

Decision-making and behaviour change in self-care for minor ailments: a study protocol to evaluate how people decide, and how they can be directed, to use the most appropriate service

SYSTEMATIC REVIEW PROTOCOL

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1. Background

Minor ailments (MAs) have been defined as non-serious medical conditions for which there are effective self-care options available [1]. Some minor ailments, however, consume significant resource in terms of appointments with general practitioners (GPs) and attendances at accident and emergency (A&E) which places an unnecessary strain on services that struggle to meet demand [2]. The Proprietary Association of Great Britain (PAGB) estimated that 91% of consumers had suffered from at least one minor health problem in the last 6 months [1]. Estimates quantifying the size of non-urgent consultations are 20% for visits to GPs [3] and from 15% to 40% of all A&E visits [4]. The cost of treatment of minor ailments by GPs in the UK has been estimated to be £1.8 billion [5]. Ten conditions (back pain, dermatitis, heartburn and indigestion, nasal congestion, migraine, cough, acne, sprains and strains, headache) have been shown to account for 75% of all GP and A&E visits for minor ailments [5].

Self-care is about people, families and communities taking responsibility for their own health and wellbeing [6] and within the context of minor ailments has been estimated to offer potential savings of up to £1.6 billion [5]. Self-care may therefore reduce the demand for direct interaction with GP and A&E services. In the UK, alternative management of minor ailments currently includes community pharmacy-based minor ailments schemes, NHS walk-in centres, telephone help lines (e.g. NHS 24), local out-of-hours services, and information obtained electronically online. Implementation is based on either national or local negotiation. In addition, NHS Scotland has also introduced a formal *Minor Ailment Service* for specific groups (including children and young people, and people over the age of 60). Research into self-care has identified four main elements of successful supported self care: personalised care-planning, structured education and information; access to health care professionals (other than those at GP surgeries and A&E) and emotional, psychological and practical support [6-10]. A review in 2013, examining the effectiveness of UK pharmacy based minor ailment schemes (PMAS) reported a high proportion of patients (68 to 94%) with complete resolution of symptoms following use of PMAS. Re-consultation rates in general practice, following an index consultation at a pharmacy, ranged from 2.4 to 23.4% [11].

There is a lot of literature indicating the potential outcomes and cost-savings associated with self-care. The King's Fund, National Voices evidence review [6] found that self-management education and programmes, practical support, coaching, telephone coaching, interviewing and psychological support can lead to improved patient knowledge, understanding, confidence and coping ability; improved self-management behaviours and

clinical outcomes, reduced service use, reduced hospital admissions and unscheduled visits. However, existing reviews [6, 8-10] focused on self-care within the context of long term conditions or chronic illnesses. Data from Disease Analyzer, a UK primary care database managed by IMS Health suggested that most people consult specifically for MAs and not as part of a consultation for a more serious condition. The evidence suggests therefore that there is value in looking at self-care in relation to MAs separately from long term conditions [5]

One study reported that 52% of consumers with a new ailment opted to self-care which led to confidence and a habit for self-care in the management of subsequent minor ailments [1]. This coincides with the finding that patients would prefer to manage minor ailments through self-care and use community pharmacy as the preferred source of advice [12]. GPs, However, do not always recognise the role of pharmacists who are able to offer health advice [1]. Lack of confidence, skill, and dependency on GPs have been identified as key barriers to self-care [1, 6]. This is compounded by the problem that many ailments, while often only minor, can be the start of something more serious. GPs say that while they encourage patients to self-care they believe that they lack the confidence to self-care or may be unwilling to do so [1]. Nearly fifty percent of patients perceive that GPs and nurses are very willing to prescribe for minor ailments and 62% of those that had a prescription issued at a previous episode of illness chose to visit a GP at the next episode [1]. This indicates a discrepancy in perceptions and attitudes between patients and GPs about the willingness to self-care and highlights that a whole system approach to this problem is essential.

