Facilitating healthcare practitioners to deliver self-management support in adult cancer survivors: a realist review

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ABSTRACT

Background
Supporting cancer survivors in self-management can empower them to take an active role in managing the long-term physical and psychosocial consequences of cancer treatment. Healthcare practitioners are key to supporting patients to self-manage, however, they do not routinely engage in these discussions.

Objective(s)
This review aimed to establish what works for whom and in what circumstances in relation to facilitating healthcare practitioners to provide self-management support in people living with long-term consequences of cancer treatment.

Methods
The review follows five steps: define the review’s scope, develop initial programme theories, evidence search, selection and appraisal, and data extraction and synthesis. Database searches of Medline, EMBASE, CINAHL, Scopus, PsycINFO, ERIC and AMED databases, to September 2019 were supplemented with practitioner surveys. Insights into the mechanisms that operate in particular contexts to produce successful outcomes were illustrated using realist programme theories, developed using the Theoretical Domains Framework. Data selection was based on relevance and rigour. Data were extracted and synthesised iteratively to illuminate causal links between contexts, mechanisms and outcomes.

Results
Five programme theories were identified from 20 included articles and seven practitioner surveys: practitioners will engage patients in discussions about self-management if they have appropriate (1) knowledge and (2) consultations skills, (3) a clear understanding of their self-management support role and responsibilities, and if (4) organisational strategies and (5) health system configuration enable integration into routine care. The mechanisms facilitating practitioners to support self-management were practitioner confidence, mutual trust and shared responsibility between practitioners and cancer survivors, organisational prioritisation and ease of delivery of self-management support.
Conclusion

The findings articulate the necessary components for embedding self-management support into routine cancer care. Operationalisation of these components into effective self-management support interventions will require reconfiguration of pathways and adaptation for local context, using strategies such as quality improvement and co-design to guide intervention development, implementation and evaluation.

Keywords:
cancer survivorship, oncology practice, anticancer therapy, systematic review, adverse effects
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Introduction

The number of people diagnosed with cancer globally will increase by around 50%, from 19 million in 2020 to over 28 million in 2040.\(^1\) Early detection and treatment advancements have led to improvement in global cancer survival rates, for example, the 5-year survival rate for breast cancer is up to 90% and for colon cancer up to 70%.\(^2\) However, up to 75% of cancer survivors will experience long-term problems following initial cancer treatment.\(^3\)\(^7\)

Effects of cancer and its treatment vary depending on treatment-related factors, such as, type, dose, and duration of treatment, and patient-related factors, such as, age, genetics, organ function and co-existing conditions.\(^10\) Some effects are acute and temporary, e.g., hair loss, nausea and vomiting related to anticancer treatment.

Some effects can be long-term, whilst others may present late i.e., months-years after completing treatment. The effects that begin during treatment and last for months or years after completing treatment, are termed long-term effects. Examples of long-term effects include fatigue, peripheral neuropathy, infertility and memory problems. Some long-term effects will resolve over time, while others may intensify or become permanent e.g., cognitive dysfunction and infertility, respectively.

Long-term effects of cancer treatment can be burdensome, with 27% of cancer survivors reporting three or more effects after completing treatment.\(^11\) Poor patient management of long-term effects can lead to reduced quality of life, nonadherence to follow-up care and impaired ability to work.\(^12\)

The effects that occur months to years after completing treatment, termed late effects, include secondary cancers, heart disease, lung disease, and osteoporosis. One in five people who survive cancer then develop a secondary or subsequent cancer.\(^13\) Late effects can affect all aspects of a cancer survivor’s life, including mental and physical health, ability to work, personal relationships, self-esteem and body image and lead to increased use of health and social care services.\(^14\)

The expanding numbers of cancer survivors living with treatment-related problems will increase the demands placed on health services.\(^15\) Health systems worldwide are developing strategies to manage the complex and often changing needs of cancer survivors. Self-management is being promoted by governments as a strategy to ensure that the future delivery of healthcare to cancer survivors is effective and sustainable.\(^16\)\(^19\) The aims of self-management support in cancer survivorship care are to optimise health outcomes, accelerate recovery after cancer treatment and minimise any potential long-term consequences of cancer and its treatment.\(^20\) Emerging evidence
suggests that self-management support can benefit cancer survivors by reducing physical and psychological consequences of cancer and its treatment and improving quality of life.\textsuperscript{21}

Key tasks in cancer self-management include the patient actively managing and monitoring cancer treatment-related side effects, managing emotional aspects, adjusting to everyday life following treatment and navigating their healthcare system.\textsuperscript{22} Strategies to increase patient knowledge, skills and confidence to self-manage is termed self-management support.\textsuperscript{23}

Self-management support interventions may directly target patients to support them to self-manage, by providing information and practical support for everyday activities. An alternative strategy is interventions targeting healthcare practitioners to provide self-management support to patients. These have included provision of training, feedback and financial incentives.\textsuperscript{24,25} Multiple practitioners may be involved in self-management support, which could be delivered across different healthcare settings and voluntary organisations. Moreover, these interventions could be provided through one-to-one or group interactions, with or without the use of digital technology and produce outcomes at patient-, practitioner- or service-levels.

Despite being emphasised in policy agendas, self-management support has failed to become routine practice in cancer care.\textsuperscript{18,20,26} Systematic reviews have focused on self-management support interventions targeting cancer survivors.\textsuperscript{18,27-30} These interventions tend to attract cancer survivors who are more affluent and educated, and already self-managing well.\textsuperscript{31} Interventions aimed at enhancing practitioner capability, opportunity and motivation for delivering self-management support are arguably more likely to ensure equity of care and be sustainable,\textsuperscript{32,33} yet the evidence for such interventions is sparse.\textsuperscript{21} A mixed-method study recently conducted in three Canadian cancer centres identified components needed for self-management support interventions targeting practitioners.\textsuperscript{34} The three intervention components identified were that a cultural shift was needed to allow practitioners to engage patients as partners in self-management discussions, healthcare practitioners needed to understand what self-management support meant and what it involved and that healthcare practitioners needed appropriate support, tools and skills to deliver self-management support services. This mixed-method study described very broad components with a mixture of different types of interventions at individual practitioner, practitioner teams and organisational levels. A systematic theory-based approach is needed to characterise these interventions and their components.\textsuperscript{35}

