Physical activity participation by adults

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Increasing physical activity participation by adult population is a multi-faceted challenge. There are many policy developments in this area from the World Health Organisation and Scottish Government as well as impending updates to UK physical activity guidelines. This briefing outlines current knowledge on physical activity participation with particular attention to the Scottish context and will highlight the evidence from behavioural science.

Background

Engaging in regular physical activity has multiple established benefits in terms of helping to prevent and address non-communicable diseases such as heart disease, diabetes and some cancers. Physical activity participation can play a major role in preventing hypertension, overweight and obesity as well as enhancing mental well-being and quality of life [1].

In 2011, UK Chief Medical Officers published guidelines on physical activity for 18-64 year olds. The recommendations specified being active on a daily basis and aiming for 150 minutes of moderate activity in bouts of 10 minutes or more, or 75 minutes of vigorous activity on a weekly basis, or combinations of moderate and vigorous activity [2]. In addition (an aspect that is usually overlooked), the guidelines also specified that adults should aim to include muscle strengthening activities at least twice a week and minimise sitting for extended periods of time. These 2011 guidelines are currently under review with new guidelines likely to be published in early 2019 (see [3] for updates).

Evidence on physical activity levels in Scotland

Following the introduction of the 2011 guidelines, the numbers show that the proportion of adults meeting the current moderate or vigorous activity (MVPA) guidelines are 65% with little change since 2013 and 20% reported very low levels of physical activity. Differences related to age, gender, and social deprivation are worth noting [4].

Overall, 76-78% of those aged 16-44 are meeting the MVPA physical activity guidelines compared to 28% of those aged 75 years old and over. Social deprivation rears its head here too: 82% of those in the least deprived areas met the MVPA guidelines while this was the case only for 52% of those in the most deprived areas (See Figure). While 71% of men met the MVPA guidelines in the latest Scottish Health Survey reported in 2018, 60% of women did so.

![Figure 1](image)

Figure. Adherence to UK CMO 2011 physical activity guidelines by Scottish adults (Scottish Health Survey, 2017) by age, gender, and deprivation

77% 68% 28% 71% 60% 56% 72%

16-44 years old 45-54 years old 75+ years old Men Women Most deprived Least deprived

Evidence of social prescribing, signposting, and primary care and the role of behavioural health consultants:

Social prescribing and signposting are terms used interchangeable and both refer to ‘linking people with non-medical sources of support’ [5]. Signposting approaches within primary care has been a focus of interest from academics, government, and the health care sector, particularly in Scotland. One relevant example is the Deep End Project focusing on the experience of social prescribing among general practices in deprived areas in Scotland [6]. This project is the largest evaluation of the link workers to date and has shown promising evidence of improvement in physical activity in those engaged with the link worker and the suggested community resources.

This project was based on an earlier report from Scottish Government. This was the Links Project that was supported by the Scottish Government’s Self Management Programme, Long Term Conditions Unity and Long Term Conditions Collaborative (LTCC) [7]. Key observations from this project showed that a GP recommendation to attend a community resource was welcomed by a significant number of individuals living in deprived areas in Glasgow and this engagement with local community resources was still evident 4-6 weeks later. Critically and unsurprisingly, the report highlighted the importance of links which are specific to a local context coupled with online access to local information, as well as personalised and relationship-based approaches to connecting to services. Among many factors that enabled this project in meeting it’s objectives that will resonate with many primary care practitioners: ‘Scottish Government budget to allow staff time out of practice to use service improvement tools, make connections in community, reflect on findings’.

Both primary care and psychological services in the UK are under considerable pressure. Given these challenging circumstances, arguments for a new integrated model of primary care and psychology are being explored [8]. These models integrate non-medical professionals, such as those with behavioural/psychological expertise as part of the multi-professional collaborative primary care team (e.g., Alaskan Nuka model). Limited evidence suggests that this shows promise [9], however, to our knowledge, this model has not been rigorously tested. Given that primary care practitioners often lack time and specific training to assist individuals with behaviour change such as physical activity participation, behavioural health practitioners can provide expertise in targeted and high intensity psychological interventions that are often required as well as support staff with further development of their own skills relating to patient behaviour change.

This model has also been tested in a ‘proof of concept’ pilot study in a GP surgery in Fife. Two behavioural health consultants (health psychologists) were embedded in primary care with other members of the team which allowed for joint coordination of care and learning (‘Nuka’ team). Behavioural health consultants coached staff on behaviour change approaches to self-management of long-term conditions, lifestyle change and supported individuals with psychological difficulties and whose problems could be addressed through behavioural approaches (e.g., sleep and stress). The findings from this pilot study comparing the number of face-to-face and telephone consultations are encouraging: Whereas the other staff in the practice were predominantly seeing patients in face-to-face meetings, the ‘Nuka’ team were able to allow more time for the GPs to spend longer with complex patients. Patients and staff expressed satisfaction with this model. [10]. Use of behavioural health consultants within UK primary care setting has the potential to support primary care practitioners in increasing patients’ physical activity participation through collaborative and relationship-based work. However, more evidence is required.

Evidence from behavioural science in physical activity participation and gaps in our understanding:

It is commonly agreed that changing our behaviours and maintaining these changes in the long-term is a major challenge and underlies many of the public health issues faced today globally. Engaging in physical activity is no exception. Evidence from behavioural science research is building up from the perspective of both environmental and individual determinants. NICE guidelines have recently issued guidance on improving the physical environment to encourage and support physical activity [11]. At the individual level, advances in identifying behaviour change techniques used in behavioural health interventions for physical activity and healthy eating show that those that include self-monitoring and at least one of four other self-regulatory techniques (prompt intention formation, prompt specific goal setting, providing feedback on performance, prompt review of behavioural goals) are significantly more effective than interventions that do not include them [12]. Self-monitoring can take several forms, such as using a pedometer or a form for recording daily total number of steps as well as recording or reflecting on the outcomes of the behaviour (e.g. daily step count and how they feel about their efforts as a technique to change behaviour).

