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Leese, Callum; Abraham, Kirstin; Smith, Blair H.

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REVIEW

Narrative review – Barriers and facilitators to promotion of physical activity in primary care

Callum Leese  | Kirstin Abraham | Blair H Smith

Department of Population Health and Genomics, University of Dundee, Ninewells Hospital, Dundee, UK

Correspondence

Callum Leese, Department of Population Health and Genomics, University of Dundee, Ninewells Hospital, James Arrott Drive, DD2 4BF, Dundee, UK.

Email: Cleese001@dundee.ac.uk

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Abstract

The objective: to provide an overview of the literature on the barriers and facilitators to physical activity (PA) promotion in primary care, as experienced by practitioners and patients.

Method: A search strategy of the English-language literature was conducted in EMBASE, MEDLINE and the COCHRANE LIBRARY. Search terms were primary care OR general practice OR family medicine OR family practitioner AND physical activity OR exercise AND barriers OR facilitators. Databases were searched from inception until 21 October 2022.

Results: After screening, 63 articles were included within the summary and content analysis of this review. Analysis of the barriers to the implementation of PA highlighted four main themes perceived by practitioners: time, knowledge/skills, resources/support and financial implications. Analysis of the patient perspective identified themes which were categorised into individual (pre-existing health conditions, knowledge of benefits of PA, time/capacity), societal (social support and cultural norms) and environmental (availability of facilities and weather).

Conclusions: As the importance of PA increases through the manifestation of sedentary behaviour-related disease, a combined primary care and public health approach to increase PA is required. By identifying the main barriers to PA promotion in primary care, resources and funding can be directed to address this. This is particularly relevant in the United Kingdom, with the re-negotiation of the primary care contract and the changes to healthcare delivery as a consequence of the Covid-19 pandemic. Throughout this review, we have explored ways of addressing the identified barriers through evidence-based interventions.

KEYWORDS

barriers, physical activity, primary care

1 | INTRODUCTION

Research demonstrates that regular physical activity (PA) produces extensive physical, psychological, and social benefits.¹ In 2019, the

Chief Medical Officers for the United Kingdom introduced updated PA guidelines, recommending that adults should aim to accumulate 150 min of moderate-intensity aerobic exercise per week, including 2 weekly sessions aimed at muscle strength and balance.² This

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aligns with the updated World Health Organisation guidance released in 2020.³ Despite this, one third of adults in the United Kingdom fail to meet the Chief Medical Officers' PA Guidelines,⁴ resulting in huge detrimental implications on an already stretched health service. According to the Department for Health of England and Wales, physical inactivity is associated with one in six deaths in the United Kingdom and costs the NHS £0.9 billion annually (and £7.2 billion to the UK economy).⁵

Lifestyle interventions via primary care have been shown to be effective at initiating behavioural change and reducing the risk of disease progression.⁶ A recent systematic review of the literature by Kettle and colleagues showed that PA promotion delivered in primary care was effective at increasing PA levels in patients.⁷ Furthermore, research has shown that PA promotion within primary care is a cost-effective intervention.⁸

Despite primary care being a key point of influence for positively changing PA behaviours, a survey done in 2016 by the Royal College of General Practitioners (RCGP) and Public Health England (PHE) evidenced poor implementation of PA promotion in primary care.⁹

Given the importance of addressing PA promotion in primary care and a current lack of reviews of literature in the area, this review aimed to examine research that identified the barriers and facilitators influencing the promotion of PA in primary care, and how these barriers might be overcome. The barriers were addressed in two categories: firstly, from the perspective of the health practitioner and, secondly, from the perspective of the patient. A narrative review was chosen to provide a descriptive overview from both perspectives (practitioner and patient). This is intended to inform future, more specific research needs and directions, as well as to highlight potential interventional approaches that may increase uptake and effectiveness of PA promotion in primary care.

2 | METHODS

The primary search strategy aimed to identify published papers from the following electronic databases: EMBASE, MEDLINE and the COCHRANE LIBRARY.

Search terms (abstract, keywords, MeSH term, subject heading, title) were primary care OR general practice OR family medicine OR family practitioner AND physical activity OR exercise AND barriers OR facilitators. Databases were searched from inception until 21 October 2022.

All peer-reviewed papers which were written in English and explored the barriers or facilitators to the promotion of PA in primary care were included. Original research papers and literature reviews were included.

