



**Liverpool
Public Health
Observatory**

Rapid Evidence Review Series

Physical activity

Cath Lewis and Alex Scott-Samuel

LPHO Report Series, number 106

Rapid Evidence Review Series, number 6

Produced on behalf of the Merseyside Directors of Public Health

April 2015

PROVIDING INTELLIGENCE FOR THE PUBLIC HEALTH

Rapid Evidence Review Series

Physical activity

Contents

1. Summary.....	3
2. Introduction.....	5
3. Cheshire and Merseyside demographic and health data	6
4. Why physical activity matters	9
5. How much exercise is needed?	11
6. Guidance on increasing physical activity	12
6.1 NICE Guidance	12
6.2 Workplace Wellbeing Charter	15
7. Examples of local delivery.....	16
7.1 The Walton Centre	16
7.2 The NHS North West Games.....	17
8. Recommendations	18
9. Conclusion.....	19
10. Acknowledgements	19

1. Summary

1.1 Introduction

Liverpool Public Health Observatory (LPHO) was commissioned by the Merseyside Directors of Public Health, through the Cheshire & Merseyside Public Health Intelligence Network, to produce this rapid evidence review on physical activity, within a two week timescale. It is the sixth in a series of reviews. According to NICE, the definition of physical activity is “Any force exerted by skeletal muscle that results in energy expenditure above resting level”. The report provides an overview of the most recent evidence from NICE on physical activity, as well as demographic and health data from Cheshire and Merseyside, along with ‘Examples of local delivery’, examples of physical activity initiatives within the North West.

1.2 Demographic and health data for Cheshire and Merseyside

The percentage of obese children in reception year in 2009/10-2010/11, in Cheshire and Merseyside, 10%, amounting to 7,436 children, was significantly higher than the England average of 9.6%. In the same year, the percentage of obese children in Year 6, in Cheshire and Merseyside, 20.2%, amounting to 14,035, was significantly higher than the England average of 19%. However, the percentage of obese adults in Cheshire and Merseyside, 23.3%, 2006-8, was lower than the England average of 24.1%.

1.3 Why physical activity matters

- Around one in two women and a third of men in England are damaging their health through a lack of physical activity, according to the 2012 Health Survey for England, costing the UK around £7.4bn a year
- Activity reduces the risk of many preventable diseases, from cancer to diabetes, and conditions like obesity and depression. Being active is also good for children’s educational attainment, it can boost workplace productivity and reduce sickness absence and it can even reduce crime and anti-social behaviour
- Physical inactivity is the fourth largest cause of disease and disability in the UK.

1.4 Recommendations

1.4.1 Core recommendations

- Ensure that walking and cycling projects are rigorously evaluated, including their impact on health inequalities
- Address infrastructure and planning issues, to encourage people to cycle, e.g. by providing cycle hire schemes, ‘bike to work’ weeks, or car free days. Ensure cycle parking and residential storage issues are addressed.
- Ensure training is available for those who are interested in cycling, such as the Department for Transport’s ‘Bikeability’¹. Consider providing free cycle safety checks, such as Dr Bike sessions², and cycle maintenance.
- Schools should develop travel plans that encourage children to walk or cycle all or part of the way to school, including children with limited mobility.

1.4.2 Recommendations for Public Health, Clinical Commissioning groups and other health care professionals

- Directors of Public Health and Clinical Commissioning Groups, among others, should ensure that ensure a senior member of the public health team is responsible for promoting walking and cycling
- Health professionals should take opportunities to promote physical activity – when a patient attends with other health issues, for example
- Use validated tools to assess physical activity levels
- Record the outcomes of the discussion, and give patients a written outline of the advice and goals that have been discussed, if appropriate
- Collect data on inactive groups, and the needs of specific groups

¹ <https://bikeability.dft.gov.uk/>

² <http://www.nice.org.uk/guidance/ph41/chapter/glossary#dr-bike>

- Policy makers and commissioners should only fund exercise referral schemes for people who are sedentary or inactive and have existing health conditions, or risk factors for coronary heart disease, stroke and type 2 Diabetes, for example, that put them at increased risk of ill health
- Ensure brief advice on physical activity is incorporated into services for groups that are particularly likely to be inactive, including those aged 65 and over, people with a disability and people from certain minority ethnic groups
- Ensure assessment of physical activity and the delivery of, and follow up on, brief advice are built into local long-term disease management strategies.

1.4.3 Resources

- Access resources such as the Workplace Wellbeing Charter. Employers who sign up for the Charter can access help and support available through a website: <http://wellbeingcharter.org.uk/index.php>
- The most recent Guidance on increasing levels of physical activity is provided on the NICE website: <https://www.nice.org.uk/>

1.5 Conclusion

In conclusion, there is a wealth of evidence available on the benefits of physical activity. It has a significant impact on both mental and physical health. There is also good evidence available on the cost-effectiveness of promoting physical activity. Good examples are also available locally on the benefits of increasing physical activity.