Theory-based approaches will enable understanding of the nature of the behaviour to be changed and identify intervention components influencing successful implementation and sustainability of interventions.\textsuperscript{33,35} Theory-based approaches could therefore help to understand how and why some
intervention components are effective and others not. Realist methods explore how interventions are influenced by different contexts, such as resources or training, and the causal mechanisms that lead to the success or failure of interventions. The aim of a realist review is to create statements that explain how an intervention is meant to work and what impact it may have. These statements, called programme theories (PTs), can be articulated and built using various methods, such as extracting tacit theories from empirical evidence or stakeholders and using concepts from formal theories. The PTs generated from realist reviews are designed to be applicable to all contexts and thus guide implementation across different healthcare systems. Given the heterogeneity and abundance of formal theories, selection of appropriate theories for realist research can be challenging. Using a framework that incorporates a wide range of theories, such as the Theoretical Domains Framework (TDF), could provide a broad lens to identify influences on intervention implementation. The TDF has been widely used to facilitate an understanding of the barriers and enablers of healthcare practitioner behaviour change. The TDF is a synthesis of constructs from theories of behaviour change, clustered into domains. An advantage of the TDF is that its domains have been mapped to behaviour change techniques which are the active ingredients of behaviour change interventions. This mapping facilitates selection of the most effective components when designing theory-based interventions to change practitioner behaviour. This review aimed to improve understanding of influences involved in facilitating practitioners to provide self-management support to cancer survivors by combining realist approaches with a behavioural framework, the TDF. It is acknowledged that understanding of influences involvement in facilitating patients to self-manage and caregivers to support self-management are important, however this was outside the scope of this review. The overarching question guiding this realist review is: What works for whom and in what circumstances in relation to facilitating healthcare practitioners to provide effective self-management support in people living with long-term consequences of cancer treatment?

Methods

A detailed description of the methods is provided elsewhere. This review follows the Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) publication standards for reporting realist syntheses or reviews, presented in supplementary file 1, and is registered on the PROSPERO database (registration number CRD42019120910). The methods used the principles of realist reviews to synthesise evidence from a diverse range of sources.
Before undertaking any formal searching, the scope of the review was established by searching PubMed, The Cochrane Library, Google Scholar and the National Institute for Health and Care Excellence website for systematic reviews and primary studies, using the following search terms: cancer survivors, healthcare professionals, and self-management or self-care. These searches were supplemented with national\textsuperscript{16,44,45} and international\textsuperscript{19,46} cancer policy reports. The preliminary search generated the following questions which defined the review scope as:

i. What are the barriers and enablers to facilitating practitioners to provide self-management support to adult cancer survivors?

ii. What are the practitioner skills and behaviours needed to implement self-management support interventions among adult cancer survivors?

iii. What are the intended and unintended outcomes for patients, organisations and the wider health system of interventions which target practitioner delivery of self-management support?

iv. What are the mechanisms by which interventions to facilitate practitioners to provide self-management support result in their outcomes?

v. What are the contexts that influence mechanisms involved in interventions to facilitate practitioners to provide self-management support?

Having established the scope of the review, initial draft PTs that address the questions of the review were developed by formulating one or more PTs for each of the 14 TDF domains: knowledge, skills, social/professional role and identity, beliefs about capabilities, optimism, reinforcement, intentions, goals, memory, attention and decision processes, environmental context and resources, social influences, emotion, and behavioural regulation.\textsuperscript{35} Stakeholders were consulted to review and prioritise the initial draft PTs. Stakeholder engagement is encouraged in realist reviews to ensure inclusion of multiple perspectives.\textsuperscript{47} Stakeholder consultation involved presenting the initial draft PTs to 39 people representing cancer survivors, healthcare practitioners and commissioners, using online surveys followed by three workshops. The workshops aimed to review and prioritise the PTs for testing with relevant published evidence and practitioner surveys. Stakeholders were recruited on a voluntary basis through local cancer charities and organisations known to the authors. The PT prioritisation process involved two steps. The first step involved an online survey where stakeholders were asked to identify the initial draft PTs they perceived to be important for supporting healthcare practitioners to deliver self-management support to cancer survivors. If 100\% of stakeholders agreed that the PT was important, it was selected for further testing. If less than 70\% of stakeholders agreed...
that the PT was important, it was not selected for further testing. The second step involved
discussing the remaining initial draft PTs which were perceived to be important by 70-99% of
stakeholders at face-to-face workshops. At the workshops, stakeholders were asked to identify up to
a maximum of ten initial draft PTs for further testing.

Published literature was identified by searching Medline, EMBASE, CINAHL, Scopus, PsycINFO, ERIC
and AMED from inception to September 2019. Paper selection was based on the following criteria:
the population of interest were healthcare practitioners involved with supporting self-management
in adults (>18 years) living with and beyond cancer. The interventions eligible for inclusion included
methods promoting the uptake or delivery of self-management support; outcomes of interest
included practitioner knowledge, skills or behaviours needed to support self-management, patient
adjustment or acceptance of self-management and process or implementation outcomes, such as
health service use or change in care delivery. There were no restrictions regarding healthcare
settings or study design. Papers were excluded if they were published in languages other than
English or described self-management support interventions during the following phases of the
cancer pathway: early detection, prevention, active treatment or end of life. Papers only reporting
patient education or experiences and patient behaviour changes related to self-management
support were also excluded.

Realist reviews usually use data from published documents. When interventions, such as self-
management support, are widely implemented, combining real-world experience with published
data can provide clearer insights into the causal mechanisms operating in particular contexts for
intervention success or failure. In order to capture the real-world barriers and enablers to
facilitating practitioners to provide self-management support and the strategies adopted to address
these barriers and enablers, we therefore developed an online practitioner survey. Data on
intervention design and delivery such as a description of the intervention, practitioners and patient
groups targeted, and details about what worked or not, and why through open-ended questions
were collected. The survey was distributed via national cancer societies, such as The British Oncology
Pharmacy Association, UK Oncology Nursing Society and cancer research and advocacy groups.
Responses were eligible if they described the development or delivery of self-management support
interventions targeted at healthcare practitioners to facilitate delivery of self-management support
to adult cancer survivors who had completed initial cancer treatment.
Two reviewers, KK and HW, independently screened papers by title, abstract and then full text. Disagreements were resolved by discussion with a third reviewer (DB or WH) to ensure consistency in paper inclusion. KK and HW independently screened survey responses for eligibility. Paper selection was based on a) relevance to contributing to the development, refinement or testing of PTs, and b) rigour in terms of credibility and trustworthiness.  