PA was the focus, and so studies that did not evaluate PA/exercise-based promotion were excluded. All studies that examined the barriers and/or facilitators to the promotion of PA only via a non-primary care service were excluded. Primary care services were defined as general practice clinics or health centres delivering care to people within

What is known:

- Physical activity (PA) has numerous health benefits.
- Patient populations who would benefit the most are the least active.
- Promotion of PA in primary care is effective.
- Implementation of promotion of PA in primary care is poor.

What are the new findings?

- Barriers for practitioners: time, knowledge/skills, resources/support and financial implications.
- Barriers for patients: individuals (pre-existing health conditions, knowledge of benefits of PA, time/capacity), societal (social support and cultural norms) and environmental (availability of facilities and weather).

the community. Studies were excluded if they only included children (defined as population < 18 years old), pregnant or immediately post-partum populations (< 6 months post-delivery) and/or if the primary focus of the study was not PA promotion. Otherwise, studies were included regardless of participants' age, gender, occupational status, or comorbidities. Any papers reporting quantitative and/or qualitative research were included. The search was undertaken by one author (CL). Any uncertainties regarding inclusion/exclusion were addressed in discussion with a second author (KA), and, where necessary, a third (BHS).

Papers were analysed using a conventional content analysis, as described by Hsieh and colleagues.¹⁰ A conventional content analysis avoids adoption of pre-conceived categories, allowing the themes to flow directly from the literature. After familiarisation with the papers, they were re-read with their emergent themes and supporting evidence from papers stored in Microsoft Excel (version 2208). Papers were reviewed by one author (CL), with emergent themes in each paper categorised and coded. All codes were initially developed by CL and finalised in discussion with KA. This process was used to ensure that the codes were appropriately challenged and understood according to the aim(s) of this evaluation.

2.1 | Review of the literature

A total of 383 papers were identified from the database searches. After title screening 160 were removed for the following reasons: (1) duplicates ($n = 12$), (2) intervention not related to physical activity ($n = 114$)³ and study population under 18 years old ($n = 34$). An abstract and full-text screening resulted in the removal of a further 160 papers (see PRISMA diagram, Supplementary File 1 in the Supporting Information), with 63 articles (see Table included in Supplementary File 2 in the Supporting Information) included within the summary and content analysis of this narrative review.

2.2 | The practitioner perspective

In a literature review, AuYoung et al.¹¹ highlighted five key barriers facing primary care practitioners in the implementation of PA counselling, namely lack of time, skills, finance, reach and resources. This is broadly consistent with the general findings from the studies identified in this literature review: restrictions on time, a lack of knowledge/skills, lack of resources and support available, and financial implications. Each of these themes will be explored in more detail.

2.3 | Time

In a cross-sectional survey of more than 800 general practitioners (GPs) in England, 77.8% highlighted lack of time as a major barrier to PA counselling.¹² Time was repeatedly highlighted as the biggest barrier to the implementation of PA advice in primary care.^{13–34} In 2016, the King's Fund explored the pressures on general practice, highlighting an increase in the numbers and complexity of consultations compounded by a relative fall in funding.³⁵ An aging population, increasing comorbidity and a transfer of work from secondary and tertiary care to primary care further add to the demands placed on primary care services. This has led to a crisis in general practice, an issue that has been further heightened by the Covid-19 pandemic.³⁶ Within primary care the Covid-19 pandemic has resulted in rapid change: remote working, less face-to-face delivery, increased workload (vaccination roll out delivery, for instance), pent-up demand and a worsening of the pre-existing staffing shortage.³⁶ Given the current GP crisis, and the predicted longevity of the issue, ingenuity is required to offer and support PA interventions, which in turn will help to decrease pressure on the workforce. Third-party providers acting as 'brokers' have been effectively established in the Netherlands,²⁰ and there is increasing uptake in the United Kingdom.³⁷ A recent Scottish Parliament report has recommended that all GP practices employ a community link worker to aid in the delivery of PA and lifestyle promotion.³⁸ Although many of the recent technological developments will be covered below, technology needs to be intentional in its efforts to address the issue of limited time for health professionals.

In a novel approach, Maini and colleagues³⁹ found using medical students as health coaches an effective way of improving medical student self-efficacy and communication skills. If formalised, this could be a useful way of delivering a service without adding to the load of already overworked healthcare professionals, whilst also addressing another frequently cited issue of practitioner education and knowledge.^{13,14,16} However, more research is required to assess the effectiveness and appropriateness of this approach on patient PA levels.