2. Introduction

Liverpool Public Health Observatory (LPHO) was commissioned by the Merseyside Directors of Public Health, through the Cheshire & Merseyside Public Health Intelligence Network, to produce this rapid evidence review on physical activity, within a two week timescale. It is the sixth in a series of reviews. According to NICE, the definition of physical activity is “Any force exerted by skeletal muscle that results in energy expenditure above resting level”³. The report provides an overview of the most recent evidence from NICE on physical activity, as well as demographic and health data from Cheshire and Merseyside, along with ‘Examples of local delivery’, examples of physical activity initiatives within the North West.

³ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1424733/>

3. Cheshire and Merseyside demographic and health data

Cheshire and Merseyside demographic and health data

[PHOF Summary - August 14.pdf](#)

[Cheshire & Merseyside PHE Centre.pdf](#)

[Cheshire & Merseyside Summary 081014.pdf](#)

Demography – Cheshire and Merseyside

- According to 2011 data from the Office for National Statistics, the total population of Cheshire and Merseyside was 53,107,169

Health in Cheshire and Merseyside

- According to Public Health England's Public Health Outcomes Framework⁴, the number of children living in families in poverty⁵ in Cheshire and Merseyside is 20.9%, which is worse than the England average of 19.2%
- Sickness absence rates (1.5% of working days were lost due to sickness absence) were the same as those for England as a whole⁶

Physical activity and obesity

- The percentage of obese children in reception year in 2009/10-2010/11, in Cheshire and Merseyside, 10%, amounting to 7,436 children, was significantly higher than the England average of 9.6%. In the same year, the percentage of obese children in Year 6, in Cheshire and Merseyside, 20.2%, amounting to 14,035, was significantly higher than the England average of 19%. However, the percentage of obese adults in Cheshire and Merseyside, 23.3%, 2006-8, was lower than the England average of 24.1%⁷.

⁴ <http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000041/pat/43/ati/102/page/0/par/X25003AA/are/E06000050>

⁵ % of children in low income families in receipt of out of work benefits or tax credits where their reported incomes is less than 60% median income

⁶ <http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000041/pat/43/ati/102/page/0/par/X25003AA/are/E06000049>

⁷ file:///C:/Users/clewis/AppData/Local/Microsoft/Windows/Temporary%20Internet%20Files/Content.Outlook/EXFWON40/Cheshire%20%20Merseyside%20PHE%20Centre.pdf

3.1 Demography

According to 2011 data from the Office for National Statistics⁸, the total population of Cheshire and Merseyside was 53,107,169. The proportion of children aged under 16 in Cheshire and Merseyside (17.9%) was slightly lower than the population of England as a whole (18.9%), whilst the population aged 65-84 in Cheshire and Merseyside (15.4%) was slightly higher than the population as a whole (14.2%).

Figure 1 - Population of Cheshire and Merseyside by age

Age	Cheshire and Merseyside (%)	England (%)
Aged under 16	17.9	18.9
Aged 16-24	11.9	11.8
Aged 25-64	52.2	52.9
Aged 65-84	15.4	14.2
Aged 85 and over	2.2	2.2

Source: ONS @ Crown copyright 2013

The black and minority ethnic population of Cheshire and Merseyside was 4.5% of the population, significantly lower than the proportion in the population of England as a whole (14.6%). The non-white population in Cheshire and Merseyside (7.2%) is also significantly lower than in England as a whole (20.2%), as was the proportion of people who cannot speak English well or at all (0.6%, compared to 1.7% in the general population of England).

3.2 Health and deprivation

According to Public Health England's Public Health Outcomes Framework⁹, the number of children living in families in poverty¹⁰ in Cheshire and Merseyside is 20.9%, which is worse than the England average of 19.2%. The proportion of people living in means tested benefits households was higher in Cheshire and Merseyside (17.7%) than in England as a whole (14.7%)¹¹. The proportion of older people living in deprivation in Cheshire and Merseyside (21.8%) was also higher than in England as a whole (18.1%).

According to Public Health England¹², in 2011, the proportion of people describing their health as bad or very bad was higher in Cheshire and Merseyside (7.1%) than in England as a whole. The percentage of people with limiting long term illness or disability was also higher in Cheshire and Merseyside (20.9%) than in England as a whole (17.6%). Sickness absence rates (1.5% of working days were lost due to sickness absence) were the same as those for England as a whole¹³.

3.3 Physical activity and obesity

The percentage of obese children in reception year in 2009/10-2010/11, in Cheshire and Merseyside, 10%, amounting to 7,436 children, was significantly higher than the England average of 9.6%. In the same year, the percentage of obese children in Year 6, in Cheshire and Merseyside, 20.2%, amounting to 14,035, was significantly higher than the England average of 19%. However, the percentage of obese adults in Cheshire and Merseyside, 23.3%, 2006-8, was lower than the England average of 24.1%¹⁴. The proportion of healthy eating adults in Cheshire and Merseyside (26.2%) was also lower than in England as a whole (28.7%).

