Public Health England

UNIVERSITY OF CAMBRIDGE

Integration of physical activity promotion within primary and secondary care settings

Rapid evidence review and lessons from practice case studies

Contents

About this document

This report is a summary version of the fuller report and contains more information on the methodology and case studies.

Executive summary

Integration of physical activity (PA) promotion within primary and secondary care settings could be a cost-effective way to improve the health of patients with long-term conditions. However, many initiatives to integrate PA promotion into clinical settings are in their infancy and evidence suggests that barriers to effectively promoting PA remain, including a lack of knowledge, support and confidence among healthcare practitioners.

The Moving Healthcare Professionals Programme (MHPP), led by Public Health England (PHE) in partnership with Sport England, aims to increase confidence, skills and knowledge of health care professionals to effectively and sustainably embed PA into clinical care at a system level. To inform further development of MHPP, there is a need to understand what factors may determine successful integration and implementation of PA promotion, including what has or hasn't worked, and why.

This project contributes to the development of the MHPP by synthesising current knowledge through 2 complementary sections of work.

1. A mixed-methods rapid evidence review (RER) of academic and grey literature.
2. Interviews with key actors from good and promising case studies to assess existing practice.

Together they give insights into the factors that influence successful integration of PA promotion into primary, secondary and integrated care settings in the UK for people living with one or more long-term conditions.

Section 1

A systematic search of academic and grey literature identified 20 key studies for inclusion in the RER. Given the strong focus on implementation and process evaluation, the RER included studies that used qualitative or mixed methods. These studies described research relating to patients with a variety of conditions, with half of them targeting patients with a mix of long-term conditions. The largest representation of specific targeted conditions was from cancer, cardiac and mental health. Studies described a range of PA promotion activities including brief interventions promoting PA, signposting patients to opportunities to be active and interventions where healthcare professionals (HCPs) referred patients onto a PA intervention programme.

From the mixed methods synthesis, 7 overarching themes were identified that affected the implementation of the PA promotion in different ways.

1. Set-up of the intervention
2. Patient engagement
3. Healthcare professional perspective
4. Training
5. Infrastructure and resources
6. Strategic relationship building
7. Patient outcomes

Section 2

Interviews from 7 case studies were completed, including 12 people involved in the set up or delivery of the PA services.

Although differences were apparent between primary and secondary care settings, the experiences and learnings described in the interviews had a surprising level of similarity in the overarching themes: set-up, patient engagement, HCP behaviour, training, responsiveness, strategic relationship building, and scalable and sustainability. The case studies were, by selection, those services that were considered successful or promising and were less research-focused with more emphasis on service delivery. Those interviewed concentrated more on positive enablers for integrating the service and less on barriers.

Integration of results

The findings from the 2 sections complemented each other. In section 1, the implementation research primarily focussed on HCP and patient experience rather than how the programme could be integrated into the care setting. There was also a strong focus on the barriers faced rather than enablers. The gaps in the evidence in section 1 on the adaptiveness of the service in response to challenges, and what was required to integrate services and make them sustainable were strengthened by the case studies in section 2; for example, the ways to make a service sustainable and scalable.

The following key enablers to successful integration of PA into primary and secondary care settings were identified.

1. Engagement and priority given to PA promotion in the healthcare setting.
2. Improvement of HCP confidence, skills and knowledge, and making it easier for HCP's to initiate PA promotion.
3. Knowledge of referral process and services available for patients, particularly across different local authority or Clinical Commissioning Group (CCG) areas.
4. Patient engagement: tailoring PA intervention to patient priorities and maximising accessibility and flexibility in PA delivery.
5. Adequate evidence to support a PA service.
6. Clear and streamlined messages on PA promotion for HCPs.
7. Collaborative working on PA promotion including sharing knowledge on how to get funding and sustain programmes.
8. Development of realistic PA interventions with adequate staffing and minimising any negative impact on clinical care.
9. Tailoring of PA promotion to manage the increasing prevalence of patients presenting with multiple co-morbidities and more complex conditions.
10. Management of conflicting clinical priorities and strategies to reduce cost and make PA promotion activities more sustainable.
11. Integration of PA promotion between primary and secondary care healthcare settings.

Section 1: Rapid evidence review

Background

The health benefits of PA are well established, including the prevention and management of most chronic conditions and diseases (1). It is estimated that achieving the PA guidelines could substantially reduce premature mortality in adults (2) and reduce the development of diseases. Healthcare professionals can have a positive impact on patient PA (3) and brief interventions to promote PA in the clinical setting can be cost-effective (4). However, evidence suggests that barriers to promote PA remain, including other priorities, a lack of knowledge, time, support and confidence among healthcare practitioners (5).

The MHPP, led by PHE in partnership with Sports England, aims to increase the capability, opportunity and motivation of health care professionals to effectively and sustainably embed PA into clinical care at a system level. Many initiatives to integrate PA promotion into primary and secondary care are in their infancy. To inform further development of the MHPP, there is a need to understand what factors may determine successful integration and implementation, including what has or hasn't worked, and why.

Objective

The objective of the rapid evidence review was to identify and describe the published evidence and grey literature on integrating the promotion of PA in primary, secondary and integrated care settings in the UK for people living with one or more long-term conditions.

The focus centred around the integration of PA promotion in these settings, rather than the effectiveness of PA promotion per se. As the design of healthcare systems impacts substantially on the models of care and challenges of integration, the review focused on evidence from the UK only as translating knowledge from other healthcare systems (for example, health insurance model) may be difficult.

Methods

Eligibility criteria

The literature review aimed to identify interventions focused on the active promotion of PA at the individual patient level involving a HCP for the primary purpose of prevention or management of long-term conditions. The eligibility criteria for studies are described below.

Population of interest

UK patients

Indication

Patients with long-term conditions/chronic diseases, including (though not restricted to): hypertension, depression, asthma, diabetes, coronary heart disease, chronic kidney disease, hypothyroidism, stroke or transient ischaemic attacks, chronic obstructive pulmonary disease, cancer, atrial fibrillation, mental health problems, heart failure, epilepsy and dementia (6).

Intervention

PA promotion; defined as an active health promotion approach involving direct contact with the patient instigated or undertaken by a HCP. Interventions focussed on passive promotion (for example, poster in waiting room) or treatment of physical impairment were excluded.

Comparator

No comparator specified.

Outcomes

Measures of intervention implementation and/or process.

Study design

Publications reporting original research. Reports from clinical practice were also considered for inclusion, such as audit, service improvement and service evaluation. Eligible study designs included: Interventional studies (for example, randomised/non-randomised controlled trials, single-arm studies) and Observational studies (quantitative or qualitative).

Setting

UK primary, secondary or tertiary care.

Language

English

Publication date

2005 to 2019

Literature identification and selection

Databases searched were MEDLINE®, Embase®, AMED via OVID, CINAHL via EbscoHost and the Cochrane Library. A targeted grey literature search was conducted using Evidence NHS to identify unpublished studies, particularly reports and pilot case studies. The full research strategy is given in the full report (7).

All titles and abstracts were screened against the pre-specified eligibility criteria. Full-text papers were obtained where eligibility was unclear from titles and abstracts. Full texts were also obtained for all identified grey literature. Additional searches were conducted on eligible conference abstracts to obtain full papers.

Data extraction

The data extraction parameters on process and integration evaluation and outcome measures were developed drawing upon published frameworks, including the Cochrane Qualitative and Implementation Methods Group Guidance for assessing evidence on intervention implementation (8), the Template for Intervention Description and Replication (TIDieR) checklist (9,10), and the Standards for Reporting Implementation Studies (StaRI) (11,12). For quantitative data, a data extraction form in Microsoft Excel was developed and for qualitative studies, findings were extracted using NVivo 12 software (13) using line-by-line coding of text. Only findings from the results sections (or equivalent) of publications were extracted (8). The extraction parameters were used as the coding frame.

Data synthesis

A segregated methodology as defined by Sandelowski (14), was used for the mixed methods synthesis, whereby the quantitative and qualitative research were synthesised separately and then the findings from each were configured into a mixed methods synthesis. We did not assess the methodological strengths or limitations of the included articles or assess overall confidence in the findings as this was beyond the scope of the rapid evidence review.

Findings

Results of the screening are described in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram in Appendix A and in more detail in the full report (7). From the full-text screening, 55 articles were short-listed for extraction, including 10 grey literature articles. Due to time restrictions of this rapid evidence review, the articles were reviewed and those with a strong process evaluation that addressed the research questions were prioritised. Based on these criteria, 20 publications were selected (Appendix B). Given the strong focus on implementation and process evaluation, most studies used qualitative or mixed methods.

