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Active mile briefing: evidence and policy summary

A briefing for public health teams, commissioners, schools, headteachers and teachers

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Contents

About Public Health England	2
Executive summary	4
Introduction	5
The importance of physical activity	5
The role of and benefits to schools in promoting physical activity	6
Core features of active mile initiatives	7
Active mile initiatives and a whole school approach to physical activity	7
Why adopt an active mile initiative?	9
National and local policy drivers	9
The evidence for active mile initiatives	10
Educational outcomes	10
Physiological outcomes	10
Psychological outcomes	11
Behavioural outcomes	11
Social outcomes	12
Other outcomes	12
Summary	13
Additional resources	14
References	16

Executive summary

Active mile initiatives can be defined as initiatives that support pupils to be active during the school day by providing regular opportunities for them to move¹ around a marked route for a dedicated period of time (for example 15 minutes) and at a self-directed pace. It is thought that if moving continuously for this amount of time, most children will accumulate the equivalent distance of approximately one mile. As such, they have been termed as active mile initiatives.

Active mile initiatives have gained in popularity and momentum over recent years. Whilst there is much evidence surrounding the health benefits of physical activity for children and young people¹, there is currently limited peer-reviewed high-quality evaluation and/or research which has focussed specifically on the effectiveness and cost-effectiveness of active mile initiatives. Furthermore, active mile initiatives have predominantly focused on primary schools, therefore there is limited research and/or information on their delivery with other age groups and/or settings such as nurseries and secondary schools. However, many of the principles are equally valid, for example they require no specialised equipment or resources.

The evidence base surrounding active mile initiatives is evolving, and further research is needed to be able to draw firm conclusions. However, the evidence reviewed in this document indicates that active mile initiatives:

- are intuitively appealing to schools as a means of providing regular physical activity and have high levels of acceptability among teachers and pupils
- provide a simple physical activity opportunity for pupils which is suitable for all ages and are fully inclusive
- can make a meaningful contribution to the in-school delivery of 30 active minutes and the Chief Medical Officer's recommendation of an average of at least 60 minutes of physical activity each day across the week
- can contribute to improvements in children's health and wellbeing if implemented as part of a whole school approach to physical activity
- should provide an additional opportunity to be active during the school day, they are not equivalent to and should not replace Physical Education (PE)

This briefing accompanies, and should be used alongside, [Implementing active mile initiatives in primary schools](#) and [Practice examples of active mile initiatives in schools](#).

¹ It is acknowledged that there are many modes of travelling during an active mile initiative such as running, jogging, walking and pushing which shall be collectively referred to as 'move'

Introduction

The importance of physical activity

Physical activity has been associated with a wide range of physical health, mental health and learning benefits in children and young people and is central to developing positive health outcomes from birth such as:

- increased health and fitness
- increased muscle and bone strength
- healthy weight maintenance
- improved sleep
- improved psychological and mental wellbeing (including positive self-esteem and lower levels of anxiety and stress)
- enhanced confidence and social skills
- enhanced co-ordination
- improved concentration and learning ²

In 2019 the UK Chief Medical Officers updated the UK physical activity guidelines in light of the latest evidence and recommended that children and young people aged 5-18 years should:

- engage in an average of at least 60 minutes of moderate to vigorous physical activity (MVPA) each day across the week. This can include all forms of activity such as PE, active travel, after-school activities, play and sports
- engage in a variety of types and intensities of physical activity across the week to develop movement skills, muscular fitness, and bone strength
- aim to minimise the amount of time spent being sedentary, and when physically possible, break up long periods of not moving with at least light physical activity ³

A physical activity guideline infographic is available to help professionals explain the type and amount of physical activity that children and young people (5-18 years) should be doing to improve their health, see Figure 1 ⁴.