⁸ [Cheshire & Merseyside PHE Centre.pdf](#)

⁹ <http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000041/pat/43/ati/102/page/0/par/X25003AA/are/E06000050>

¹⁰ % of children in low income families in receipt of out of work benefits or tax credits where their reported incomes is less than 60% median income

¹¹ [Cheshire & Merseyside PHE Centre.pdf](#)

¹² [Cheshire & Merseyside PHE Centre.pdf](#)

¹³ <http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000041/pat/43/ati/102/page/0/par/X25003AA/are/E06000049>

¹⁴ <file:///C:/Users/clewis/AppData/Local/Microsoft/Windows/Temporary%20Internet%20Files/Content.Outlook/EXFWON40/Cheshire%20%20Merseyside%20PHE%20Centre.pdf>

Standardised Mortality Ratios of circulatory disease (108.5), coronary heart disease (113.2), stroke (108.4) and respiratory diseases, all of which are linked to lack of physical activity¹⁵ are all higher in Cheshire and Merseyside than England as a whole (100)¹⁶.

¹⁵ <https://www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers>

¹⁶ Standardised Mortality Ratios 2006-2010: Cheshire & Merseyside PHE Centre.pdf

4. Why physical activity matters

Why physical activity matters – key facts

- Around one in two women and a third of men in England are damaging their health through a lack of physical activity, according to the 2012 Health Survey for England¹⁷, costing the UK around £7.4bn a year
- Activity reduces the risk of many preventable diseases, from cancer to diabetes, and conditions like obesity and depression¹⁸. Being active is also good for children's educational attainment, it can boost workplace productivity and reduce sickness absence and it can even reduce crime and anti-social behaviour¹⁹
- Physical inactivity is the fourth largest cause of disease and disability in the UK²⁰.

Around one in two women and a third of men in England are damaging their health through a lack of physical activity, according to the 2012 Health Survey for England²¹, costing the UK around £7.4bn a year²². If current trends continue, the increasing costs of health and social care will destabilise public services and take a toll on quality of life for individuals and communities, according to Public Health England²³.

However, the Health Survey for England 2012²⁴ found that over one in four women and one in five men do less than 30 minutes of physical activity a week so are classified as 'inactive'. In some ethnic minority communities, this falls to less than 1 in 10. A similar problem exists in children, with just over half of boys and a third of girls aged 2 to 10 years old achieving the recommended levels for this age group²⁵. Lack of physical activity is a risk factor for a range of serious health conditions: physical inactivity increases the risk of heart disease and stroke by 50%, according to the World Heart Federation²⁶. Obesity is a major risk for cardiovascular disease and predisposes you to diabetes. Diabetes is a risk factor for cardiovascular disease. According to a global study²⁷, physical inactivity is the fourth largest cause of disease and disability in the UK. Physical inactivity is responsible for 1 in 6 (17%) of deaths in the UK²⁸, making it as dangerous as smoking²⁹.

The percentage of obese children in reception year¹, 2009/10-2010/11, in Cheshire and Merseyside, 10%, amounting to 7,436 children, was significantly higher than the England average of 9.6%. In the same year, the percentage of obese children in Year 6, in Cheshire and Merseyside, 20.2%,

¹⁷ <http://www.hscic.gov.uk/catalogue/PUB13218>

¹⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/353384/Everybody_Active__Every_Day_evidence_based_approach_CONSULTATION_VERSION.pdf

¹⁹ Laureus Sport for Good Foundation. Teenage Kicks: the value of sport in youth crime. 2011

²⁰ Murray *et al.* (2013) UK health performance: findings of the Global Burden of Disease Study 2010. *The Lancet* 381: 997-1020.

²¹ <http://www.hscic.gov.uk/catalogue/PUB13218>

²² Scarborough P, Bhatnagar P, Wickramasinghe KK, Allender S, Foster C, Rayner M (2011) The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006–07 NHS costs. *Journal of Public Health* 33 (4): 527-535.

²³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/353384/Everybody_Active__Every_Day_evidence_based_approach_CONSULTATION_VERSION.pdf

²⁴ <http://www.hscic.gov.uk/catalogue/PUB13218>

²⁵ <http://www.nhs.uk/news/2012/11/november/pages/nice-nanny-state-parking-cost-claims-are-untrue.aspx>

²⁶ <http://www.world-heart-federation.org/cardiovascular-health/cardiovascular-disease-risk-factors/>

²⁷ Murray *et al.* (2013) UK health performance: findings of the Global Burden of Disease Study 2010. *The Lancet* 381: 997-1020.

²⁸ Lee I-M, *et al.* (2012) Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *The Lancet* 380: 219–29

²⁹ Wen CP, Wu X (2012) Stressing harms of physical inactivity to promote exercise. *The Lancet Online* S0140-6736 (12) 60954-4

amounting to 14,035, was significantly higher than the England average of 19%. However, the percentage of obese adults in Cheshire and Merseyside, 23.3%, 2006-8, was lower than the England average of 24.1%.