Key themes

From the mixed methods synthesis, 7 overarching themes were identified that affected the implementation and integration of PA promotion into a healthcare setting. These were:

1. Patient engagement
2. Healthcare professional perspective
3. Training
4. Infrastructure and resources
5. Strategic relationship building
6. Set-up
7. Programme outcomes

Set-up of intervention

Realistic timelines were needed to allow for setting up the intervention successfully. This included addressing health inequalities and ensuring that all eligible patients who could benefit were identified, invited to take part and contacted in a timely manner in the care pathway. Time was required to ensure processes were in place to maximise uptake of the intervention by HCPs as well as patients. It was also important that the key stakeholders were engaged early in the set up stage to ensure the intervention approach was acceptable and that all aspects of the programme were supported and trusted by those who would promote its delivery.

Some interventions were designed specifically to have greater reach and reduce health inequalities. For example, some offered subsidises to encourage participants who would otherwise not be able to take part. Many identified that better methods were needed to reach the target populations facing greatest inequalities and some interventions risked perpetuating inequalities, because patients with most need might face greater barriers to access such schemes.

Forward thinking was needed to evaluate all potential impacts the intervention could have on existing clinical care, including unintended negative consequences for patients or clinical staff.

Patient engagement

The initial interaction with HCPs and how the PA intervention was publicised were key to patient engagement. From the patient's viewpoint programme accessibility and flexibility in delivery were vital. This included transport to the venue, cost and flexibility in the length of the intervention and the delivery setting (healthcare, community or home-based). It was crucial that the PA intervention was seen by patients as relevant to their needs. PA was not always seen as a priority if patients felt that the targeted long-term condition was being treated sufficiently by other means, such as by medication.

Motivation to attend commonly included other factors beyond their long-term conditions; encompassing overall wellbeing, other health conditions and the social benefit of participating in a group PA programme. For some patients, the social element was a key driver for participation and some interventions emphasised this in the design to increase engagement. The social benefits of being in a group-based PA programme were frequently raised, but even patients who were house-bound benefited from the social interaction from the delivery staff who visited them. Patients reported a broad range of benefits including an improvement in their daily activity and their physical function. In addition to the physical effects of the activity, patients also reported improved mental health and in older patients, improved cognitive ability.

HCP perspective

HCP perspective was a major theme, predominantly related to barriers to implementing PA promotion or a PA programme. Some HCPs perceived that it would be difficult to engage patients about changing PA behaviour and that other behaviours, such as diet, would be easier to address. Some felt it was not their role to give lifestyle advice and there was a fear of potential loss of connection with patients if they were telling them what to do. HCPs also felt that the current medical paradigm did not support PA promotion and that the usual course of action was medication, which was perceived to have a lower workload. This was refuted by others who felt that rather than increasing workload, in the long-term PA promotion would reduce workload because of benefits on health.

Some HCPs considered that PA programmes gave them something to offer patients who they did not have other treatment options for; thus improving their interaction with these patients. Others expressed concern about whether the PA programme would actually benefit their patients, whether there was sufficient evidence to support it, and whether patients were too ill or frail to undertake PA safely. HCPs who were personally active or who had received positive feedback from patients about PA interventions were more likely to promote lifestyle change. The HCP's belief about their capability to promote PA was influenced by their own lifestyle, both positively and negatively. Some HCPs lacked confidence on raising the subject and this led to 'cherry picking' patients who they felt were motivated and interested. Others believed that their position as a HCP helped patients value their advice and take it more seriously.

The leadership and culture of the healthcare setting was viewed as crucial to the acceptance of a change in practice. Involvement of senior colleagues legitimised the PA promotion and led to better engagement in the workforce. To achieve a cultural shift away from a reliance on medication required substantial input from the leadership or champions within the organisation. This required long-term strategic commitment from the wider organisation. Some proposed that regulatory incentives for PA promotion would support implementation as there were often many competing services that were incentivised by targets. For a referral pathway to be successful it had to require minimum effort by the referring HCP and there had to be sufficient local PA programmes or facilities for them to signpost patients to. Lack of local provision for PA was a key barrier in rural and socioeconomically deprived areas.

Training

A number of factors were identified as being important to address the concerns of HCPs and give them the confidence and tools to implement PA promotion, to make referrals or deliver a PA programme themselves. This included ensuring that HCPs were familiar with the service and pathway process, patient eligibility and benefits for patients with long-term conditions. It also involved addressing any misunderstandings the HCPs may have, for example, regarding the referral legal process and patient safety.

Training was specifically needed to overcome confidence barriers, particularly for HCPs to feel able to manage more complex patients, such as those with multiple co-morbidities. Many of the programmes described in this review provided training on motivational interviewing as this was an area that many HCPs lacked confidence in. However, a major barrier to training was the pressure of time to attend sessions, especially reported for GPs and nurses.

Barriers cited included inadequate resources accompanying the training and insufficient guidance materials to implement the PA promotion or intervention.

Infrastructure and resources

Having adequate infrastructure and resources to deliver the intervention were essential. Understaffing was a recurring barrier which restricted the delivery of the intervention completely, resulted in a patchy service or limited delivery to a subset of the target patient population. This contributed to HCPs reluctance to refer patients if they were not confident that their referral resulted in a patient receiving the intervention.

Resources were also commonly cited as a barrier to delivery; for example, equipment being available to use in the programme or a lack of knowledge to what resources were accessible. IT systems were identified as a specific issue, including restrictions in access or different systems between healthcare settings that required specialised IT input. Resources for patients, such as information packs were largely well received, but there was evidence that resources needed to be tailored. The way in which the information was presented was important to how it was received by patients. Results demonstrated the importance of assessing the appropriateness of materials before the start of the PA programme.

Strategic relationship building

Building strategic relationships was a key theme in all the studies. This covered a number of different stakeholders and partners for different purposes. A particular challenge highlighted was working across healthcare sectors. It was recognised that building partnerships was time consuming. Before joint working could begin the governance in different organisations required navigating and effective communication needed to be established. Partnerships between the NHS, local authorities, community and charity sectors had additional challenges; different organisations often had very different ways of working and negative perceptions of each other. However, some studies reported successful and beneficial partnerships once these barriers were overcome, allowing more opportunities for shared working to be developed. It was felt that more could be done to forge relationships between healthcare and voluntary sectors.

Programme outcomes

There were a diverse range of programme outcomes reported. The most commonly reported were recruitment and retention rates. In both cases the rates observed fell substantially short of the targets, with high attrition reported. HCPs frequently commented that they could not quantify the effect of lifestyle changes post-programme because of the lack of available outcome data. It was reported that outcomes demonstrating better and continued pathways for patients would be beneficial, including linkage with other services and long-term better case management and support.

Evidence for sustainability was seen to be lacking, particularly in terms of cost-effectiveness. Few studies had included an economic costing and there was a range of approaches taken to assessing and determining whether a PA intervention was cost-effective. A common theme was the need to expand into more high-risk patient groups in contracts to secure further funding. This was usually in response to more patients presenting with multiple co-morbidities and more complex conditions.

Strengths and limitations

Most of the studies included in the literature review focused on the evaluation of the initial implementation of a PA programme, particularly patient and HCP engagement. This is in part because much of the primary literature is focused on evaluating ‘research’ pilots rather than embedded services. The studies included a combination of brief interventions promoting PA and signposting patients to opportunities to be active and interventions where HCPs referred patients onto a PA intervention programme. There was considerable data on implementation barriers from the HCP and the patient perspective, but less on the wider role of the organisation. There was limited evidence on enablers and also a lack of evidence on the adaptiveness of the service in response to challenges and what was required to integrate services and make them sustainable.

There were a diverse range of programme outcomes reported for the effectiveness of the PA programmes. HCPs frequently commented that they could not quantify the effect of lifestyle changes post-programme in terms of any outcome, given the lack of research data. Evidence for sustainability was seen to be lacking, particularly in terms of cost-effectiveness. Few studies had included an economic costing and there was a range of approaches taken to assessing and determining whether a PA intervention was cost-effective.

This was a rapid evidence review and as such, prioritisation of articles was required to identify those that would be most relevant to the research questions from both the grey and primary literature searches in the limited time available. Data was extracted from 20 articles that had strong process evaluation, though no assessment was carried out for the risk of bias and limitations of the included articles; overall methodological strength; or overall confidence in the findings. These were predominantly a qualitative study design, with some mixed method studies. Overall, there were few quantitative results included in the synthesis.