KK and HW extracted data onto a bespoke data extraction form which included study aims, design, methods, study participants and study outcomes. Sections of relevant text from the papers and surveys were coded, based on whether they referred to contexts, mechanisms or outcomes. Extracted codes were then synthesised to identify mechanisms by which intervention components were thought to achieve their outcomes and any contexts that influence the final outcome. Synthesis was undertaken through individual reviewer reflections and group discussion among the review team. Evidence to confirm, refute and refine the existing PTs and for any new PTs were identified. During refinement, to ensure consistency and illustrate emerging links between contexts, mechanism and outcomes, all PTs were expressed as ‘if-then’ statements. The refined and new PTs were linked to the TDF to help explain the emerging patterns and identify influences on practitioner behaviour change. The survey data allowed us to compare PTs to real-world experiences of practitioners. The final PTs were presented as Context-Mechanism-Outcome configurations (CMOCs) grounded in evidence from the published literature and practitioner surveys. The links between contexts, mechanisms and outcomes were shown using ‘if ... then ... because’ statements.

Results

Initial development and prioritisation of programme theories for testing

Informed by the preliminary search 22 initial PTs were developed, with multiple PTs spanning all 14 domains of the TDF. Table 1 displays these PTs and supplementary file 2 provides the flow of PTs across the three stakeholder prioritisation workshops to reach a final ten PTs for testing and refinement against published literature and the practitioner survey.

Evidence searches – published literature and practitioner surveys

Published literature

Figure 1 provides the flow of studies from the 708 titles screened, the 58 full text papers reviewed, through to the 20 papers included. Table 2 describes the characteristics of the included papers from the published literature. Eight of the reported papers were conducted in the USA, three each in
the UK\textsuperscript{57-59} and the Netherlands\textsuperscript{60-62} and two each in Canada\textsuperscript{63 64} and Australia.\textsuperscript{65 66} The remaining studies were conducted in Singapore\textsuperscript{67} and Denmark.\textsuperscript{68} Various study designs were used including randomised controlled trials,\textsuperscript{50 53 58 65 68} cross-sectional studies,\textsuperscript{51 52 59} reviews,\textsuperscript{55 56 66} and qualitative studies.\textsuperscript{49 67}

Eleven published studies (55\%) evaluated interventions based on structured approaches such as the use of survivorship care plans, holistic needs assessment or symptom management protocols, by practitioners to support the identification of individual patient needs post cancer treatment\textsuperscript{50 51 58 61-65 67 68} or carer needs in supporting someone post cancer treatment.\textsuperscript{53} Three studies described the role of practitioner communication style in influencing patient behaviour change,\textsuperscript{49 52 55} one study described an education programme to build nurse knowledge and skills to support cancer survivors\textsuperscript{57} and one described the impact of support from a dedicated nurse care co-ordinator in enhancing patient self-efficacy.\textsuperscript{54} Interventions were carried out in hospital settings for half of the studies and involved cancer specialists such as oncologists and cancer nurses. Nine studies reported on self-management support interventions for patients diagnosed with a solid cancer, e.g., breast,\textsuperscript{49 61 63 66 67} lung,\textsuperscript{53} prostate,\textsuperscript{54 58} and head and neck\textsuperscript{62} cancers. Six studies reported interventions for patients with any type of solid or haematological cancer\textsuperscript{50 52 55 56 68} and one study reported a self-management support intervention for patients with lymphoma.\textsuperscript{65}

**Practitioner surveys**

A summary of the intervention characteristics from the practitioner survey can be found in Table 3. Seven practitioners from the UK completed the survey. Six interventions were described, with three each delivered in community pharmacy, survey\textsuperscript{3} survey\textsuperscript{5} survey\textsuperscript{8} and hospital settings.\textsuperscript{survey2 survey4 survey7} One response summarised a qualitative study, which explored the role and scope of community pharmacists in supporting breast cancer survivors, but no intervention was described. All interventions involved educating practitioners to facilitate the delivery of the self-management support intervention.

**Refinement and production of the final PTs and corresponding Context-Mechanism-Outcome Configurations (CMOCs)**

Table 4 illustrates the transition from ten initial PTs to the final five PTs; these are presented below with their corresponding CMOCs and TDF domains. Illustrative quotes supporting development of the PTs are included in supplementary file 3.
CMOC1: Practitioners are equipped with the knowledge to enable them to support people to self-manage

Programme theory: If practitioners have the knowledge to identify and manage treatment consequences and navigate the care pathway, including processes for escalating concerns (C), then they will engage in supporting patients to self-manage (O) because of increased practitioner confidence (M).

TDF domain: Knowledge

Initially five separate PTs included aspects of practitioner knowledge: PT1 was about knowledge of the cancer care pathway, PT2 was about knowledge of consequences of cancer treatment, PT4 referred to practitioner confidence in their knowledge and skills, and two PTs related to practitioner knowledge about processes for escalating patient safety concerns (PT6 and 10). Reflection and discussion among the review team, based on the evidence indicating that confidence was interlinked with knowledge, resulted in merging these five PTs into CMOC1.

Practitioners who lacked knowledge about how to manage cancer treatment-related concerns were reluctant to engage patients in conversations about their concerns or to make referrals to other appropriate practitioners or services. This was due to lack of practitioner confidence. Practitioner knowledge about survivorship care and management of cancer treatment-related consequences may be increased through providing training and using standardised tools, e.g., treatment protocols, care pathways or care plans. Increased knowledge raised practitioner awareness of treatment consequences and increased confidence in managing them; it also increased patient confidence in the ability of the practitioner to support them. However, increased practitioner knowledge may not lead to improved patient support if the practitioner lacked the confidence to integrate the new knowledge and information into a patient management plan. Further, training and assessment of how to undertake person-centred discussions gave practitioners the confidence to engage in consultations with patients. Two studies reported to undertake person-centred discussions using motivational interviewing techniques, are discussed in CMOC2 below.

Practitioner reflections during training enhanced understanding of new knowledge and recalling information. After training, support from senior practitioners was important to assess the application of knowledge in clinical practice.
CMOC2: Practitioners have appropriate consultation skills to engage patients in discussions about self-management

**Programme theory:** If practitioners have the necessary consultation skills (C), then they are more likely to engage patients in discussions about self-management where patients feel part of the decision-making process (O) because of mutual trust between practitioners and patients (M).

**TDF domain:** Skills

Several papers described how the communication style adopted by practitioners influenced patient interactions. A new PT was therefore developed which related to practitioner consultations with patients.