Promoting physical activity is important, as regular physical activity has a range of benefits. It can help achieve and maintain a healthy weight, lower both total blood cholesterol and triglycerides, increase 'good' cholesterol, reduce blood pressure, reduce the risk of developing colon cancer and possibly other cancers, reduce feelings of stress, anxiety and depression, build and maintain healthy bones, muscles, and joints, and keep older adults physically strong and better able to move about without falling or becoming too tired. In addition, being active is also good for children's educational attainment, it can boost workplace productivity and reduce sickness absence and it can even reduce crime and anti-social behaviour³⁰.

Physical activity can play an important role in preventing and managing health conditions such as coronary heart disease, type 2 diabetes, stroke, mental health problems, musculoskeletal conditions and some cancers. It also has a positive effect on wellbeing and mood, providing a sense of achievement or relaxation and release from daily stress, according to a Chief Medical Officers' report³¹.

In addition, as there are differences in between physical activity levels between groups, according to Public Health England³², leading to ill health, then tackling physical activity helps tackle health inequalities. South East England, for example, has the highest proportion of both men and women meeting recommended levels of physical activity, while North West England has the lowest, according to the 102 Health Survey for England. Men are more active than women in almost every age group, with 6 in 10 women not participating in sport or physical activity³³. Physical activity declines with age by the age of 75, only 1 in 10 men and 1 in 20 women are sufficiently active for good health³⁴. Only 1 in 4 people with learning difficulties take part in physical activity each month, compared to over half of people without a disability³⁵. There are differences in physical activity levels according to race - only 11% / 26% of Bangladeshi women and men are sufficiently active for good health, compared with 25% / 37% of the general population³⁶.

However, more needs to be done to tackle this issue. According to a large-scale survey by the Royal College of Physicians and the Faculty of Occupational Medicine³⁷, only 32% of organisations who participated in the survey said that they have a plan or policy in place to encourage and support staff to be more physically active.

³⁰ Laureus Sport for Good Foundation. Teenage Kicks: the value of sport in youth crime. 2011

³¹ <https://www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers>

³² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/353384/Everybody_Active__Every_Day_evidence_based_approach_CONSULTATION_VERSION.pdf

³³ Active People Survey 2007; cited in Public Health England's 'Everybody Active, Every Day': https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/353384/Everybody_Active__Every_Day_evidence_based_approach_CONSULTATION_VERSION.pdf

³⁴ Health Survey for England - 2009 Trend tables. (2010) The Health and Social Care Information Centre; available at www.ic.nhs.uk/pubs/hse09trends Accessed 20th April 2014

³⁵ Sport England Active People Survey December 2013 (sport once a month, any sport, any duration)

³⁶ Joint Health Surveys Unit (2006). Health Survey for England 2004: Health of Ethnic Minorities. The Information Centre: Leeds.

³⁷ <http://www.nice.org.uk/newsroom/news/NHSTrustsFailingToTackleStaffObesity.jsp>

5. How much exercise is needed?

According to NICE, the definition of physical activity is “Any force exerted by skeletal muscle that results in energy expenditure above resting level³⁸. It can encompass everything from competitive sport to walking, cycling and the general activities involved in daily living. The amount of physical activity that is needed to keep someone healthy varies according to age;^{39, 40}

- Babies: Babies should be encouraged to be active from birth. Before babies begin to crawl, encourage them to be physically active by reaching and grasping, pulling and pushing, moving their head, body and limbs during daily routines. Once babies can move around, encourage them to be as active as possible in a safe and supervised play environment
- Toddlers: Children who can walk on their own should be physically active every day for at least 3 hours. This should be spread throughout the day, indoors or outside
- Children under 5 should not be inactive for long periods, except when they're asleep. Watching TV, travelling by car, bus or train or being strapped into a buggy for long periods are not good for a child's health and development
- Young people aged 5-18 need to do at least 60 minutes of physical activity every day, which should range between moderate-intensity activity, such as cycling and playground activities and vigorous-intensity activity, such as fast running and tennis. On three days a week, these activities should involve muscle-strengthening activities, such as push-ups, and bone-strengthening activities, such as running
- Healthy adults: Adults aged 19-64 need to do at least 150 minutes of moderate-intensity aerobic activity, such as cycling or brisk walking, per week, as well as muscle strengthening activities, involving all major muscle groups at least 2 days per week
- Adults aged over 65, who are generally fit and have no health conditions that limit the amount of activity that they can do, should do at least 150 minutes of moderate-intensity aerobic activity such as cycling or fast walking every week, and muscle-strengthening activities on 2 or more days a week that work all major muscle groups.