Drawing on the grey literature was a strength of this review as it allowed results from other sectors to be included, such as programmes that involved charities in the delivery. The grey literature also included more examples of PA programmes being implemented across different healthcare settings. These illustrated clearly the challenges of the different structures and organisation of the distinct settings and also those of community-based providers. For a PA programme to be implemented and properly integrated, there was a need for organisation commitment and clear awareness of the target patient group across all partners. The inclusion of the patient and public involvement (PPI) panel of patients with long-term conditions and their review of the results enabled an independent scrutiny, which was valuable to the research methods. Overall, this rapid evidence review identified and described a number of key themes affecting the implementation and integration of PA programmes, but found limited evidence on enablers to integrating across healthcare settings.

Section 2: Primary research with partner network

Objectives

The objectives of this project component were to identify and describe case studies of good and promising practice of integrating the promotion of PA in primary, secondary and integrated care settings for people living with one or more long-term conditions.

Methods

The potential case study list was developed from triangulating various sources: studies identified in Section 1 (including grey literature recent protocols with no published evaluation); local intelligence from the networks of the research team, steering group and PHE team; social media calls (using Twitter professional networks and Health Professional Forums on Facebook). Researchers used snowballing to identify further potential case studies from those already identified.

Case studies were included if they met the following criteria.

1. UK patients with long-term conditions or chronic diseases, including (but not restricted to) the most prevalent long-term conditions as described in Section 1 methods: eligibility criteria.
2. PA promotion; defined as an active health promotion approach involving direct contact with the patient instigated or undertaken by a HCP.
3. Involved either primary, secondary and tertiary care in the implementation.

The primary actors of these services, including research investigators, service leads or commissioners, completed a questionnaire to inform the short listing of the case studies and sent any background material to support the interviews, including care pathways. The additional information provided on the PA promotion activities and integration into the setting aided the purposive sampling of case studies.

Within each case study, the primary actor of the service, who had designed the specification and/or been involved in the implementation, was interviewed. Other staff members, decision-makers or delivery staff who were identified were also in scope. Supporting materials that were available on the service, including its development and any evaluation or presentations were collated.

Five of the case studies were in the secondary care setting and 2 in the primary care setting. More primary care case studies were identified, though a specific challenge was communication with and the availability of GPs for interview in the time frame of this project.

The framework for the semi-structured interview guide was designed to explore facilitators and barriers to development and implementation of services (Appendix C). It was informed by the literature, the Cochrane Qualitative and Implementation Methods Group Guidance for assessing evidence on intervention implementation (8), the TIDieR checklist (9,10) and StaRI (11,12). For those studies involving an integrated care pathway, the conceptual framework for integrated care developed by Valentijn and others (15), and the key features described in the Nuffield Trust report ‘What is Integrative Care?’ (16) were also consulted.

Data analysis followed a thematic approach that combined deductive and inductive approaches (17) undertaken in NVivo 12 (13). The analysis was an iterative process starting from the second interview.

Interim results were presented to a PPI panel of patients with long-term conditions. The PPI and reporting of the study was conducted in line with the Guidance for Reporting Involvement of Patients and the Public – short form (GRIPP2-SF) guidance (18). The panel were specifically asked for their input on the themes regarding the implementation strategies to improve patient engagement and their views on how PA promotion could best be integrated into care pathways for patients with long-term conditions. The panel were asked to comment on anything that was surprising or of particular relevance to their experience, as well as anything they felt was missing (18).

The interim results were reviewed by the Project Steering Group and PHE project team from a stakeholder viewpoint to discuss emergent issues or concepts, identify gaps or surprising results and to assess whether specific areas were of particular interest or needed more exploration. The final report was further reviewed by 2 practitioners who have experience of integrating PA services in healthcare settings specifically focused on the conclusions and recommendations of the report.

Findings

From the completed questionnaires, 10 case study interviews relevant to the research questions were identified. Of these, 7 were able to participate in an interview during the month of October 2019 (Table 1). Further information on the case studies is available in the fuller report.

Table 1: Summary of included case studies.

Case study	Setting	Service	Interviewees
1.	Secondary care; East of England	Cancer; outpatient and community service	Lead allied health professional (AHP) who set up and leads service
2.	Secondary care; North West England	All patients admitted to in-hospital stay with a long-term condition	Lead public health nurse who set up and leads service, lead physiotherapist and Trust Patient Experience Lead
3.	Primary care; East of England	Patients registered in GP practice with long-term condition	Service lead, 2 service coordinators and public health commissioner
4.	Secondary care; North-East England	Pre-surgery high risk patients; integrated	Service lead consultant who set up the service

Case study	Setting	Service	Interviewees
		with primary care and community setting	
5.	Secondary care; Central Southern England	Patients in-hospital and outpatient specific conditions	Service lead consultant
6.	Secondary care; West Midlands	Integrated behaviour in-hospital initiative	Lead AHP who set up the service
7.	Integrated including primary, secondary, community and third sector; rural Scotland	Patients with at least one specified long-term condition	Lead AHP who set up the service

Seven overarching themes were identified from the data that affected the implementation of the PA promotion These were:

1. Patient engagement
2. Healthcare professional behaviour
3. Training
4. Responsiveness
5. Strategic relationship building
6. Scaleable and sustainable
7. Set-up

Set-up of intervention

Initiatives were commonly set up by a HCP, frequently an allied health professional (AHP), who identified a clear clinical need for an intervention. Most had existing expertise and clinical links to draw on to set-up a new service. Many had already identified a lack of knowledge or skills to promote PA among clinical staff and conditions that were in need of PA initiatives.

Funding the set-up was a common problem as PA promotion was often not perceived as a priority. Those interviewed highlighted the substantial time required to write and submit funding applications. A strong theme was the ability to identify and take advantage of opportunities, such as linking in with existing behaviour change initiatives within the organisation, using audit data to support the case and using national campaigns as ‘hooks’. Networking to identify support and champions across the organisation was critical. Case studies described the considerable time needed to navigate the clinical governance required in setting up a service.

HCP behaviour

PA promotion was often seen as a ‘nice to have’ but that there were many other priorities in healthcare. Some HCPs did not consider it their job to promote PA, but were happy to support external providers to deliver PA promotions. A key barrier was having the confidence to raise the issue with the patient and to implement changes in their care; specifically there were concerns about patient safety, such as falling over. Case studies described a number of enablers to overcome these barriers.

A key to successful implementation was the ease of the referral route, including the referral IT system for HCPs and ensuring that referral routes to services were available to all patients regardless of geography. GPs were frequently mentioned as a group difficult to engage due to their high workload and it was felt that it was perhaps more practical and realistic for other HCPs to refer patients given the pressures on GPs' short consultation times. Staff shortages and lack of space were commonly cited as barriers to implementation, with some imaginative solutions being used to fill these gaps, including use of trained volunteers. Having consistent and simple messages were viewed as important in supporting the PA initiative being adopted across the organisation. Organisation support was often cited as being crucial for initiatives to be implemented, particularly from the senior leadership team. This support included mandating PA assessment and facilitating the integration of the intervention into care pathways.

Staff training

The theme around training included improving knowledge of the health benefits of PA for different conditions, knowledge of local PA opportunities for patients and supporting staff to have conversations with patients. For the latter training, some programmes also targeted non-clinical staff to maximise opportunities to promote PA with patients.

An important barrier was finding time for staff training, particularly those professions who did not have dedicated professional development time, such as nurses. A number of strategies were described including incorporating training over lunch breaks, training on the ward, linking with the delivery of mandatory training and using cascade training with lead champions. However, training in isolation was not considered sufficient, with constant reinforcement required to change culture.

Strategic relationship building

Relationship building and networking, both within the healthcare setting and between healthcare settings and other sectors, were crucial to support the implementation and growth of the service. Within a healthcare setting it was important to build relationships between different professions, identify champions for the service in each clinical area and link with experts to provide specialist training. These activities improved referrals, training and buy-in to the initiative, as well as breaking down silos between groups. Working between healthcare sectors and in the community required considerable time and effort to develop relationships to improve referrals, make links between services and obtain further funding support. Relationship building was described as time-consuming, but vital.

Patient engagement

Unsurprisingly, patient engagement was identified as being crucial in the delivery of the service. In this context, focus was on aspects of how the intervention was implemented to maximise patient engagement rather than describing the barriers for patients to participating in PA. For example, ensuring the PA service was available to patients at the key ‘teachable moment’, such as diagnosis of a long-term condition.