Figure 1. Physical activity for children and young people 5-18 years infographic ⁴



The role of and benefits to schools in promoting physical activity

Schools are key settings to help children develop:

- physical literacy (that is the motivation, confidence, physical competence, knowledge and understanding that provides the foundation for lifelong participation in physical activity) ⁵
- understanding of good health and wellbeing ⁶
- habits of healthy active living by providing opportunities to be active throughout the day ⁷

Evidence suggests that many of the benefits of physical activity are likely to track or carry forward into adulthood⁸, thus the school years represent an important period of preparation for a lifetime of health and wellbeing.

There is also a rapidly growing evidence base to support the co-benefits of physical activity to education, such as the beneficial effect of physical activity on maths performance⁹ as well as contributing to children's ability to benefit from good quality teaching and achieving their full academic potential⁷.

Core features of active mile initiatives

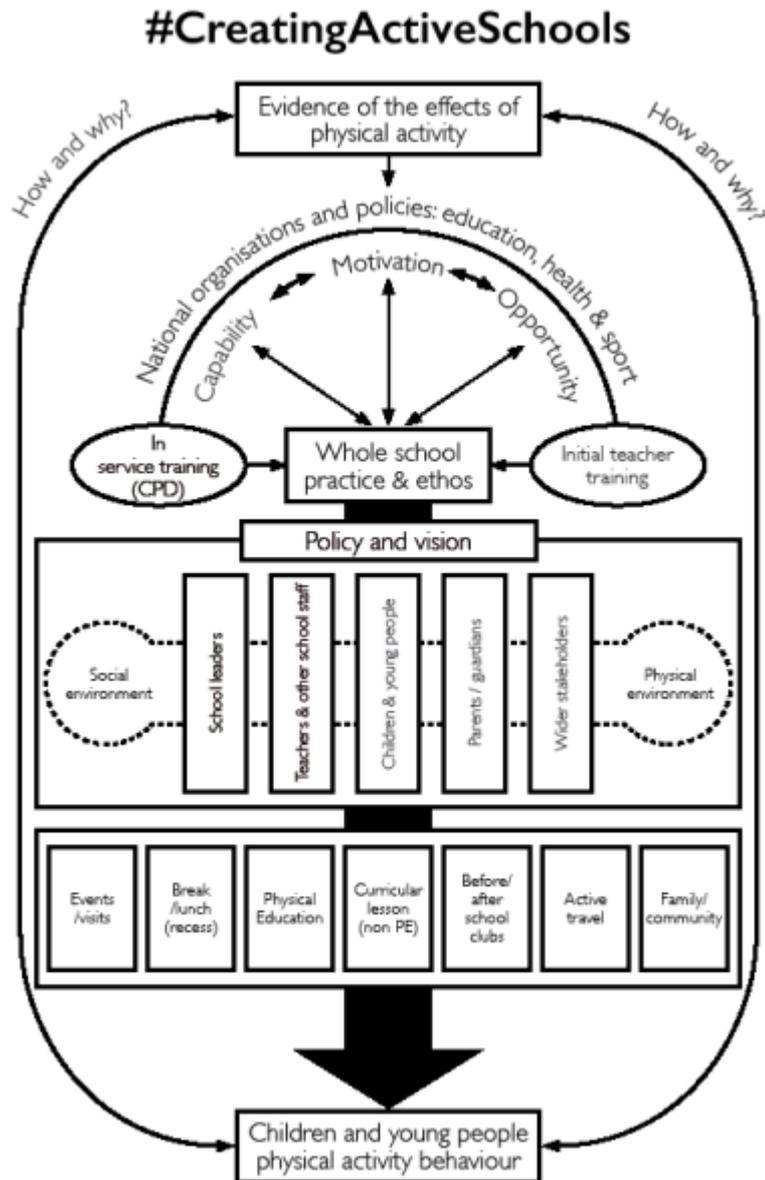
There are numerous national and local variations of active mile initiatives being delivered across England. Active mile programmes can be defined as initiatives which support pupils to be active during the school day by providing regular opportunities for them to move around a marked route for a dedicated period of time (for example 15 minutes), and at a self-directed pace. It is thought that if moving continuously for this amount of time, most children will accumulate the equivalent distance of approximately one mile. As such, they have been termed as active mile initiatives.