³⁸ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1424733/>

³⁹ DH (2011) *Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officer.*

⁴⁰ <http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-adults.aspx>

6. Guidance on increasing physical activity

6.1 NICE Guidance

6.1.1 Take opportunities to promote physical activity

According to NICE guidance, 'brief advice for adults in primary care', published in May 2013⁴¹, opportunities should be taken to identify adults who are not meeting UK guidelines for physical activity – for example, when a health care practitioner sees someone to manage a long term health condition, or when a patient presents with a condition that could be alleviated by increased physical activity. Practitioners should not rely on visual cues such as body weight, but should use validated tools such as GPPAQ⁴² to assess physical activity levels. Advise adults who have been assessed as being inactive to do more physical activity, with the aim of achieving the UK physical activity guidelines. When delivering brief advice, tailor it to the person's: motivations and goals, current level of activity and ability, circumstances and health status - for example, whether they have a medical condition or a disability. Record the outcomes of the discussion, and give patients a written outline of the advice and goals that have been discussed, if appropriate. Ensure information about local opportunities to be active (including non-sporting activities) is available and up to date. This could include online maps and route finding for walking or adapted cycling.

Within the NHS, incorporate information on walking and cycling into all physical activity advice given by health professionals. Ensure people who express an interest in walking or cycling as a way of being more physically active are given information about appropriate national and local initiatives. Direct people with limited mobility to specialist centres where adapted equipment, assessment and training are available for walking and cycling, and ensure that walking and cycling programmes link to existing national and local initiatives.

Ensure brief advice on physical activity is incorporated into services for groups that are particularly likely to be inactive, including those aged 65 and over, people with a disability and people from certain minority ethnic groups. Ensure assessment of physical activity and the delivery of, and follow up on, brief advice are built into local long-term disease management strategies.

6.1.2 Address barriers to physical activity and develop action plans

Promoting physical activity might include addressing barriers to activity, for example, through changes to the physical environment, as described in the 2008 NICE publication 'Physical activity and the environment'⁴³, and in the 2012 NICE publication 'Walking and cycling'⁴⁴. The latter publication recommends that Directors of Public Health and Clinical Commissioning Groups, among others, should ensure that ensure a senior member of the public health team is responsible for promoting walking and cycling, who should ensure that programmes offered by different sectors complement rather than duplicate each other, and that joint strategic needs assessment, the joint health and wellbeing strategy and other local needs assessments and strategies, as well as chronic disease pathways, take into account opportunities to increase walking and cycling.

They should also ensure that walking and cycling projects are rigorously evaluated, including their impact on health inequalities. Local authority directors, amongst others, should develop cross-sector programmes to promote walking and cycling for recreation as well as for transport purposes, ensuring that the needs of all sections of the population are addressed. The focus should not be on small-scale interventions, but instead be an integrated package of measures, implemented by all relevant sectors and stakeholders. Where appropriate, they should link to existing national and local walking and cycling initiatives. Use an appropriate tool to establish the cost effectiveness of initiatives, such as the

⁴¹ <https://www.nice.org.uk/guidance/ph44>

⁴² The general practice physical activity questionnaire (GPPAQ) is an example of a validated questionnaire for assessing someone's (aged 16–74) current level of physical activity. The index can be cross-referred to Read Codes and can be used to determine whether brief advice might be appropriate

⁴³ <https://www.nice.org.uk/guidance/ph8>

⁴⁴ <https://www.nice.org.uk/guidance/ph41>

World Health Organization's Health economic assessment tool for cycling and walking⁴⁵. Consider providing specific support for people at a 'transition point' in their lives, for instance, when they are changing job, house or school. At these times people may be open to trying a new mode of transport or new types of recreation.

In addition, infrastructure and planning issues, to encourage people to cycle, should be addressed. This might include organising fun rides, providing cycle hire schemes, 'bike to work' weeks, or car free days. Ensure cycle parking and residential storage issues are addressed. Ensure training is available for those who are interested in cycling, either as a form of transport or as a recreational activity. An example of a cycle training programme is the Department for Transport's 'Bikeability'⁴⁶. Consider providing free cycle safety checks, such as Dr Bike sessions⁴⁷, and cycle maintenance.

Infrastructure issues that may discourage people from walking or cycling should be addressed, such as traffic volume and speed, lack of convenient road crossings, or poorly maintained footways. Ensure all programmes address safety, cultural and disability issues, and that they link to existing national and local walking initiatives. Ensure that they offer a variety of routes, paces and distances at different times of the day. Local people with different preferences, time constraints and physical abilities should all be able to participate. Ensure walking routes are integrated with accessible public transport links to support longer journeys. Signage should give details of the distance and/or walking time, in both directions, between public transport facilities and key destinations. Provide information tailored for individuals who want to go walking without joining a group or club.