Patient engagement started with the efficiency of the referral system; it was considered important that patients were referred in a timely manner and were contacted to start the intervention as soon as possible to maintain their motivation. Initial contact from delivery staff was important to address any perceived barriers or concerns patients had to maximise their attendance, particularly in group-based programmes. It was suggested that integrated care pathways that targeted multiple behaviours may have improved patient engagement giving patients options on which behaviours they wished to change.

Flexibility and tailoring the intervention to the patients was a central component to programme success. This encompassed giving patients flexibility in the level and duration of support they felt they needed, location of programme (home, in community or healthcare setting) and type of programme (for example, structured group or ‘activity menus’). Flexibility was also required for different abilities, offering graded activities or exercises to help set achievable goals for each patient. Group programmes were often seen as a practical way of delivering a service, but also provided additional benefits by providing peer support and reducing social isolation, particularly for the elderly and frail.

Accessibility barriers cited included travel and cost. Enablers included linking with community-based programmes to give a more local referral route, subsidising travel or programme costs, offering programmes at different times of day and developing media materials to allow programmes to be undertaken at home. Understanding the stimuli for patients to engage with programmes was vital. Services focused on what motivated patients and used different strategies such as involving volunteers as a ‘buddy’ to attend programmes with patients.

Responsiveness

Services needed to be responsive to the needs of patients, listening to patient feedback and addressing concerns of the implementation staff. Individuals interviewed were all very reflective and looking for opportunities to continually improve the service.

Many did not anticipate the large proportion of patients with increasingly complex needs, which required further adaptation to the service to provide additional support for these patients. Services were frequently developed and run by frontline AHPs that were well positioned to respond and anticipate barriers for both patients and delivery staff. These AHP leads frequently needed to develop innovative solutions to perceived barriers to implementing an intervention and improve integration into care pathways.

What makes intiatives into scalable and sustainable services?

To turn initiatives into scalable and sustainable services required considerable work to ‘make them inevitable’. Resourcing the service long-term was a common issue; ensuring roles that were created remained ring-fenced for the service delivery and would not be re-deployed to other activities. Having a multi-disciplinary team often supported sustained staffing, as teams were spread across different AHP divisions. Similarly, sharing staff and resources between PA services within the same organisation protected those roles. Enablers to make the service sustainable included continuous staff training, making the PA assessment standard in the care pathway and use of volunteers in the delivery. Changing culture was a key aim to make the service standard practice and the use of terminology in communication was considered important.

The backing of senior management was critical to support continued delivery and funding of services. Stakeholder reports, presentations, publications and use of social media were used to continually showcase services and influence decision makers. Leads of services needed to be attentive to opportunities to reinforce the importance of the service, such as linking to national campaigns and publications of new guidelines. Building evaluation into the service delivery was key to demonstrate the impact of the service and to develop a comprehensive evidence-base. Case studies had developed a good body of evidence including cost-effectiveness and qualitative work. Many of the case studies had developed toolkits and had materials available to aid the service being translated to other settings. Although challenges to translation were acknowledged, case studies had identified levers on how services could be rolled out and felt sharing practice nationally would be very valuable.

Patient and public involvement review

The main areas of discussion for the PPI panel were the referral, tailoring the intervention, social support and how and where the service was delivered. Most of the themes resonated strongly with the panel and they all agreed that PA was important. Members of the panel agreed that the person who promotes the PA and makes the referral was important and that the consultant or GP was important in this process. HCPs were generally seen as the voice of authority and patients were more likely to listen to doctors, expecting them to have more knowledge than AHPs, even if this could be an out-dated view of healthcare.

Members of the panel described having experienced substantial waiting times and uncertainty between the point of being referred to a PA programme to eventually being contacted by the programme staff; ‘it should be seamless shouldn’t it?’. They felt that there was much more that could be done to manage the patient’s expectations. The panel unanimously agreed with barriers relating to patient access to the service. They felt there were often issues with the publicity of the services, for example not knowing services were available for patients to access. Some panel members felt promoting services was the role of the GP. However, there was the view that the GPs were very busy and they felt that only patients who were prepared to ask and follow-up successfully accessed services.

The panel expressed concern that it was a postcode lottery in terms of what services were available in their local area. Cost and accessibility were seen as considerable barriers, particularly for older patients who needed good public transport links and the need for programmes to be local. Flexibility in terms of the programme content was viewed as crucial. The panel also emphasised that the programme needed to be based on ability and tailored as that ‘made a huge difference’. There was a view that a one-to-one session was the best way to look at the person’s abilities and limitations and to go through the basics.The panel’s motivation for participating in PA programmes reflected the themes identified in the research, including support through others and maintaining their health. They particularly discussed their fear of falling in the future and that prevention of this frailty was a driver for being more active and maintaining their function. Finally, many panel members had experience of conflicting messages from HCPs, which they were concerned by. As a result, the panel agreed that although PA promotion did not necessarily have to be delivered by an expert, there was reassurance for them if the delivery staff could refer back to the expert for queries.

Overall, the results from the PPI panel session supported the study findings. Their comments helped to add to our understanding of the themes and they gave examples of how these were relevant to their own experiences.

Strengths and Limitations

The case studies investigated were purposively heterogeneous to explore the similarities and differences of the experiences of the primary actors of successful interventions and integration into care pathways. Although obvious differences were apparent between primary and secondary care settings (such as organisation structure, in-patient and out-patient demands versus general practice), the experiences and learnings described in the interviews had a surprising level of similarity in the overarching themes.

This is a small qualitative study and the views of those that participated in the research may not represent the views of others leading PA services elsewhere in the country. Interviewees were also specifically asked how they felt the intervention could be replicated or transferred into a different setting or with a different patient group to address transferability of the interventions and the findings. Generalisability in terms of the results ringing true for others was also addressed by presenting the findings to the PPI panel, the project steering group and to public health specialists.

This research has attempted to bring together the issues faced by the PA programme teams and the solutions found during their journey from setting up a new programme to establishing a sustainable service. Many PA programmes had been informally arranged for quite a while before they had been recognised in the organisation and funded. Some of the case studies selected for interview were early in this process, others had developed flourishing services and were developing opportunities to expand the service into other patient groups in need. It is important to note this is the delivery staff voice only and patients that had experienced the service were not interviewed.

Integrated discussion

The 2 pieces of research presented here provided different perspectives and complement each other. In the literature, the implementation research primarily focused on the HCP and patient experience rather than ‘how’ the programme could be integrated into the care setting. The literature also had a strong focus on the barriers faced rather than enablers. The majority of the studies included were research pilot studies, rather than evaluations of services. However, the inclusion of grey literature did enhance the literature review with evaluations of some service pilots. The literature did not cover all aspects of implementation and integration identified in the conceptual framework for integrated care and in the Nuffield Trust report on integrated care, for example models of care, intervention components, implementation outcomes (for example, dose received, adaptation and fidelity), follow-up and sustainability (15,16).

On the other hand, the case studies were, by selection, those services that were good or promising services. They were on the whole less academically research focussed with more emphasis on the service delivery, practicalities of integration and implementation, and included enablers as well as barriers. The programmes had largely developed organically, driven by key individuals and refined in response to challenges or identified patient need. This often meant there was no official ‘start date’ of the service or evaluation built into the design. Interviewees concentrated more on enablers of integrating the service and less on barriers. Therefore, there was a different emphasis in terms of what overarching themes and components were deemed important in implementation and integration, compared with the literature.

The case studies filled the gaps identified in the literature; for example, the ways to make a service sustainable and scalable. Furthermore, from the literature there was concern by some HCPs that there was insufficient evidence of the effect of PA on health outcomes, particularly across different long-term conditions and the cost-effectiveness of interventions. From the case studies, there were many examples of some remarkable positive effects on health outcomes that could be further utilised. It suggests that evidence is available but requires some additional work to disseminate these findings to support others setting up services. Two of the case studies were developing toolkits to share with other practitioners so that they could learn from their experience of developing and expanding a PA service in secondary care.

All the included case studies had engaged with disseminating their results via research channels. However, the level of expertise and support in evaluation and dissemination varied considerably between the case studies. Some had found opportunities to partner with academic groups or information service teams within the healthcare setting. Others had developed evaluation methods themselves with little guidance or input. Some saw it as a necessary evil to disseminate their results to gain support from decision makers and make the initiatives sustainable, while others enjoyed this aspect of the work. However, the point that the focus was on delivering a service and not evaluation was frequently made.