While active mile initiatives share common characteristics, there are also a number of distinctions. For example, the initiatives can occur at different times during the school day such as before school, during class time, during break or lunch time or as an after-school activity. Some active mile initiatives take a whole class approach whilst others ask pupils to opt-in to participating. The decision as to which initiative to adopt will depend on a variety of factors (see [Implementing active mile initiatives in primary schools](#) for more information). However, as with all active mile initiatives, they should provide an additional opportunity to be active during the school day and should not be used as a replacement for PE.

Active mile initiatives and a whole school approach to physical activity

Active mile initiatives are currently being widely adopted by schools to help to address high levels of childhood inactivity¹⁰ and obesity¹¹. Schools can help provide both formal and informal opportunities to be active by offering a broad range of physical activities for children to participate in across the whole school day. Active mile initiatives are just one way in which schools can increase children's daily activity and should form part of a broader, more comprehensive whole school approach as shown by the [Creating Active Schools Framework](#)¹².

Figure 2. Creating Active Schools Framework ¹²



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The Creating Active Schools Framework is built upon developing whole school practice and ethos which drives school policy and vision, creating the physical and social environments in which five key stakeholder groups operate to deliver physical activity through 7 opportunities both within and beyond school. Active mile initiatives could form part of a school's provision, delivered during these opportunities, outside of PE.

In addition, Public Health England published [What works in schools and colleges to increase physical activity](#) which provides a summary of the evidence and local examples to increase physical activity in schools and colleges.

Why adopt an active mile initiative?

There are several pragmatic reasons why schools may adopt an active mile initiative when looking to create an active school. For example, they:

- can be implemented with no or minimal cost
- require no specialised equipment and resources
- can be implemented by staff with very little training and/or experience
- do not require sport specific skills for children to participate
- potentially offer an inclusive form of physical activity

National and local policy drivers

A number of key government documents support the inclusion of physical activity, and active mile initiatives specifically, as an integral part of the whole school day:

Childhood obesity: a plan for action (Department of Health, 2016) outlines the ambition for every primary school to ensure that every child engages in at least 30 minutes of MVPA per day. The strategy furthermore identifies active mile initiatives, as an approach schools could adopt to provide additional physical activity time ¹³.

Childhood obesity: a plan for action – Chapter 2 (Department of Health and Social Care, 2018) reinforces support for active mile initiatives by promoting a national ambition for every primary school to adopt one ¹⁴.

School Sport and Physical Activity Action Plan (Department for Education, Department for Digital Culture Media and Sport, Department for Health and Social Care, 2019) endorses the use of active mile initiatives to establish physical activity as an integral part of children's routines ¹⁵.

By adopting an active mile initiative, schools can demonstrate that they are contributing to the broader personal development of their children, for example helping them know how to keep physically and mentally healthy, as outlined in the **Ofsted Inspection Framework** ¹⁶.

Local authorities wanting to adopt a strategic approach to targeting schools and areas for action may already have a local strategy highlighting childhood obesity as a priority. Local authorities can also use the **trend data from the National Child Measurement Programme** showing the prevalence of excess weight and obesity in children at small area level to help target schools and prioritise areas for action.

The evidence for active mile initiatives

Active mile initiatives have become highly popular and there are a number of anecdotal claims about their benefits. However, currently there is limited peer-reviewed high-quality evaluation and/or research which has focussed specifically on the effectiveness and cost effectiveness of active mile initiatives. The evidence base surrounding active mile initiatives is evolving, and further research is needed to be able to draw firm conclusions, but the current evidence is summarised below. For details of the methods used to collate and summarise the evidence, please refer to [Annex A: The evidence for active mile initiatives](#).