The approaches reported to help practitioners engage patients in discussions during consultations were motivational interviewing and using structured tools, such as, a survivorship care plans. Using motivational interview techniques empowered practitioners to use a person-centred approach during consultations.\(^ {55,57}\) Skills used by practitioners to effectively engage cancer survivors in discussions involved active listening,\(^ {53,54,56}\) giving patients clear messages,\(^ {52,56,68}\) purposeful questioning, understanding patient preferences, reinforcing patient capabilities and identifying any actions or resources needed to enable self-management.\(^ {54}\) Consultations delivered by trained existing practitioners e.g., nurses or dieticians, were as effective as those delivered by counsellors specifically hired to deliver motivational interviewing interventions. Further, consultations using motivational interviewing techniques delivered over the telephone were as effective as in-person sessions and offered improved feasibility in busy clinical settings.\(^ {55}\) Equipping practitioners with skills to use tools such as care plans and treatment protocols led to a standardised approach to consultations.\(^ {64}\) However, the use of standardised care plans may not facilitate personalisation of consultations if practitioners perceive them to be inflexible.\(^ {67}\) Furthermore, practitioners may find it challenging to incorporate protocols into routine care or consultations if they are perceived to be too complex.\(^ {64}\)

The setting of the consultation influenced how practitioners engaged patients in discussions. Consultations that took place in non-clinical settings allowed practitioners to explore patient concerns and develop shared solutions in a relaxed environment, with no time pressures or competing demands.\(^ {58}\) Adopting a collaborative communication style allowed practitioners to improve their interactions with patients, thereby building trust and positive practitioner-patient relationships.\(^ {49,54}\) Improved trust enabled practitioners to effectively address cancer treatment-related consequences reported by patients\(^ {52,56,68}\) and improved care satisfaction.\(^ {49}\)
CMOC3: Patients and practitioners have shared understanding and expectations of their roles in self-management

**Programme theory:** If practitioners and patients are united in their expectations and understanding of their respective roles in the care pathway (C), then they will engage in discussions about self-management (O) because of a sense of shared responsibility (M).

**TDF domain:** Social/professional role and identity

Initially PT3 only included primary care practitioners, as the preliminary search suggested that primary care practitioners were unclear about their role in supporting cancer survivors to self-manage. However, practitioners from all care settings were incorporated as the review progressed, because the evidence indicated that the need for greater role clarity regarding self-management support also extended to hospital practitioners. PT3 was further refined to include the patient role as the evidence indicated that practitioner engagement with self-management support was interlinked with patient understanding and expectations about self-management. There were two aspects to CMOC3 – understanding and expectations between practitioners and patients and those between practitioners across care settings.

Where practitioners had a clear understanding of their role and responsibility, they proactively interacted with cancer survivors to assess their needs and provide information and support or make referrals to other sources if needed. Patients who were clear about the potential long-term impact of cancer and its treatment and who had information about local survivor-specific services, were better able to cope and adjust to life post-treatment and more likely to seek support for self-management. Where expectations were misaligned, practitioners and patients were less inclined to engage in discussions about self-management.

Sharing of care/management plans between practitioners from secondary and primary care facilitated effective care continuity and co-ordination. Sharing plans resulted in improved practitioner knowledge of treatment consequences and how to monitor them led to improved practitioner understanding of their role and responsibilities in relation to supporting self-management. Providing joint training for practitioners in secondary and primary care settings, co-location of practitioners, and care plans developed in secondary care that included useful information for practitioners in primary care facilitated a shared understanding of practitioner roles and responsibilities and managed expectations related to supporting self-management.
**CMOC4: Organisational strategies enable practitioners to deliver self-management support interventions**

**Programme theory:** If organisations use strategies to strengthen practitioners’ intention to deliver self-management support interventions (C), then practitioners are more likely to engage with the interventions (O) because they perceive them as a priority for the organisation (M).

**TDF domain:** Intention

At the start of the realist review, the initial PT7 presented the role of organisations in facilitating practitioners to deliver self-management support interventions. Evidence indicated that the way health systems are arranged also influence practitioner engagement with self-management support interventions. The initial PT7 was therefore split into CMOC4 and CMOC5 to reflect the different roles played by organisations (final PT7a) and health systems (final PT7b). Discussion among the review team also led to discarding PT9, which related to the requirement of additional funding to enable capacity building to deliver self-management support, as organisational funding was embedded into CMOC4.

A wide range of environmental changes introduced by organisations were intended to motivate or incentivise practitioners to deliver self-management support. Strategies involved providing adequate resources for preparing, planning and delivering interventions, such as introducing clinics specifically for supporting cancer survivors post treatment, providing practitioners with guidelines, tools and training to support practitioners during consultations, employing dedicated practitioners, such as oncology nurses or counsellors to deliver interventions, and funding. Funding was important to support intervention delivery; however, a fee-for-service funding model was discouraged in one study as there was a risk that services offered may not be relevant to patients. It was suggested that practitioners may be tempted to offer extra or unnecessary services because service provision was linked to practitioner salary.

Managers who provided leadership through endorsing interventions and who shared their expectations for practitioners to deliver interventions influenced whether practitioners prioritised delivery of self-management support. Organisations that incorporated intervention evaluation through metrics about practitioner performance or through monitoring patient outcomes were able to demonstrate the value of interventions and further promote their delivery within organisations.
Organisational strategies were further shown to increase practitioner confidence in and engagement with delivering self-management support interventions and supported integration and sustainability of interventions into routine care. Shorter, modifiable interventions, that could be delivered face-to-face or technology-assisted, were preferred by practitioners. Flexibility of intervention delivery was important for practitioners to facilitate appropriate use of healthcare resources.

CMOCS: Health systems are configured to integrate self-management support interventions into routine care

Programme theory: If systems are configured to integrate self-management support interventions into routine practice (C), then interventions are more likely to be sustainable (O) because of ease of delivery (M).

TDF domain: Environmental context and resources

This CMOC resulted from splitting PT7, which related to the role of organisations in facilitating practitioners to deliver self-management support interventions, to focus on how the arrangement of the health system influences sustainable delivery of self-management support interventions. Two overlapping PTs were dismissed: PT8 related to the health system being arranged to encourage and prioritise routine self-management support and PT5 related to the health system infrastructure facilitating integration of signposting into routine care.

Interventions designed to meet a local service need enabled easy integration into routine care and those with suitable referral pathways and processes facilitated clinical discussions. Communication and care-co-ordinations between practitioners from different care settings were facilitated through the use of tools, such as care plans and guidelines.

Having dedicated resources to implement and deliver interventions was shown to be important not only for organisations, as shown in CMOC4, but also for the healthcare system. For example, introducing nurses dedicated to supporting self-management, led to increased service capacity without compromising care delivery in other parts of the system.

Shared care models facilitated integration of interventions into routine practice by providing a mechanism whereby senior managers formally evaluated the organisational infrastructure to deliver the intervention and introduced necessary supportive changes. Defining practitioner roles and
Discussion

This review set out to understand the influences involved in facilitating practitioners to provide routine self-management support to cancer survivors, using a theoretical lens. Five interdependent programme theories were developed. They highlight the importance of practitioners having sufficient knowledge and skills to give them the confidence to engage patients in discussions about self-management. Practitioners and patients need to be clear about their respective roles in self-management by creating a sense of shared responsibility. Finally, organisations and the wider health system need to put in place the necessary resources and processes to create an environment where self-management support is perceived as an organisational priority, facilitating integration into routine care.