The case studies rarely followed the traditional research paradigm of a feasibility study, pilot and main trial. This disparity between academic publications and evaluations of active interventions integrated in healthcare settings was very apparent. It is difficult to implement the academic approach for the evaluation of an evolved service, particularly as it is rarely feasible to conduct a randomised trial in these settings. Most evaluation data was focussed on short-term observation of outcomes due to the limited resource and funding available and the practicalities of continually collecting detailed information in an ongoing service. There is a definite need for developing an evaluation framework that is appropriate to apply to the development of a service and its longer-term impact on clinical and patient-reported outcomes relevant to stakeholders and funders. Programme outcomes across the healthcare system are not easy to collect and quantify; for example it is difficult to evaluate how PA promotion in secondary care could impact the subsequent management of patients in primary care and the community. However, these are very important outcomes to assess and it is also important to conduct some form of economic evaluation to demonstrate cost effectiveness.

The case studies clearly highlighted the crucial role of AHPs and nurses in the instigation, setting up and running of PA promotions and services. AHPs, such as physiotherapists and dietitians, were recognised as being enablers to instigating change and supporting the PA promotion activities whilst some interviewees described a ‘not my job’ culture amongst some clinician groups. However, in both the RER and the case studies, the role of senior HCPs in promoting and championing the PA promotion activities was recognised; with clinicians often viewed as the ‘voice of authority’ for patients in the referral process. This makes evident the importance of providing a targeted strategy for training and promotion of PA across all healthcare professionals involved in patient care.

To improve patient engagement, a common theme was that PA interventions needed streamlined referrals where patients were fully informed of the referral and what they could expect when they attended the intervention. Being kept fully informed about the programmes had a positive influence on patient engagement. PA interventions also needed to be flexible and easily accessible both physically and economically. This was particularly important for patients with long-term conditions whose mobility may be impaired and/or who have low incomes. There was also concern how PA programmes could provide for patients that had multiple co-morbidities and were frail, that these patients were not being reached by the PA programme or were too unwell to participate. For some patients the social element was a key driver for participation and some interventions emphasised this in the design to increase engagement. The benefits of integration across healthcare settings to both the delivery of the programme and to the patients was frequently described. These included better referral links, getting a programme adopted more widely, facilitating training and supporting the funding and sustainability of a service. However, integrating between settings was highlighted as particularly challenging and time consuming. Barriers identified included different ways of working, negativity about the roles of teams and the impact of a new service, communication issues, different governance structures and IT systems. The roles of the voluntary sector, such as charities in delivering programmes and fostering better working between settings, particularly into the community was described. A key finding was the lack of multi-level organisational approaches in both the literature and many of the case studies, with those instigating a service working ‘bottom up’ to engage senior management both within their own organisation and across settings, such as local authority or CCGs. However, the findings did not point to specific ways in which this is done well. Instead they served to highlight this as an area that needs further attention in future.

Having adequate infrastructure and resources to deliver the intervention were essential. Understaffing was a recurring barrier which restricted the delivery of the intervention completely, resulted in a patchy service or limited delivery to a subset of the target patient population. This contributed to HCPs concern to refer patients if they were not confident that their referral resulted in a patient receiving the intervention.

Our findings highlight that PA initiatives are often driven forward by highly motivated individuals, frequently AHP frontline staff inspired by seeing the need in their patient population. Without these resourceful individuals working tirelessly, the implementations would not have been successful. A good understanding of HCP behaviour, their training needs and what would engage patients was essential. PA interventions were effective because they were responsive to the needs of patients and delivery staff and had built strategic relationships both across the health setting and between organisations to ensure the service would work well.

Those interviewed for the case studies were interested to know whether their experiences had been described by others and the opportunities to network going forward. From these case studies it was clear they felt that PA promotion was severely lacking across the country.

“I don’t think it would be unfair to say that the current pathway and support of patients from the point of referral to an opinion is not fit for purpose across the NHS. It may be in some areas but in majority of areas I suspect it is not.” [case study interview].

Please see the fuller report for further details and quotes from the interviews.

Conclusions

Taken together, evidence from the rapid evidence review and case studies identified 11 key enablers of successful integration of PA into primary and secondary care settings (Appendix D).

1. Engagement and priority given to PA promotion in the healthcare setting.
2. Improvement of HCP confidence, skills and knowledge, and making it easier for HCP’s to initiate PA promotion.

3. Knowledge of referral process and services available for patients, particularly across different local authority or CCG areas.
4. Patient engagement: tailoring PA intervention to patient priorities and maximising accessibility and flexibility in PA delivery.
5. Adequate evidence to support a PA service.
6. Clear and streamlined messages on PA promotion for HCPs.
7. Collaborative working on PA promotion including sharing knowledge on how to get funding and sustain programmes.
8. Development of realistic PA interventions with adequate staffing and minimising any negative impact on clinical care.
9. Tailoring of PA promotions to manage the increasing prevalence of patients presenting with multiple co-morbidities and more complex conditions.
10. Management of conflicting clinical priorities and strategies to reduce cost and make PA promotion activities more sustainable.
11. Integration of PA promotion between primary and secondary care healthcare settings.

Recommendations

The key insights from this work can be divided into (1) system-level to support the development and integration of PA promotions and (2) recommendations for those practitioners setting up PA promotion activities or services.

System-level recommendations

1. Develop a mentoring scheme so that leaders of services and activities that are more developed can support others in setting up a service (obtaining funding and buy in; engaging stakeholders, navigating governance, negotiating barriers). Create opportunities for networking regionally and nationally so that best practice can be shared. This would support successful components of existing programmes to be translated to other settings.
2. Simplify the messages to healthcare professionals to one message about the importance of PA promotion.
3. Explore ways to embed PA promotion into healthcare such as supporting systems to mandate an initial PA assessment and development of a visible ‘prescription’ process for HCPs to use for PA referrals.
4. Consider how PA promotion could be integrated with other behaviour change initiatives to make it easier to build into care pathways and share resources.

Practitioner recommendations

Setting up an intervention

1. Engage key stakeholders in planning the service so that all aspects of the programme are supported and acceptable.
2. Identify opportunities to link with existing behaviour change initiatives within the organisation.
3. Use audit data and national campaigns to support the case for setting up a service.
4. Network across the organisation to identify support and champions to informally or formally support the case for a new service.
5. Allow sufficient time during set up to ensure processes and pathways are clear and all governance, safety assessments and protocols are in place.
6. Evaluate potential impacts the intervention could have on existing clinical care (including unintended consequences for patients and clinical staff).

Patient engagement

1 Develop clear messages and publicity of the PA service for patients including eligibility, delivery setting options, how they would be contacted. Ensure this is available in all relevant languages.

2 Contact all senior HCPs (for example, consultants/surgeons and GPs) who could promote PA, as they are commonly seen as the authoritative voice by patients.

3 Ensure the pathway is in place for timely contact with patients after initial PA promotion/start of referral process to keep patients motivated. Communicate with patients about what the programme entails, manage patients' expectations and respond to any patient concerns.

4 Identify barriers for the target patient group including accessibility (for example, transport links and cost) and personal circumstances (for example, anxiety to attend a community group programme, social isolation or worries over ability). Enabling access will help reduce inequity and inequalities and so strategies are needed to address these through initial and ongoing interaction with patients.

5 Identify the stimulus for engaging with the programme for the patient. This may not be the long-term condition itself, but other health issues, the social benefit of interacting with others, shared experience or trained people giving them confidence in what activity they can do safely.

6 Provide flexibility in the programme options where feasible, such as the length of programme, level of support, types of activity and graded activity levels depending on the patient's ability.

7 Consider additional support protocols for more complex patient cases (multiple long-term conditions or frailty).

8 Consider use of volunteers in the delivery of a programme including buddy systems or former service users to support new patients attending the programme.

9 Identify patient reported benefits early in the delivery of the programme to feedback and build on. These may include self-esteem, self-empowerment, resuming activities of daily living, improvement in physical symptoms or mental health.