2.4 | Knowledge/skills

Primary care physicians frequently cite a lack of knowledge and training as a barrier to the promotion of PA.^{15–18,20–25,28–30,40–48} A nationwide survey of 1013 GPs in England reported that only 20% were broadly familiar with the national PA guidelines, and 55% reported they

had not undertaken any training in PA counselling or advice.⁹ A failure of medical school education in the United Kingdom was suggested by Weiler et al.⁴⁹ in a review of medical school curricula. They revealed that only 56% of medical schools taught the Chief Medical Officer's guidelines on PA to medical students, with a mean time spent teaching the benefits of PA of just 4.2 h across a 5- or 6-year programme. These findings were supported by a study of Scottish final-year medical students, which revealed that only 40% were aware of current guidelines.⁵⁰ Following this the General Medical Council introduced knowledge of PA as an 'Outcome for Graduates' in 2018.⁵¹ Despite this, uptake in undergraduate curricula in the United Kingdom remains limited.⁵² More work is required to address the issue at the undergraduate level, with research also required to assess the nature of teaching around PA in postgraduate environments (with particular interest in primary care).

Closely linked to knowledge, practitioner attitudes to PA promotion have major influence on its uptake. A lack of practitioner belief in the potential of PA and its promotion is a major barrier in the implementation of promotion of PA.^{12,15,17–19,21,23–25,27,29,53,54} A personal experience of the benefits of PA may have a positive impact on PA promotion. One of the major factors influencing effective delivery of PA advice to patients is when this is done by physicians who undertake high levels of PA themselves.^{12,21} Therefore, encouraging healthcare professionals to consider their own levels of PA could be a further approach to enabling physicians to deliver PA promotion effectively.

2.5 | Resources/support

In the book *A Fortunate Man*, Berger and Mohr⁵⁵ eloquently describe the value in a primary care practitioner intimately knowing the local area. Lowe et al.¹² cite knowledge of local PA opportunities as the second most important facilitator (behind GPs' own behaviour) in the promotion of PA in primary care. Community engagement is a requirement mandated of GP trainees in the United Kingdom by the RCGP,⁵⁶ but the changing face of general practice in the light of the current workforce crisis and recent pandemic has the potential to negatively impact this local knowledge. Increasing support and funding available for social prescribers/community link workers through primary care^{38,57} offers an opportunity for ongoing community mapping, which if shared could aid healthcare practitioners and patients alike.

A lack of support and resources is frequently cited as impeding promotion of PA for health.^{12,16,18,19,21,22,24,28,32,40,41} To address this, several resources have been developed. These include but are not limited to, a validated brief two-question tool for assessment of PA levels (*PA Vital Sign*),⁵⁸ a commonly used and validated behaviour change theory adapted to PA (*5 A's Consultation Model*)⁵⁹ and a multitude of technology-based resources including 'apps' and websites.⁶⁰ These resources are all valuable; however, finding and utilising resources to decrease the pressure on primary care physicians' time is imperative. With further development, technology for the promotion of PA has the potential to meet this opportunity.⁶⁰ Technology-based resources have evolved in two ways: PA-based trackers (or wearables)

and fitness-based applications for smartphones and tablets.⁶⁰ A systematic review of activity-tracking devices found that they were effective at increasing PA levels among users.⁶¹ This technology offers opportunities, yet financial barriers exist and practitioners will have to implement boundaries to prevent the potential increase in workload that reviewing the data generated by these devices may generate. Apps that can deliver personalised plans and instructions, encouragement, feedback, self-monitoring and accountability will be of particular value with the potential they hold for improving PA levels, whilst decreasing time demands on primary health services.⁶² As of 2017, more than 150,000 of these apps exist; however, they are frequently limited in their scope, function or association with the UK Chief Medical Officers' PA Guidelines.^{2,62} Therefore, a systematic approach across the NHS is required to ensure the right (and factually accurate) resources reach the right people, with more work needed to promote app engagement and the development of patient-tailored plans that can be promoted in primary care.

In keeping with the lack of resources proving a barrier to the implementation of PA promotion, the accessibility of local facilities is also a problem.^{12,25,27,28,63} Within the United Kingdom, recommendations and policy^{38,57} support the roles of health coaches and link workers; however, funding is still largely being provided by the third sector. Because of this, resources offered vary by both practice and postcode, leading to large geographical variations in availability of resources and facilities.