NICE guidance published in 2012⁴⁸ suggests that local authorities recommends that local authorities and others should develop a comprehensive action plan, in order to help the local population become more physically active. Data should be collated for inactive groups, and the needs of specific groups

6.1.3 Support for those who are participating in physical activity

Clinical commissioning groups, local authority transport leads, and public health practitioners, among others, should ensure that individual support is available for anyone who is walking on their own, walking informally with others in a group, or participating in local walking programmes. Individual, targeted information could be provided -to-face, via the telephone or by using print-based materials, email, the Internet or text messaging. Support provided for those walking alone or in a group could include maps, signs and other details about walking routes, how to visit places of interest on foot (such as shops, educational or recreational facilities), as well as information about accessibility. NICE recommends that pedometers should only be used as part of a package which includes support to set realistic goals (whereby the number of steps taken is gradually increased), monitoring and feedback.

6.1.4 Schools

Head teachers and school governors, as well as local authority PHSE coordinators, school travel advisers and neighbourhood policing teams, among others, should develop and implement school travel plans that encourage children to walk or cycle all or part of the way to school, including children with limited mobility. Integrate these plans with those produced by other local schools and other travel plans available for the local community. Involve pupils in the development and implementation of plans. Promote the health benefits of cycling and walking and provide sufficient, secure cycle parking, and ensure it is easy to get into the school grounds by foot or by bike. Schools should provide suitable cycle and road safety training for all pupils. Introduce regular 'walking buses' and other activities, such as 'Walk once a week' projects, which support and encourage walking and cycling to school. They should also ensure that all children can take part in 'Bikeability' training. Schools should develop parents' and carers' awareness of the wider benefits of walking and cycling and other physically active modes of travel. In addition, head teachers should identify a walking or cycling champion, to liaise with the local authority and other potential partners to address any environmental or organisational barriers to walking and cycling to school.

⁴⁵ <http://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/activities/guidance-and-tools/health-economic-assessment-tool-heat-for-cycling-and-walking>

⁴⁶ <https://bikeability.dft.gov.uk/>

⁴⁷ <http://www.nice.org.uk/guidance/ph41/chapter/glossary#dr-bike>

⁴⁸ <http://www.nice.org.uk/advice/lqb3/chapter/developing-an-action-plan>

6.1.5 Cost savings

Inactivity costs the NHS an estimated £1.06 billion a year in direct costs. Walking or cycling, instead of using motorised transport, can help reduce the associated costs of poor air quality, congestion and collisions in urban areas of England. Each of these issues costs society around £10 billion a year⁴⁹. Many approaches to encouraging physical activity are cost effective, including walking buses for younger school children. At £1330 (or £122 per child) they are cost effective, if 50% of those who previously travelled by car start walking to school, according to a 2008 cost-effectiveness analysis carried out on behalf of NICE⁵⁰, at a cost per QALY of £4,007.63. Dance classes cost £ 4,007.63 per QALY, with free swimming costing £40,461.56 per QALY. There is also evidence to support work based activity programmes: a programme costing £18,900 for a company with 100 employees could lead to an overall net saving of £10,941, according to a 2008 NICE report⁵¹.

In 2012, the⁵² Department of Health in England asked the National Institute for Health and Clinical Excellence (NICE) to develop guidance on environmental interventions that promote physical activity. The analyses consisted of two cost-utility analyses, and a cost-benefit analysis. The cost-utility approaches generated cost-effectiveness estimates ranging between £100 and £10 000 per QALY depending on the level of effectiveness of the intervention and the proportion of the intervention cost that was deemed to be attributable to health. The standardized cost-benefit ratio was 11:1. The findings present a consistent case to support environmental interventions that promote increased physical activity in the sedentary adult population. However, some degree of caution should be taken in interpreting the findings due to the limitations of the evidence upon which they are based. Further consideration should also be given to the relative merits of alternative approaches to assessing the value of changes to the built environment that might also benefit health as a positive externality.

A 2012 study evaluated the cost-effectiveness of environmental interventions, to promote physical activity, in sedentary adults⁵³. The Department of Health in England asked the National Institute for Health and Clinical Excellence (NICE) to develop guidance on environmental interventions that promote physical activity. The economic appraisals summarized in this study informed the development of that guidance. The findings present a consistent case to support environmental interventions that promote increased physical activity in the sedentary adult population. However, some degree of caution should be taken in interpreting the findings due to the limitations of the evidence upon which they are based.

6.1.6 Exercise referral schemes

According to NICE guidance, published in September 2014, on exercise referral schemes to promote physical activity⁵⁴, policy makers and commissioners should not fund exercise referral schemes for people who are sedentary or inactive but otherwise apparently healthy. Primary care practitioners should not refer people who are sedentary or inactive, but otherwise apparently healthy, to exercise referral schemes. Policy makers and commissioners should only fund exercise referral schemes for people who are sedentary or inactive and have existing health conditions, or risk factors for coronary heart disease, stroke and type 2 Diabetes, for example, that put them at increased risk of ill health. When commissioning services to prevent or treat conditions such as cardiovascular disease, type 2 diabetes and stroke or to improve mental health, ensure brief advice on physical activity is incorporated into the care pathway.