Healthcare professional engagement

1 Identify barriers to implementation from the HCP perspective (for example, increased workload, 'not my role', not a clinical priority or difficulty to engage patients).
2 Work with leadership in the organisation to address potential barriers and improve engagement by the workforce.
3 Address any concerns regarding the appropriateness of a PA programme, including the evidence to support the programme content for specific long-term conditions.
4 Address HCP concerns about their capabilities to promote PA, including confidence to raise the issue with patients.
5 Compile clear communication of the impact of PA for patients including evidence-base of impact, addressing safety concerns and risk stratification.
6 Ensure the referral pathway is clear and easy to implement for the referring HCPs, including online referral systems.
7 Communicate what referral routes are available locally, including community-based services depending on the patient's residential or GP practice area and any specific referral process required.
8 Ensure consistent and simple messaging is used to promote the PA initiative across the organisation.
9 Work with champions and senior colleagues on how to achieve a culture shift across the organisation away from the medication paradigm to a more holistic approach, incorporating behaviour change.
10 Continue reinforcement of the benefits of the PA promotion by feeding back to the HCPs examples of impact on patients.
11 Identify what organisational support is possible for long-term strategic commitment to the promotion, for example mandating PA assessment for all patients.

Training

1 Include identified concerns of HCPs in the training and address any identified barriers to implementation.
2 Ensure training includes understanding of the pathway process to follow and familiarity of the service.
3 Describe clearly the potential benefits to the patients and what the programme is trying to achieve.
4 Specific training on confidence may be needed including how to motivate patients about increasing PA and how to deal with more complex patients.
5 Research how best to deliver training in the setting to overcome barriers of time and competing training priorities, for example, cascade training or linking with mandatory training sessions.

6 Ensure all training resources are appropriate to support the delivery with clear guidance on how to use them.
7 Consider training for non-clinical staff who may also have opportunities to promote PA with patients.

Building strategic relationships

1 Relationship building and networking although time consuming, are crucial.
2 Identify champions for the service itself within your organisation to maximise referrals, to improve engagement with training and to make links with other initiatives that could support the service.
3 Raise awareness of the PA service by giving presentations, attending multi-disciplinary meetings and seminars.
4 Consider building relationships not just within the healthcare setting, but with other sectors (for example charities) and between different healthcare sectors.
5 Network across healthcare sectors to support funding, aid referrals, share resources and help direct patients to other services in the long-term.
6 Identify opportunities to strengthen partnerships between primary, secondary and community settings to provide integrative services.
7 Network to find support from others who have developed a PA service to share best practice and strategies.

Infrastructure and resources

1 Check that there is adequate staffing to deliver the programme as intended to all eligible patients, such as arranging cover rotas for delivery staff and checking there is sufficient administrative support.
2 If using volunteers in the delivery, ensure adequate resources are available for their management and training.
3 Ensure that resources needed to deliver the intervention are available and readily accessible for the delivery of the programme and not reallocated to other clinical uses. Regularly audit resources and arrange replacements as required.
4 Check that technology works in the programme settings and referral healthcare settings before the start of the programme. Confirm that there are no IT system restrictions in accessing resources, for example, because of organisation firewalls.
5 Test resources provided to patients with a cross-section of patients before the PA programme starts; check that they are appropriately tailored to the patient group, including relevant to all targeted long-term conditions and any cultural or language adaptations for the target population group.

Programme outcomes

1 Put systems in place from the outset to collect programme outcomes across the organisation. For example, health outcomes may need to be extracted from electronic medical records.

2 Collect recruitment rates and retention rates routinely for all programmes. Include how recruitment and retention varies by socio-demographic and long-term condition type.
3 Consider how information about changes in behaviour could be collected and analysed.
4 Discuss with senior management/commissioners early what programme outcomes are important to them to demonstrate value for money.
5 Ensure evidence to support the long-term sustainability of the programme, such as economic evaluation, is included from the beginning.
6 Include outcomes on the programme’s impact at the organisation and system level. For example, how a programme impacts on the overall case management of the target patient group.
7 Plan for adequate staffing to deliver the programme as intended to all eligible patients, such as arranging cover rotas for delivery staff and checking there is sufficient administrative support.

Responsiveness

1 Build mechanisms into the system to make improvements in response to patient feedback. For example, consider a steering group, patient participation group and feedback questionnaires.
2 Provide opportunities for healthcare staff to feedback what is working well and any concerns. Anticipate barriers and potential solutions in advance as far as possible.
3 Ask staff to contribute to the problem solving of barriers to implementation so that they have ownership of and buy-in to the solutions.
4 Consider if the service needs tailoring or adaptation for patients requiring additional support, such as those with specific long-term conditions or with frailty.

Creating sustainability

1 Identify ways to make the intervention ‘inevitable’ in the healthcare setting. This could include making a patient PA assessment a standard component of the care pathway to continually highlight the need for PA referral or promotion activities.
2 Ensure roles created for the service remain clearly associated to the programme and that line management is in place to protect the roles for the service.
3 Consider joint roles across a multi-disciplinary team to spread the resources across different divisions and maximise continuity.
4 Build in continuous staff training to counteract staff turnover.
5 Provide regular feedback on the programme to senior management teams and/or commissioners showcasing what has been done and the impact the service is having on measurable clinical and patient-reported outcomes.
6 ‘Get the message out’ about the service using as many different media as possible, for example, presentations, stakeholder reports, social media and journal articles.
7 Take opportunities to join with national or local professional organisations to endorse and promote? the service or provide additional support.

8. Develop a blueprint in preparation for scaling up the service or for translating to other settings.

References

1. Department of Health. 'Start active, stay active: A report on physical activity from the four home countries' Chief Medical Officers. London: Department of Health; 2011

2. Department of Health and Social Care. Physical activity guidelines: UK Chief Medical Officers' report. London: Department of Health and Social Care, Llwodraeth Cymru Welsh Government, Department of Health Northern Ireland and the Scottish Government; 2019

3. Orrow G, Kinmonth A-L, Sanderson S, Sutton S. 'Effectiveness of physical activity promotion based in primary care: systematic review and meta-analysis of randomised controlled trials' British Medical Journal. 2012, 344, E1389

4. Vijay G, Wilson EC, Suhrcke M, Hardeman W, Sutton S. 'Are brief interventions to increase physical activity cost-effective? A systematic review' British Journal of Sports Medicine 2016, volume 50, issue 7, pages 408-417

5. Hébert ET, Caughy MO, Shuval K. 'Primary care providers' perceptions of physical activity counselling in a clinical setting: a systematic review' British Journal of Sports Medicine 2012, volume 46, issue 9, pages 625-631

6. Department of Health. 'Long term conditions compendium of information' 3rd edition. London: Department of Health; 2012

7. Rennie, K., Ahern, A., King, B., Spillman, L., Hartley, P., Lawlor, E., and Wareham, N. (2020). Integration of Physical Activity Promotion within Primary and Secondary Care Settings: Rapid Evidence Review and Lessons from Practice Case Studies (viewed 25 Nobember 2019)

8. Noyes J, Booth A, Flemming K, Garside R, Harden A, Lewin S, and others. 'Cochrane Qualitative and Implementation Methods Group guidance series—paper 3: methods for assessing methodological limitations, data extraction and synthesis, and confidence in synthesized qualitative findings' Journal of Clinical Epidemiology 2018, volume 97, pages 49-58

9. Hoffmann TC, Glasziou PP, Boutron I, Milne R, Perera R, Moher D, and others. 'Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide' British Medical Journal. 2014, 348, g1687

10. Cotterill S, Knowles S, Martindale A-M, Elvey R, Howard S, Coupe N, and others. 'Getting messier with TIDieR: embracing context and complexity in intervention reporting' BMC Medical Research Methodology 2018, volume 18, issue 1, page 12

11. Pinnock H, Barwick M, Carpenter CR, Eldridge S, Grandes G, Griffiths CJ, and others. 'Standards for Reporting Implementation Studies (StaRI) Statement' British Medical Journal. 2017, volume 356, i6795

12. Pinnock H, Barwick M, Carpenter CR, Eldridge S, Grandes G, Griffiths CJ, and others. 'Standards for Reporting Implementation Studies (StaRI): explanation and elaboration document' BMJ Open. 2017, volume 7, issue 4, E013318

13. QSR International Pty Ltd. NVivo [software]. Version 12. Melbourne (Australia); 2018

14. Sandelowski M, Voils CI, Barroso J. 'Defining and Designing Mixed Research Synthesis Studies' Res Sch. 2006, volume 13, issue 1, 29

15. Valentijn PP, Schepman SM, Opheij W, Bruijnzeels MA. 'Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care' International journal of integrated care. 2013, 13

16. Shaw S, Rosen R, Rumbold B. 'What is integrated care?' London: Nuffield Trust. 2011, 7

17. Braun V, Clarke V. Using thematic analysis in psychology. 'Qualitative Research in Psychology'. 2006, volume 3, issue 2, pages 77-101

