

Systematic review of primary care factors associated with utilisation of unscheduled secondary care

Objective

To conduct a systematic review to identify studies that describe factors and interventions at primary care organisation level that impact on levels of utilisation of unscheduled care.

Definition of outcomes

Definitions for the terms use to describe unscheduled secondary care will be developed using the criteria below as a basis and building on existing work by the PI and others.

Eligibility criteria

Inclusion criteria:

Types of studies

Observational studies, randomised controlled trials and other controlled studies (controlled trials, controlled before and after study, analytic cohort) and qualitative studies clearly or potentially primarily about the interventions delivered in primary care to reduce unscheduled secondary care should be included. Only full study reports will be included but authors of studies reported only as abstracts will be contacted to ask if full study reports are available.

Types of factors and interventions

Factors and interventions at the primary care organisation level, to include general/family practice, out-of-hours service concerning organisation of primary care services, access to primary care services (including financial barriers such as co-payments, quality of care), clinician and practice culture factors (including approach to managing risk) and population and socio-demographic factors

Study population

Studies that include people of any age of either sex living in OECD countries as these countries have comparable patterns of health status; health care provision and health spend as a proportion of GDP.

Other criteria

We will include any studies concerning any health condition as long as the outcome of interest is unscheduled secondary care. Studies reporting attendance at an ED or an emergency hospital admission as an outcome will be included. We will include studies written in any language.

Exclusion criteria:

We will exclude studies that only report admission for elective or planned health care, admission to a community or non-acute hospital as an outcome, studies primarily about the clinical management of conditions and studies of hospital or ED visits for planned diagnostic services only. We will exclude case reports, case series, letters, editorials, or expert opinions only

Outcomes of interest

Levels of utilisation of unscheduled care including enumeration of emergency department visits and emergency admissions or readmissions.

Search

Databases and registries

A search strategy will be developed using keywords for the electronic databases according to their specific subject headings or searching structure. The search strategy will be tested for citations from 1985 – 2012 on the OVID databases - Medline®, Excerpta Medica Database (Embase), Cumulative Index to Nursing and Allied Health Literature (CINAHL®), Health Management Information Consortium (HMIC), PsycINFO® and the Social Science Citation Index. For each database, search terms will be adapted according to the search capabilities of that database. The search strategy will be modified to search internet sites such as the Agency for Healthcare Research and Quality (AHRQ) and the King's Fund.

Other sources

All subsets of the ISRCTN Register (International) at www.controlled-trials.com will be searched to identify recently completed trials. The reference lists of all relevant studies will be checked for additional relevant publications. An electronic search in MEDLINE, Centre for Reviews and Dissemination (CRD) databases, York, and the Cochrane Database will be composed to identify any

relevant systematic reviews and their references will be checked. Experts in the field will be contacted to identify additional relevant studies. We will hand search the top 3 journals for the preceding 12 months, defining top journals as those in which identified citations appear most frequently.

Reference management and study selection

A single Reference Manager (RefMan) file will be produced of all references identified through the search process. Duplicates will be removed from this file. These references will undergo a two stage process of screening using the inclusion and exclusion criteria by two reviewers independently. Firstly, a screen of titles and abstracts (if abstract available) and secondly screening of the full paper. For both of these stages, the reviewers will mark them yes, no or unsure. Where there is continued disagreement between reviewers about including or excluding a paper, a third reviewer will make the final decision.

Data collection process

Standardised data extraction forms will be developed using existing guidance.[Higgins et al, 2008, Chapter 7, section 7.5] Data will be abstracted by one reviewer (AH). A second reviewer will check data abstraction against the original paper.

Data items

Participants: setting (primary care/community); eligibility criteria; number of participants (eligible, enrolled, randomised, cases/controls, included in analyses, reasons for withdrawal); reason for being at risk of ED visit or unplanned admission; sociodemographic data and severity of symptoms/casemix.
Interventions: single intervention or combination, type of intervention(s); care provider(s); duration of intervention or number of sessions.

Comparisons: for the controlled studies, details of the intervention and participants as detailed above.
Outcome measures: type of outcome measure; scale; timing of outcome assessment. For each outcome measure and for each relevant time point we will extract data on outcome measures per intervention group: mean changes (SD) for continuous outcomes, and numbers (%) for dichotomous outcomes.

Quality Assessment

Quality of studies will be assessed by two reviewers. The risk of bias tool will be used to assess randomised controlled studies and in an adapted form for non-randomised controlled studies.[Higgins et al 2008, chapters 8 &13] Observational studies will be assessed using recognised quality and susceptibility to bias criteria.[Sanderson 2007]. Qualitative studies will be assessed using CASP guidelines [CASP, 2006]. 5

Publication bias across studies

For interventions that have been investigated in multiple RCTs (>10), we will compose funnel plots to assess the potential risk of publication bias. The funnel plots will be inspected for asymmetry. The number of RCTs is likely to be small for most interventions, providing insufficient power for statistical tests of asymmetry.

Summary measures

Dichotomous outcomes will be used to calculate success rates for each study group. The results will be presented individually for each trial. If appropriate, the differences in rates between study groups will then be computed, together with the 95% confidence intervals. The number needed to treat (NNT) will be computed as $1/(P_i - P_c)$, with P_i expressing the proportion of successes in the intervention group, and P_c the proportion of successes in the control group. The results for each intervention and each outcome will be presented in forest plots.

Additional analysis

There is likely to be considerable heterogeneity in the studies identified. Pooled estimates of outcome will be calculated for trials showing sufficient homogeneity with respect to interventions and outcome measures.[Borenstein et al, 2009]. In case of statistical heterogeneity potential sources of heterogeneity will be explored.[Higgins et al, 2003] If appropriate, we will also perform a analysis using the approach developed by the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) working group, which uses the following factors: study design, risk of bias, consistency of results, generalisability, precision of data, and reporting bias. [GRADE Working Group, 2011]

Reporting of results

For both academic papers and the final report, the details and quality of each included study will be tabulated, excluded studies will be tabulated with reasons for exclusion, the key results of the review will be described and related to the objectives of the review. The strengths and limitations of the review will also be discussed.