Some of the key contextual influences identified in this review have been described elsewhere. For example, a call to action for embedding self-management support in routine cancer care highlighted that practitioners need training to improve their knowledge and skills, and practitioners and cancer survivors need an understanding of their roles and responsibilities to foster a partnership approach. While developing knowledge and skills are the first step towards reframing practitioner roles and responsibilities, providing organisational resources alongside changes to the design of the wider health system are needed to integrate self-management support into cancer care.

Organisational support was crucial for allowing practitioners to integrate self-management support into the routine care of people with chronic conditions. However, evidence for organisational strategies to effectively embed self-management support in routine cancer care is limited. A recent mixed-method study of self-management support readiness in Canadian ambulatory cancer centres noted that organisations could facilitate practitioners to deliver self-management support through strong leadership, appointment of champions, prioritising self-management in the organisation, and introducing processes for feedback and tools for monitoring quality of care. The present realist review found that alongside senior leader/manager support, funding, monitoring and feedback, the design of the intervention was important for practitioners to perceive self-management support as a priority for the organisation. Interventions should not only meet local needs but also be adaptable to practitioner circumstances. Self-management support interventions for cancer survivors emphasise the need to depart from a ‘one-size fits all’ approach towards more personalised support to meet
Interestingly, this review found that interventions to facilitate practitioners to provide self-management support may also need to be tailored to meet the unique needs of practitioners, which may depend on available resources, such as, time and space. An understanding of the local context and practitioner needs will thus be critical for developing and designing self-management support interventions targeted at practitioners.

Healthcare organisational culture and social norms are considered key contextual factors that influence implementation of healthcare practices, service improvements and patient outcomes, but are notoriously difficult to assess and manage. Organisational culture is the shared ways of thinking, feeling and behaving in organisations. Social norms, the shared values, beliefs and attitudes that influence behaviour, lie at the heart of influencing organisational culture. Unsurprisingly, no evidence was found in the included studies for the influence of organisational culture and social norms on implementing or delivering self-management support. Self-management support interventions will be implemented and delivered in the context of the underlying cultural and social norms within the organisation. Understanding of these cultural and social influences may provide deeper insights into how self-management support interventions could be shaped to improve cancer survivor outcomes.

The current literature suggests that successful implementation of self-management support in cancer survivors will require a ‘whole system’ change. However, evidence for what system changes are needed and how they can be achieved is lacking. The literature on self-management support in chronic conditions, such as diabetes and asthma, highlight that embedding self-management support is not about adding interventions to existing services. It requires a fundamentally different way of working and the necessary infrastructure to facilitate a shift from focusing on disease management to supporting patients to manage their own health and wellbeing. The present review begins to build the evidence for the role of health systems in facilitating integration of self-management support in routine cancer care. Suitable referral pathways and processes that allow practitioner collaboration across care settings, together with clarifying roles and responsibilities are important. While these findings seem to overlap with the chronic condition literature, it cannot be assumed that these strategies will have applicability in the cancer setting in exactly the same way, given the complex, multi-faceted and fluctuating nature of cancer.

Similar to findings of the present review, developing knowledge and skills was shown to influence nurses’ confidence, but this did not always result in changes to daily practice due to the complexity
of delivering self-management support.\textsuperscript{77} Whilst the present review suggests that mutual trust and shared responsibility are crucial mechanisms for enabling patient-centred collaborative interactions between practitioners and patients, studies have highlighted that the current dominance of the traditional model of care hampers effective delivery of self-management support.\textsuperscript{24,78,79} Similar to findings of the present review, prioritisation of self-management support by organisations facilitates delivery by practitioners, but only if there are no other competing priorities.\textsuperscript{80} For example, an intervention to enhance self-management support in routine primary care was ineffective as it was not viewed as a priority by practitioners, who were more focused on delivering tasks linked to a pay-for-performance framework.\textsuperscript{79} Although the identified five mechanisms have been described in studies related to self-management support in chronic conditions, this review reports on their potential contribution in facilitating practitioners to deliver self-management support in the cancer setting. An understanding of the interactions between mechanisms, the outcomes produced and the context may be key to developing successful interventions.

Strengths of this review include combining a realist lens, a relatively new approach to evidence synthesis with the TDF, a widely used behavioural framework to deepen understanding of the contextual factors influencing practitioner delivery of self-management support in cancer survivors and their mechanisms. This is the first of its kind. A realist review was chosen to facilitate a structured approach to synthesising heterogenous literature using varying study designs and real-life experiences of practitioners. The TDF provided a theoretical lens through which to view contexts and mechanisms, and how they influenced practitioner provision of self-management support. The realist approach allowed interrogation of the relationships between the different contexts, mechanism and outcomes. Future intervention development studies should explore how the TDF can be used to progress from understanding of contextual and causal mechanisms to guiding selection of behaviour change techniques to designing complex interventions\textsuperscript{35} to address identified influences.

Limitations include those commonly reported in realist reviews. The included studies provided limited details about the interventions and some information about contexts and potential mechanisms. Broad statements were therefore formulated, which were informed by the TDF, and seem to reflect those reported in similar studies exploring practitioner delivery of self-management support.\textsuperscript{34,80} Not all the published studies focused explicitly on interventions facilitating practitioner provision of self-management support in cancer survivors. Studies that broadly described
interventions for supporting people post cancer treatment were therefore drawn on and this was combined with practitioner surveys.

The practitioner surveys, despite being small in number and focusing exclusively on educational interventions, enriched understanding of the scope of interventions for facilitating practitioners to deliver self-management support to cancer survivors. The included published studies and practitioner surveys reported on the delivery of self-management support interventions by multiple healthcare practitioners, such as nurses, pharmacists, pharmacy technicians, dieticians and counsellors. However, the role played by other non-medical members of the healthcare team, such as, care navigators and social prescribers, in supporting cancer survivors to self-manage was lacking.