18. Staniszewska S, Brett J, Simera I, Seers K, Mockford C, Goodlad S, and others. 'GRIPP2 reporting checklists: tools to improve reporting of patient and public involvement in research'. Research Involvement and Engagement. 2017, volume 3, issue 1, 13

19. Birtwistle SB, Ashcroft G, Murphy R, Gee I, Poole H, Watson PM. 'Factors influencing patient uptake of an exercise referral scheme: a qualitative study'. Health Education Research, 2018, volume 34, issue 1, pages 13-27

20. Bull FC, Milton KE. 'A process evaluation of a 'physical activity pathway' in the primary care setting'. BMC Public Health. 2010, volume 10, issue 1, 463

21. Bull F, Milton K, Boehler C. 'Evaluation of the physical activity care pathway London feasibility pilot–Final Technical Report'. British Heart Foundation National Centre for Physical Activity and Health, Loughborough University. 2008 (viewed 25 November 2019)

22. Cox M, O'Connor C, Biggs K, Hind D, Bortolami O, Franklin M, and others. 'The feasibility of early pulmonary rehabilitation and activity after COPD exacerbations: external pilot randomised controlled trial, qualitative case study and exploratory economic evaluation'. Health Technology Assessment. 2018, volume 22, issue 11, pages 1-204

23. Duffin C. 'Assessing the benefits of social prescribing. Cancer Nursing Practice'. 2016, volume 15, issue 2, pages 18-20

24. Mead N. 'Macmillan Social Prescribing Service: summary evaluation report, July 2017- April 2019'. Bromley by Bow Centre and Macmillan Cancer Support. 2019. (viewed 25 November 2019)

25. Hanson CL, Oliver EJ, Dodd-Reynolds CJ, Allin LJ. 'How do participant experiences and characteristics influence engagement in exercise referral? A qualitative longitudinal study of a scheme in Northumberland, UK'. BMJ Open. 2019, volume 9, issue 2, E024370

26. Koutoukidis DA, Lopes S, Fisher A, Williams K, Croker H, Beeken RJ. 'Lifestyle advice to cancer survivors: a qualitative study on the perspectives of health professionals'. BMJ Open 2018, volume 8, issue 3, E020313

27. Matthews A, Jones N, Thomas A, van den Berg P, Foster C. 'An education programme influencing health professionals to recommend exercise to their type 2 diabetes patients - understanding the processes: a case study from Oxfordshire, UK'. BMC Health Services Research 2017, volume 17, issue 1, 130

28. O'Driscoll JM, Shave R, Cushion CJ. 'A National Health Service Hospital's cardiac rehabilitation programme: a qualitative analysis of provision'. Journal of Clinical Nursing 2007, volume 16, issue 10, pages 1908-1918

29. Oosterom-Calo R, Abma TA, Visse MA, Stut W, Te Velde SJ, Brug J. 'An interactive-technology health behavior promotion program for heart failure patients: a pilot study of experiences and needs of patients and nurses in the hospital setting'. JMIR Research Protocols 2014, volume 3, issue 2, E32

30. Owens C, Crone D, Kilgour L, El Ansari W. 'The place and promotion of well-being in mental health services: a qualitative investigation'. Journal of Psychiatric and Mental Health Nursing 2010, volume 17, issue 1, pages 1-8

31. Pentecost C, Farrand P, Greaves CJ, Taylor RS, Warren FC, Hillsdon M, and others. 'Combining behavioural activation with physical activity promotion for adults with depression: findings of a parallel-group pilot randomised controlled trial (BAcPAc). Trials'. 2015, volume 16 ,page 367

32. Tobin S. 'Prescribing parkrun'. British Journal of General Practice 2018, volume 68, issue 677, page 588

33. Ahmad, N, Lawrie, M, Patel, R, Balfour, R, Bennett, A. 'Integrated care pilots evaluation: final report'. ICF Consulting Ltd, British Heart Foundation. 2015 (viewed 25 November 2019)

34. Armstrong N, Tarrant C, Martin G, Manktelow B, Brewster L. 'Independent evaluation of the feasibility of using the Patient Activation Measure in the NHS in England: Early findings. University of Leicester, The Health Foundation and NHS England'. Report number: 03964. 2015 (viewed 25 November 2019)

35. Wigfield A, Kispeter E, Alden S, Turner R. 'Age UK's fit for the future project: evaluation report'. CIRCLE, University of Leeds. 2015 (viewed 25 November 2019)

36. Cheetham M, Visram S, Rushmer R, Greig G, Gibson E, Khazaeli B, and others. 'It is not a quick fix' structural and contextual issues that affect implementation of integrated health and well-being services: a qualitative study from North East England. Public Health. 2017, volume 152, pages 99-107

37. Din NU, Moore GF, Murphy S, Wilkinson C, Williams NH. 'Health professionals' perspectives on exercise referral and physical activity promotion in primary care: findings from a process evaluation of the National Exercise Referral Scheme in Wales'. Health Education Journal 2015, volume 74, issue 6, pages 743-757

38. Hawkins J, Charles JM, Edwards M, Hallingberg B, McConnon L, Edwards RT, and others. 'Acceptability and Feasibility of Implementing Accelorometry-Based Activity Monitors and a Linked Web Portal in an Exercise Referral Scheme: Feasibility Randomized Controlled Trial'. Journal of Medical Internet Research 2019, volume 21, issue 3, E12374

Appendix A: PRISMA diagram

Figure 1. PRISMA diagram showing number of studies included at each stage of the literature screening for the rapid evidence review.

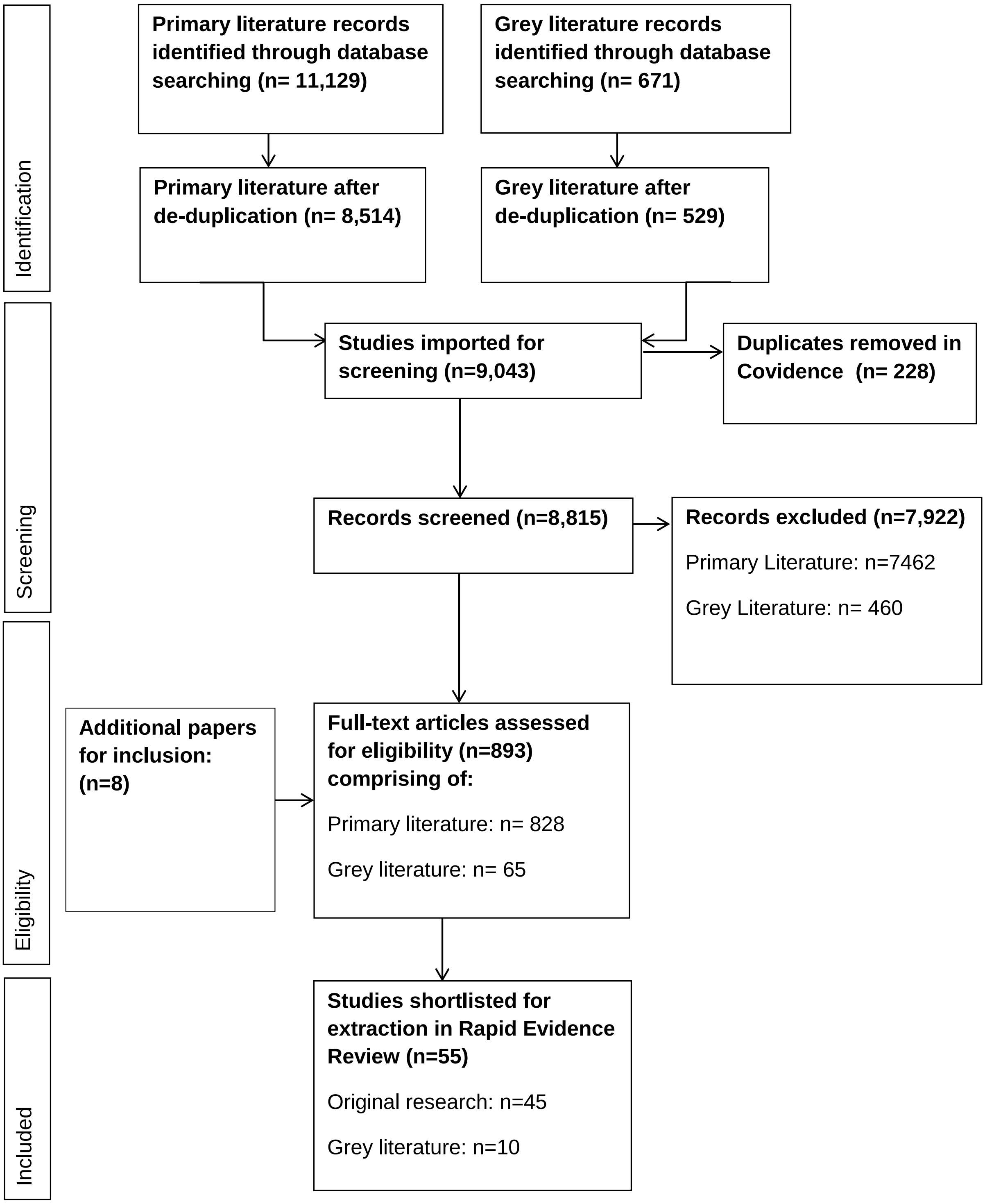

Figure 1: text alternative

The screening of literature for the rapid evidence review was structured over 4 stages.