2.6 | Financial implications

Concerns of primary care practitioners regarding financial implications of PA act as a significant limiting factor in its promotion and delivery.^{17,19–21,27,28,40,63} Financial concerns related to the cost of activities are pertinent to patients, but as highlighted by Hébert et al.²¹ these concerns will also impact practitioners' delivery of PA promotion. The practitioner concerns include a loss of income due to time taken for PA counselling and the lack of incentives or reimbursement for this in healthcare funding within the United Kingdom. In a reverse scenario, a survey of England's GPs found that 35% felt financial incentives were a significant facilitator in the delivery of PA advice in primary care. As described by Molema et al.,⁶⁴ financial incentives can be offered at multiple levels within healthcare, including incentives for insurers, healthcare providers and patients. Incentives can come from multiple sources, often determined by a country's healthcare system. The United Kingdom has a history of financially incentivising healthcare professionals to deliver lifestyle changes, most notably the provision of smoking cessation through primary care.⁶⁵ Given that brief advice for PA is more effective at inducing behaviour change than brief advice for smoking cessation, the benefits of incentives through primary care could be significant.^{66,67}

2.7 | The patient perspective

Barriers identified by patients to PA can largely be categorised into three main themes: individual, societal and environmental.

2.7.1 | Individual factors

Three of the most frequently identified barriers to taking up PA that are faced by individual patients are the perceived nature of their underlying health condition,^{13,26,53,68–79} patients' knowledge and understanding of the benefits of PA^{13,18,22,26,30,42,53,68–72,76,77,80–86} and patients' time/capacity.^{13,18,22,26,30,42,53,68,70–72,75,76,81,87–89}

Although the majority of the included studies were within general populations, several looked at specific populations including people with type 2 diabetes mellitus,^{13,78,81} the elderly^{26,42,69,74,80,88} and patients with chronic pain and osteoarthritis.^{75,76} Patients with pre-existing conditions understandably cite underlying health concerns more frequently as a barrier to participation than those without. It is in this context that disease-specific exercise programmes or individually tailored regimes can add value by accounting for the specific challenges of certain diseases and addressing individual concerns. Disease-specific charities are increasingly acknowledging the need to address the issue of PA, and in Scotland these charities have formed an organisation called Movement for Health, with the aim of helping people living with long-term conditions to become more physically active as part of their daily routine.⁹⁰ Education has always been a cornerstone of public health and primary care. There are five ongoing PHE campaigns to address physical inactivity: 10 Minute Shake Up, Better Health Adult Obesity, We Are Undefeatable, Change4Life and Healthier You.⁹¹ As highlighted by Morgan and colleagues in 2021, a lack of knowledge of the benefits of PA continues to be a barrier to patients in the United Kingdom, and therefore ongoing and enhanced public health and primary care messaging are required.⁵³

Maula and colleagues²⁶ conducted semi-structured interviews with 30 older adults who had participated in community-based PA programmes (one community centre based and one home based). A major barrier to both programmes was a lack of time, with participants citing other activities upon which they placed a greater emphasis, including but not limited to socialising, volunteering, shopping and reading. Byambasukh et al.⁹² offered a helpful distinction between leisure-time PA (activities chosen for pleasure or relaxation), commuting PA (activity to travel between place of residence and work/study) and occupational PA (determined by work). The narrative derived from the patients in Maula et al. would suggest an assumption that PA is only a leisure-time physical activity, with further work need to first clarify this assumption and then find ways to address and counter it.

2.7.2 | Societal factors

Maula et al.²⁶ highlighted competing demands between leisure-time activities and PA. Issues such as socialising were identified as preventing time for PA, but many of these barriers are not mutually exclusive. Repeatedly the literature cites a lack of support for PA as a barrier, whilst having supporting family and friends is seen as one of the biggest enablers of PA.^{13,18,22,30,42,68,69,71,72,74,75,77,78,81,85–87,89,93–95} Creating a culture of PA, addressing leisure-time, commuting and occupational (where possible) PA could have a hugely beneficial effect at removing

barriers to PA uptake. Parkrun (a community-based running initiative) has played a role in shaping PA culture throughout the United Kingdom (and beyond) since its inception in 2008.⁸⁶ The introduction of GP parkrun-affiliated practices in 2018, with over 1500 now registered, has given a platform for GPs to promote PA and has demonstrated the role primary care can play in shaping PA culture in communities throughout the United Kingdom.⁹⁶

