A REPORT BY THE ALL-PARTY PARLIAMENTARY GROUP
ON A FIT AND HEALTHY CHILDHOOD

PHYSICAL ACTIVITY IN EARLY CHILDHOOD

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The Working Group that produced this Report is a sub-group of the All Party Parliamentary Group on a Fit and Healthy Childhood.

The purpose of the APPG is to promote evidence-based discussion and produce reports on all aspects of childhood health and wellbeing including obesity; to inform policy decisions and public debate relating to childhood; and to enable communications between interested parties and relevant parliamentarians. Group details are recorded on the Parliamentary website at:

http://www.publications.parliament.uk/pa/cm/cmallparty/register/fit-and-healthy-childhood.htm

The Working Group is chaired by Helen Clark, a member of the APPG Secretariat. Working Group members are volunteers from the APPG membership with an interest in this subject area. Those that have contributed to the work of the Working Group are listed on the previous page.

The Report is divided into themed subject chapters with recommendations that we hope will influence active Government policy.

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EXECUTIVE SUMMARY

The publication of the Government's Childhood Obesity Strategy in 2016 followed a pledge by former Prime Minister, David Cameron, in the wake of his 2015 General Election victory. The current May Government was criticised for dragging its heels over publication. The eventual Strategy was also considerably shorter than the original draft and advocated voluntary agreement rather than statute. On 18th August 2017, the Department of Health and Public Health England announced Phase Two: *https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action* promoting voluntary take-up of a calorie reduction scheme:

'Ready meals, pizzas, burgers, savoury snacks and sandwiches are the kinds of foods likely to be included in the programme.'

Childhood obesity was addressed by Minister of State for Health, Philip Dunne and Chief Executive of Public Health England, Duncan Selbie, who announced the intention to set up an Obesity Research Policy Unit. Following publication of evidence in early 2018, the food industry, trade bodies and non-governmental health organisations will be involved with the Government in the development of guidelines and a 'timeline' for the calorie reduction programme. This voluntary action plan majors in food consumption but ignores the vital role of physical activity. 'Physical Activity in Early Childhood' by the All Party Parliamentary Group on a Fit and Healthy Childhood will argue here that facilitating and funding physical activity in early childhood is a not an optional extra, but an essential cornerstone of a fit and healthy adult society.

'Physical Education: A Report by the All Party Parliamentary Group on a Fit and Healthy Childhood' *(2016)* contends that PE overall is a 'Cinderella' subject but the physical activity needs of the very youngest children are more urgent still. The Department of Education is yet to publish updated criteria for how schools must spend the Primary and Sports Premium grant that is to be doubled for the new academic year commencing September 2017. To date, it is only allocated to pupils in Years 1-6 (omitting Reception age classes). Physical Education and Personal and Health Education (PSHE) are non-core subjects within the National Curriculum. By way of guidance, Primary PE subject leaders are initially reliant upon the brief programmes of study issued by DfE in terms of what to deliver in physical learning for the youngest pupils in Primary schools. Given the need to address the core movement skills from as early school-age as possible, it is evidently vital that such professionals are trained and competent at supporting the up-skilling of early years' practitioners so as to ensure that both confidence and ability are able to flourish within the age group.

The All Party Parliamentary Group on a Fit and Healthy Childhood recommends accessible, sustainable and informative programmes of physical activity as essential components of child health and wellbeing. We show that rather than being 'world leaders' in early childhood physical activity, the UK trails other countries with no cohesive approach between the devolved UK nations. Children with mental or physical disabilities are by-passed (despite proven research into the benefit they derive from physical activity) and the inequalities in provision for young children from poorer socioeconomic backgrounds and diverse cultural backgrounds are not prioritised.

Missed opportunities are plentiful. No 'Child Obesity Strategy' succeeds without strong physical activity content and research finds that physical activity from the earliest days has positive outcomes for emotional, social, academic and cognitive growth as well as bodily health. Such benefits precede birth, extending to both parents and during the postnatal period. Yet here there is a marked lack of accredited and funded training for healthcare and education professionals combined with a lack of nationally funded research into the benefits of early years' physical activity. These issues must be confronted by any government intent upon boosting health outcomes and the APPG illustrates additionally, the 'whole-child' developmental benefits of baby and toddler swimming in a much wider sense than the obvious safety concerns.

The All Party Parliamentary Group on a Fit and Healthy Childhood maintains that the responsibility of bringing together all those concerned directly or indirectly with physical activity in the early years (local authorities, sporting bodies, the voluntary sector, industry, media and advertising) belongs to the Government. Many examples of current good practice are listed below, but if nobody knows about them, their effect will be confined to residents in the immediate vicinity. Government's priority should be to collate, cascade and champion best practice, thereby empowering parents, schools and health agencies to make informed decisions about physical activity for the youngest children.

Above all, the UK will not 'lead the world' in harnessing physical activity to improve the overall, health, wellbeing, fitness and happiness of young children if measures advocated are merely voluntary. Government must grasp the statutory baton for the sake of future generational health – and the savings to the Exchequer (occasioned by the financial cost of treating avoidable lifestyle-related disease) that we will all enjoy now. This should form the basis of 21st century progressive policy, but as with all the very best ideas, it is hardly new. According to Wordsworth:

'*The child is father to the man*' ('My Heart Leaps Up') and even farther back,

'*Give me a child until the age of seven and I will show you the man*' (Aristotle).

The All Party Parliamentary Group on a Fit and Healthy Childhood hopes that the Government will listen, learn and act.

HELEN CLARK: SEPTEMBER 2017

SUMMARY OF RECOMMENDATIONS

There are many recommendations flowing from this Report. The recommendations also appear at the end of each relevant section.

1. THE QUALITY, NATURE AND DIVERSITY OF CURRENT PHYSICAL ACTIVITY PROVISION WITHIN THE HOME, WIDER COMMUNITY SETTINGS AND EDUCATIONAL SETTINGS

Recommendations:

1.1 A UK overall health/wellbeing assessment for young children as they start school, commensurate with the Australian AEYC (Australian EY census)

1.2 Multi disciplinary policy makers (education, welfare, planning, health, social development) to be aware of the importance of physical activity in early childhood when designing policy

1.3 Physical activity in the early years to be embedded in all relevant policies nationally, regionally and locally

1.4 Funding to be made available for training for early years' practitioners in physical activity

1.5 All teachers, from EYs/Foundation through to Headteachers to receive a minimum 20 hours of training, updated every five years on best practice in enabling and delivering playtime learning. Such training should include coverage of policy areas, forward planning, communication, safety/risk, design, materials resourcing and reflective practices

1.6 Health and education practitioners should share information about physical activity and its role in child development by demonstrating integrated and purposeful working

1.7 Every setting aiming to provide a high quality of outdoor play provision (under 5s – primary school) to meet the 18 areas identified by OPAL as a minimum requirement.

2. PHYSICAL ACTIVITY BEST PRACTICE IN THE PRE-PREGNANCY, ANTENATAL AND POSTNATAL PERIOD FOR PARENTS/CARERS AND BABY TO INCLUDE THE ADVISORY ROLE OF EDUCATION AND HEALTHCARE PROFESSIONALS AND THEIR OWN TRAINING NEEDS

Recommendations:

2.1 Government to establish a national physical activity and healthy eating campaign targeted at pre pregnancy, pregnancy and post pregnancy stages for mother and baby; part of which will involve local authorities establishing and updating accessible directories of local provision

2.2 Government to establish physical activity/healthy eating pilot programmes based on existing good practice for evaluation and potential national roll-out

2.3 Comprehensive modules involving physical activity/healthy eating to be embedded into the initial training for those coming into contact with pre pregnancy, pregnant and post partum women during the course of their

professional duties

2.4 Health and educational professionals including midwives to have CPD on physical activity/healthy eating as a contractual requirement with regular time span update; to include the use of apps and e learning

2.5 Increased emphasis on the importance of physical activity across the Early Years' Foundation Stage curriculum

2.6 Prioritising the role of physical activity in assessment of physical development in the early years curriculum

2.7 Creating a Healthy Early Years Award scheme to promote and enhance the progression of physical development and physical activity within the Early Years' Foundation Stage curriculum

2.8 Promoting and ensuring a systematic and uniform sharing of information between early years settings and infant/primary schools regarding individual children's physical development and activity levels prior to transition.

3. THE ROLE OF LOCAL AUTHORITIES, VOLUNTARY ORGANISATIONS AND BUSINESS IN PROMOTING, FACILITATING AND DEVISING A HOLISTIC RANGE OF EARLY CHILDHOOD PHYSICAL ACTIVITY OPPORTUNITIES; ALSO WORKPLACE CRECHES

Recommendations:

3.1 The Early Years Framework of Delivery to contain statutory requirement for physical development and activity rather than the current 'recommended' requirement

3.2 Primary years' reception age group to be included in the Primary PE and Sports Premium

3.3 Evaluation and standardisation of HMI inspection requirements for physical activity

3.4 Key central government requirements to be established for early years' physical activity

3.5 National anti-obesity strategies to be revised/upgraded to include substantial physical activity content and for this to be fully promoted via a national awareness campaign

3.6 Physical activity component to be a requirement for government funding of anti obesity strategies

3.7 Department of Business, Innovation and Skills and Department of Education to promote workplace nurseries and crèches and draw up a directory with the aim of promoting good practice and cascading skill and expertise.

4. THE ROLE AND RESPONSIBILITY OF GOVERNMENT IN THE DEVOLVED UK WITH CLOSE REFERENCE TO OFSTED, THE FOUNDATION STAGE CURRICULUM AND THE NATIONAL CURRICULUM IN MESSAGING, FUNDING, RESEARCHING EARLY CHILDHOOD ACTIVITY AND PROMOTING ITS CENTRAL ROLE IN CHILD (AND THENCE ADULT) FITNESS AND HEALTH ALONGSIDE NUTRITION, PLAY AND EMOTIONAL WELLBEING

Recommendations:

4.1 UK Government to initiate an annual forum/summit whereby data and policy initiatives in the devolved governments can be studied with the aim of co-ordinating UK-wide nutrition/physical activity policy as a driver of child health and wellbeing

4.2 Replacement of 'traffic light' food labelling with 'activity equivalent' calorie labels

4.3 Investment in community level programmes including infrastructure to enable its success – such as foot/cycle paths linking communities with the resources and activities that appeal to the family unit, thus promoting inclusive participation

4.4 Clear and concise guidelines to be issued by government that include the effects of excessive screen and sedentary time in a format that is accessible to the end user; parents, practitioners and teachers

4.5 Cohesive research to be commissioned regarding the benefits of physical activity for children from birth and in early childhood

4.6 A curriculum framework that endorses outdoor play and active learning and an inspection system that challenges its ineffective delivery

4.7 Government to work with manufacturers/advertisers/sports promoters and health professionals to ensure that messaging about 'sports' and 'energy' drinks does not lead to false assumptions about spurious 'health benefits.'

5. A COMPARATIVE ANALYSIS OF GOOD PRACTICE IN OTHER COUNTRIES AND EXISTING UK LEGISLATIVE PRACTICE

Recommendations

5.1 Review the PD component of the EYFS to reflect the demands of the CMO guidelines and ensure a focus on gross-motor skills in both indoor and outdoor environments

5.2 Ofsted inspection process to be adapted to account for levels of PA and provision for children in indoor/outdoor settings

5.3 Creation of National Quality Guidelines for EY/PD/PA

5.4 Training to be provided (ideally centrally or locally funded) to support practitioners' understandings of the importance of physical skills/play and to build upon existing knowledge to design and deliver safe and effective active sessions

5.5 A designated PD/PA co-ordinator champion for every setting with responsibility for liaison with staff, parents, families and communities linked to Healthy Early Years' Schemes

5.6 A national review of the concept of 'school readiness' thereby encouraging greater practitioner understanding of the importance of physical skills to ensure children's smooth overall development and encouraging parental support for children's physical play

5.7 DfE to review the requirements of the KS1 curriculum for PE to align with the EYFS/PD component

5.8 A professional body to be developed as an 'umbrella' organisation to support EY PD/PA professionals

5.9 The establishment of an EY PD/PA taskforce to inform and drive policy and

practice in this field.

6. SOCIOECONOMIC ISSUSES, ETHNIC DIVERSITY AND CULTURAL PRACTICE AND THE PLANNING SYSTEM (IN BOTH RURAL AND URBAN CONTEXTS) AS THEY IMPACT UPON EARLY CHILDOOD AND ACTIVITY PATTERNS

Recommendations:

6.1 Create 'National Quality Guidelines for Early Years Physical Development and Physical Activity'

6.2 Review the Ofsted inspection requirements for 'Early Years Physical Development and Physical Activity'

6.3 Create high quality training opportunities for the early years' workforce to ensure their inclusion and effective participation in the PHE 'wider workforce' initiative

6.4 Designate a Physical Development/Physical Activity co-ordinator in every early years' setting

6.5 Make the early years a key component of the work of the new National Physical Education Taskforce.

7. THE ROLE OF ADVERTISING, TRADITIONAL AND SOCIAL MEDIA AND TECHNOLOGY (INCLUDING THE USE OF APPS) AS STIMULANT AND PROMOTER OF EARLY CHILDHOOD PHYSICAL ACTIVITY

Recommendations:

7.1 Government to review Change4Life and Start4Life in terms of take-up and effecting lasting behaviour change with a view to update or devising new and core responsive schemes in line with current need

7.2 Local Government Association to work in conjunction with pioneer organisations (such as the London Borough of Newham and Mytime Active) to produce a readily available 'directory' of social media programmes and related apps for use in activity plans for families with young children

7.3 Departments of Health, Education and Culture, Media and Sport to convene a policy forum with the advertising, sports promotion and food and drink industries to chart a positive way forward for the promotion of child health and wellbeing via physical activity

7.4 Social media promotional material re physical activity to include games and apps targeted for access by young children as well as separate materials directed at adults.

8. THE RELATION OF PHYSICAL ACTIVITY TO COGNITIVE AND ACADEMIC PROGRESS

Recommendations:

8.1 A National Curriculum framework that endorses outdoor play and learning and an inspection system (Ofsted) that challenges its ineffective

delivery

8.2 The National Curriculum to include examples of how physical activity content can be included within the classroom as part of traditional learning from early years' settings upwards

8.3 Cohesive, unified research to be commissioned regarding the benefits of physical activity in a child from birth onwards, including a thorough consideration of the inherent consequences of excessive screen time

8.4 Clear and concise guidelines to be issued that include the effects of excessive screen time in a format that is accessible and appropriate to the end user; parents, practitioners and teachers

8.5 Investment in community level activity programmes including infrastructure to enable its success such as foot/cycle paths to link communities with the resources and activities that appeal to the whole family unit, encouraging unified participation

8.6 Recommendations actively to be promoted and supported through publication, training and resourcing suitable to audience

8.7 Planning for outdoor environments to be mindful of environmental and cultural practices so that children may perceive the space as fun, with greater provision of portable equipment, play space per child and regular infusions of interest.

9. THE RELEVANCE OF PHYSICAL ACTIVITY TO CHILDREN WITH MENTAL/PHYSICAL DISABILITY

Recommendations:

9.1 Further research to be commissioned into how PA guidelines can be met for young people in the early years with special needs and disability from a social and psychological perspective. Examples of good practice should be cascaded to all relevant settings (school, home, community)

9.2 National bodies for PE, PA and sport to prioritise funding for children with disabilities to improve and increase access and infrastructure for increasing participation. These bodies should further promote more disabled role models who participate in physical activity, education and sporting activities

9.3 Free access to physical activity for all young people with a special educational need or disability

9.4 Development of guidance for the modification of activities to support young people with special educational needs or disabilities

9.5 All initial teacher training programmes for the Early Years Foundation Stage and Primary education to dedicate explicit time in their core curriculum to support trainees in teaching children with special educational needs and disabilities

9.6 Free training for schools to support teachers and early years' practitioners in helping young disabled children to match high quality outcomes for physical activity, motor development and broader physical education goals

9.7 Where appropriate, a proportion of Primary PE and School Sports Premium to be spent on target populations of disabled children between the ages of 5-7 to increase physical activity patterns throughout the day.

10. THE LEGISLATIVE WAY FORWARD IN THE PROMOTION AND EXPANSION OF PHYSICAL ACTIVITY PROGRAMMES AND TAKE-UP FOR ALL CHILDREN IN THE UK

Recommendations:

10.1 Increased government funding for research into the part played by physical activity in early childhood development in all aspects

10.2 Physical development checks for all children at age seven with follow-up dependent upon outcomes

10.3 Additional training and CPD for health and education professionals in physical activity/motor sensory integration

10.4 Employers to be encouraged to support all their employees in achieving good skills in motor sensory integration (thereby supporting the child by making it 'everyone's business')

10.5 Basic, accessible support packages provided for all parents and carers on appropriate play and activities to ensure optimum development goals

10.6 Annual child developmental timetabled face to face sessions with health/education professionals for parents/carers

10.7 Government to establish a Physical Activity Champions Taskforce whereby promoters of successful schemes (like The Daily Mile) can act as national roving ambassadors, encouraging take up in other institutions and areas.

11. DIVERSITY AND CHOICE IN ACTION: GOOD PRACTICE CASE STUDIES

Recommendations:

11.1 Local Authorities, Health and Educational concerns invited to submit PA community schemes for central evaluation by Government Task Force with the aim of establishing a set of recommended pilots for national roll out. Good practice from international sources (as above) to inform this work

11.2 A greater use of qualitative research data; merely filling in questionnaires will not necessarily reveal the true picture of the amount of current activity and thence the base from which improvements must be made.

12. AN IN-DEPTH ANALYSIS OF THE IMPORTANT ROLE THAT BABY AND INFANT SWIMMING HAS TO PLAY IN HELPING TO ACHIEVE PHYSICAL, COGNITIVE AND EMOTIONAL GOALS

Recommendations:

12.1 Widespread overhaul and review of the early years' and primary curriculums as they affect baby/infant swimming with guidelines and policy developed that concern whole-child development

12.2 Swimming teaching and training to form part of all early years and primary professional training with regular update as part of CPD

12.3 Antenatal care/postnatal providers to signpost parents to swimming

and water therapy classes and for these to form part of antenatal and postnatal maternal health programmes

12.4 All child swimming proposed safety techniques/teaching packages to be subjected to government research and scientific proofing before being licensed for use in UK swimming and teaching facilities. Current methods that have not been examined to undergo the testing procedure before being licensed to continue

12.5. Grants/Sports Premium finance to be made available for transportation costs for school-based infant swimming opportunities.

INTRODUCTION

'*He wriggled,*
And giggled,
And then, I declare, Swung backward and forward
And tilted his chair, Just like any rocking horse;-
'Philip! I am getting cross'
See the naughty, restless child,
Growing still more rude and wild'
'The Story of Fidgety Philip' Dr Heinrich Hoffman:
http://germanstories.vcu.edu/struwwel/philipp_e.html

'Fidgety Philip', written in 1845, hails from an era in which received 'wisdom' necessitated child rearing to prioritise infants being seen and not heard, observing quiet patterns of behaviour and above all refraining from unrestrained displays of physical activity. Philip's bodily experimentation is condemned as 'naughty', 'rude' and 'wild.'

Yet to dismiss this cautionary tale as a product of its day and therefore not relevant to the 21st century is to miss the point. A popular 2016 US blog 'No Fuss Parenting' has much in common with Hoffman, as a parent confides that '*Teaching my kids to sit still is the best thing I ever did as a parent, and by sit still, I really mean to sit quietly on my lap or beside me with minimal fidgeting.*'
http://thedomesticfringe.com/no-fuss-parenting-teach-kids-to-sit-still/

What the writer describes is the experience of attending church with its own small nursery at which the rule appertained that all children aged 12 months and above should sit with their parents because '*the children who could walk were becoming a danger to all the wee little babies.*' The conscientious Mum adopts the mantra with missionary zeal and decides to instil 'acceptable' behaviour at home:

'*I would make my child sit with me on the couch while I read him a story. I wouldn't let him jump around or climb all over me.*'

At mealtimes:

'*My children sat and ate all of their meals at the table without getting up and walking around.*'

Unsuitably active behaviour at church merited punitive sanction; justified in the light of 'learning a new skill.'

'*It took walking out of church when he became fussy.*'

The mother concludes on a note of self congratulation; the children who didn't like the regime, were forced to conform and it was good for them anyway:

'*My kids are just like most other kids. They hate sitting still and being quiet, but they did it. They learned how to sit still. Till today, I say it's the best thing I have ever taught my*

children. Children who know how to sit and be quiet are a blessing to their parents and all those around them.'

Dr Hoffman would certainly have approved, but a 'New York Times' article written just a year after 'No Fuss Parenting' suggests that the supposed virtue of child inactivity is in dire need of amendment. In an article entitled '*Why Kids Shouldn't Sit Still in Class*', Donna De La Cruz argues that physical activity is a positive aid to learning rather than a clog upon academic progress:

'*We need to recognize that children are movement-based,*' said Brian Gatens, the superintendent of schools in Emerson NJ. '*In schools, we sometimes are pushing against human nature in asking them to sit still and be quiet all the time*'.

'*We fall into this trap that if kids are at their desks with their heads down and are silent and writing, we think they are learning…. But what we have found is that the active time used to energise your brain makes all those still moments better or more productive*'. *('New York Times', March 21st 2017)*

The same article quotes John Ratey, an associate professor of psychiatry at Harvard Medical School alleging that '*Movement activates all the brain cells kids are using to learn, it wakes up the brain*'. Similarly, Scott McQuigg, co-founder of 'GoNoodle', a classroom movement programme deployed by over 60,000 elementary schools in the US praises Michelle Obama for her 'Let's Move' initiative, claiming that it has helped raise public awareness of the benefits to health of child movement.

A 2014 'Washington Post' article, '*Why so many kids can't sit still in school today*', *(Valerie Strauss, July 8th 2014)* might seem to return us to 'Fidgety Philip' territory, as the journalist notes an increasing number of children being diagnosed with Attention Deficit and Hyperactivity Disorder (ADHD):

'*A local elementary teacher tells me that at least eight of her twenty-two students have trouble paying attention on a* ***good*** *day. At the same time, children are expected to sit for longer periods of time. In fact, even kindergarteners are being asked to sit for thirty minutes during circle time at some schools.*'
However, the writer finds herself drawing radically different conclusions for the fidgeting, after a series of tests on the supposedly ADHD children were undertaken:

'*We quickly learned that…most of the children in the classroom had poor core strength and balance. In fact, we tested a few other classrooms and found that when compared to children from the early 1980s, only one out of twelve children had normal strength and balance. Only one!* ***Oh my goodness****, I thought to myself.* ***These children need to move!*** *…….. Children naturally start fidgeting in order to get the movement their body so desperately needs and is not getting enough of 'to turn their brain on.' What happens when the children start fidgeting? We ask them to sit still and pay attention; therefore their brain goes back to sleep.*'

As has been seen, a key area impacting upon rates and frequency of physical activity in early childhood settings is the prizing of young children sitting still for extended periods of time. The assumption appears to be that stasis equates with child learning and that

being physically active both in and outdoors is tantamount to a learning desert. This inaccurate assumption is refuted vigorously by many early childhood commentators *(Davies, 2001 'Helping Children to Learn Through a Movement Perspective', Tovey, H 2007 'Playing Outdoors: People and Places, Risk and Challenge', Bilton, H 2010 'Outdoor Learning in the Early Years').*

Young children's physical activity should be seen as the norm; something to be positively encouraged every day. Linked to this, identification of a 'good' child as one who sits still - as opposed to a happily mobile child, need to be resisted and challenged *(Albon, D 2011 'A Response to Physical Activity at Daycare: Issues, Challenges and Perspectives', Van Zandvoort et al, 2010, 'Early Years: An International Journal of Research and Development, 31 (2): 193-200).* However, this requires a significant shift in attitude towards young children. Planned physical activity programmes are valuable, but a cultural shift would treasure the young child's natural inclination to be physically active. Early childhood practitioners should be urged to maximise spontaneous physical activity opportunities for extended time spans throughout the day; notably through use of the outdoors but including indoor activities too *(Albon, D 2014 'Play, Playfulness and Young Children's Well-Being', J Manning-Morton (Ed),'Exploring Well-Being in the Early Years').*

This report contends that physical activity in early childhood is not an 'add on' or optional extra, but that the benefits that it bestows are both immediate and long-term. A growing body of research indicates that children with higher physical activity levels in the early years will maintain these patterns in later childhood, through adolescence and into adulthood. They will also cascade them to the next generation and by so doing, maximise opportunities for health and wellbeing across the lifespan. Activity should start from birth – and even before that. The 2011 Scottish Health Survey illustrates the significance of maternal activity; findings demonstrating that 80% of boys aged 2-15 and 71% of girls of the same age span whose mothers fulfilled adult recommendations for physical activity, met the child recommendations themselves, as against 62% of girls and 72% of boys whose mothers fell short.

Physical activities from birth, prior to walking can include:

- Reaching, grasping, pushing and pulling
- Supervised floor play, including 'tummy time'
- Kicking and rolling from a 'lying on back' position
- Activities at playgroups, Children's Centres, leisure centres
- Provision of toys that encourage co-ordination
- Swimming and water play

Time spent strapped in highchairs, walking aids, baby bouncers, car seats and buggies should be minimised as should sedentary and supine time in front of a television. Already, patterns of activity as described assist in the development of motor skills, emotional and social education, muscular and bone development and cognitive awareness.

Once a child can walk, movement patterns should be spread throughout the day, involving activities such as standing, walking, climbing, riding a bicycle, dancing and unstructured, freely chosen play as well as more defined activities that may be led by

adults. The emphasis should be on child-directed choice but should be pleasurable and when undertaken as part of activities jointly enjoyed by the whole family, can deepen and strengthen emotional bonds. At the same time, nutrition and sleep habits should complement physical activity and in combination, contribute to social confidence, healthy bones, confident co-ordination and movement and the maintenance of a healthy weight.

Far from pursuing the 19th century 'Fidgety Philip' morality theme into the 21st century, parents, carers, health and educational professionals should promote robust patterns of physical activity for all young children. In this way they and future generations will enjoy the best start to life, lessening their risk of later chronic illnesses such as stroke, diabetes and cardiovascular disease.

For the purposes of this report, the All Party Parliamentary Group on a Fit and Healthy Childhood has chosen to follow the United Nations Convention on the Rights of the Child's definition of early childhood as being below 8 years; thereby including children at birth, throughout infancy and pre-school years as well as the transition to school which can vary depending upon region/country from soon after four years of age to an upper entry age of seven years.

1. **THE QUALITY, NATURE AND DIVERSITY OF CURRENT PHYSICAL ACTIVITY PROVISION WITHIN THE HOME, WIDER COMMUNITY SETTINGS AND EDUCATIONAL SETTINGS**

'*Physical activity behaviours across the life-course can be heavily influenced by childhood experiences. Creating safe, physically active, friendly communities, which enable and encourage the use of active transport (walking, cycling, etc) and participation in an active lifestyle and physical activities will benefit all communities. Particular attention needs to be given to improving access to and participation in physical activity for children already affected by overweight and obesity, disadvantaged children, girls and children with disabilities*' *(WHO, 2016 Ending Childhood Obesity. WHO, Geneva).*

As in all matters relating to health and wellbeing, it is never too early to instil good practice. At present, one in five of UK children begin primary school already overweight or obese and according to statistics from Public Health England, 11% of toddlers are obese (amongst children living in poverty the figure is higher). Over a fifth of four and five year olds are overweight or obese and obese children have a 40-70% likelihood of becoming obese adults. Regular physical activity is therefore crucial and emerging evidence suggests that sedentary behaviour in the early years is associated with overweight and obesity *(NHS 2010)* as well as lower cognitive development *(Hawkins, SS and C Law, 2006 A review of risk factors for overweight in preschool children: A policy perspective, International Journal of Paediatric Obesity 1(4): 195-209).*

The number of physical activity programmes across the UK targeted at the early years sector has increased and many are funded and delivered within the maintained schools sector and in the community by experienced sports coaches and leaders. However, the physical activity opportunities available to young children remain largely unregulated and under-funded – and outside the remit of many sports organisations' governing bodies. It is worrying that despite the increase of 30 minutes of physical activity each day via active break times, PE, extra-curricular clubs and active lessons, funded by an increase in the PE and School Sport Premium, evidence from the Gateshead Millennium Cohort Study on children's physical activity *(Farooq MA, Parkinson KN, Adamson AJ, et al: Timing of the decline in physical activity in childhood and adolescence: Gateshead Millennium Cohort Study BR J Sports Med Published Online First: 13th March 2017.doi:10.1136/bjsports-2016-096933)* presents a bleak picture. There is, as yet, no significant data to determine the physical activity patterns of young children in the UK – either in nursery settings or in the home environment. We know that their level of physical activity is worryingly low - but we do not know precisely **what** they do – **where** they do it – and **who** they do it with.

Early Years' practitioners are now increasingly faced with the responsibility and growing challenge of addressing obesity in preschool children. Little is known about the UK preschool 0-5 children's activity pattern and even less about their childcare environment. Limited available evidence suggests that UK children spend large periods of time sedentary at preschool and that any activity is predominantly of a light intensity *(Reilly JJ, Low Levels of objectively measured physical activity in preschoolers in childcare. Med Sci Sports Exerc 2010 Mar; 42(3):502-7).*

Physical Development remains a Prime Area of the Early Years' Foundation Stage curriculum, but current research further suggests that physical activity levels in childcare are low, indicating that children accumulate less than 60 minutes of moderate or vigorous activity over an 8 hour day *(Physical Activity in the Early Years: British Heart Foundation National Centre for Physical Activity and Health, October 2015).* The same survey also observes that children are much more active when adults behave similarly and that when adults supervise rather than participating in physical activity, children move less. It is therefore important that the sector acknowledges available research findings – and uses them to support practice, liaise effectively with parents and instil in children the positive dispositions, habits and behaviours towards physical activity that are known to ensure long-term enjoyment and engagement.

There are, of course, many excellent examples of good practice to be found in UK nurseries, primary schools and within home settings. Here, the comprehensive programmes provided by Outdoor Play and Learning (OPAL) in a variety of learning environments and the family-based initiatives offered by Mytime Active are described in some detail as these supply a breadth of good practice as useful exemplar material. Overall, 'good practice' throughout the UK is patchy and much must be done to improve the quality, nature and diversity of physical activity provision for young children. The following issues are relevant:

- Teachers whether delivering the Early Years' Foundation Stage (EYFS) or Key Stage 1 (up to eight years of age) receive limited training in the planning and direction of outdoor play that can be utilised for the promotion of children's health and continual learning and development. In 90% of UK education settings, the best resources offered to children are often produced en-masse, designed to a 'one size fits all' philosophy. Children's play items are generally expensive 'toys' of little enduring interest, or plastic resources such as sport/PE items like balls and hoops. Outdoor activities and features that do not match the criteria of **freely chosen** (by the child from a wide range of random items and situations on offer), **personally directed** (the child determines the activity) and **intrinsically motivated** (the child controls why, what and where without proscription by an adult) cannot be called 'play' and will not occupy a child for sufficiently long to engender maximum physical and developmental benefit *('Creating Excellence in Primary School Playtimes', M Follett, April 2017).*
  www.kpp.com

  Similarly, if the play elements of **rotation and trajectory, enveloping and orientation, positioning and connection, enclosure, transportation and transformation** are insufficiently present, then any outdoor play-learning setting cannot perform to optimum potential and children will not be as physically engaged and active as they could be.

- The Persil/Unilever Project Dirt/Dirt is Good campaign found that most primary school age children spend less time in outdoor play than prisoners are required to have by law. *https://www.youtube.com/watch?v=6pVM1okMN8o*
- As schools are increasingly pressured to supply services that were formerly the province of other professionals (mental health monitoring) or parents (potty

training, dressing, cutlery skills, additional meals) free play time continues to gradually erode.
http://www.breaktime.org.uk/team.html
If school play opportunities further decrease combined with a continuing loss of play opportunities outside the school day, then children's burgeoning confidence, leadership, character building, determination, teamwork and achievement of good mental health and happiness can only degrade further. This will then exacerbate the existing crises in children's fitness, wellbeing and weight management and the resultant costs to society, the NHS and the economy. This erosion of play must be addressed with zeal.

- Early Years Teachers and Playtime Supervisors in Nursery, Reception and KS1 with a lack of best practice design/delivery training to support them, are less likely to perceive the significance of a good quality outside to facilitate active play that satisfies the needs of all children. Any setting whereby up to 50% of pupils are sedentary for the majority of daily playtimes, cannot supply the basic facilities for healthy, child-engaging activity.

- Up until now, most studies of active play in infant/primary schools have considered 'what they have got' rather than addressing large gaps in current provision. Gender assumptions
http://journals.sagepub.com/doi/abs/10.1177/1356336X15591135
whereby decisions were made about what girls and boys might prefer, predicated by tradition and guesswork, are not the way to determine modern policy making.

- The level of physical activity in younger children is dependent upon motivation, opportunity, free choice and the removal of barriers. Outdoor Play and Learning (OPAL)
www.outdoorplayandlearning.org.uk
with over fifteen years' research and practice in primary schools, identified 18 categories of play barrier covering five broad areas of Leadership and Planning, Accessibility and Inclusion, Care and Maintenance, Staff Skills and Play Value. The OPAL programme defines progress across a wide range, including increased physical activity in girls and boys, better playtime and class behaviour, social and emotional development, increased integration of 'statemented' children in general play activities, plus additional levels of resilience, happiness and contentment within the context of general school life.

Such benefits accrue when there is a 'whole school' cultural and attitudinal commitment to every aspect of children's play and once such a shift is achieved, parents come onboard. Key criteria for the provision of engaging and inclusive play environments in educational settings that engender consistent physical activity and mental wellbeing might include:

1. Social spaces
2. Journeys
3. Affordance, difference and material richness
4. Change opportunities

Social spaces are places where a child feels safe and calm; hence the importance of dens and the need for a variety of social areas with characteristics in which to be to be contentedly alone or as part of a pair or small group.

In a journey, a child may progress from A to B to an imaginary location and an interesting route (enabled but not controlled by adults) should be rich with surprise and extra play opportunities along the way.

Affordances, differences and material richness represent 'play cues'; objects and situations to trigger a child's imagination and 'change opportunities' offer a chance to be uninhibited with free materials like water, soil or sand. Thorough safety assessments are essential and playtime written policy should be prominently displayed on school notice boards and websites. *http://www.hse.gov.uk/entertainment/childrens-play-july-2012.pdf*
Under the EYFS, providers are required to demonstrate how they are managing risk and are referenced to the Health and Safety Executive guidance.

Mytime Active, an established UK provider of community-based, family-focused healthy lifestyle and weight management programmes has a specific interest in delivering key health messages via interactive games and physical activity sessions.

In 2015, the three London Boroughs of Westminster, Kensington and Chelsea and Hammersmith and Fulham commissioned Mytime Active to deliver a range of integrated health services for children. This decision reflects the increasing evidence base that commissioning services for children should be holistic whilst pooling limited resources. Services addressing physical activity in isolation are less likely to achieve the goals of sustained behaviour change and long term outcomes.

Mytime Active runs MEND (Mind, Exercise, Nutrition, and Do It) family based community interventions, delivered by teams of Registered Dieticians, Nutritionists and Physical Activity Specialists. The holistic approach is attuned to child fitness and weight management and 10-week sessions are delivered in children's centres and community halls.

At pre-school level, MEND Mini (targeting the 2-4 age group and their parents or carers) increases awareness of healthy eating, boosting self confidence and enhancing physical and social awareness. Parents and children engage in skills, games and developmental exercises, followed by food preparation and tasting, giving children the opportunity to experience a range of fruits, vegetables and healthy foods. Mini MEND is committed to the physical development learning outcomes of the statutory framework for the Early Years Foundation stage.

MEND 5-7 is for families with children in this age group who have concerns about their weight and nutrition. Parents/carers and children participate in a range of games, exercises and workouts; also affording opportunity for nutrition, physical activity and related parenting topics to be addressed. Families are encouraged to determine credible health and activity goals.

The multi component MEND in Schools is a whole school obesity prevention programme embedded in the curriculum and aiming to achieve sustainable changes in healthy eating, strong oral health and physical activity in home and school settings. Children and families are encouraged to achieve and maintain healthy weight and lifestyles. MEND in Schools (initiated September 2015) is now adopted by 46 primary schools across West London and to date, 4,999 children across multiple year groups have participated in the programme. Key Stage 1 children join weekly workshops and physical activity sessions over a term. Physical activity sessions continue as curriculum activities during the following the curriculum and thence the physical activity sessions become part of the extra curricular programme. The package is then repeated with different year groups.

In Phase One of MEND in Schools, teaching staff work with the Mytime Active team to deliver three one hour workshops for the whole family in the first term. Phase Two provides a physical activity programme for one hour per week designed for a lunch time or after school club. The sessions combine physical activity with education about healthy lifestyles; healthy eating, the development of physical literacy and promoting engagement in physical activity. Children are set tasks and challenges to complete at home to help reinforce the session messages.

All MEND programmes include parent and child activity sessions and seek to build parental confidence in facilitating play, increase the family's activity levels and create better physical activity role models. Parent-child imaginative and physical play is linked with the child's competence, gross motor skills, peer group leadership and cognitive development *(Lindsey, EW & Mize, J. 2000. Parent-child physical and pre-tense play: Links to children's social competence: Merrill-Palmer Quarterly, 46(4), 565-591).* Interactive play helps a child to learn how to regulate their emotions better *(Sunderland, M. 2006. Science of parenting; practical guidance on sleep, crying, play and building emotional well-being for life)*. MEND also encourages participants to take advantage of local physical activity opportunities, including parks and green spaces.

A new MEND in School programme, 'Wiggle Week' is designed to introduce Reception children to healthy behaviours and reinforce Year One children's learning. Six wiggles (songs) combining familiar nursery rhymes with new lyrics aim to embed healthy routines including trying new foods, drinking water, staying active, being an active family and establishing a good bedtime routine. Home-game videos are also used to equip families with new gaming ideas that can be played anywhere at no cost. Families are signposted to the videos via social media, workshops and handout slips that children take home each week.

As always, the best testament to a programme's success comes from those it is intended to benefit and this is the verdict from a satisfied Year One pupil:

'*I enjoy doing sports and most of all, I love trying new fruits and vegetables. When we are doing sports, we also get to learn at the same time. I Love MEND.*'

It is important that initiatives designed to increase physical activity in young children are holistic; especially in light of the fight against obesity and overweight and a greater

priority must be placed on activity levels outside the school. Another important area in need of attention is Primary Care as highlighted by Dr. William Bird:

'….the GPs particularly need to have their knowledge increased. Physical activity should be part of being a good doctor. It is not quite there yet. The evidence is there but it needs to be put into the hearts and minds of doctors', *(House of Commons Health Committee 1015 Impact of Physical Activity and Diet on Health, Sixth Report of Session 2014-15, The House of Commons: The Stationary Office, London).*

According to Jane Landon of the UK Health Forum:

'We have the tools available to us; we have the dietary guidelines; we have physical activity guidelines. We are only really using them when we talk to the individual when these should be guiding policy decisions across Government departments. We need to re-frame some of the discussions,' (House of Commons Health Committee, 2015 Impact of Physical Activity and Diet on Health Sixth Report of Session 2014-15. The House of Commons: The Stationary Office, London).

Recommendations

- **1.1 A UK overall health/wellbeing assessment for young children as they start school, commensurate with the Australian AEYC (Australian EY census)**
- **1.2 Multi disciplinary policy makers (education, welfare, planning, health, social development) to be aware of the importance of physical activity in early childhood when designing policy**
- **1.3 Physical activity in the early years to be embedded in all relevant policies nationally, regionally and locally**
- **1.4 Funding to be made available for training for early years' practitioners in physical activity**
- **1.5 All teachers, from EYs/Foundation through to Headteachers to receive a minimum 20 hours of training, updated every five years on best practice in enabling and delivering playtime learning. Such training should include coverage of policy areas, forward planning, communication, safety/risk, design, materials resourcing and reflective practices**
- **1.6 Health and education practitioners should share information about physical activity and its role in child development by demonstrating integrated and purposeful working**
- **1.7 Every setting aiming to provide a high quality of outdoor play provision (under 5s – primary school) to meet the 18 areas identified by OPAL as a minimum requirement.**

2. PHYSICAL ACTIVITY BEST PRACTICE IN THE PRE-PREGNANCY, ANTENATAL AND POSTNATAL PERIOD FOR PARENTS/CARERS AND BABY TO INCLUDE THE ADVISORY ROLE OF EDUCATION AND HEALTHCARE PROFESSIONALS AND THEIR OWN TRAINING NEEDS

Physical activity is important in the pre pregnancy period; during pregnancy itself increasing evidence suggests that physically active women are less likely to experience

problems in later pregnancy and during labour *(National Childbirth Trust 2017: Good exercises and sports in pregnancy): https://www.nct.org.uk/pregnancy/good-exercises-sports-pregnancy*
Physical activity in pregnancy reduces the risk of excessive weight gain and adverse conditions including gestational diabetes, pre-eclampsia, pre-term birth, varicose veins and deep vein thrombosis *(Royal College of Obstetricians and Gynaecologists, 2006. Exercise in pregnancy): https://www.rcog.org.uk/en/guidelines-research-services/guidelines/exercise-in-pregnancy-statement-no.4/*

Some evidence links physical activity during pregnancy with shorter labours and fewer delivery complications. Psychological benefits include reduced tiredness, stress, anxiety and depression. Physically active women are also likelier to continue being physically active post partum. Physical activity during pregnancy is endorsed by Sport Medicine Australia *(SMA Position Statement; Exercise in Pregnancy and the postpartum Period 2016)* making the point that moderate-intensity walking, jogging, cycling, swimming, muscle-strengthening exercises (including pelvic floor) water-based exercise and pregnancy-specific classes for expectant women are beneficial and are also a positive factor in post partum mental health. It is crucial, however, that delivery of antenatal and postnatal exercise (including new baby activity) is conducted and overseen by professionals who are appropriately qualified and updated on training. Continual professional development (CPD) is necessary to ensure a constant standard of occupational competency.

The World Health Organisation (WHO) recommends that individuals aged 18-64 engage in moderate physical activity for at least 150 minutes across the week or at least 75 minutes of vigorous intensity aerobic activity. Muscle-strengthening activities should complement this two or more days every week. WHO advises pregnant women to take extra precaution and seek medical advice before striving to match these recommendations. Previously inactive pregnant women should begin with 15 minutes of continuous aerobic activity three times a week; increased to 30 minutes at least four times a week *(NHS Choices 2017. Exercises in Pregnancy): http://www.nhs.uk/conditions/pregnancy-and-baby/pages/pregnancy-exercise.aspx*
Inactive women/women with a high risk pregnancy/pre-existing medical condition should consult a health professional before commencing an activity/exercise programme. In general, pregnant women should minimise sedentary activities such as sitting for long television viewing sessions or working at a computer unless advised to the contrary by a health professional *(National Institute for Health and Care Excellence 2010. Weight management before, during and after pregnancy): https://www.nice.org.uk/guidance/ph27*

A significant body of research advocates water exercise for pregnant women:

'*A study in the United States showed that pregnant women who exercised in water had lower heart rates and blood pressure than women who did ordinary exercises. The babies also benefitted by having lower foetal heart rates after water exercises than when the same exercises were done on land', (Harmonizing exercises in water for pregnancy, birth and beyond, Aqua Yoga, Francoise Barbara Freedman, 2002, p12).* Freedman cites the support that water can give to joints and muscles and Merati et al *(2006 cited Bolitho S, Hath V. Aqua Exercise for pregnancy and postnatal health, 2014)* affirm that exercising in

water, thus mimicking very low gravity, can relieve feelings of discomfort from the weight of the foetus and uterus, in particular to supine positions, exercising and breathing depth.

Research from Queen Mary, University of London *(The Daily Mail, July 20th 2017)* has found that, according to data assessed from 36 previous trials consisting of 23 studies of pregnant women of variable weight, six targeted at overweight and obese women and seven consisting of only obese women, women of any weight were likely to derive benefit from a tailored diet and exercise programme during pregnancy and were thus less likely to develop diabetes in pregnancy, gain excessive weight or require a Caesarean section.

Of equal importance is continuing physical activity after birth, both in terms of matters such as pelvic floor health and muscle training to prevent incontinence and prolapse in later life, but also as a bulwark against postnatal depression:

'*Exercise can help reduce the symptoms of postnatal depression because it serves as a distraction from the many problems and stresses of daily life. Exercises also naturally enhance mood and esteem, and provide an opportunity for new mothers to meet friends, share experiences and increase their level of social support and interaction.' (Health, Fitness and Education (HFE), 2013, p51).*

During pregnancy, the advice and support of health professionals is vital. NICE advises that ideally before the 10 week gestation period, the initial visit to a health professional should address eating habits and levels of physical activity. Concerns about moderate-intensity physical activity should be allayed and advice given as to specific types of physical activity during pregnancy (rate and frequency dependent upon the individual) and the importance of avoiding an excessively sedentary lifestyle. Pregnant women should also be warned against engaging in high-impact sports that may involve the risk of abdominal trauma, falls or excessive joint stress and embarking upon scuba diving which may result in birth defects and foetal decompression disease. NICE guidelines also lay importance on dietary advice In 2010, the Royal College of Midwives (RCM) conducted a survey, with parenting website 'Netmums' canvassing over 6,000 women about the advice they received concerning weight, diet and physical activity during pregnancy. The results were depressing:

- 64% regarded the advice received as 'neutral', 'poor' or 'very poor'
- Nearly three quarters wanted NHS midwife-led antenatal classes to address weight and diet
- Two thirds reported that their midwife did not have time for such discussions

(Netmums, 2010. A Growing Problem - Does weight matter in pregnancy?)
https://www.netmums.com/assets/images/2012/A_Growing_Problem_Nov2010.pdf

Midwives are ideally placed to explore issues of physical activity and weight management but need the confidence instilled by training to raise these topics. An example of good practice is supplied by The Early Start Wellbeing and Nutrition Team who deliver an Association of Nutrition (AfN) certified Physical Activity training course which aims to increase the knowledge of early years practitioners and health professionals in the benefits, recommendations, and barriers for physical activity throughout the life course, including pregnancy (Early Start Wellbeing and Nutrition

Team, 2017). In addition, a number of online resources aim to inform and encourage pregnant women to be physically active throughout pregnancy. Health professionals should ensure that they signpost women to reliable, evidence based information sources, such as NHS Choices, NCT and Tommy's. It is also important for professionals working with expectant mothers to be aware of the local provision of exercise groups and leisure activities suitable for expectant mothers such as antenatal yoga, Pilates and swimming.

Evidence both for psychological and physical wellbeing of regular physical activity for the under fives is increasing *(Start active, stay active: report on physical activity in the UK)*: *http://www.ssehsactive.org.uk/userfiles/Documents/startactivestayactive.pdf*
In infants and very young children, physical activity strengthens developing muscles and bones and assists good coordination and movement. A variety of physical activities also helps maintain a healthy weight, boosts self confidence and social skills and furthers the development of friendships. As early physical activity frequently presages beneficent habits being carried into later life, it is a key component of promoting a lifelong healthy lifestyle. Whilst physical activity for most under five carries very low risk, the potential that childhood inactivity will lead to poor later health is very high.

In 2011, the Department of Health advised at least 180 minutes of physical activity for ambulant under fives. However, the Stay Active report mentioned above, states that only one in ten children aged two–four are currently meeting these guidelines, with many spending 10-11 sedentary hours per day. The Chief Medical Officer has advised the following physical activity recommendations in children under the age of five:

- Physical activity to be encouraged from birth; especially water-based activities in safe environments and floor-based play
- Ambulant pre-school children should be physically active for at least three hours spread throughout a day
- All under fives to minimise sedentary time whether under restraint or sitting solo for extended periods (except sleeping).

Health professionals are well positioned to offer advice and also sources of local activities and support groups but need continually refreshed professional development opportunities (CPD) to keep up to date. In Scotland, the NHS provides a flexible e-learning resource which engages a variety of different-sector individuals who are involved in advancing the cause of physical activity in Scotland. The modules educate and raise awareness about physical activity and training packages include behaviour change, raising an issue of child and maternal healthy weight and physical activity with sensitivity and signposting to other sources of provision and help. *(NHS Health Scotland 2017)*: *https://elearning.healthscotland.com/course/index.php?categoryid-113*

The British Heart Foundation has produced a range of free resources which aim to support early years' practitioners to plan and organise physically active play environments for the under fives. The Early Movers Guide (*British Heart Foundation 2015: Physical Activity Statistics 2015*):
https://www.bhf.org.uk/publications/statistics/physical-activity-statistics-2015
includes educational and support booklets for practitioners and also informative leaflets for parents/carers on topics such as 'Help your child move and play every day' and 'Ideas for active play with your baby or child.'

The Newham-based Early Start Wellbeing and Nutrition Team offer an Association for Nutrition (AfN) certified Physical Activity training course which aims to increase the knowledge of early years' practitioners and health professionals about the benefit, recommendations and ideas for physical activity in the early years. This training also explores how physical activity is reflected in the Early Years' Foundation Stage Framework (EYFS) and in Ofsted's Common Inspection Framework. Staff are given confidence to not only encourage and plan activities in their setting but also in sharing information and supporting families to be physically active at home (*Early Start Wellbeing and Nutrition Team 2017. Physical Activity*): https://www.earlystartgroup.com/wellbeing&nutrition/training/pag

Another training provider delivering Cache supported level two and three training courses in the field of Early Years Physical Development is Active Matters. This training is suitable for a range of professionals including Speech and Language Therapists, nursery practitioners, sports coaches and occupational therapists. The aim of Active Matters is to ensure that practitioners/professionals receive appropriate, high quality training that supports the design and delivery of safe and effective practical sessions *(Active Matters 2017. About Active Matters)*: *http://www.activematters.org/about-section/about*

Physical activity programmes, combined with information about a healthy diet are essential pre pregnancy, during a pregnancy and for the new mother and her child after the birth and in the early years. There are many examples of good practice, but all too often this is not readily accessible and, as a consequence, underused. It is now essential that good practice is collated, pilot schemes advanced and government both locally and nationally takes a lead in ensuring that good practice is established from the outset, giving parents and professionals confidence and thereby paving the way to good starts with the potential to facilitate lifelong health.

Recommendations

2.1 Government to establish a national physical activity and healthy eating campaign targeted at pre pregnancy, pregnancy and post pregnancy stages for mother and baby; part of which will involve local authorities establishing and updating accessible directories of local provision

2.2 Government to establish physical activity/healthy eating pilot programmes based on existing good practice for evaluation and potential national roll-out

2.3 Comprehensive modules involving physical activity/healthy eating to be embedded into the initial training for those coming into contact with pre pregnancy, pregnant and post partum women during the course of their professional duties

2.4 Health and educational professionals including midwives to have CPD on physical activity/healthy eating as a contractual requirement with regular time span update; to include the use of apps and e learning

2.5 Increased emphasis on the importance of physical activity across the Early Years' Foundation Stage curriculum

2.6 Prioritising the role of physical activity in assessment of physical development in the early years curriculum

2.7 Creating a Healthy Early Years Award scheme to promote and enhance the progression of physical development and physical activity within the Early Years' Foundation Stage curriculum

2.8 Promoting and ensuring a systematic and uniform sharing of information between early years settings and infant/primary schools regarding individual children's physical development and activity levels prior to transition.

3. THE ROLE OF LOCAL AUTHORITIES, VOLUNTARY ORGANISATIONS AND BUSINESS IN PROMOTING, FACILITATING AND DEVISING A HOLISTIC RANGE OF EARLY CHILDHOOD PHYSICAL ACTIVITY OPPORTUNITIES; ALSO WORKPLACE CRECHES

Early years' providers are responsible for building and supporting their workforce, and the success of this strategy will depend upon employers, as well as training providers and sector organisations, continuing to work together and with government.

But government has a role too. *'As the Minister for the Early Years, I am committed to supporting the development of a well-qualified workforce with the appropriate knowledge, skills and experience to deliver high quality early education and childcare for children from birth to age five…..an effective workforce drives high quality provision, which is critical to children's outcomes and is important to parents making childcare choices.' (Early Years Workforce Strategy, March 2017 – Caroline Dinenage MP, Minister for Women, Equalities and Early Years).*

The government Change4Life initiative produces resources annually for parents/teachers to encourage children's activity during the summer holidays and Public Health England collect data on uptake/use of resources. The 2017 campaign involves the use of Disney-themed activity cards and whilst they are child-accessible; addressing the recommendations listed here might enable more effective monitoring of the programmes:

- Procedures to be devised whereby all schemes are evaluated
- Feedback on what worked with families and children plus data on the number of participants
- Assessment of the activities; do the 'games' meet the needs of 21st century children or is their appeal primarily to earlier generations?
- Safety points to be included in game prescriptions
- Once an activity has been completed, what is the next step?
- Predicted duration of the activity/number of children ideally involved and age range of participants
- Linking activities to the Chief Medical Officer's recommended 180 minutes of physical activity, spread throughout the day
- What are the activities expected to achieve?

Currently (although Brexit will be influential) the Word Health Organisation's Regional Committee for Europe has produced a document entitled 'Physical Activity Strategy for the WHO European Region – 2016-2025'.

Priority Area 2 is entitled 'Supporting the development of children and adolescents' and Objective 2.2 aims to 'Promote physical activity in pre-schools and schools.' Key guidance is as follows:

33. '*Member States could use legislation and other tools to promote physical activity in pre schools and schools. The initiatives could include infrastructure to support physical activity, such as playground, active breaks, free play, active extracurricular activities and provisions for safe commuting, e.g. by bike or 'walking bus.' Member States should also continue to implement existing policy documents such as the EU Council Recommendation on promoting health-enhancing physical activity across sectors (for Member states of the EU) and the Parma Declaration on Environment and Health.*'

34. '*Member states should lay the basis for the participation of children in physical activity. It is important to make pre schools and schools more active by providing them with assistance, adequate resources and the necessary training as well as opportunities for meaningful involvement. Depending on their national contexts, Member States should consider using regulation of fiscal measures to specifically promote the inclusion of children from vulnerable groups and children with disabilities.*'

In the UK, statutory guidance for Local Authorities states that for **three and four year olds** Local Authorities are legally required to:

Secure early education places of 570 hours per year over no fewer than 38 weeks of the year for each child in their area from the relevant date until the child attains compulsory school age (the beginning of the term following their fifth birthday).

The relevant dates are:

- Children born in the period January 1st – 31st March: the start of term beginning on or following 1st April after the child's third birthday
- Children born in the period 1st April - 31st August: the start of term beginning on or following 1st September after the child's third birthday
- Children born in the period 1st September – 21st December: the start of term beginning on or following 1st January after the child's third birthday.

Two-year-olds - Local Authorities are legally required to:

Secure early education places offering 570 hours per year over no fewer than 38 weeks of the year for every eligible child in their area from the relevant date as outlined. A child meets eligibility criteria if:

- They qualify for Free School Meals
- Their families receive Working Tax Credits and have an annual gross income of no more than £16,190 per annum.

https://www.gov.uk/government/publications/early-education-and-childcare--2

A child is also eligible for free early education and childcare if any of the following criteria apply:

- The child is looked after by a local council
- The child has a current statement of special educational needs (SEN) or an education, health and care (EHC) plan
- The child is eligible for Disability Care Allowance
- The child has left care under a special guardianship order, child arrangements order or adoption order.

However, Local Authorities have limited spaces across the regional childcare market for children aged two and central government funding does not necessarily reflect the hourly cost of part-time childcare in London. A Daycare Trust and Family and Parenting Institute report claims that working parents in London pay 11% more than in 2016 for a nursery place for children of two and over. There is also lack of flexibility concerning the differing needs of children.

The provision of registered childminding training and for pre and nursery school workers is dependent upon finance for continuous professional development (CPD) that most (if not all) Local Authorities would have previously self-funded. Different facilities are required (with separate spaces typically allocated to each) to accommodate specific age group needs and teacher-pupil ratios can vary given the level of small group activity towards 1:1 care within the more extreme cases. A rise in living costs and the need for both parents to work, involves increased wraparound care. Early years settings and primary providers must restructure the working day to accommodate this need. Other pressures arise because of the increased hire costs of childcare facilities, the confidence of teaching staff in their own command of the Physical Development aspect of the curriculum and proficient teaching of movement skills. There may also be a financial shortfall over the purchase of new resources and replacements for exhausted equipment.

Financial pressures have prompted equipment sharing and some grants are available for the purchase of community access resources such as boxes of multi-skill equipment. These can be used by different play groups within a region. Also, Forest Schools offer cross-curricular physical activity that enables different age groups to undertake motivating tasks whilst utilising physical and cognitive skills within an outdoor woodland environment.

There is a lack of data about young children's physical activity; no single method of evaluating levels of physical activity in this age group and no agreed definition of what 'moderate to vigorous' physical activity means.

In February 2016, the Local Government Association (LGA) published 'Healthy weight-healthy futures. Local government action to tackle childhood obesity. Case studies.' This useful resource showcases much good work currently undertaken at local level but many projects deal purely with nutrition and money is allocated to healthy eating clubs/gardening/menu planning and sugar reduction – without reference to physical activity.

In Medway, 60 settings have joined an 'Eat Better Start Better' programme that '*provides training and support to staff on planning healthier menus and helping children to use mealtimes to learn social skills.*' The council has recently received £2.5m from the local Growth Fund to promote cycling over a three year period but there is no further physical activity component than this!

Wigan, by contrast, has responded to 'the obesity challenge' by integrating support services. Their 'Inspiring Healthy Lifestyles' programmes unite the National Child Measurement Programme (NCMP), specialist weight management services, health promotions, work and the healthy lifestyles, early intervention and prevention education schemes that are provided to schools and nurseries. Families are encouraged to use local swimming and leisure facilities. Children in pre-school/reception and year 4 undertake a six week programme involving healthy eating, cooking and physical activity. 10,000 children have participated in it over the past two years. However, the nature of the physical activity programme is unrecorded; neither is there any recognition of the current Chief Medical Officer's Early Years Physical Activity guidelines. Funding is available if health targets are specifically related to obesity prevention and the link between physical activity and obesity prevention in young children is – at best – 'undecided.' Majority funding is allocated to nutrition and physical activity is felt to be an 'add on.' It is uncommon to find any health programme for the early years whose primary focus is physical activity.

In Manchester, a third of five year olds fail to achieve a 'good' level of development in the Early Years' Foundation Stage Programme (EYFSP). Health visitors reported an increase in children with arrested physical development (noted at nine months) during the two year old integrated Review and by Early Years' practitioners. There is little statutory funding for physical activity; finance is focused upon mandatory areas such as safeguarding and first aid. Sport England money is only provided for children of five years upwards. To support the Greater Manchester Startwell Strategy for the Early Years, funding is sought from national charities but availability is uncertain Funds were recently obtained from the Greater Manchester Moving Investment Scheme. A sum of £2,200 was given to a nursery chain with significant effect including:

- 86 Early Years' professionals (20 Physical Development champions, Regional Managers/Nursery Managers) received training in physical activity, engaging over 2,000 young children
- Two 10 week programmes 'Let's Play Toddler' and 'Let's Play Pre-School' were introduced, enabling practitioners to either provide a one hour physically active session every day – or rolling physical activity opportunities for children throughout the day
- Physical activity is embedded into daily practice; time and space is designated for this 'prime area' of the Early Years' curriculum and one nursery now has a special 'Physical Development' room
- Practitioners report increased confidence and competence in this field
- Practitioners report increased interest/awareness/engagement re physical activity by parents and carers
- On-going support is offered.

In 2014, 'Startwell' was commissioned to support the obesity strategy for Birmingham. This collaborative arrangement is funded by Birmingham City Council and designed

specifically for Early Years' settings between Birmingham Community Healthcare Trust and Billesley Primary School. It is part of the Early Years' Review but the contract has recently been tendered out and there is no confirmation of future plans.

The emphasis is to up-skill Early Years' staff, enhancing their knowledge of what health and wellbeing means for young children and building effective solutions to obesity into daily practice. Of the six elements of the programme, three focus upon physical activity:

- 180 minutes
- Avoid Inactivity
- Physical Activity aids Learning.

All 480 Early Years' providers in the city have been offered the programme and so far, 450 have engaged. The Startwell team work with a network of children's centres and each locality has a 'lead person' to support practitioner delivery. There is a range of awards and levels for centres to work through with support from an allocated Startwell consultant. The outcomes have been overwhelmingly positive:

- 89% of settings report that staff have increased the time for children to enjoy physical play
- 955 of settings report changes that they have made to the environment to better support physical play
- 95% of settings report that they have altered the environment to ensure that a greater element of physical skill is demanded from the activities children experience.

In London, City Hall and the Mayor are planning a 'Healthy Early Years London' initiative (HEYL). The aim is to '*Provide tools, support and networking opportunities to EY settings, enabling them to create high quality, healthy learning environments to increase access to healthy food, provide opportunities to be more physically active and help improve physical, social and emotional health and wellbeing and learning.*'

All 13,000 nurseries/playgroups/children's centres/crèches and childminders in London will have the opportunity to be involved and at present a pilot study is being conducted in Croydon, Havering, Hounslow, Lambeth, Southwark and Tower Hamlets. This period will continue until September 2017. HEYL is designed as a complement to the EYFS framework and may provide additional evidence for the purpose of Ofsted inspections.

The award has eight strands of which Physical Activity, Physical Development, Reducing Sedentary behaviour is one:

- The Awards start with a First Steps award; progressing through bronze, silver and gold
- All settings must achieve a First Steps award, lasting for a two year period before progressing further
- This award includes designing a comprehensive Physical Activity statement; knowledge of the Chief Medical Officer/Early Years/Physical Activity guidelines – ways of supporting Physical Activity and Physical Development and reducing sedentary behaviour and ways of supporting active travel
- For the Bronze award, examples are requested of how staff actively and positively support children's outdoor experiences

- How the environment, resources and planned activities enable children to be active both inside and outside
- How sedentary time may be minimised
- Supporting inclusive practice
- Engaging families.

The initiative has central funding and it is hoped that the pilot will provide the quantitative and qualitative evidence to secure long-term funding and support. The existing Healthy Schools Programme (and accompanying Awards) has been very successful with a proven record of improving physical activity behaviour change. By placing physical development and activity at the heart of the HEYL scheme, there is realistic hope that this area of the curriculum will finally achieve parity of status; thus improving life chances of young children.

In rural Leicestershire, funding for three EY/PD/PA programmes is applied for annually and received from Leicestershire County Council Public Health Team. Blaby District Council actively supports this specialist Early Years post and ensures that funding from a variety of sources remains allocated. However, since 2015 there has been a significant reduction of funding for the Early Years in general and fewer settings have been able to sign up for this particular service. The full time contract for an Early Years' practitioner to support the current Early Years Physical Development Officer has been cancelled.

The three programmes offered aim to promote a balanced diet, a reduction in sugar intake and an increase in levels of physical activity in pre-school children:

- **Active Bean Club** (for 3-5 year olds) settings are supplied with a set of physical activity resource cards and an equipment bag. Practitioners are trained in the importance of physical activity and the design and delivery of safe and effective sessions. Follow-up support visits may also cover parental engagement and further staff training and continued mail support is available. Since 2013, Active Bean has involved 73 settings/2,750 children/450 practitioners and 120 senior staff members
- **Mini Movers** – parents and carers are encouraged to support children's physical development in the home; using low/no cost available equipment. A variety of printed resources are made available and emails are sent regularly to inform adults of other groups/ sessions of interest
- **Wild Child** – an outdoor holiday programme, delivered during school holidays in local green spaces to support parents and carers.

These programmes have modest aims but ones that are realistic and achievable for the rural settings involved. The stress is upon empowering practitioners and parents to be actively engaged in supporting their children's overall health and wellbeing.

However, the funding of key personnel to cascade specialist knowledge and information is paramount. Rural councils; Oadby and Wigston, Charnwood and Melton cannot fund further interventions in EY/PA PD and so there will be no input in the physical development of children in these districts for the foreseeable future.

In conclusion, given the increased demands upon the typical family to have both parents working, the creation of workplace crèches has its place to support the work/life

balance. The quality of work productivity that can consequently be returned is a rich employment benefit that companies are steadily realising with the stumbling blocks of cost, facilitation and implementation providing core barriers. Of course, the challenge is to ensure that such crèches supply the type of optimum physical activity opportunities to be found in other early years' settings.

Investment banking firm Goldman Sachs opened the City of London's first on-site corporate office crèche. It opened in 2003 to initially offer all employees with children 20 days' free childcare a year which can be booked either in advance or on the day if there is an urgent need.

In 2010, they expanded the facility and offered working parents free use of the nursery for four weeks to support transition back to work from parental leave and then full-time paid childcare available for those who say alternative arrangements are challenging.

'*There is nothing more stressful than worrying about childcare,*' explains one female managing director whose son used the facility from six months to three years old. '*I just couldn't concentrate upon my job if I was worried that my nanny wasn't feeling well or she didn't turn up on time. It was incredible to be able to have him there. I knew that he was happy. I could go down any time.*'

Goldman Sachs has rolled out on-site crèches in their offices in Tokyo and New York. In locations where they cannot provide a facility they try to find a local nursery that they can subsidise for employees.
https://www.theguardian.com/sustainable-business/2016/jan/13/babies-at-work-onsite-childcare-office-goldman-sachs-addison-lee

For Goldman Sachs' Children's Centre, Ofsted commented:

'*Children have excellent opportunities to develop their all-round physical skills. For example, babies love to climb their appropriately sized climbing apparatus which they confidently use to learn how to climb up and down stairs carefully. The youngest babies have soft play resources and ample opportunities to gain confidence in pulling themselves up on furniture. Older children enjoy daily trips to the local parks where they can access a variety of challenging climbing equipment. However, within the nursery there is also a specially built climbing wall with rope swings for the older children who show great confidence in taking on these physical challenges.'(A Glimpse Inside The Goldman Sachs Nursery: business-40658619).*

Parliament is arguably a leading example of recognising the value of workplace-based nursery creation. There is an on-site facility made available for Members, Members' staff, House of Commons and Digital Service employees, House of Lords Peers and staff, Press Gallery media pass holders, Whitehall parliamentary pass holders and contractors situated on the parliamentary estate. Day and evening sessions are available with a capacity for 40 children (aged three months to five years). Ofsted's most recent inspection report for the House of Commons nursery makes particular reference to the health and wellbeing of the attendees, stating that '*Staff promote children's physical development well in the nursery and make extensive use of outdoor areas in the local community to provide children with good experiences.*' London Early Years Foundation

(LEYF) is the quality-assured contracted service provider and have produced a richly informative website that includes practical ideas to support the child's learning at home, therefore encouraging continuity and progression with their physical development within a family-based environment *(London Early Years Foundation: Ideas To Support Your Child's Learning At Home):*
https://www.leyf.org.uk/ideas-for-parents/

Recommendations

3.1 The Early Years Framework of Delivery to contain statutory requirement for physical development and activity rather than the current 'recommended' requirement

3.2 Primary years' reception age group to be included in the Primary PE and Sports Premium

3.3 Evaluation and standardisation of HMI inspection requirements for physical activity

3.4 Key central government requirements to be established for early years' physical activity

3.5 National anti-obesity strategies to be revised/upgraded to include substantial physical activity content and for this to be fully promoted via a national awareness campaign

3.6 Physical activity component to be a requirement for government funding of anti obesity strategies

3.7 Department of Business, Innovation and Skills and Department of Education to promote workplace nurseries and crèches and draw up a directory with the aim of promoting good practice and cascading skill and expertise.

4. THE ROLE AND RESPONSIBILITY OF GOVERNMENT IN THE DEVOLVED UK WITH CLOSE REFERENCE TO OFSTED, THE FOUNDATION STAGE CURRICULUM AND THE NATIONAL CURRICULUM IN MESSAGING, FUNDING, RESEARCHING EARLY CHILDHOOD ACTIVITY AND PROMOTING ITS CENTRAL ROLE IN CHILD (AND THENCE ADULT) FITNESS AND HEALTH ALONGSIDE NUTRITION, PLAY AND EMOTIONAL WELLBEING

Recently, the prevalence of overweight and obesity in preschool children has increased, particularly in urban areas, deprived backgrounds and certain ethnic minority groups such as Black and Asian populations *(Department of Health 2011a The NHS Information Centre for Health and Social Care: National Child Measurement Programme 2010/2011)*: *https://catalogue.ic.nhs.uk/publications/public-health/obesity/nati-chil-meas-prog-eng-2010-2011/nat-chil-meas-prog-eng-2011-2011-rep.1.pdf*

The early years are a time of rapid growth; children should be helped to establish healthy eating patterns and physical activity should be incorporated from the outset to form an integral part of everyday life. In 2011, the Chief Medical Officer argued for concerted action to create environments and conditions that facilitate physical activity with initiatives specifically designed for movement in the early years (*Department of Health, 2011b Start active, stay active*):

http://www.gov.uk/government/uploads/system/uploads/attachment_data/file?216370/dh_128210.pdf

This is welcome; but future policy prescription must include the diverse communities within the UK. South Asian children are reported to have substantially lower levels of physical activity than White Europeans *(Fischbacher CM. 2004: How physically active are South Asians in the United Kingdom? A literature review. Journal of Public Health. 26:250-258.10.1093/pubmed/fdh158).* This may be adding to the raised risk of obesity, coronary heart disease and diabetes recognised within South Asian people living in the UK *(Owen, CG.2009: Ethnic and gender differences in physical activity levels among 9-10 year old children of white European, south Asian and African-Caribbean origin: the child heart health study in England (CHASE study). International Journal of Epidemiology, 38:1082-1093.10.1093/ije/dyp176)* and clearly requires serious consideration.

The Childhood Obesity – A Plan for Action
https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action
highlights that only one in ten children currently meet the Chief Medical Officer's physical activity guidelines. These state that activity should be promoted from birth, especially via floor play and water-based activities in safe environments. Ambulant pre-school children should be physically active; spread throughout each day. Similarly, undue time engaging in sedentary pursuits is undesirable and the National Literacy Trust in 2009 found that on average, UK children spend 24 hours per week in front of a TV or computer. Just switching the implement off can stimulate increased activity.

Ofsted's commitment to the protection and safety of all children and learners is given in The Common Inspection Framework. It evaluates early years' provision in line with frameworks, national standards and regulatory requirements *(Ofsted 2015a The common inspection framework; education, skills and early years):*
https://www.gov.uk/government/publications/common-inspection-framework-education-skills-and-early-years-from-september-2015
Yet the guidelines do not take sufficient account of the wide range of factors impacting upon children's lives which cannot be either quantified or correctly observed via snapshot observations. Neither does the Framework endorse an outdoor, active element that would naturally maximise children's opportunities to demonstrate these learning features and to pursue their interests and needs.

Schools are increasingly pressurised to demonstrate children's achievement via tests taken in sedentary conditions *(Peckham, K. 2016 'Developing School Readiness; Creating Lifelong Learners).*

With a combination of research community guidance and government policy, it would be possible to recommend appropriate levels of physical activity to effect beneficial change in the school climate. Otherwise, children will be disadvantaged due to a curriculum that endorses 'whole-child' development whilst simultaneously being unduly standards based. In fact, studies show that regular physical activity (especially when begun in early childhood) is significantly linked to improved cognition in children *(Chomitz VR, Slining, MM, McGowan,RJ, Mitchell SE,Dawson GF & Hacker KA, 2009: Is there a relationship between physical fitness and academic achievement? Positive results from public school children in the north-eastern United States, Journal of School Health,*

79(1), 30-37, doi: 10.1111/j.1746-1561. 20008.00371.x Wittenberg RA, Northrup, KL, & Cottrell LA, 2012. Children's aerobic fitness and academic achievement: A longitudinal examination of students during their fifth and seventh grade years. American Journal of Public Health, 102, 2303-2307).

With health indicators directly and indirectly associated with academic performance, those starting school already overweight, or becoming overweight during the transitioning years, achieve lower results in standardised tests than children of a healthy body weight *(Datar A, Sturm R, 200: Childhood overweight and elementary school outcomes. International Journal of Obesity, 30, 1449-1460).*

Yet whilst studies suggest that a threshold of vigorous physical activity is necessary for academic achievement, what should the 'physical activity' be? When it should start and how significant are differences between girls' and boys' play? 'Childhood Obesity – A plan for action' states that at least 30 minutes of physical activity should be delivered in school every day through break times, PE, extra curricular clubs, active lessons, or other sport and physical activity events with the remaining 30 minutes supported by parents and carers outside school. Ofsted will assess how leaders of the Primary PE and Sport Premium, measure its impact upon pupil outcomes and the ways in which governors hold them to account. From September 2017, each primary school in England must be able to access a local and national co-ordinated offer of high quality sport and physical activity programmes.

A Sport England Strategy 'Towards an Active Nation' (2016) investment will focus on children acquiring a basic competence in sport and physical activity as well as supporting them to have fun regardless of ability. Government will invest in walking and cycling to school; showcasing a forthcoming Cycling and Walking Strategy.

As outlined in the Early Years Foundation Stage Framework, the seven areas of development that must shape educational programmes in early years' settings include physical development. EY settings must provide opportunities for young children to be active, interactive and to develop co-ordination, control and movement. They must also be informed about the importance of physical activity for good health and helped to make healthy food choices.

The link between food and physical activity is complex and a recent WHO report from the Commission on Ending Childhood Obesity presented an Implementation Plan proposing interventions directed towards population-based, regulatory, legislative and fiscal measures *(WHO (2017) Report of the Commission on Ending Childhood Obesity: implementation plan. Report by the Secretariat. 13th January, Geneva).* Concern has been expressed about recommended action from the private sector to 'facilitate access to and participation in physical activity.' According to the World Cancer Research Fund, NCD Alliance, World Obesity and Jamie Oliver Food Foundation:

'*This may lead to industry, whose core business is the supply and promotion of foods or beverages, to focus on physical activity as a priority rather than addressing harmful practices related to their core business, such as the marketing of unhealthy foods and beverages to children,*' *(World Obesity, WCRF, NCD Alliance and Jamie Oliver Food Foundation 2017 Statement to the 140th session of WHO Executive Board* –

Implementation of the report of the Commission on Ending Childhood Obesity. Agenda Item 10, 4).

Some sections of the food industry over-promote their involvement in physical activity initiatives, thereby distracting from nutritional criticism. The report accepted that interactions between governments and industry must be government-led, health-goal orientated, transparent and accountable. This is vulnerable to compromise if profit is positioned above health concerns relating to diet and physical activity in the child and has major implications for future health policy.

The Sugar Tax is a soft drinks industry levy, providing funding for physical activity in school. The accruing revenue will be invested in programmes to promote physical activity and balanced diets for school age children and the Primary PE and Sport Premium will be doubled *(Department of Health 2016 Soft Drinks Industry Levy: 12 things you should know).*The April 2018 projected legislation serves as an example of adjusting dietary measures to produce funding - not for physical activity alone - but also for school breakfast clubs. These sugar reduction fiscal measures are well targeted. However, current guidelines may require adjustment because manufacturers of beverages (energy/sugar drinks) with a very high sugar content have little incentive to reduce sugar content because the product remains within the same tax range *(Martin O'Connell, 2017, Comment at Westminster Food and Nutrition Forum, 27th April).*

The relationship between energy/sports drinks and physical activity in children is convoluted. Rosie Boycott (Food Adviser to the Mayor of London) has said:

'*Profit is to be had by the bucketful by mixing up some flavouring with 15 spoons of cheap refined sugar and selling it in a bright yellow plastic bottle called a 'sports drink',' (Rosie Boycott 2016: A two year wait for a sugar tax robs this war on obesity of fizz, The Sunday Times 20th March).*

The positioning of the energy/sports drink is central to children's physical activity. Children are attracted by their colourful graphics, shapes and packaging. Yet the association of playful running with the consumption of a calorie-laden drink that they are assured is 'required' is not healthful. In the US, the energy drink market burgeoned by 60% between, 2008-2012 and was worth 12.5 billion dollars. Projected sales for 2017 are 21.5 billion dollars; the market is vast and UK sales are predicted to follow suit. The British Soft Drink Association Annual Report (2016) recognised that the Energy Drink Market is worth over £2 billion; a rise of almost 8% from 2014 *(British Soft Drink Association 2016, Annual Report, Growth of UK Energy Drink Market).*

The effect of energy drinks may be to make children gain weight. Few exercise enough to 'burn off' extra calories and stimulants contained within the drinks include 14 times more caffeine than in other soft drinks *(Holly Benjamin 2017: Energy Drinks Make Children Fat not Fit, The Independent, 20th May).* Sports drinks contain carbohydrates, minerals, electrolytes and flavouring and are primarily intended to replace electrolytes and water lost through sweating. Many consumers consider energy drinks and sports drinks to be interchangeable and link both to activity. Sports drinks utilise questionable nutrition-related claims and hydration messages whilst promoting physical activity *(Robert Wood Johnson Foundation 2012: Consumption of Sports Drinks by Children and*

Adolescents. Healthy Eating Research, University of Minnesota). According to Holly Benjamin (above):

'*Sports drinks contain extra calories that children don't need and contribute to obesity and tooth decay. It's better for children to drink water during and after exercise and to have the recommended intake of juice and low fat milk with meals. Sports drinks are not recommended as beverages to have with meals.*'

Research from the Universities of East Anglia and Cambridge suggest that sports drinks do not boost exercise, casting doubt upon manufacturers' claims that their products improve hydration and endurance. Parents should be reminded clearly that fresh, safe and free drinking water should be accessible at all times for an exercising child because sports drinks are not an 'essential piece' of equipment for physical activity. Above all, correcting false assumptions that have been allowed to take root, grow and flourish as to the efficacy of energy drinks should be done in a way that is unambiguous and properly informative, but also sensitive. It should be borne in mind that parents genuinely think that they are **helping** their child by giving them a drink that they have been encouraged to believe improves sporting prowess. Directing towards offering children healthy options should not entail blaming and shaming their parents and carers.

Parental calorie literacy is generally poor and many do not know how many calories a child needs for a healthy weight. *(Royal Society for Public Health, 2016: Introducing 'activity equivalent' calorie labelling to tackle obesity).* 'Front of pack' food labelling must be readily understandable to influence behaviour change and 'activity equivalent' calorie labels are a relatively straightforward reference for parents to decipher in busy supermarkets. This labelling prompts consumers about the importance of activity as well as referencing a simple body weight issue. Individuals were over three times likelier to indicate that they would participate in physical activity after viewing the 'activity equivalent' calorie label over the current 'traffic light' system *(WHO 2012: Population-based Approaches to Childhood Obesity Prevention, Geneva').* Children themselves must be supported and informed about their food choices, particularly in relation to physical activity. The two are inseparable because it is impossible to 'out-run' a poor diet, as Shirley Cramer of the Royal Society of Public Health has observed *(RSPH 2015)*: www.rsph.org.uk

The UK's devolved governments stress the importance of physical activity in early childhood. In Scotland the 'Curriculum for Excellence' includes health and wellbeing as one of eight areas contributing to the experiences and outcomes of pupils in Scotland. Similarly 'getting it right for every child' (GIRFEC) is an umbrella approach to reforming children's services, overarching all other policies for children, young people and families. It provides the strategic policy framework supporting other key policies and guidance, including the Curriculum for Excellence. Under this culture, The Daily Mile (promoted by Elaine Wyllie, head teacher of Stirling's St Ninian's primary school) was first able to flourish. Elaine Wyllie became concerned about the physical fitness levels of her pupils and the Daily Mile (in which children run for up to 15 minutes per day in a non-competitive atmosphere) was subsequently championed by the then Cabinet Secretaries for Education, and Health, Angela Constance and Shona Robison who wrote to every primary head teacher and Director of Education in Scotland, urging them to

launch the Daily Mile. By spring 2016, it was included in the Scottish National Party's manifesto and credited with transforming the health of primary age children. The manifesto stated:

'*Our ambition is for Scotland to be the first 'Daily Mile' nation with roll out to nurseries, schools, colleges, universities and workplaces across the country. Every school will be offered help to become a Daily Mile school.*'

The Daily Mile Foundation has continued to work closely with leaders in policy, health and education to assist with national and regional efforts to implement the scheme in primary and nursery schools UK-wide.

The Welsh Government has focused on promoting regular physical activity in tandem with encouraging a healthy diet. It has adopted this combined approach to tackling childhood obesity; inviting companies and research organisations to apply for a share of £1m funding to make the food and drink available to young children healthier whilst reducing costs. Those who submit funding ideas are encouraged to provide innovative solutions such as new processing technologies, reformulation techniques, enabling technologies, fresh engineering designs and flexible manufacturing processes, to drive down expenditure. A parallel initiative concentrates upon the promotion of free play; specifically playing outdoors, with Public Health Wales identifying playing outdoors as one of the 10 Steps to a Healthy Weight for children aged two to five *(April 2016): www.playwales.org.uk*

Play with loose parts is advocated and to demonstrate a supportive attitude towards outdoor play we should ensure we do not:

- Dismiss it as frivolous and a waste of time
- Unintentionally be unenthusiastic (even if the weather isn't favourable)
- Over regulate and over organise it
- Unnecessarily restrict it through fear.

The Northern Ireland 'State of Child Health' 2017:
www.rcpch.ac.uk/state-of-child-health
favours an approach to child health characterised by early intervention and prevention and advocates that the Northern Ireland Executive adopt a 'child health in all policies' approach to decision making, policy development and service design. It also recommends that the Northern Ireland Executive work with the other UK nations to develop common standards to ensure that child health data are of high quality, captured to pre-specified definitions and capable of consistent analysis with England, Scotland and Wales. The Northern Ireland Executive is urged to continue to encourage physical activity for all children and young people and support parents and families to adopt healthy lifestyles by improving social and physical environments by ensuring that local authority planning decisions include a public health impact assessment and introduce 20 mph speed limit in built up areas to create safe places for children to walk, cycle and play.

Recommendations:

4.1 UK Government to initiate an annual forum/summit whereby data and policy initiatives in the devolved governments can be studied with the aim

of co-ordinating UK-wide nutrition/physical activity policy as a driver of child health and wellbeing

4.2 Replacement of 'traffic light' food labelling with 'activity equivalent' calorie labels

4.3 Investment in community level programmes including infrastructure to enable its success – such as foot/cycle paths linking communities with the resources and activities that appeal to the family unit, thus promoting inclusive participation

4.4 Clear and concise guidelines to be issued by government that include the effects of excessive screen and sedentary time in a format that is accessible to the end user; parents, practitioners and teachers

4.5 Cohesive research to be commissioned regarding the benefits of physical activity for children from birth and in early childhood

4.6 A curriculum framework that endorses outdoor play and active learning and an inspection system that challenges its ineffective delivery

4.7 Government to work with manufacturers/advertisers/sports promoters and health professionals to ensure that messaging about 'sports' and 'energy' drinks does not lead to false assumptions about spurious 'health benefits.'

5. A COMPARATIVE ANALYSIS OF GOOD PRACTICE IN OTHER COUNTRIES AND EXISTING UK LEGISLATIVE PRACTICE

In the UK, three separate frameworks (across Education and Health Departments) support Early Years Physical Development, Physical Activity, Health and Wellbeing.

1) The **Early Years Statutory Framework (2012)** under the remit of Ofsted provides Learning and Development requirements for the Early Years Foundation Stage Curriculum and the Safeguarding and Welfare requirements. Within EYFS, Physical Development is one of three 'Prime Areas' of learning, consisting of Moving and Handling and Health and Self Care. 'Moving and Handling' requires children to '*show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively – including pencils for writing.*' 'Health and Self Care' entails children understanding '*the importance for good health of physical exercise and a healthy diet. They talk about ways in which to keep healthy and safe. They manage their own basic hygiene and personal needs successfully.*' The 'Safeguarding and Welfare' requirements state that '*Children learn best when they are healthy, safe and secure. The provider must promote the good health of children attending the setting.*'

2) The UK **Chief Medical Officer's (CMO) Physical Activity guidelines (2011)** state that physical activity (particularly floor play and water-based activities in safe environments) should be encouraged from birth. Ambulant pre-school children should be physically active for three hours spread throughout the day and all under fives should minimise sedentary time except when sleeping.

3) Since 2015, EY has been included in the **Common Inspection Framework**

(CIF) Ofsted-designed and aimed to simplify inspection across all age groups.

- Under **Personal Development, Behaviour and Welfare** Inspectors are required to '*evaluate the extent to which provision is successfully promoting children's knowledge of how to keep themselves healthy, both emotionally and physically, including through exercise and healthy eating*'. Physical Development is a 'Prime Area' and relevant to the three other areas of the CIF. These are:
- **Effectiveness of Leadership and Management**, possibly including management's responsibility for the setting's response to PD/PA, encompassing staff training and liaison with parents and communities to support healthy lifestyles
- **Quality of Teaching/Learning/Assessment**: clear evidence of 'relevant subject knowledge' reflected in planning, delivery and assessment that is fully supportive of inclusive practice
- **Outcomes for Children and other Learners:** the CIF states that children will be evaluated on the extent to which they 'progress well from different starting points and achieve or exceed standards expected for their age.' This is relevant for PD as it underpins all other areas of development and should be reflected in daily PA provision for children.

The differing remits of the three mechanisms designed to support young children's physical development and activity has led to confusion. Ofsted inspectors' judgements about children's PD/PA are subjective: what exactly is meant by **good** coordination, moving **confidently** and handling equipment **effectively**? What is the knowledge basis for these judgements?

In the revised (2017) EYFSC, the CMO/EY/PA guidelines are mentioned in footnote as something that 'providers *may* wish to refer to,' thus removing any compulsion let alone imperative, to embed or implement guidelines. There is also a contradiction in that the Physical Development Component of the EYFS is based on the belief that physical/movement skills underpin all learning and development across social, cognitive, spiritual and emotional domains (not purely the physical) yet the CMO guidelines are primarily concerned with physical activity for health reasons such as obesity prevention.

Training for the EY workforce is inadequate. Only since September 2015 has it been mandatory that all learners following Level 3 training in EY Care and Education complete the physical development module and there is little funding for practitioner continual professional development training (CPD) that is neither mandatory (Safeguarding/First Aid) or free to access on-line (e.g. Prevent). Training is largely ad hoc; some 'in house', some external and rarely quality-assured, monitored or evaluated consistently. Difficulties abound in providing cover for staff training, and family commitments limit attendance at evening or weekend sessions.

Training courses currently available include:

- **Level 1 Diploma (CACHE) 'Caring for Children'**
- **Level 2 Award (CACHE) 'Introduction to the Early Years'**
- **Level 3 Diploma (CACHE) 'Early Years Education and Care'**

- **Level 3 PD/PA Certificate in Young Children's Physical Development**
- **1st 4 Sport Level 3 Certificate Supporting the delivery of PE and school sport; aimed at EY practitioners**
- **Level 4 Advanced Practitioner (CACHE) Unit 2 'Promote health and wellbeing through physical activity and nutrition coordination in EY'**
- **Two postgraduate qualifications from the Centre for Research in Early Childhood (CREC) 'Outdoor Play and Learning' and 'Physical Activity in Early Childhood'; 'stand alone' or as part of an MA**
- **For SEN/PD/PA practice, TPD Education specialist courses at Level 2/3 aimed at older autistic spectrum children**
- **Training opportunities from commercial enterprises in specific disciplines e.g. :Yoga (Yogabugs/Tatty-Bumpkins), Gymnastics (Tumbletots), Movement-play (Jabadao), Tennis (Teddy's Tennis), Football (LittleKickers).**

The following global agreements physically affect and protect children worldwide:

- 1989: Governments worldwide adopted The UN Convention of the Rights of the Child (UNCRC). Children are to be treated as '*human begins with a distinct set of rights instead of passive objects of care and charity.*' The rights include what a child needs to survive, grow and fulfil their potential. Agencies must collaborate to protect and ensure their physical and mental health
- 2000: Countries signed the Education For All (EFA) agreement; pledging to '*expand and improve comprehensive care and education*' for all children
- 2010 (reviewed 2015) the 'Global Strategy for Women and Children's Health' created to ensure 'universal access to essential health services and proven life-saving interventions.'

Global initiatives concur that Early Childhood Development (ECD) is important but global investment is limited; sourced mainly from health and or education foundations. Less than 5% of government budgets in developing countries are allocated to education and only 2% to health – on average 0.5% of funding is directed at young children.

FINLAND

In 2005, Finland was one of the first countries to produce national recommendations for physical activity for under eights. In 2016, the Finnish Ministry of Education and Culture published 'Joy, Play, Doing Together *(Ministry of Education and Culture 2016)* recommendations for physical activity in early childhood' in response to the fluid lifestyles of Finnish children and families and a decrease in the levels and quality of daily physical activity.

Finland has many associations, organisations and sports clubs supplying organised physical activity for pre-school children. Activities targeted at children under three are called 'parent-child' activities or 'physical activity for families'. 50% of 3-6 year olds engage in some organised PA. Each municipality has a duty to provide sports services. The local authority must facilitate PA which is deemed a 'basic municipal service' and when budgeting for early childhood and care, PA support is mandatory.

The document states that 'municipal decision makers' must:

'*Make sure that all early childhood education and care units have an appropriate indoor facility for physical activities, the yard at the day care centre is large enough, every day care centre has the basic equipment required for PA and that sufficient funds are allocated to renewing the equipment in the budget every year.*'

Recent Finnish research data records that children were only 'highly physically active' for an average of 47.5 minutes per day between 8am and 4pm. The least physically active only managed 4.8 minutes – the most active achieved 163 minutes. 68% of high PA occurred outdoors; children spend on average 91 minutes daily in outdoor play. The researchers' data indicated least activity with teacher involvement and that over 70% of children are most active during peer interactions. Specific recommendations for early years' teachers in Finland are therefore to prioritise children's peer group engagement; focusing on supplying invigorating outdoor opportunities for PA.

PA is not technically part of the Finnish EY curriculum but teachers demonstrate high commitment; especially now that there is a belief that '*PA in early childhood education and care must be child-oriented, diverse, and goal-oriented and regular to support the child's physical, cognitive, and psychological, emotional and social development.*' There is also a clear commitment to CPD as the report states:

'*Make sure that regular, yearly, continuing education in physical education is available for the municipality's early childhood education staff – who are entitled to it.*'

There is a proactive, sensitive treatment of childhood obesity and the low levels of PA in immigrant children. Generally, Finland expects agencies involved with young children (local government, families, teachers and doctors, communities) to work collaboratively to support their overall health and wellbeing. Ironically, although 'Physical Development' is designated as a 'Prime Area' in the UK EYFSC; UK practitioners receive minimum support from central officials. We rely upon overseas research to support funding applications because UK data is scarce. It is challenging to acquire finance for training and there are no National Quality Standards to support best practice. Local authorities attempt to allocate funds for childhood obesity prevention (including PA) but it is rarely obtained for longer than a year which makes long-term planning difficult.

AUSTRALIA

Here (although all children's services come under the aegis of National Law) autonomy in PA provision is energetically encouraged. Locally, agencies work together to ensure that young children access a broad range of opportunities outside school and all EY settings are expected to provide resources that satisfy National Guidelines to ensure that all children are ready and physically able for formal education. In 2009, the Australian Government published a blueprint for young children's health 'Get up and Grow' *(Get up and Grow- Healthy Eating and Physical Activity for Early Childhood, Australian Government: Ministry of Health and Ageing 2009).* This component of Australia's 'Plan for Early Childhood' and 'Plan for Tackling Obesity' was designed for use in a variety of settings by family, staff and carers to support a 'consistent, national approach to childhood nutrition and physical activity.' The emphasis is to embed

positive habits and behaviours towards PA from birth as the most effective form of obesity prevention with a goal of ensuring children's smooth overall development.

A range of physical development supporting opportunities are supplied; active unstructured physical play (free play in sandpits/playgrounds/dancing to music /imaginative play) or structured activity (creative movement/dancing/action games/organised activities and games) including active transport (less buggy time, increased walking/scooter transport) and everyday physical tasks (gardening /tidying and activity at mealtimes). Outdoor play in all weathers is advocated because '*it provides children with more space and opportunities to use larger muscle groups and experience moving in a whole range of different shapes, speeds and directions. Outdoor play also allows children to be messy and noisy*'.

Central government states that:

'*Early childhood settings are the ideal place to develop good physical activity habits and influence the behaviour of families. Parents, staff and carers can work together to share the responsibility of making physical activity a priority both inside and outside the homes.*'

'*The benefits of active play go beyond just the physical and include the development of social, language and intellectual skills.*'

The State of Victoria responded by developing their 'Go for your life- Health Promotion Planning Tool' *(State of Victoria, Australia 2010)* with the support of Primary Care Partnerships and health promotion agencies. The programme provides early childhood services with a comprehensive guide to 'creating healthier environments that promote healthy eating and physical activity'. 70% of Australian 3-4 year olds attend pre-schools for 'long stay' care. The 'Kids go for your life' initiative *(Health Promotion Planning Tool: State of Victoria, Australia 2010)* is a free service funded by the Victorian government and available to all communities. There is an award structure that may be applied to all early childhood services requiring the completion of a set of 7-9 criteria; including the developments of policy and changes to the environment and practice to promote and facilitate positive healthy eating and PA behaviour. The three clear messages are:

1. **Turn Off – Switch to Play** – aims to reduce children's screen time. Settings are encouraged to exclude or limit screen time and encourage PA with managed equipment during breaks
2. **Stride and Ride** – encourages the use of active transport- decreases bus use – creates 'walking buses' and encourages scooter usage when going to school
3. **Move-Play-Go –** encourages active outdoor play. Practitioners must provide daily free and structured physical activities as a significant component of the programme plan.

In 2017, a University of Wollonging team proposed a re-think of issues impacting on young children's health and wellbeing. Their '24 hour Movement Guidelines' include three clearly defined elements:

'*To promote healthy growth and development, infants, toddlers and pre-schoolers should achieve the recommended balance of* ***physical activity, high quality sedentary behaviour and sufficient sleep.*****'**

They have mainly kept the PA guidelines (30 minutes daily 'tummy time' for infants - 180 minutes accumulative daily PA for toddlers (1-2 years) and pre-schoolers (3-school entry) – but have included 'high quality sedentary behaviour and sleep' within the remit.

By adding these elements, the responsibility for children's overall health and wellbeing (not just physical health) may now be effectively spread between all agencies; home, settings, healthcare professionals. The guidance also advocates positive sedentary pursuits such as reading and storytelling with a caregiver and the recognition of the importance of sleep is also very welcome. As yet these guidelines are not generally available, but it is hoped that in time a 'progressive adjustment' will facilitate their implementation internationally.

NEW ZEALAND

The Ministry of Health has recently produced 'Sit Less, Move More, Sleep Well – Active Play Guidelines for Under-fives', *(Wellington Ministry of Health, New Zealand 2017)* to '*support the work of health practitioners, regional sports trusts, early childhood education centres and others who provide PA advice to the public*'.

New Zealand's 'physical literacy' approach recognises that young children '*require physical movement in everyday life environments (including nature) to encourage creativity, imagination and exploration*'. A unique emphasis stresses that 'spiritual growth' is enhanced by movement activities, influenced by a Maori holistic view of health and wellbeing.

In comparison with the three countries described above, the UK is way behind in terms of supporting children's physical development through physical activity. Our 'frameworks' are not backed by 'fit for purpose' mechanisms; our assessment procedures are insufficient and since the revised curriculum did not embed the CMO/PA guidelines, we no longer have the option of engaging proactively with Ofsted. There is much debate about the desirability of a 'Physical Literacy' approach and as yet, no consensus about what this actually means. EY/PD PA is in urgent need of reconsideration and policy reformulation to afford all young children in the UK the best opportunities both in settings, the community and in their homes.

Recommendations

5.1 Review the PD component of the EYFS to reflect the demands of the CMO guidelines and ensure a focus on gross-motor skills in both indoor and outdoor environments

5.2 Ofsted inspection process to be adapted to account for levels of PA and provision for children in indoor/outdoor settings

5.3 Creation of National Quality Guidelines for EY/PD/PA

5.4 Training to be provided (ideally centrally or locally funded) to support practitioners' understandings of the importance of physical skills/play and

to build upon existing knowledge to design and deliver safe and effective active sessions

5.5 A designated PD/PA co-ordinator champion for every setting with responsibility for liaison with staff, parents, families and communities linked to Healthy Early Years' Schemes

5.6 A national review of the concept of 'school readiness' thereby encouraging greater practitioner understanding of the importance of physical skills to ensure children's smooth overall development and encouraging parental support for children's physical play

5.7 DfE to review the requirements of the KS1 curriculum for PE to align with the EYFS/PD component

5.8 A professional body to be developed as an 'umbrella' organisation to support EY PD/PA professionals

5.9 The establishment of an EY PD/PA taskforce to inform and drive policy and practice in this field.

6. SOCIOECONOMIC ISSUSES, ETHNIC DIVERSITY AND CULTURAL PRACTICE AND THE PLANNING SYSTEM (IN BOTH RURAL AND URBAN CONTEXTS) AS THEY IMPACT UPON EARLY CHILDOOD AND ACTIVITY PATTERNS

A policy paper from The Centre for Market and Public Organisation 'The Socioeconomic Gradient in Physical Activity in England' *(July 2013 Working Paper no.13/311)* considers physical inactivity to be an important component in chronic ill health and identifies the importance of socioeconomic position as a key contributory factor. Data analysis gathered from over one million individuals in England from the Active People Survey (APS) follows the groundbreaking work of The Marmot Review *(Marmot et al 2010: Fair Society, Healthy Lives)* that has linked socioeconomic inequalities inextricably to health disparities; advocating early childhood as a time of especial significance and potentially a bedrock for later health and wellbeing. There are acknowledged inconsistencies relating to physical inactivity within communities *(Veitch, J, Hume. Salmon, Crawford, D and Ball, K, 2011 'What helps children to be more active and less sedentary? Perceptions of mothers living in disadvantaged neighbourhoods', Child: Care, Health and Development, 39(1):94-102)* and a complex mix of macro factors (socioeconomic background, ethnicity, cultural practice and geographical context) that impact negatively upon young children's participation in physical activity.

Physical activity is partially related to living area. Low-income families tend to be situated next to each other and the areas themselves may have low tax bases with which to fund recreation and other activities to stimulate physical activity *(Moore L, Diez Roux A, Evenson K, McGinn A, Brines S, 'Availability of recreational resources in minority and low socioeconomic status areas'. American Journal of Preventive Medicine, 2008, 34: 16-22. Powell LM, Slater S, Chaloupka FJ, 'The relationship between community physical activity settings and race, ethnicity and socioeconomic status'. Evidence Based Preventive Medicine, 2044, 1(2):135-144).*

Children from poor backgrounds are less likely to access a private garden compared to their more affluent peers, with the Poverty and Social Exclusion (PSE) study in the UK revealing that 92% of people in their sample considered a garden /safe place to play

essential for all children *(Gordon D. et al 2013: The Impoverishment of the UK: Living Standards in the UK (Poverty and Social Exclusion Research Project)*: http://www.poverty.ac.uk/pse-research/pse-uk-reports

However, the nature of the environment is equally important. Poorer families with gardens may still keep their children indoors because they cannot afford to maintain the upkeep of fencing, this potentially jeopardising security in areas that may have higher crime rates. Similarly, those living in disadvantaged communities are likely to find that their physical activity recreational opportunities are limited by financial cost *(McKenzie TL, Moody JS, Carlson JA, Lopez LV and Elder JP. 2013: 'Neighbourhood income matters: disparities in community recreation facilities, amenities and programmes Journal of Park and Recreation Administration', 31(4):12-22),* leaving out of school public play spaces like green spaces and parks as the prime sites in which families can engage in physical activity.

However, a poor quality built environment combined with living in a disadvantaged area impacts negatively upon children's outdoor physical activity. Crime ratios, dog fouling, shabby, poorly maintained equipment, drug abuse, anti-social behaviour and heavy traffic, increase parents' reluctance to allow their children to play outdoors; particularly in poorer urban areas. Parental perception and received wisdom is also important *(Teedon P, Gillespie M, Lindsay K and Baker K 2014: 'Parental perceptions of the impacts the built environment has on young children's health: A qualitative examination and lay assessment amongst residents in four Scottish communities', Health and Place, 28: 50-57).* Parents are their children's 'gatekeepers' to the outside world; children's perception of safety may well differ, but adult judgements are likely to prevail where the safety of young children is concerned. The same is true of decisions based on climate *(Belon AP, Nieuwendyk LM, Valliantos H and Nykiforuk CIJ, 2014: 'How community environment shapes physical activity: perceptions revealed through the PhotoVoice method, Social Science and Medicine', 116: 1-9)* and from a practical perspective, poorer families may be unable to afford warm winter clothing for outdoor play *(Gordon D. et al 2013: 'The Impoverishment of the UK; Living Standards in the UK (Poverty and Social Exclusion Research Project)'*: http://www.poverty.ac.uk/pse-research/pse-uk-reports

Rural areas can be more conducive to physical activity than urban settlements and mothers in the Veitch study (*as above, 2011*) have pointed to a rural community culture of physical activity and sport. The choices available for older children in urban areas (shopping/going to fast-food outlets) included a wider range of activities deemed 'sedentary.' Unlike many urban areas, rural areas may have poor transport links to recreation centres, which may impact upon young children and their families' engagement in activity such as swimming.

Children's participation in physical activity is also influenced by the degree to which the local community engages in physical activity. This relates both to the physical environment of a given locality and to perceptions of neighbourhood sociality: the degree to which people know and trust one another. This is particularly the case for immigrant families who are new to a country *(Brewer M and Kimbro RT, 2014: 'Neighbourhood context immigrant children's physical activity, Social Science and Medicine', 116: 10-21)* but also more generally for Black and Minority Ethnic (BAME)

families *(Below as above).* Some studies *(Brewer and Kimbro as above)* in the US have shown BAME children engaging less in physical activity than their White counterparts and this is supported by some UK research *(Trigwell J, Murphy RC, Cable NT, Stratton G and Watson PM, 2015: 'Parental views of children's physical activity: a qualitative study with parents from multi-ethnic backgrounds living in England', BMC Public Health, 15: 1-11)* but there is room for much more investigation here. Trigwell found that to some extent, cultural determinants link with issues of ethnicity in promoting children's physical activity. Parents from Asian, Bangladeshi, Chinese and Yemeni backgrounds valued traditional academic attainment over their children being physically active. The study also recorded an intersection with gender and religion as some Muslim families surveyed considered that there was a lack of suitable physical activity opportunities for older girls and that some activities (for example, football) were actually antithetical to traditional cultural and religious values for girls and women.

Cultural imperatives should also be considered in connection with alterations to specific children's culture over time. Some of the Trigwell BAME parents stated that their offspring preferred sedentary pursuits (screen time) but the parental activity role model is still extremely influential. However, the degree to which families promote a culture of being physically active is impacted by socioeconomic issues such as unemployment and the Marmot Review *(as above)* does not underestimate or underplay the resultant psychosocial stressors.

It is also vital that the importance of physical activity is known and understood. The Trigwell survey demonstrated that BAME parents thought that children enjoyed a high degree of physical activity during the school day and so did not consider it to be necessary to supplement this with physical activity at home. They displayed a patchy knowledge of the recommended physical activity guidelines for young children and other studies *(Rawlins E, Baker G, Maynard M, Harding S, 2013: 'Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study', Journal of Human Nutrition and Dietetics, 32: 132-144)* have revealed a similarly uneven knowledge of physical activity needs when compared to dietary intake.

Irwin et al *(Irwin LG, Johnson JL, Henderson A, Dahinten VS and Hertzman C, 2006: 'Examining how contexts shape young children's perspectives of health', Child: Care, Health and Development, 3394):353-359)* offer a useful perspective on the thinking of young children themselves. Some had restricted opportunities to play and be physically active because they did not know many other children living locally. Even very young children (5-7 years) were aware of the importance of physical activity but were not allowed to play outdoors because of the physical and social limitations of their neighbourhoods. As Marmot has argued, the physical and social characteristics of a community will necessarily impact upon health.

The overall picture that emerges from the above information is complex; demonstrative of disparity between different groups in terms of children's physical activity. Choice of activity within recreational spaces indoors and outdoors is important because it seems to increase physical activity rates and yet it is evident that poorer families have less choice open to them. It would seem that recreation centres, green and park spaces as well as nurseries and schools are pivotal in impacting upon the disparities between

income-rich and poor families' physical activity. However, it is the social as well as physical characteristics of a locality which affect physical activity rates. With the effect of physical activity upon health outcomes in later life, current trends predicate a large future health problem for the UK and one that is heavily socially graded on a large range of socioeconomic dimensions. Price is important and effort to reduce price barriers might help to reduce disparities. Yet education and ethnicity are also determinants of physical activity and unless these issues are addressed alongside those of finance, disparities will exist and continue to flourish.

Recommendations:

- **6.1 Create 'National Quality Guidelines for Early Years Physical Development and Physical Activity'**
- **6.2 Review the Ofsted inspection requirements for 'Early Years Physical Development and Physical Activity'**
- **6.3 Create high quality training opportunities for the early years' workforce to ensure their inclusion and effective participation in the PHE 'wider workforce' initiative**
- **6.4 Designate a Physical Development/Physical Activity co-ordinator in every early years' setting**
- **6.5 Make the early years a key component of the work of the new National Physical Education Taskforce.**

7. THE ROLE OF ADVERTISING, TRADITIONAL AND SOCIAL MEDIA AND TECHNOLOGY (INCLUDING THE USE OF APPS) AS STIMULANT AND PROMOTER OF EARLY CHILDHOOD PHYSICAL ACTIVITY

Social marketing, advertising and digital technologies are methods of reaching varied audiences quickly and creatively. They are frequently positioned as impacting unfavourably on physical activity levels in early childhood and throughout the life course. A study by the University of Ulster consisting of an online survey of 350 students measuring social networking activity and levels of physical activity *('Does Social Networking Limit Physical Activity?' University of Ulster*: *https://psychcentral.com/news/2012/09/11/does-social-networking-limit-physical-activity/44412.html*
found that social networking time came at the expense of other activities. Although one quarter of respondents alleged that they engaged in team sports, analysis of the results confirmed that the amount of time spent on social network websites correlated negatively with the respondents' activity levels in the previous week. Facebook followers were less likely to partake in team sports.

However, these perceptions of social media and physical activity are one aspect of a wider picture. Downing et al *(Downing KL, Salmon J, Hinkley T, Hnatiuk JA and Hesketh KD, 2017: 'A mobile technology intervention to reduce sedentary behaviour in 2-4 year old children (Mini Movers); study protocol for a randomised controlled trial', Trials, ppl-8. DOI 10.1186/s13063-017-1841-7)* have completed an Australian trial in which mobile technologies are harnessed to deliver an intervention programme with the aim of reducing sedentary behaviours in children aged 2-4 years, known as 'Mini Movers.' Parents receive a pack of intervention materials and there are personalised text

messages for families containing ideas to stimulate physical activity with their children. The study suggests that health promoters are devising innovative ideas using Smartphone technologies as a delivery system for public health.

The English Change4Life (C4L) campaign works with families of children aged 5-11 to promote healthy eating and exercise with a view to combating obesity. It is the marketing component of the Government's response to the rise in obesity and uses television, social media and partnership with like-minded organisations to offer easy diet and exercise swaps. It aims to support families so that they are likelier to make the necessary changes to achieve a healthier lifestyle. Within its first year, Change4Life's report on its own performance claimed that the programme had reached 99% of mothers of children aged 11 and under; also stating that 'According to our tracking study, over 1 million mums are already claiming to have made changes to their children's diet or activity levels as a result of Change4Life', (Change4Life One Year On, Department of Health, 16th February 2010). A C4L generated app contains ideas for outdoor and indoor activity for children and the DoH has also launched Start4Life, a sister brand aimed more specifically at pregnant women and new mothers:
http://www.huffingtonpost.co.uk/2010/12/27/start4life-the-latest-addition-to-the-department-of-health-s-campaign_n_7399218.htmlb
Similar campaigns directed at childhood activity levels have also been launched in Canada:
http://activeforlife.com/about/
and the USA:
http://letsmove.obamawhitehouse.archives.gov/

The aims of Change4Life are certainly laudable; however, on review (*Croker H, Lucas R and Wardle J, 2012: 'Cluster-randomised trial to evaluate the "Change for Life" mass media/social marketing campaign in the UK', BMC Public Health, 12(404): 1-14):*
http://www.biomedcentral.com/1471-2458/12/404
there seemed to be little impact on attitudes and on changing behaviours significantly towards something more physically active and involving the consumption of a healthier diet.

Social media can unite groups of people with similar activity goals, although the evidence for their effectiveness is limited. NICE guidance stresses the importance of marketing physical activity to young people. Social marketing and new technology has potential with this group although the area is not as yet well-evaluated. Possible examples might include linking people with similar activity goals on social media sites or the use of GP-enabled apps to track walking and other activities to share *(Vandelanotte C, Kirwan M, Rebar A, Alley S, Short C, Fallon L, Buzza G, Schoeppe S, Maher C,Duncan MJ. Ints J Behav Nutr Phys Act. 2014 Aug 17:11(1):105, 'Examining the use of evidence-based and social media supported tools in freely accessible physical activity intervention websites').* It is also essential that technology is operated safely. The NSPCC and O2 have set up a range of free classroom resources for schools and teachers that can be used in the classroom to help children *(NSPCC)*:
https://www.nspcc.org.uk/preventing-abuse/keeping-children-safe/online-safety/
Change4Life, Fun Generator App:
http://www.nhs.uk/change4life/pages/fun-generator-mobile.aspx

A family-based approach benefits everybody in the family unit and can act as a bonding mechanism. In Newham, the Wellbeing and Nutrition team offer an Association for Nutrition certified Physical Activity training module to support staff in conveying the importance of achieving the physical activity guidelines. Practical tools support communication with families and enable staff to act as positive role models for children. This has been shown to be an effective communication method, using display boards, information leaflets, tips sheets and sharing useful apps with families *(Wellbeing and Nutrition Team, Physical Activity Training module):* *https://www.earlystartgroup.com/wellbeing&nutrition/training/pag*

Mytime Active has embraced social media and technology (whilst also being alert to the need to monitor local Facebook groups in areas of provision in order to address and monitor negative feedback). The organisation has produced songs and home game videos and made them freely available online. The songs accompanying the videos combine well-known nursery rhymes tunes with catchy new lyrics to communicate key healthy behaviours, including being active, trying new foods, drinking water, being mobile as a family, good oral health habits and effective bedtime routines. The home games equip families with new activity ideas that can be played anywhere and at no cost. Families are signposted to the videos via social media, group sessions, family workshops and hand-outs that children attending programmes take home each week.

However, working with families who have young children in order to impact on physical activity is challenging and this is not purely an issue relating to health promotion. Early child education research has shown substantial differences; in particular engaging with families deemed 'hard to reach' *(Osgood J, Albon D, Allen K and Hollingsworth S, 2012: 'Engaging Hard to Reach Families in Early Years Music Making'. London: Youth Music).* Reasons for lack of engagement (in C4L in particular) may be that programmes target numerous areas as opposed to having a specific focus so that they lack a clear direction for the intervention. Many programmes target parents. Given that young children are known to engage with a range of digital technologies from an early age and demonstrate competencies in doing so *(Livingstone S, Marsh J, Plowman L, Ottovordemgentshcenfelde S and Fletcher-Watson B, 2014: 'Young Children (0-8) and Digital Technology: A Qualitative Exploratory Study – National Report – UK'. Joint Research Centre, European Commission: Luxembourg)* it may be advisable to utilise technologies **very directly** with children themselves as opposed to using the medium of their parents.

The role of advertising in the quest to improve children's physical activity levels is a matter of ongoing concern. There has been open criticism of sport and energy drinks being marketed to children for a wide variety of inappropriate uses with an emphasis on healthy movement. The sheer scale of the marketing is astonishing in itself.

The trend is to blend psychological and behavioural insights and 'priming' occurs where the two items are linked (e.g. a brand to an athlete) or follow in quick succession (e.g. Coca-Cola and the Olympic Torch Relay). 'Familiarity' works in that the more we see or hear of a brand the likelier we are to remember it, thus influencing purchases. Finally, subliminal messages are those whereby sponsors' logos and branding are flashed before the spectators' eyes at the activity event itself *(Children's Food Campaign 2012: 'The Obesity Games – junk food sponsorship of the London 2012 Olympic Games', 26th July Sustain. London).* These practices are potent factors; influencing young children and

impacting upon their view of physical activity. Comments from parents made during the UK Olympic Torch Relay are instructive here:

'*There was great excitement here in Cornwall. Not sure Coca-Cola giving bottles to toddlers was their greatest PR stint! It was regular Coke… and they were giving them to all ages from toddlers upwards.*'

'*Seeing mini Coca-Cola bottles being handed out to children by adults in tracksuits made me angry*', *(The Obesity Games as above).*

Social media is used relentlessly to promote sugary drinks to children. The Happy Meal toys about exercise and activity are viewed by many as a tokenistic gesture. Currently McDonalds is using a character in its Happy Meals promotion to encourage children to become active but this appears to be merely a colouring sheet.

Many schools have banned food industry sponsored vending machines but this does not apply to sports centres or nearby playing fields. Retailers are using sports halls in a drive to product-place the sports drink near water and juices. Many of the sports drink companies deny that they are mainly targeting the young population when advertising but statistics, reports and studies indicate otherwise. Fast food outlets, ice-cream and burger vans outside school gates are problematic. Nurturing a healthy and active lifestyle both for physical activity and nutrition is essential but, as the Royal Society for Public Health has reported *(2015 December, London www.rsph.org.uk)* one in four young people claim to have ordered a fast food takeaway to their school via their mobile phone. After exercise they are 'starving' and make the order in this way, not even bothering to walk to the shop.

Young children are subjected to unacceptable marketing practices. The WHO report recommends that policy must address the reality of an obese childhood, turning attention to the junk food and drink environment. The food and beverage industry is assiduous in contributing to programmes promoting physical activity; for example, the UK National Trust joined up with Cadbury during Easter 2017 for children to undertake a relatively small amount of exercise at 250 venues; to be rewarded with a chocolate egg. There was much criticism of the omission of the word 'Easter' in publicity, but no mention of the promotion of physical activity being rewarded by a calorie-laden snack! Coca-Cola's Happy Playtime initiative has been introduced to 700 schools in 19 Chinese cities and food manufacturers sponsor It's fun to be fit in the Philippines and Movimiento Bienstar Programmes in Latin America *(Franco Sassi, 2012, 'Obesity and the Economics of Prevention. Fit not Fat'. Edward Elgar Publishing Ltd USA).*

What remains certain is that within the context of promoting physical activity for young children, there is no purpose in 'turning back the clock.' Apps, social media and advertising are firmly here to stay but it is up to public pressure and policy makers to ensure that their influence is benign and positive rather than negative, even detrimental to the cause of health and wellbeing. Here the actions of the food and drink industry and the promotional and sponsorship concerns surrounding elite, public and local sporting events are as important as initiatives from health and educational experts and government has a clear responsibility to facilitate dialogue and joint ways of working. As outlined in The Lancet in 2010 *('Use of mass media campaigns to change health*

behaviour', Prof Melanie A Wakefield PhDa, Prof Barbara Loken PhDb, Prof Robert Chornik PhDc, The Lancet, Volume 376, issue 9748, 9-15 October 2010, Pages 1261-1271) :

'*We conclude that mass media campaigns can produce positive changes or prevent negative changes in health-related behaviour across large populations*'.

This should be regarded both in the light of an aim – and as a challenge.

Recommendations

- **7.1 Government to review Change4Life and Start4Life in terms of take-up and effecting lasting behaviour change with a view to update or devising new and core responsive schemes in line with current need**
- **7.2 Local Government Association to work in conjunction with pioneer organisations (such as the London Borough of Newham and Mytime Active) to produce a readily available 'directory' of social media programmes and related apps for use in activity plans for families with young children**
- **7.3 Departments of Health, Education and Culture, Media and Sport to convene a policy forum with the advertising, sports promotion and food and drink industries to chart a positive way forward for the promotion of child health and wellbeing via physical activity**
- **7.4 Social media promotional material re physical activity to include games and apps targeted for access by young children as well as separate materials directed at adults.**

8. THE RELATION OF PHYSICAL ACTIVITY TO COGNITIVE AND ACADEMIC PROGRESS

Physical activity contributes to neurological development *(Neilson CA, 2000: The neurobiological bases of early intervention. In JP Shonkoff, & SJ Meisels (Eds) Handbook of early childhood intervention (pp.2014-227) 2nd ed, