, changing community provision, integrated care and targeting carers. The draft taxonomy was reviewed for parsimony (to minimise duplication of concepts) and comprehensiveness (to include all named interventions identified to date). However, published commentary has documented the non-exclusivity and lack of precision of existing labels. Following the production of the draft map using the taxonomy, we decided to further split the taxonomy headings to represent contributions to the patient pathway: hospital avoidance, alternate delivery site, facilitated discharge and cross-cutting. The modelling and workforce planning groupings were not considered as within scope because of their limited relevance to short-term alleviation of winter pressures and were therefore discarded.

The second stage of searching consisted of searches for named candidate interventions from the literature and current practice on Google Scholar. The second stage was to identify where possible reviews, ideally systematic reviews, and these searches were broader than winter pressures but were limited to research published from 2012 to 2022. The second-stage searches helped in completing the intervention tables and identifying the evidence gaps. Research priorities were classified as high, moderate or low and further classified by the nature of the evidence gap(s) identified (research gap, synthesis gap and/or implementation gap).

Results

The taxonomy consists of a total of 41 headings. These headings were further organised into the different contributions to the patient pathway: hospital avoidance, alternative delivery site, facilitated

discharge and cross-cutting. The evidence for each heading was provided and this helped with identification of the evidence gaps. Within structural interventions for the hospital avoidance part of the patient pathway research gap were identified for same-day emergency care and research and implementation gaps for surgical hubs. The alternative delivery sites subsection is populated by systematic review evidence for the effectiveness of acute medical units, other specialist units developing using winter funding need to be fully evaluated. Models based on 'discharge to assess' (also 'home first' and others) within facilitated discharge are relatively well researched. Some taxonomy headings (e.g. 'bed management' and 'discharge co-ordinators') were often evaluated within a broader process of 'discharge planning'. 'Patient flow' is another broad heading with some overlap with both bed management and discharge planning. The concept of patient flow is also broader than facilitated discharge, although its ultimate goal is ensuring safe discharge as soon as is clinically appropriate. The evidence base for initiatives defined as 'cross-cutting' varied widely and was characterised by case studies with a lack of research studies. Community provision initiatives and integrated care were heterogeneous and characterised by multiple diverse initiatives, largely unevaluated, and by involvement of multiple contributors and sectors.

Overall, the evidence base is characterised by large numbers of case studies, often published online or presented at conferences, and relatively few peer-reviewed journal articles. Case studies are often accompanied by guidance to support implementation of changes to services. This distribution of evidence probably reflects the urgent need to develop and implement solutions to the ever increasing winter (and increasingly year round) pressures on the health and care system. The majority of evaluations report positive effects on important outcomes such as length of hospital stay but many are uncontrolled or based on small samples, meaning that they need to be interpreted with caution.

Conclusions

Few initiatives identified were specifically implemented as a response to winter pressures. Hospital at home, as a heavily used intervention, was well-supported by the evidence but other responses, while also heavily used, were based on limited evidence. There is a lack of studies considering patient, family and provider needs when developing interventions aimed at improving delayed discharge. Additionally, few studies measure the impact of interventions over a long time; short-term results can appear promising but evidence for longer-term sustainability is notably absent. Hospital avoidance and delayed discharge requires a whole-system approach. It is imperative to consider the whole system to ensure that implementing an initiative in one setting does not just move the problem to another setting.

Limitations

Time limitations for completing the review constrained the period available for additional searches with a focus on systematic reviews and high-profile studies. This carries implications for the variability of coverage and completeness of the evidence base identified.

Implications for service delivery

Effective interventions to avoid hospital admission, deliver services in different settings and facilitate discharge are key to reducing short-term acute pressures on health and social care. These pressures are generally associated with the winter period but have increasingly been experienced throughout the year and are particularly acute at the time of writing (January 2023). Longer-term improvements to service delivery may require policy changes related to investment and workforce planning that are outside the scope of this review.

Implications for research

We identified high priority topics for primary research and evaluation in all the broad groupings of taxonomy headings as follows:

- Changing community provision: private sector, step-up facilities.
- Changing staff behaviour: clinical audit, quality improvement programmes, protocols/guidelines, quality management systems.
- Integrated care: integrated care discharge huddle.
- Structural (S): bed management, extra service delivery, governance, monitoring and review, same-day services, specialist units, volunteers.

In terms of evidence synthesis, our detailed exploration further supports the need for a realist review that views approaches across the different sectors within a whole-system evaluation frame. Further evidence synthesis should consider identified synthesis gaps in research within the aforementioned areas.

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