Educational outcomes

Cognition and academic performance

Two studies have examined cognition and academic performance. Booth et al's (2020) study on 5,463 pupils from 332 schools found some support for a small beneficial effect of 15 minutes of self-paced outdoor activity on pupils' cognition¹⁷ however, Morris et al's (2019) high quality randomised controlled trial found no effect on executive functions¹⁸. These 2 studies used very different designs, protocols and measures and therefore further research is needed to be able to draw firm conclusions.

On task behaviour

One study has examined on task behaviour¹⁹. Stylianou et al's (2016) quasi-experimental study conducted with 2 schools in the US found significant improvements in on-task behaviour on days children attended a before-school active mile initiative¹⁹.

Perceived changes in pupils' attention and concentration have been reported by both teachers and pupils in 4 studies^{20–23} however the findings are equivocal. Marchant et al (2020) and Malden and Doi (2019) reported mixed findings while Harris et al (2019) and Ryde et al (2018) reported a positive association. Thus, the overall association remains unclear.

Physiological outcomes

Cardiorespiratory fitness

Of the 4 studies which have examined cardiorespiratory fitness. Chesham et al (2018), Brustio et al (2019) and Marchant et al (2020), all showed an improvement in children's fitness^{20,24,25}. However, Breheny et al's (2020) recent randomised controlled trial

involving 40 schools showed no effect ²⁶. These collective findings should be interpreted with caution due to design differences between the studies (including different sample sizes, fitness measures and durations and frequency of the active mile initiative).

Perceived increases in children's fitness have been reported by both teachers and pupils in 4 qualitative studies ^{20,27-29}, however the overall association remains unclear.

Weight status

One study has examined weight status. Breheny et al's (2020) randomised controlled trial involving 40 schools found a small but non-significant reduction in weight status ²⁶.

Body composition

One study has examined body composition. Chesham et al (2018) found a significant improvement in relation to children's body composition measured using skinfold assessment ²⁴.

Psychological outcomes

Self-esteem and attitudes

Two studies have focused on pupils' perceptions of participating in active mile initiatives. Both Chalkley et al (2020) and Marchant et al's (2020) studies reported feelings of happiness and improvements in self-esteem, as well as attitudes to physical activity among pupils during/after participating in an active mile initiative ^{20,28}.

Behavioural outcomes

Physical activity

Five studies have examined pupils' physical activity, either during the active mile initiative ^{18,22} or as a result of participation ^{20,24,28}.

Evidence shows that active mile initiatives are able to provide a meaningful structured bout of physical activity. Chesham et al's (2018) study demonstrated an increase in pupils' MVPA by ~9 minutes ²⁴.

Morris et al (2020) found that children accumulated between 5 and 15 minutes of MVPA during one active mile session ¹⁸. Similarly, observations of children participating in an active mile initiative have suggested that a high percentage of children engaged in MVPA during this time ²².

Chalkley et al (2020) and Marchant et al's (2020) qualitative studies have shown some support for active mile initiatives to promote physical activity outside of the school setting^{20,28} however this is yet to be supported by more objective measures of physical activity.

Sporting performance

Two studies have reported on pupils' sporting performance as an outcome of participation in an active mile initiative^{20,28}. Chalkley et al (2020) and Marchant et al (2020) reported that both pupils and teachers have attributed improvements in sporting achievements as a result of participating in active mile initiatives^{20,28}.

Sedentary time

One study has examined children's sedentary time. Chesham et al (2018) reported a reduction in children's sedentary time (decrease in ~18 minutes/day) during an active mile initiative²⁴.

Social outcomes

Teacher/pupil rapport

Three studies have reported the development of teacher/pupil rapport as an outcome of active mile initiatives. Chalkley et al (2018), Malden and Doi (2019) and Hanckel et al (2019) all reported increased teacher and pupil rapport^{21,27,29}.

Friendships and positive peer relationships

Five studies reported friendships and positive peer relationships as an outcome of active mile initiatives. The most consistent finding from the research is the benefit to pupils of spending time with friends and building and strengthening peer relationships^{22,27-30}.