The search strategy aimed to systematically identify sufficient sources to build and test theory. However, it is possible that relevant literature could have been inadvertently overlooked. Rather than identifying all available documents, it is acceptable for realist reviewers to take a purposive sampling approach which aims to reach theoretical saturation. The review team deemed that sufficient evidence was found in the included published studies and practitioner surveys to consider the presented PTs to be coherent and plausible, thereby reaching theoretical saturation. The quality of the studies was not formally assessed because the traditional hierarchy of evidence is of lesser importance in realist reviews. Instead, studies were included if they were deemed good enough by the review team in terms of robustness of the study and its conduct, by considering issues such as sample size, data collection, data analysis and conclusions drawn by study authors. This review mainly derived evidence from higher income countries. These countries have better health infrastructures and resources compared to lower income countries, which may limit applicability of the findings in these countries. Understanding of influences involved in facilitating patients to self-manage and caregivers to support patients to self-manage, although outside the scope of this review, are needed to enable development of effective self-management and self-management support interventions.

Conclusion

This evidence synthesis has identified five interdependent programme theories to facilitate practitioners to provide routine self-management support to cancer survivors. At the practitioner level, developing knowledge and consultations skills will improve confidence in engaging cancer survivors in discussions about self-management. Also, at the practitioner-patient level, a clear understanding of roles and responsibilities will facilitate a partnership approach to self-management. At the organisational level, prioritising self-management support will provide a top-
down incentive for practitioners. Finally, reconfiguration of pathways and processes across the health system will enable sustained delivery of self-management support. A variety of approaches may be employed, such as quality improvement and co-design to operationalise how these programme theories could guide the development, implementation and evaluation of self-management support interventions.
Appendices.

Supplementary file 1: RAMESES reporting standards checklist

Supplementary file 2: Prioritisation of the ten programme theories (PTs) taken forward for testing in the realist review across three stakeholder workshops

Supplementary file 3: Illustrative quotes supporting development of the Context-Mechanism-Outcome Configurations (CMOCs) showing barriers to and enablers for facilitating delivery of self-management (SM) support by healthcare practitioners to adult cancer survivors

Declarations of interest: None.

Author Contribution
Conception and design: KK, WH, HW, EK, MS, DB; Data Collection: KK, HW; Analysis and Interpretation of Data: KK, WH, HW, DB; Manuscript writing: KK, WH, DB. All authors have approved the final article.

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References


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36. !!! INVALID CITATION !!! 35 36


72. Mannion R, Davies H. Understanding organisational culture for healthcare quality improvement. *BMJ* 2018;363:k4907. doi: 10.1136/bmj.k4907


Figure 1: PRISMA flow diagram of included papers and surveys for the realist review
<table>
<thead>
<tr>
<th>TDF Domain (definition)</th>
<th>PT No.</th>
<th>Programme Theory</th>
<th>Prioritised for testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge</td>
<td>1</td>
<td>Practitioners will be effective in supporting patients to self-manage if the practitioner has the required knowledge about the cancer pathway</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Practitioners will correctly identify and signpost patients to self-manage if the practitioner has the required knowledge about the consequences of anti-cancer treatment.</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Skills</td>
<td>3</td>
<td>Practitioners are more likely to initiate discussions regarding self-management with patients and carers if they feel equipped to conduct consultations with patients and carers experiencing emotional distress.</td>
<td>No</td>
</tr>
<tr>
<td>3. Social/professional role and identity</td>
<td>4</td>
<td>Practitioners are more likely to initiate discussions regarding self-management with patients and carers if they feel that it is a part of their role.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Practitioners are more likely to initiate discussions regarding self-management with patients and carers if they feel that this role is endorsed by colleagues from other professions.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>SMS are more likely to be successful if the primary care team are united in their vision of how it should be achieved.</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Beliefs about capabilities</td>
<td>7</td>
<td>If a practitioner is confident that they have the required knowledge and skills, then they are more likely to engage patients and carers in discussions about SMS.</td>
<td>Yes</td>
</tr>
<tr>
<td>5. Optimism</td>
<td>8</td>
<td>If a practitioner feels that signposting patients to self-manage can be integrated into their current role, they are more likely to try doing it.</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Beliefs about consequences</td>
<td>9</td>
<td>If a practitioner believes that the self-management package is safe, then they will be more likely to encourage patients to engage with it.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>If a practitioner believes that supporting SM will improve relationships with their patients, then they will be more likely to encourage patients to engage with it.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>If practitioners believe that initiating discussions about self-management will be time consuming, then they will be less likely to engage patients in discussion.</td>
<td>No</td>
</tr>
<tr>
<td></td>
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<td>---</td>
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</tr>
<tr>
<td>7.</td>
<td>Reinforcement</td>
<td>Is there a dependent relationship between undertaking/not undertaking the required behaviour and some outcome that will impact on the individual? E.g. reward or sanction. (Increasing the probability of a response by arranging a dependent relationship, or contingency, between the response and a given stimulus)</td>
<td>12</td>
</tr>
<tr>
<td>8.</td>
<td>Intention</td>
<td>Conscious decision to perform the required activity (A conscious decision to perform a behaviour or a resolve to act in a certain way)</td>
<td>13</td>
</tr>
<tr>
<td>9.</td>
<td>Goals</td>
<td>Does the required behaviour align with the goals of the individual undertaking the behaviour? (Mental representations of outcomes or end states that an individual wants to achieve)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>10.</td>
<td>Memory, attention and decision making</td>
<td>Ability to retain the required information and apply to make decisions. (The ability to retain information, focus selectively on aspects of the environment and choose between two or more alternatives)</td>
<td>16</td>
</tr>
<tr>
<td>11.</td>
<td>Environmental context and resources</td>
<td>Any circumstance of the situation or environment that facilitates or hinders the required behaviour. (Any circumstance of a person’s situation or environment that discourages or encourages the development of skills and abilities, independence, social competence and adaptive behaviour)</td>
<td>17</td>
</tr>
<tr>
<td>12.</td>
<td>Social influences</td>
<td>Social pressure/norms/ group conformity (Those interpersonal processes that can cause individuals to change their thoughts, feelings, or behaviours)</td>
<td>18</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>13. Emotion</td>
<td>21</td>
<td>Decision tools such as a traffic light system for when patients should seek hospital advice will reduce anxiety for practitioners arising from the fear that an emergency situation may be missed.</td>
<td>Yes</td>
</tr>
<tr>
<td>Positive or negative emotions created by undertaking the required behaviour. (A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event)</td>
<td></td>
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</tr>
</tbody>
</table>

| 14. Behavioural regulation | 22 | If organisations routinely monitor and feedback on practitioner engagement with SMS, then they are more likely to initiate and maintain support of an SMS programme. | No |
| Anything that can be monitored to see how the person is doing and give them feedback (Anything aimed at managing or changing objectively observed or measured actions) | |
Table 2: Characteristics of published papers included in the realist review (n=20)

<table>
<thead>
<tr>
<th>Study first author (year)</th>
<th>Country</th>
<th>Study design</th>
<th>Study setting</th>
<th>Study population (N)</th>
<th>Practitioners involved</th>
<th>Patient cancer type</th>
<th>Patient age (years)</th>
<th>Intervention</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosenberg (2016) 51</td>
<td>USA</td>
<td>Cross-sectional study</td>
<td>Hospital outpatient cancer clinic</td>
<td>Patients: N=1615</td>
<td>Oncology nurse, oncologists</td>
<td>Multiple: breast, gynaecological, colorectal, prostate, melanoma</td>
<td>Mean: 57 Range: 21-98</td>
<td>Treatment summary, SCP, risk adapted visit and education.</td>
<td>Improved communication and symptom reporting between patient and HCP.</td>
</tr>
<tr>
<td>Arora (2009) 52</td>
<td>USA</td>
<td>Cross-sectional study</td>
<td>State-wide patient experience of cancer care study</td>
<td>Patients: N=623</td>
<td>Physicians involved with follow-up care: primary care and hospital oncologists, haematologists, or other specialists</td>
<td>Leukaemia, colorectal or bladder cancers</td>
<td>Mean (SD): 62.6 (12.9)</td>
<td>Nil – routine follow-up care.</td>
<td>HCP communication style and survivor quality of life.</td>
</tr>
<tr>
<td>Study first author (year)</td>
<td>Country</td>
<td>Study design</td>
<td>Study setting</td>
<td>Study population (N)</td>
<td>Practitioners involved</td>
<td>Patient cancer type</td>
<td>Patient age (years)</td>
<td>Intervention</td>
<td>Outcomes</td>
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<tr>
<td>Ratcliff (2018)</td>
<td>USA</td>
<td>RCT</td>
<td>Integrated/cancer care settings</td>
<td>HCP, national and advocacy group leads: N=33</td>
<td>Nurses, social workers, counsellors, doctors Lung cancer</td>
<td>NR</td>
<td>CareSTEPS - Psychosocial intervention targeting caregivers of people with lung cancer.</td>
<td>Caregiver needs, resources, integrating care for caregivers and potential care models.</td>
<td></td>
</tr>
<tr>
<td>Study first author (year)</td>
<td>Country</td>
<td>Study design</td>
<td>Study setting</td>
<td>Study population (N)</td>
<td>Practitioners involved</td>
<td>Patient cancer type</td>
<td>Patient age (years)</td>
<td>Intervention</td>
<td>Outcomes</td>
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<tr>
<td>Maliski (2004)</td>
<td>USA</td>
<td>Descriptive retrospective record review</td>
<td>Statewide free prostate cancer treatment programme (IMPACT – Improving access, counselling and treatment)</td>
<td>Patients: N=486 GP Practice: N=1091</td>
<td>Nurses</td>
<td>Prostate cancer</td>
<td>15% (n=6) ≥ 65</td>
<td>GP provided information about patient needs and encouraged to contact patient.</td>
<td>Role of nurse case manager.</td>
</tr>
<tr>
<td>Spencer (2016)</td>
<td>USA</td>
<td>Systematic review</td>
<td>NA</td>
<td>N=15 studies included</td>
<td>Nurses, dieticians</td>
<td>Prostate cancer</td>
<td>NR</td>
<td>Motivational interviewing</td>
<td>Efficacy of motivational interviewing to address lifestyle behaviours and psychosocial needs of cancer patients and survivors.</td>
</tr>
<tr>
<td>Tish Knobf (2013)</td>
<td>USA</td>
<td>Review paper</td>
<td>NA</td>
<td>NA</td>
<td>Oncology nurses</td>
<td>Any</td>
<td>NR</td>
<td>NA</td>
<td>Informational and support needs of people with cancer and role of oncology nurses in delivery of high-quality patient-centred cancer care</td>
</tr>
<tr>
<td>Study first author (year)</td>
<td>Country</td>
<td>Study design</td>
<td>Study setting</td>
<td>Study population (N)</td>
<td>Practitioners involved</td>
<td>Patient cancer type</td>
<td>Patient age (years)</td>
<td>Intervention</td>
<td>Outcomes</td>
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</tr>
<tr>
<td>Wiljer (2010)</td>
<td>Canada</td>
<td>Pilot pre/post-test study</td>
<td>Hospital</td>
<td>Patient: N=40 NR</td>
<td>Breast cancer</td>
<td>15% (n=6) &gt; 60</td>
<td>Survivorship consult – a one-hour template-guided reflective interview to discuss patients' physical, psychological, spiritual &amp; social needs.</td>
<td>Patient self-efficacy to manage survivorship care.</td>
<td></td>
</tr>
</tbody>
</table>