The evidence suggests that behavioural change among both patients and health professionals is needed to facilitate transition from other to self-care[1] . Therefore, finding ways to positively influence people's behaviours is essential to encouraging more people to self-care and ensuring that those who already self-care continue to do so even when faced with set backs. Recent advances in technology and digital tools offer a potentially useful way to support behaviour change in this area. For example, technology in health can be used by health professionals, patients and public to support and improve interaction between individuals and communities, sharing information, monitoring health, illness and wellbeing as well as the delivery of interventions. Apps have become increasingly popular since 2007 which marks the advent of increasingly sophisticated mobile electronic devices (MEDs). However, not all applications are effective, sustainable and cost-effective and selecting or advising on the use of over 9,000 currently available health applications is understandably challenging. While syntheses of the effectiveness of Apps have been conducted for some health behaviours [13], we were unable to locate a synthesis that examined the role of Apps in the area of minor ailments specifically.

1.1 Research questions

There is a gap in the literature for a review that brings together evidence on the barriers and facilitators to self-care for minor ailments and on the effectiveness of behavioural interventions this area, including (but not limited to) those delivered using technology and digital applications. We propose to locate and synthesise the evidence in this area, with view to answering the following key research questions:

1. What are the factors that enhance or mitigate the decision to self-care for minor ailments?
- 2a. Are self-care interventions for minor ailments effective in reducing symptoms, consultations, and cost outcomes?
- 2b. Is effectiveness moderated by particular programme features and/or target populations?
3. How can we best promote behaviour change for self-care within the context of minor ailments?

We will also look for studies on the prevalence of GP and A&E consultations for minor ailments among different population groups to see if it is possible to identify the most common minor ailments that put pressure on the health system and among which population groups .

1.2 The research strategy

The above questions and topics are suitable for systematic literature review, though given that we do not yet know the full extent of the likely evidence base, a 'two-stage' process is recommended. In the first stage, we would search broadly for literature that tells us about: 1) people's decision-making processes in relation to the treatment of minor ailments (this might take the form of qualitative research, process evaluations and/or surveys); 2) evaluates the impact of interventions aimed at changing people's behaviour. We would then produce a map of the literature using key characteristics of the studies and descriptive statistics to summarise these features across studies. In collaboration with relevant stakeholders, the map would be used to help identify the scope and priority research areas. Assuming that we do find sufficient relevant research, the second stage would be the production of the final systematic review, which will specifically address the study research questions (refined in Stage 1). Figure 1 provides an overview of the proposed research strategy.

2. Research Methods

2.1 Searching for studies

A systematic and comprehensive electronic search will be developed in collaboration with our information specialist and will be based on our scoping searches and previous relevant reviews. The search strategies will be piloted in our suggested resources (listed below) and will be reviewed by relevant stakeholders. The searches for each set of research questions will occur together.

2.1.1 Suggested electronic databases

We will search the following electronic databases:

- The Cochrane Central Register of Controlled Trials (CENTRAL, the Cochrane Library);
- MEDLINE;
- EMBASE;
- PsycINFO;
- ERIC.
- CINAHL;
- CAB Direct Global Health;
- Global Health Library.

2.1.2 Supplemental search strategies

We will also search the grey literature and the following non-database sources:

- Mobile Active: a user-created directory of mobile health solutions;
- Google;
- Google Scholar;
- ProQuest Dissertations

We will employ the following search strategies to locate further potentially relevant literature:

- Backward (searching the references of included articles) and forward (searching articles citing included articles using Web of Knowledge) citation chasing
- Personal/expert contact,
- Reference checking on topic specific websites (e.g., experts, Self-care forum, uk self-management, patient information forum)

2.2 Inclusion and exclusion criteria for the mapping exercise (Stage 1)

A set of **inclusion criteria** would be developed for the map of research. These would need to be agreed before we started to conduct searches. For example, to be included in the review, studies might need to have all of the following features:

2.2.1 Population

Studies that included people with a minor ailment that may require medical intervention and/or those that included health professionals who treat minor ailments (the subject of long-term conditions is outside the scope of this work). We will need to consult on whether or not to exclude studies where people with minor ailments also have a long-term condition or whether to include them and analyse as a separate group.

2.2.2 Setting

Studies that included data generalisable to the UK (e.g., only OECD countries where accessibility to treatment is comparable to that in the UK). We would need to agree on how best to judge this.

2.2.3 Minor ailments

Studies that included one or more of the ten conditions that account for 75% of all consultations for minor ailments including back pain, dermatitis, heartburn and indigestion, nasal congestion, migraine, cough, acne, sprains and strains, headache[2].

2.2.4 Self-care treatments

Studies that included one or more self-care treatments for minor ailments including community pharmacy-based minor ailments schemes, NHS walk-in centres, telephone help lines (e.g. NHS 24), local out-of-hours services, information obtained electronically online and technology and digital applications. A recent synthesis (2013)[11] on the effectiveness of community pharmacy-based minor ailment schemes was conducted so we will need to establish whether to include them or not in this current research [11]

2.2.5 Outcomes

Patients and health professionals' (e.g. GPs, nurses, consultants) views (including knowledge, attitudes and experiences) of self-care treatment for minor ailments.

Effectiveness of self-care interventions for resolving symptoms, reducing consultation rates and cost related outcomes within the context of minor ailments. Other relevant outcomes will also be extracted.

2.2.6 Type of evidence

Published or unpublished material, including:

- Randomised controlled trials (RCT);
- Quasi-experimental studies;
- Observational studies (cohort, case-control, cross-sectional studies including service evaluations);

- Qualitative studies (e.g., interviews, focus groups and case reports);
- Economic analyses

2.2.7 Other inclusion and exclusion criteria: language, date, location

No language restrictions will be applied. Published and unpublished research conducted from 2000 onwards will be included. This date criterion was selected as the year 2000 is the time when self-care emerged on the Department of Health’s agenda (e.g., [14]). Studies on health applications for self-care of minor ailments will be retrieved from the year 2007 onwards, which marks the advent of increasingly sophisticated mobile electronic devices (MEDs)[13].

Depending on the volume and heterogeneity of studies retrieved, **further criteria may be applied** to ensure inclusion of the most rigorous and/or comparable evidence. For example, criteria for including trial evaluations may require that a controlled design was employed (e.g. comparing a self-care intervention with a no treatment control group) and inclusion of standardised outcomes (e.g. resolution of symptoms).

2.3 Data extraction and synthesis for the mapping exercise (Stage 1)

Each study meeting the Stage 1 (mapping) inclusion criteria will be coded according to key dimensions, which would build on existing research in the area of minor ailments and self-care. These descriptive codes will allow us to describe to relevant stakeholders the quantity and type of evidence available so that prioritisation of research areas for the review (stage 2) can be achieved in collaboration with relevant stakeholders prior to data extraction. Table 1 details some of the potentially relevant characteristics that could be extracted and included in the mapping exercise.

Table 1: Illustrative characteristics to be included in the mapping exercise (stage 1).

Characteristics	Information extracted
Bibliographic & study details	<ul style="list-style-type: none"> • Reference details • Country • Publication status • Evidence (e.g., views about barriers/facilitators, impact of intervention) • Views (provider/s, self-carer/s, patient/s) [RQ 1 only] • Study design (e.g., RCT, Observational study) • Length of follow up [RQ2 only] • Type of control [RQ2 only]
Participant characteristics	<ul style="list-style-type: none"> • Patient population groups (e.g., age, gender, ethnicity, socio-economic status) • Other vs. self-carers (e.g., mothers in care of children) • Prescription exempt patients • Health professional (e.g., GP, A&E)
Outcome assessment(s)	<ul style="list-style-type: none"> • Constructs (e.g., symptoms, consultations, cost effectiveness) [RQ2 only]

Minor ailment(s)	<ul style="list-style-type: none"> • Minor ailments included (e.g., headache, dermatitis, back pain)
Self-care intervention(s)	<ul style="list-style-type: none"> • Intervention (e.g., pharmacy, knowledge, mobile electronic devices) • Format of delivery (e.g., mobile phone, online, face-to-face)

2.4 Production of the final systematic review (Stage 2)

Stage 2 of the research involves analysing and synthesising the findings of studies selected for inclusion in Step 1, which might be made up of three independence syntheses:

1. An analysis of the research which tells us about people's decision-making processes underpinning self and other care for minor ailments;
2. A synthesis of the intervention literature, telling us about the effectiveness of various change techniques (this may be via system changes, behavioural interventions and the use of technology)
3. An analysis which combines the findings from 1 and 2 and tells us: a) whether the full range of barriers / facilitators to self-care has been covered by the evaluation literature; and b) which barriers / facilitators are more amenable to modification than others and c) whether there are particular combinations of strategies that are relevant to particular population groups.

2.5 Inclusion and exclusion criteria for the mapping exercise (Stage 2)

The inclusion criteria applied in Stage 1 will be refined based on the results of the mapping exercise (stage 1) and applied to identify studies relevant for inclusion in the final systematic review (stage 2).

2.5.1 Extracting data

Bespoke data extraction frameworks will be developed for each synthesis based on the findings from Stage 1 with reference existing coding schemes. This is likely to involve the extraction of more detailed characteristics relating to the studies. For example, standardised taxonomies of behaviour change techniques (BCTs) [15] may be applied and characteristics relating to the delivery of self-care interventions (e.g. duration, intensity, fidelity, provider) and behaviour change theory may be extracted if appropriate. Reliability of extraction will be pilot tested and modified as necessary prior to applying codes to the included studies. Inter-rater agreement between coders will be calculated and results discussed.

2.5.2 Risk of bias

Included studies will be appraised for quality using standardised frameworks appropriate to the different types of study included. For example, the Cochran risk of bias tool [16] for studies on effectiveness.

2.6 Synthesis methods

2.6.1 Decision-making processes

To examine people's views about self-care we will undertake a thematic analysis of qualitative studies that report people's experience of self-care. We will aim to identify

the barriers to and enablers of successful self-care-from the perspective of patients and health professionals.

2.6.2 Effectiveness

To examine the effectiveness of self-care interventions effect size estimates will be extracted and/or calculated (where data permits). Meta-analysis and/or qualitative comparative analyses will be used to synthesise effect size estimates across studies where sufficient comparable data is available; otherwise these data will be synthesised narratively.

2.6.3 Overarching synthesis

In the final stage of the work we will bring the findings of the different research components together to provide a fine-grained, overview the literature of self-care of minor ailments. The barriers and facilitators to self-care (identified in Rq1) will be cross referenced with the type of interventions evaluated (assessed in Rq2) to establish where there may be gaps in the literature. If possible, we will map all of the evidence onto theoretical domains and relevant theories and models of behaviour change (e.g., theory of planned behaviour). Thus, we aim not only to identify perceived determinants of self-care and barriers to behaviour change and effective strategies, but also to aid selection of specific theories for further testing and to design theory-informed behaviour-change interventions

Table 2 summarises the proposed syntheses and maps them onto the study research questions, methods and outcomes

Table 2: Overview of the research in Stage 2

Evidence Synthesis	Type of evidence	Outcomes extracted	Method of synthesis	Relevant research questions
1. Decision-making processes	<ul style="list-style-type: none"> Qualitative studies (e.g., interviews, focus groups and case reports) 	Patient and professional views on the barriers and facilitators to self-care treatment of minor ailments	Thematic analysis	1. What are the factors that enhance or mitigate self-care for minor ailments?
2. Effectiveness	<ul style="list-style-type: none"> Randomised controlled trials Quasi-experimental studies Observational studies (cohort, case-control, cross-sectional studies including service evaluations); Economic 	Effect size estimates that evaluate the effectiveness of self-care treatment for reducing symptoms, consultation rates and cost of service provision (plus other relevant outcomes)	Meta-analysis and moderator analysis, Qualitative comparative analyses (where feasible) otherwise narrative synthesis	<p>2a. Are self-care interventions for minor ailments effective in reducing symptoms, consultations, and cost outcomes?</p> <p>2b. Is effectiveness moderated by particular programme features and/or target populations?</p>

Evidence Synthesis	Type of evidence	Outcomes extracted	Method of synthesis	Relevant research questions
	analyses;			
3. Overarching synthesis	<ul style="list-style-type: none"> Results of syntheses 1-2, above. 		Mapping results of syntheses 1-2 onto a theory or model of behaviour change.	3. How can we best promote behaviour change for self-care within the context of minor ailments?

Table 3 (below) reports estimated timescales for the proposed research.

Table 3: Estimated timescale for project activities.

Year	2015											2016						
Month	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
Review initiation																		
Draft protocol + conduct scoping searches																		
Meeting with reviews facility team, policy team and PRP liaison officer to review protocol and identify suitable advisory groups members																		
Revise protocol and circulate for feedback. Register with PROSPERO.																		
Stage 1 - Systematic mapping exercise																		
Searching for studies (database, citation chasing, website, snowballing)																		
Screening titles and abstracts using predefined inclusion/exclusion criteria.																		
Retrieve full texts																		
Screening full texts using predefined inclusion/exclusion criteria.																		
Code key characteristics of the studies & calculate descriptive statistics across studies.																		
Meeting with policy team and Advisory group to discuss progress of review and to establish priority areas for more in-depth review in Stage 2.																		
Stage 2 - Systematic review																		
Data extraction for views synthesis																		
Data extraction for effectiveness synthesis																		
Thematic analysis of views synthesis																		

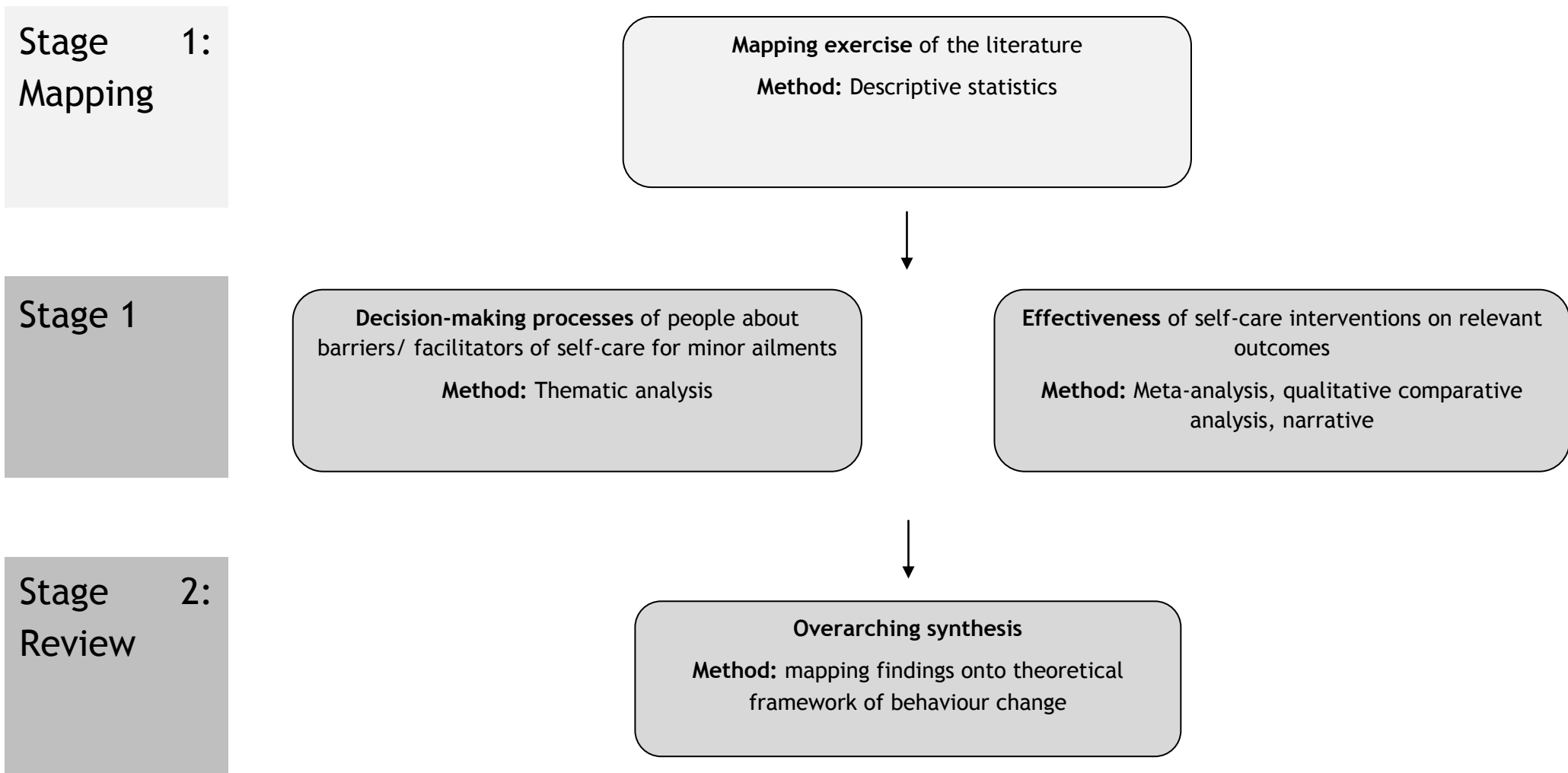


Figure 1: Overview of project stages

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