Brief advice interventions in primary care have also received particular attention. NICE guidelines on brief advice for adults in primary care [13] concluded that there was moderate evidence from 15 studies (4 non-RCTs, 4 cluster RCTs, 7 RCTs) to suggest that here is an increase in the self-reported physical activity in those who received brief advice or who were seen by primary care professionals trained to deliver brief advice. Recommendations include: identifying adults who are inactive (e.g., using validated tools like General Practice Physical Activity Questionnaire [14]) and delivering and following on brief advice (e.g., tailoring the
brief advice to the person’s motivations and goals, circumstances, and preferences considering the barriers and their current level of activity, ability and health status). This NICE guideline acknowledged, however, that there was insufficient evidence to make recommendations on duration, content, and person who delivers it as well as whether use of incentives for practitioners increases the number of brief interventions performed. It is also unknown whether the knowledge and motivation of the practitioner has an impact on the delivery, whether specific or combinations of behaviour change techniques should be used, and whether it is more effective when raised opportunistically or during a consultation specifically for the task.

**Implication for collaborative quality improvement in GP clusters**

In July 2018, Scottish Government announced the Active Scotland Delivery Plan [17]. This aims to bring strategies to life to get people moving. The approach taken by the Scottish Government recognises that there is no magic bullet to increasing physical activity participation and endorses a collaboration across the Government, third sector, communities, and individuals. This new policy endorses the practice of social prescribing in encouraging referral of patients from NHS to community-based interventions with the aim of supporting physical activity participation and weight management. There is also in preparation ‘a package of Practitioner Resources to support local Health Boards in delivery of the National Physical Activity Pathway (NHS Health Scotland)’.

There is no doubt that engaging in regular physical activity has an established place in treating and preventing many chronic diseases and cancers, as well as enhancing mental well being and quality of life. (1). Despite this, it has been difficult to find effective ways of translating this knowledge into effective behaviour change, using public health and primary care systems (see figure 1). In particular, the continuing gaps in physical activity levels between the most and least deprived adults in Scotland will certainly be contributing to the increased morbidity and mortality of deprived populations. GP clusters may have the potential to use the evidence above to develop new approaches to the problem, if this is identified by the cluster as a local priority for their population. There are two main ways in which they could do this:

- GP Clusters can contribute to uptake of local physical activity participation through a range of initiatives that are available in Scotland, listed below

**Figure 2**

<table>
<thead>
<tr>
<th>For information on local jog groups including Mums on the Run groups check:</th>
<th><a href="https://jogscotland.org.uk/joggers/find-your-nearest-jog-group/">https://jogscotland.org.uk/joggers/find-your-nearest-jog-group/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>For information on RCGP-parkrun initiative, check:</td>
<td><a href="http://www.rcgp.org.uk/parkrun">http://www.rcgp.org.uk/parkrun</a></td>
</tr>
<tr>
<td>For information on Couch to 5k programme, check:</td>
<td><a href="https://www.nhs.uk/live-well/exercise/couch-to-5k-week-by-week/">https://www.nhs.uk/live-well/exercise/couch-to-5k-week-by-week/</a></td>
</tr>
</tbody>
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Patients can be made aware of these by GPs, practice nurses or ANPs. Clusters that have community links practitioners can make them aware of resources that they can refer patients to if they wish to become more active.

Access to parkrun across Scotland is good with 42 sites in Scotland (and counting) in areas as geographically diverse as Inverness and Troon. In June 2018, RCGP announced a partnership with parkrun UK, whereby general practices are encouraged to form closer links with their local parkrun to become certified ‘parkrun practices’. This will mean that primary care staff signpost patients and carers to parkrun, particularly targeting those who are the least active and have long-term health conditions (see [15] A list of parkrun locations is at reference 16.

NHS Fife have funded an evaluation of a programme to facilitate the process to jogscotland. One method that might be tried as part of this project is using access to practice electronic records to minimise workload on practice staff.

Other potentially useful resources include the recently launched Faculty of Sport and Exercise Medicine UK website on conversations with patients about physical activity. [https://movingmedicine.ac.uk/](https://movingmedicine.ac.uk/) Further tools are available on the Physical Activity and health Alliance website [http://www.paha.org.uk/Resource/Search/](http://www.paha.org.uk/Resource/Search/).

The RCGP-parkrun initiative is a good example of the ‘best investments that work for physical activity’ as identified in a complementary document to Toronto Charter for physical activity [18]. One of the key investments this document identifies to increase physical activity and help prevent non-communicable diseases is the role primary health care systems have in developing competencies around practical brief advice and links with community-based support for behaviour change.

- GP clusters are in their infancy and are still developing their extrinsic role. Through engagement with integrated joint boards, there are possibilities to develop an advocacy role for improvements to the local environment to make it easier for individuals and communities to be more active. These could include the provision of cycling paths, cycle racks, cycling buses (coordinated peloton of
children and adults on cycles), and better provision of green spaces for recreation in areas of high housing density and deprivation.

We would like to acknowledge the advice of Dr Margaret McCartney and Professor Frank Sullivan in preparing this paper.

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7. Links Project Report: developing the connections between general practices and their communities [https://www.gov.scot/Publications/2012/05/1043/1]


16. All Scottish parkruns [https://allscottishparkruns.wordpress.com/]


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