The majority of the studies identified were from Anglo-European Western cultures, with only four from other parts of the world: Colombia, Saudi Arabia, Thailand and Oman.^{30,78,94,95} These studies highlighted some socio-cultural issues influencing PA for health, with reference to cultural norms for females within Arabic cultures.^{78,94} In African American populations, Tolliver et al.⁹⁷ highlighted that hair care in female populations was a barrier to PA. Given the increasing globalisation of the world, with increasing socio-cultural diversity, further research exploring culture-specific barriers to PA for health is required. Through identification of these cultural barriers, alterations to interventions, or new interventions entirely, could be introduced to improve the uptake of PA through primary care.

2.7.3 | Environmental factors

As with healthcare professionals, patients also highlighted a lack of facilities preventing the uptake of PA.^{26,30,42,73,75,76,80,81,89,93–95,98} In a review of PA in osteoarthritis, Stevenson and Roach⁷⁵ identified an 'Exercise Milieu' questionnaire subscale, which found that a lack of locations, and greater distance from exercising locations were barriers to uptake. As noted above, the nature of the large third-party involvement in the United Kingdom can result in significant geographical variations, often noticed most acutely in rural areas. Access to facilities must remain a priority in addressing physical inactivity. There are increasing calls for planners to prioritise PA when designing neighbourhoods; indeed it has been repeatedly shown that town planning has an impact on PA.⁹⁹ In primary care, where there is good local knowledge of facilities and geography, this knowledge can be used in the promotion of PA. Primary care health professionals, therefore, have an advocacy role within communities, influencing planning and development.

Furthermore, multiple studies looking at barriers to PA highlight the weather as an issue.^{26,68,71,72,76,80,94} This is particularly relevant in the United Kingdom (with the unpredictable temperate climate) and tends to be worse during winter months but has also been noted within times of recent heat waves. Although the lowly health professional has no influence over the weather, remaining cognisant of the barriers presented by poor weather and adjusting advice for this may help in supporting the patient appropriately to address these.

3 | DISCUSSION

Primary care in the United Kingdom is in the midst of a crisis with increasing demands, restricted funding and staffing shortages,^{35,36} which limits the ability to provide non-essential services. Adding to this

workload is the worsening population health, to which low levels of PA probably contribute, combined with increasing calls for primary care to act to improve PA levels. Nonetheless, due to its scope and influence, PA promotion through primary care has been repeatedly shown to be a cost-effective intervention and therefore provides a great opportunity to improve the health of the nation.⁸

Limitations of this literature review include a restriction in the databases and languages searched, and a predominantly single-handed content analysis of the included articles. This was a narrative, rather than a systematic, review with the purpose of providing a general overview of the current knowledge, from the perspectives of both healthcare professionals and patients. Although our approach to identifying relevant studies was rigorous, it is possible that we may have missed some relevant work without a fully systematic approach. A systematic review would have necessitated a narrow research question and therefore would have been unable to provide the descriptive overview above. Specific systematic reviews, addressing specific questions, may be useful in the future. Nonetheless, we have highlighted that a lack of time, insufficient knowledge/skills, lack of resources and a lack of financial reimbursement/incentives for PA promotion are consistently shown to act as barriers to prevent primary care practitioners delivering PA promotion. Addressing these barriers requires both ingenuity and investment, given the challenges facing primary care in the United Kingdom. We have identified some examples of innovative interventions already in place to overcome these barriers. This review also highlights the barriers identified by patients for the uptake of PA recommended in primary care. These barriers can be divided into individual, societal and environmental factors, which all need to be addressed cohesively by healthcare practitioners, policymakers, town planners, teachers, charities, health promoters and employers.

Further research and development are required in several areas: assessment of the delivery of education in PA promotion across medical professions (including nursing and allied health); development/research into technology-based resources; and the exploration of financial incentives for healthcare professionals. By embracing innovation and improving the evidence base, policymakers and healthcare professionals have the capacity to promote PA throughout the population and create lasting change in its health and well-being.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data described in this article is currently openly available. Please contact the author for further information if required.

ORCID

Callum Leese  <https://orcid.org/0000-0002-2708-0499>

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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