Other outcomes

Cost-effectiveness

One study has examined cost-effectiveness of an active mile initiative. Breheny et al's (2020) randomised controlled trial has shown support for active mile initiatives as a cost-effective strategy²⁶. Any staff costs associated with the supervision of children while participating are offset by the improvement in children's quality of life, particularly among girls.

Summary

Table 1. A summary of the strength of association between participation in an active mile initiative and each outcome

Educational	Physiological	Psychological	Social	Behavioural	Other
Cognition and academic performance	Fitness	Self-esteem and attitude	Friendships and positive peer relationships	Physical activity	Cost-effectiveness
On task behaviour	Weight status	Affective wellbeing	Teacher/pupil rapport	Sporting performance	
	Body composition			Sedentary time	

-  Blue outcomes are those with consistent evidence from high quality studies
-  Teal outcomes are those which have inconsistent evidence and/or evidence from a small number of studies
-  Grey outcomes are those with insufficient evidence

Potential actions for local authority public health teams

The following are potential actions local authorities may wish to consider to support the adoption of active mile initiatives in schools.

The promotion of active mile initiatives as one part of a whole school approach to physical activity should be advocated to ensure they are embedded as part of sustainable measures alongside other initiatives to increase children's physical activity. **The Creating Active Schools Framework** may provide a useful tool to refer to when planning provision.

Give guidance/support to schools in making effective use of the PE and Sport Premium to support active mile initiatives.

The delivery of active mile initiatives during PE curriculum time should be actively discouraged.

Work with planning teams to consider the protection of school grounds by ensuring that building codes require a minimum quota of space per pupil to facilitate outdoor physical activity and play and are sensitive to environmental impact based on user needs.

Promote of formal and informal links between schools and community groups and organisations providing opportunities for sport and physical activity should be prioritised to establish positive and safe environments for children to be active after school, during weekends and over the school holidays to increase their exposure to a variety of different activities. This includes prioritising the community use of school facilities outside of school hours and adopting a strategic approach to better utilise sports facilities on school sites and how school facilities are viewed as part of overall facility supply locally (see www.sportengland.org/facilities-and-planning/use-our-school/).

Action taken at a whole school level is an effective way to support all children to grow healthily. One way to achieve this is for every primary school to adopt an active mile initiative. This is encouraged within the [National Child Measurement Programme feedback letter](#).

Additional resources

Practical strategies and specific guidance to support the delivery of active mile initiatives before, during and as the initiative progresses are provided in [Implementing active mile initiatives in primary schools](#).

Examples of how active mile initiatives have been used in practice are provided in [Practice examples of active mile initiatives in schools](#).

Whilst it is recognised that there are many other local variations of active mile initiatives, support for the implementation is available from active mile providers which operate at a national level. The following list is not exhaustive and is intended to serve as a quick reference point.

School based active mile providers

Golden Mile

The Golden Mile is a safe, simple and measurable health and physical activity initiative accessible to all age groups regardless of ability. Find out more at <https://www.premier-education.com/golden-mile>

Marathon Kids

Marathon Kids is a free programme which gives primary school children the opportunity to run or walk multiple marathons over the school year. Find out more at www.kidsrunfree.co.uk/mk

The Daily Mile

The Daily Mile is simple and free and gets children out of the classroom for fifteen minutes every day to run or jog, at their own pace, with their classmates, making them fitter, healthier and more able to concentrate in the classroom. Find out more at www.thedailymile.co.uk

School-based active mile events

Go Run For Fun

GO Run For Fun is an international children's health and fitness campaign, designed to inspire children to be more active through fun, short distance running events and a pupil-led educational programme. Find out more at www.gorunforfun.com

Race for Life Schools

Opportunity for schools to receive resources and support to host their own Race for Life event based on a distance (or multiple distances) of the schools choosing. Find out more at <https://raceforlife.cancerresearchuk.org/schools>

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