GP General Practitioner; HCP Healthcare professionals; NA Not applicable; NR Not reported; RCT Randomised Controlled Trial; SCP Survivorship Care Plan
<table>
<thead>
<tr>
<th>Survey no.</th>
<th>Country</th>
<th>Study design</th>
<th>Study setting</th>
<th>Practitioners involved in intervention delivery</th>
<th>Survivor cancer diagnosis</th>
<th>Intervention</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>UK</td>
<td>Feasibility study</td>
<td>Hospital</td>
<td>Oncologist, specialist nurses, researchers, other – computer consultants, commissioners</td>
<td>Lung cancer</td>
<td>Practitioner training about how patients can access and use an App (iEXHALE) to facilitate self-management of symptoms through exercise</td>
<td>Practitioner-related: NR Patient related: Ease of use of App, navigation and value in daily life</td>
</tr>
<tr>
<td>3</td>
<td>UK</td>
<td>Feasibility study</td>
<td>Community pharmacy</td>
<td>Pharmacy professionals e.g., pharmacists, pharmacy technicians, assistants, etc.</td>
<td>Prostate cancer</td>
<td>Community pharmacy teams were trained to deliver a health assessment including fitness, strength and anthropometric measures. Training included consultation skills and cardiovascular health.</td>
<td>Practitioners and patients: Feasibility and acceptability of intervention</td>
</tr>
<tr>
<td>4</td>
<td>UK</td>
<td>NA – Intervention development</td>
<td>Any chemotherapy administration service – mainly secondary care setting</td>
<td>Oncologists, nurses, pharmacists</td>
<td>All people treated with chemotherapy</td>
<td>Video to guide practitioners on the effective use of the record with patients. The video explains the purpose of the record, includes guidance to support self-management and how practitioners can order free copies of the record called Your Cancer Treatment Record</td>
<td>Practitioner-related: Ease of use of the record in routine practice Patient-related: Acceptability and usefulness of the record</td>
</tr>
<tr>
<td>5</td>
<td>UK</td>
<td>NR</td>
<td>Community pharmacy</td>
<td>Pharmacists</td>
<td>NR</td>
<td>Training pharmacists to deliver patient education aimed at empowering patients to self-management</td>
<td>Practitioner-related: Satisfaction of training Patient-related: Improve confidence and knowledge about how to care for themselves and access to appropriate healthcare services.</td>
</tr>
<tr>
<td>6</td>
<td>UK</td>
<td>Qualitative study</td>
<td>Community pharmacy</td>
<td>NA</td>
<td>Breast cancer</td>
<td>NA</td>
<td>Exploration of the role and scope of the community pharmacist in supporting breast cancer survivors</td>
</tr>
<tr>
<td>7</td>
<td>UK</td>
<td>Proof of concept randomised control trial</td>
<td>Hospital (12 sites)</td>
<td>Hospital team caring for patients, research team, e.g., research nurses and clinical trial officers</td>
<td>All</td>
<td>Randomisation in a 1:1 ratio to receive either the RESTORE online intervention or a leaflet comparator developed by</td>
<td>Practitioner-related: NR Patient-related: Feasibility and acceptability, change in self-</td>
</tr>
<tr>
<td>Survey no.</td>
<td>Country</td>
<td>Study design</td>
<td>Study setting</td>
<td>Practitioners involved in intervention delivery</td>
<td>Survivor cancer diagnosis</td>
<td>Intervention</td>
<td>Outcomes</td>
</tr>
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<td>-------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>8</td>
<td>UK</td>
<td>NR</td>
<td>Community pharmacy (10 sites)</td>
<td>Pharmacists</td>
<td>All</td>
<td>Macmillan Cancer Backup, <em>Coping with Fatigue</em></td>
<td>efficacy to manage cancer-related fatigue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Training was offered to practitioners to support their role in the study, as follows:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1) Hospital care team – directing eligible patients to the research team.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2) Research team – screening patients for inclusion, documenting eligibility/willingness to participate or ineligible and reason for declining where possible.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Giving eligible/willing patients a letter of invitation, information sheet and reply slip and instructions for completing reply slip.</td>
<td></td>
</tr>
</tbody>
</table>

NA Not applicable; NR Not reported
Table 4: Prioritised initial programme theories for testing, refined theories during evidence selection and appraisal and final programme theories after data synthesis

<table>
<thead>
<tr>
<th>Original PT no.</th>
<th>New PT no.</th>
<th>Initial programme theory</th>
<th>Refined programme theory (Expressed as If ... Then statements)</th>
<th>Final programme theory (Expressed as If ... Then ... Because statements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Practitioners will be effective in supporting patients to self-manage if the practitioner has the required knowledge about the cancer pathway.</td>
<td>If a practitioner is confident that they have the required knowledge and skills about the cancer pathway, then they will engage in supporting patients to self-manage</td>
<td>If practitioners have the knowledge to identify and manage treatment consequences and navigate the care pathway, including processes for escalating concerns, then they will engage in supporting patients to self-manage because of increased practitioner confidence.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Practitioners will correctly identify and signpost patients to self-manage if the practitioner has the required knowledge about the consequences of anti-cancer treatment.</td>
<td>If practitioners have the required knowledge about the consequences of cancer treatment, then practitioners will correctly identify and signpost patients to self-manage.</td>
<td>Discarded – merged with final PT1</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Self-management support is more likely to be successful if the primary care team are united in their vision of how it should be achieved.</td>
<td>If the primary and secondary care team are united in their vision of how self-management support should be achieved, then it is more likely to be successful.</td>
<td>If practitioners and patients are united in their expectations and understanding of their respective roles in the care pathway, then they will engage in discussions about self-management because of a sense of mutual trust and shared responsibility.</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>If a practitioner is confident that they have the required knowledge and skills, then they are more likely to engage patients and carers in discussions about self-management.</td>
<td>Combined with refined PT 1</td>
<td>NA</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>If a practitioner feels that signposting patients to self-manage can be integrated into their current role, they are more likely to try doing it.</td>
<td>If a practitioner feels that signposting patients to self-manage can be integrated into their current role, then they are more likely to try doing it.</td>
<td>Discarded – addressed by final PT7b</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>If a practitioner believes that the self-management package is safe, then they will be more likely to encourage patients to engage with it.</td>
<td>If a practitioner believes that the self-management intervention for patients is safe, then they will be more likely to encourage patients to engage with it.</td>
<td>Discarded – incorporated in final PT1</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>If organisations work with practitioners to integrate self-management into routine</td>
<td>Split into two</td>
<td>7a - If organisations use strategies to endorse self-management interventions, then practitioners are more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>practice, then practitioners are more likely to engage with it.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7a</td>
<td>If organisations use strategies to endorse interventions, then practitioners are more likely to engage with self-management support interventions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7b</td>
<td>If systems are configured to integrate interventions into routine practice, then the intervention is more likely to be sustainable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>likely to engage with them because practitioners perceive those interventions are a priority in the organisation.</td>
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<td><strong>[Intention]</strong></td>
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<td>7b</td>
<td>If systems are configured to integrate self-management interventions into routine practice, then interventions are more likely to be sustainable because of ease of delivery.</td>
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<td></td>
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<td><strong>[Environmental context &amp; resources]</strong></td>
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<td>15</td>
<td>8</td>
<td>If systems are organised to encourage and prioritise self-management then this will more likely lead to practitioners feeling supported and equipped to engage in self-management support, resulting in self-management support becoming part of the culture of care.</td>
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<td>Discarded – incorporated into refined PT 7b</td>
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<td>17</td>
<td>9</td>
<td>Additional funding is required to enable capacity to be built into the team for practitioners to deliver this new role of supporting self-management.</td>
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<td>Discarded – incorporated into refined PT 7a</td>
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<td>21</td>
<td>10</td>
<td>Decision tools such as a traffic light system for when patients should seek hospital advice will reduce anxiety for practitioners arising from the fear that an emergency situation may be missed.</td>
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<td>If decision tools (such as a traffic light system) for when patients should seek hospital advice are available, then practitioner anxiety arising from the fear that an emergency situation may be missed will be reduced.</td>
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<td>Discard – incorporated into final PT1</td>
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<td>NA</td>
<td>11</td>
<td>NEW programme theory</td>
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<td>If practitioners have the knowledge and skills to engage patients in the consultation, then they are more likely to get patients to self-manage.</td>
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<td>If practitioners have the necessary consultation skills, then they are more likely to engage patients in discussions about self-management where patients feel part of the decision-making process because of mutual trust between practitioners and patients.</td>
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<td><strong>[Skills]</strong></td>
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PT programme theory; NA Not applicable; TDF Theoretical Domains Framework