1. Identification

There were 11 and 129 primary literature records and 671 grey literature records identified through database searching. After assessing for duplication the number of records reduced to 8,514 and 529 respectively, which resulted in 9,043 studies being imported for screening.

2. Screening

A futher 228 duplicate records were removed prior to actual screening. A total of 7,922 records were excluded from the review process, of which 7,462 and 460 were primary and grey literature records respectively.

3. Eligibility

An additional 8 papers were included at this stage and a total of 893 full text articles were assessed for eligibility, of which 828 were primary and 65 were grey literature records.

4. Included

A total of 55 studies were shortlisted for extraction in the rapid evidence review of which 45 were original research and 10 were grey literature.

Appendix B: Shortlisted articles for data extraction for the rapid evidence review

Type of literature	Primary Author	Healthcare settings included	Patient population condition type	Study design
Primary	Birtwistle and others (2019) (19)	Combination	Non-specific long term condition (LTC) and/or risk of LTC	Qualitative
Primary	Bull and Milton (2010) (20)	Primary	Non-specific LTC and/or risk of LTC	Mixed methods
Grey	Bull and others (2008) (21)	Primary	Non-specific LTC and/or risk of LTC	Mixed methods
Primary	Cox and others (2018) (22)	Secondary	Chronic obstructive pulmonary disease (COPD)	Mixed methods
Grey	Duffin (2016) (23)	Combination	Cancer	Qualitative
Grey	Mead (2019) (24)	Combination	Cancer	Mixed methods
Primary	Hanson (2019) (25)	Combination	Non-specific LTC and/ or risk of LTC	Qualitative
Primary	Koutoukidis and others (2018) (26)	Secondary	Cancer	Qualitative
Primary	Matthews and others (2017) (27)	Combination	Diabetes	Qualitative
Primary	O'Driscoll and others (2007) (28)	Secondary	Cardiac	Qualitative
Primary	Oosterom-Calo and others (2014) (29)	Secondary	Cardiac	Qualitative
Primary	Owens and others (2010) (30)	Secondary	Mental health	Qualitative
Primary	Pentecost and others (2015) (31)	Secondary	Mental health	Mixed methods

Type of literature	Primary Author	Healthcare settings included	Patient population condition type	Study design
Grey	Tobin (2018) (32)	Primary	Non-specific LTC and/ or risk of LTC	Qualitative
Grey	Ahmad and others (2015) (33)	Combination	Cardiac	Mixed methods
Grey	Armstrong and others (2015) (34)	Combination	Non-specific LTC and/ or risk of LTC	Qualitative
Grey	Wigfield and others (2015) (35)	Combination	Non-specific LTC and/ or risk of LTC	Mixed methods
Primary	Cheetham and others (2017) (36)	Combination	Non-specific LTC and/ or risk of LTC	Qualitative
Primary	Din and others (2015) (37)	Primary	Non-specific LTC and/ or risk of LTC	Qualitative
Primary	Hawkins and others (2019) (38)	Primary	Non-specific LTC and/ or risk of LTC	Mixed methods

Appendix C: Framework for case study interviews

Parameter	Data extract
Setting	Intervention delivered (including why, what, who by, how, where, when and how much)
Implementation	Stage of Implementation; Care model designed (Y/N) (Yes/No)
	Degree of interaction between intervention delivery components
Implementation fidelity	Fidelity
	Intervention received (degree of tailoring and flexibility in implementation; planned and actual)
	Co-Intervention or Contamination
What works and why?	Enablers; Effect of recipient or provider factors on intervention
What hasn’t worked so well and why?	Barriers; Effect of recipient or provider factors on intervention
Role of staff and organisation	Implementer Engagement
	Leadership and management
Patient view and reach	Recruitment (including health equity measures)
	Patient engagement
	Reach (including demographics)
Replication and sustainability	Transferability; context or setting effects on intervention

Appendix D: Summary of barriers and enablers

Barriers	Enablers
1. Low engagement and priority given to PA promotion by clinical staff	Identified champions within senior management and service leads to improve engagement. Where PA assessment was made mandatory in clinical care, this prompted more comprehensive PA promotion with patients and improved referrals to programmes
2. Low engagement from doctors: lack the time for both training in PA and for discussing PA with patients in consultations.	Clinical doctors are perceived to have the authoritative voice for patients to endorse the importance of PA, signpost patients to services and reinforce messages. However, frontline staff (nurses, midwives, AHPs) may be better placed to enable PA behaviour change.
3. HCPs not knowing what services available to refer patients to, particularly across different local authority or CCG areas.	Mapping and updating services and activities databases for HCPs to know how to access these services and how to refer patients. Ensuring continuity of services to give HCPs confidence that the referral pathways are constant.
4. Low patient engagement: not a priority for patients	Ensuring programmes are nearby, reachable by public transport and not prohibited by cost to improve reach and accessibility. Provide flexibility in programme delivery, including the level and duration of support for patients. Developing the promotion and content to make the PA intervention relevant to the patient and address what is important to them. Highlighting the social

Barriers	Enablers
	benefits of group programmes particularly providing peer support and reducing social isolation.
5. Lack of resource and evidence for a PA service.	Capturing evidence in a comprehensive way built into organisational systems, including cost-effectiveness and outcomes for different long-term conditions relevant to senior management (for example, reduction in length of hospital stay and readmissions). Working between healthcare settings to ensure all evidence captured.
6. Too many and confusing messages on PA promotion for HCPs.	Simple consistent messages in training and resources; strategically ensuring all initiatives link directly to consistent messages.
7. Working in silos; not knowing how to get funding and sustain programmes.	Mentoring and networking workshops to share best practice from existing programmes and how to translate to other settings. Guidance on how to write funding applications and business cases from champions.
8. Unrealistic interventions with inadequate staffing and negative impact on clinical care.	Having adequate set-up time to build partnerships and ensure intervention is realistic for both delivery staff and for building into current clinical care, both short and long-term. Adequate staffing to set up and deliver the PA programme. Protected roles or time for those working on the PA programme so they are not diverted to other clinical services.
9. Delivery staff not knowing what to do with the growing number of patients with multi-comorbidities and/or frail where safety issues with participating in PA programme.	Consideration of target patient group. Adapting programmes to different abilities or developing a more tailored intervention for these patient groups. Experts in managing complex cases, such as senior physiotherapists, available to provide advice and support.
10. PA promotion too costly and requiring time when other more pressing priorities.	Opportunities to use volunteers and cross-health sector working to make PA promotion activities more sustainable. Ensuring funding available for training and management of volunteers.

Barriers	Enablers
	Interventions delivered by physiotherapy assistants and healthcare support workers under the guidance of a qualified HCP. Integrating with other behaviour change initiatives to build into care pathways and share resources.
11. Difficulty in integrating PA promotion between primary and secondary care healthcare settings.	Building relationships and ways of working across the different cultures of the healthcare setting. Improve communication and break down silo working by developing a strategic approach across settings, engaging the senior management and get buy-in to the PA promotion via training and regular meetings. Finding IT solutions for ‘joined up’ data sharing across different IT systems.

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000

www.gov.uk/phe
Twitter: @PHE_uk
www.facebook.com/PublicHealthEngland

Prepared by: Dr Kirsten Rennie, Dr Amy Ahern, Lynsey Spillman, Dr Emma Lawlor, Becky King, Dr Juliet Usher-Smith, Dr Esther van Sluijs, Professor Nick Wareham (University of Cambridge). Supported by Isla Kuhn, Peter Hartley

For queries relating to this document, please contact: physicalactivity@phe.gov.uk

Published September 2021
PHE gateway number: GW-9479

PHE supports the UN Sustainable Development Goals