A systematic review examining reducing unplanned hospital admissions in adults with cancer

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Citation

Review question

1. What interventions have been tested and have successfully reduced unplanned hospital admissions in adults with cancer?

2. What are the factors associated with unplanned hospital admissions in adults with cancer?

Searches

The search strategy will comprise MeSH terms and free text, and we will search the following bibliographic databases: MEDLINE, EMBASE, Scopus, PsycINFO, The Cochrane Library, PubMed and Web of Science.

Experts in the field will be contacted to identify additional references, the grey literature and reference lists will be searched (pearling), and we will also hand search the bibliographies.

Only English language papers will be eligible for inclusion, published from 1946 to date.

The searches will be re-run just before the final analyses and further studies retrieved for inclusion.

Types of study to be included

Any study design will be included, e.g. qualitative, quantitative or mixed designs. Studies will not be excluded on the basis of the quality of their reported methods.

Condition or domain being studied

Unplanned hospital admissions are important globally because they burden health service delivery (WHO 2008; Comptroller & Auditor General 2013); may lead to the patient getting hospital-acquired infections (Magill et al 2014) and tend to reduce bed availability which in turn may led to longer waiting times for elective procedures, which is expensive (Purdy et al 2012). An unplanned hospital admission has been regarded as an unexpected admission or readmission to hospital in-patient status that occurs at short notice because of an alleged need for immediate healthcare (Bobrovitz et al 2015). Previous systematic reviews have focused on other conditions and older people (Purdy et al 2012; Huntley et al 2016; Green et al 2016) and have not specifically focused on cancer. Previous research has suggested that most unplanned hospital admissions are cancer-related (Gibson and McConigley 2015) and not therapy-related (Brunetto et al 2010). Patients with respiratory symptoms, particularly those with lung cancer, gastro-intestinal symptoms and pain were most likely to have unplanned hospital admission although these symptoms may be managed within the community (Hjermstad et al 2013; Green et al 2016). In order to reduce hospital acquired infections among people with cancer and also to increase bed availability which in turn reduces the burden on the healthcare service, interventions to reduce unplanned hospital admissions ought to be developed. It is therefore essential to explore the issues pertaining to reducing unplanned hospital admissions in adults with

cancer. We intend to conduct a systematic review to explore the factors associated with unplanned hospital admissions and the successful interventions that have been tested in adults with cancer. We hope our findings will contribute to the development of an intervention to reduce unplanned hospital admissions in adults with cancer.

References:

Bobrovitz, N., Onakpoya, I., Roberts, N., Heneghan, C. and Mahtani, K.R., 2015. Protocol for an overview of systematic reviews of interventions to reduce unscheduled hospital admissions among adults. BMJ Open, 5(8).

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Green, E., Gott, M. and Wong, J., 2016. Why do adults with palliative care needs present to the emergency department? A narrative review of the literature. Progress in Palliative Care, 24(4), pp. 195-203.

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Purdy S, Paranjothy S, Huntley A, Thomas R, Mann M, Huws D, Brindle P, Elwyn G (2012) Interventions to reduce unplanned hospital admission: a series of systematic reviews. National Institute for Health Research; Research for Patient Benefit no. PB-PG-1208-18013

WHO., 2008. The World Health Report 2008-Primary Health Care (Now More Than Ever). Geneva: WHO.

Participants/population

Patient group: studies of adults over 18 years of age, diagnosed with cancer.

Intervention(s), exposure(s)

All studies which examine:

• Any intervention aiming to reduce unplanned admissions;

• Factors which could be related to unplanned hospital admissions.

Comparator(s)/control

Not applicable.

Context

Inclusion criteria:

Population: adults over 18 years old with a confirmed diagnosis of cancer.

Exposure: any intervention aiming to reduce unplanned admission; factors which could be related to unplanned hospital admission.

Outcome: studies about unplanned hospital admissions.

Exclusion criteria:

Population: studies of people with suspected cancer but no confirmed cancer diagnosis; people with a non-cancer diagnosis.

Outcome: studies about planned admissions.

Limits: only English language papers will be included, with no time limits (but possibly from 1946 to date).

Primary outcome(s)

Unplanned hospital admissions.

Timing and effect measures

Not applicable.

Secondary outcome(s)

None.

Timing and effect measures

Not applicable.

Data extraction (selection and coding)

Study selection:

• Two reviewers will independently sift the titles and abstracts of studies and note those that they consider meet our inclusion criteria. Differences will be reconciled, with a third reviewer, if necessary.

• Two reviewers will independently consider the full text papers against the inclusion criteria, with a third reviewer, if necessary. Excluded studies will be recorded in a table, together with the reason(s) for exclusion.

• Multiple reports from the same study will be collated, and authors contacted if necessary for clarification.

• Decisions relating to recording and summarising during study selection will be recorded in a flow diagram.

Data extraction:

• The primary reviewer will extract data and details from all the included studies. Depending upon the number of articles retrieved, one or more secondary reviewers will independently extract 10%-20%.

• Two reviewers will compare results. Disagreements will be resolved by discussion or by referral to a third reviewer if necessary.

• We aim to extract raw data if possible, i.e., raw numbers rather than percentages or measures of effect.

• If data is reported in serial or duplicate publications, the primary data set will only be used once.

• We will contact the authors for further information if studies are only available as abstracts or if there is missing data or details.

• The extraction form will be piloted on the first two to three papers, and adjustments made with the consensus of all of the reviewers.

Risk of bias (quality) assessment

Two reviewers will independently assess the methodological quality of each study by using one of the validated quality assessment tools for systematic reviews. Discrepancies in the ratings of the methodological reviews or in the ratings of the quality of evidence will be resolved by consensus between the authors and, if necessary, mediation by a third author. Depending upon the number of articles retrieved, one or more secondary reviewers will independently assess 10%-20%. Their judgements will be compared, and disagreements reconciled.

Strategy for data synthesis

Results will be analysed in accordance with the guidelines in the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement (Moher et al 2009), and a PRISMA flow diagram will be used to summarise study selection. We will conduct a meta-analysis on 'reduced unplanned hospital admissions of people with cancer' comparing the intervention and the control groups, and we will also conduct subgroup analyses (see next section). If it is not possible to conduct a meta-analysis, we will describe the summary of the included studies using a narrative approach while drawing on the theoretical domain framework (Cane et al 2012) and the behaviour change wheel (Michie et al 2011). A preliminary synthesis of the findings of the included studies will be conducted, to explore the relationships within and between the studies and to assess the robustness of the synthesis.

Potential limitations: there is the possibility that relevant studies may be overlooked despite using robust search strategies in multiple databases with no language or time restrictions.

Analysis of subgroups or subsets

We will explore subgroup analyses to investigate which interventions most effectively reduce admissions among cancer patients.

The sub-groups will include:

Age groups;

Gender;

Social economic status (SES if present);

Survival of patients by:

- Type of referral: by direct emergency or GP referrals;

- Residence: either from patients' homes or from care homes;

- Admission reason: either medical reasons or social reasons for admissions and by cancer types.

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Conflicts of interest

None known

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