⁴⁹ <http://products.ihs.com/cis/Doc.aspx?AuthCode=&DocNum=291032>

⁵⁰ <https://www.nice.org.uk/guidance/ph17/evidence/promoting-physical-activity-for-children-cost-effectiveness-analysis2>

⁵¹ <https://www.nice.org.uk/guidance/ph13/resources/>

⁵² <http://www.ncbi.nlm.nih.gov/pubmed?term=23132876>

⁵³ <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?AccessionNumber=22013018059&UserID=0>

⁵⁴ <https://www.nice.org.uk/guidance/ph54>

6.2 Workplace Wellbeing Charter

In the workplace, strategies should be developed in conjunction with staff. A useful resource for employers is the workplace wellbeing charter⁵⁵, which was originally developed by Liverpool Primary Care Trust, and is an opportunity for organisations of all sizes to demonstrate their commitment to the health and well-being of their workforce. Employers who sign up for the Charter can access help and support available through a website: <http://wellbeingcharter.org.uk/index.php>.

Recommendations include;

- Develop and monitor an organisation-wide plan, multi-component programme to support employees to be physically active.
- Develop a travel plan
- Encourage staff to take regular breaks
- Encourage patients and employees to take the stairs rather than the lift
- Pedestrian and cycle access to health-promoting environments to be ensured.

⁵⁵ http://wellbeingcharter.org.uk/media/PDF/WWC_Self_Assessment_Standards_A4_Booklet_Liverpool_2_WEB.PDF

7. Examples of local delivery

7.1 The Walton Centre

What was the issue?

Staff Sickness at The Walton Centre⁴³ in January 2010 was over 7%⁵⁶. There was a strong reliance on bank, agency, and locum staff. There were no opportunities for staff to undertake activity classes on site.

What was the intervention (including any timescales)?

The Walton Centre has been implementing a Health and Wellbeing (H&WB) strategy called “Work Well: The Walton Way” since March 2011. This supports a number of strategic objectives including; reducing sickness absence, improving the patient experience, supporting staff in improving their own health and well-being and achieving Investors in People Health and Well-Being award. In terms of physical activity, the Trust now has a well-established weekly timetable of events including a running club, zumba classes, pilates and circuit training. The running club is free for staff, whilst the exercise classes are subsidised by the trust.

What have been the benefits to patients/staff/the wider community?

This H&WB strategy and action plan has proved very successful due to the involvement of staff and unions in its development and implementation and has led to significant cost savings due to a reduction in sickness absence and agency spend.

Is there any cost/benefit analysis or information available?

- Staff sickness has reduced from over 7% in January 2010 to a monthly average of around 4%
- The use of bank, agency and locum staff has decreased.
- Staff Survey⁵⁷ results show that staff have a more positive attitude towards health and wellbeing, communication, job satisfaction and many other key areas.
- Work pressure felt by staff was lower than when compared to other specialist trusts
- The Walton Centre was the first Trust in the north of England to achieve the IIP Health and Wellbeing award and achieved IIP Gold in May 2014

Contact details

Mrs Jane Mullin or Mrs Jean Blevin

Email: jane.mullin@thewaltoncentre.nhs.uk

jean.blevin@thewaltoncentre.nhs.uk

⁵⁶ Sickness absence is monitored monthly through the national Electronic Staff Record (ESR) system

⁵⁷ The staff survey is a yearly survey that all NHS Organisations undertake.

7.2 The NHS North West Games

What was the issue?

The NHS North West Games was inspired by the build-up to the 2012 Olympic Games. During that year there was increasing excitement at the prospect of the UK hosting the Olympics and trust leaders were keen to harness this excitement to encourage staff to enjoy physical activity.

The overall aim of the project was to increase staff physical activity, promote healthy living and by doing so impact not just the lives of staff but also that of their families, as knowledgeable and professional role models and also as NHS service users themselves.

The initial event was based on evidence from the national, regional and local health data. At the heart of this initiative was the need to create something that would continue to motivate and inspire staff to engage in physical activity beyond the day of the event. The NHS North West Games is now in its 4th year; this year's events have taken place and have been evaluated and we are now starting to plan for the games in 2015.

What was the intervention (including any timescales)?

The project design involved an annual competitive games day. Activities include football, netball, badminton, rounders, table tennis, golf and 5K runs, as well as dance and Zumba and numerous health promotion stands targeting both participants and spectators. Over the past four years the event has evolved, and other activities have been included, such as 5K runs and a golf day.

The event has been instrumental in driving health and wellbeing plans in all the participating trusts and has become one of the central points of those trusts' health and wellbeing strategies. The NHS Games is seen as both a driver and enabler for the delivery of individual trusts' health and wellbeing strategy and action plans to deliver improved trust performance.

There has been visible leadership with some Board members participating in the Games and some healthy trust competition with previous winners eager to improve, to defend their title or challenge previous winners. The 'fair play winners' award also encouraged staff and teams who demonstrated team spirit and the values of the NHS constitution. This was very important to the project team as we wanted to encourage participation and involvement from the less active, to encourage those who did not regularly exercise.

What have been the benefits to patients/staff/the wider community?

In 2014 some 14 Trusts participated in the events which took place over 3 weekends - around 1000 members of NHS staff were involved in physical activity. The notable outcomes were a reduction in sickness absence, reduction in agency spend, year on year improvement in work pressure felt by staff as measured by staff survey, improved morale in workplace and improved team working, and improved patient survey scores.

There have also been increases in physical activities in the longer term; participants have gone on to join regular sports clubs who train and meet weekly. Trusts now have teams who train and play regularly in readiness for the following years events. Entrants to the 5K runs now regularly enter local running events together as a group. Other benefits were Health and Wellbeing IIP Award and Charter Accreditation, and participants have greater knowledge of public health initiatives.

Contact details

Alex McCrudden, NHS Games Lead
Email: Alexandra.Mccrudden@rlbuht.nhs.uk

Ben Towell, NHS Games Support Coordinator
Email: Ben.towell@liverpoolch.nhs.uk

8. Recommendations

8.1 Core recommendations

- Ensure that walking and cycling projects are rigorously evaluated, including their impact on health inequalities
- Address infrastructure and planning issues, to encourage people to cycle, e.g. by providing cycle hire schemes, 'bike to work' weeks, or car free days. Ensure cycle parking and residential storage issues are addressed.
- Ensure training is available for those who are interested in cycling, such as the Department for Transport's 'Bikeability'⁵⁸. Consider providing free cycle safety checks, such as Dr Bike sessions⁵⁹, and cycle maintenance.
- Schools should develop travel plans that encourage children to walk or cycle all or part of the way to school, including children with limited mobility.

8.2 Recommendations for Public Health, Clinical Commissioning groups and other health care professionals

- Directors of Public Health and Clinical Commissioning Groups, among others, should ensure that ensure a senior member of the public health team is responsible for promoting walking and cycling
- Health professionals should take opportunities to promote physical activity – when a patient attends with other health issues, for example
- Use validated tools to assess physical activity levels
- Record the outcomes of the discussion, and give patients a written outline of the advice and goals that have been discussed, if appropriate
- Collect data on inactive groups, and the needs of specific groups
- Policy makers and commissioners should only fund exercise referral schemes for people who are sedentary or inactive and have existing health conditions, or risk factors for coronary heart disease, stroke and type 2 Diabetes, for example, that put them at increased risk of ill health
- Ensure brief advice on physical activity is incorporated into services for groups that are particularly likely to be inactive, including those aged 65 and over, people with a disability and people from certain minority ethnic groups
- Ensure assessment of physical activity and the delivery of, and follow up on, brief advice are built into local long-term disease management strategies.

8.3 Resources

- Access resources such as the Workplace Wellbeing Charter. Employers who sign up for the Charter can access help and support available through a website: <http://wellbeingcharter.org.uk/index.php>
- The most recent Guidance on increasing levels of physical activity is provided on the NICE website: <https://www.nice.org.uk/>

⁵⁸ <https://bikeability.dft.gov.uk/>

⁵⁹ <http://www.nice.org.uk/guidance/ph41/chapter/glossary#dr-bike>

9. Conclusion

In conclusion, there is a wealth of evidence available on the benefits of physical activity. It has a significant impact on both mental and physical health. There is also good evidence available on the cost-effectiveness of promoting physical activity. Good examples are also available locally on the benefits of increasing physical activity.

10. Acknowledgements

Thanks to all those who commented on drafts of this review.

Notes (for reference only)

- Similar route to Liverpool Strategy approach but one that highlights the key underpinning evidence into one place – based on a reasonable timeframe to enable a) you to manage content and b) to get the most up to date and relevant evidence included... which NICE PA guidance would be your starting point ...2009?
 - Liverpool Active Strategy and its evidence approach ... were you involved, was there anything missing for you then or aspects to guide Cath now – CW
 - Sarah, anything you think important to include maybe not already mentioned?
- If it's possible;
 - Cost effectiveness of PA interventions or cost of inactivity
 - Any variations and differences in approaches, needs, wants for **children & young people**, adults and older people

Cath Lewis
Liverpool Public Health Observatory
clewis@liverpool.ac.uk
April 2015



**Liverpool
Public Health
Observatory**

Liverpool Public Health Observatory (LPHO) is commissioned by the Merseyside Directors of Public Health, through the Cheshire and Merseyside Public Health Intelligence Network, to provide public health research and intelligence for the local authorities of Halton, Knowsley, Liverpool, St. Helens, Sefton and Wirral.

LPHO is situated within the University of Liverpool's Division of Public Health and Policy.

To contact LPHO, e-mail obs@liv.ac.uk or telephone 0151 794 5570.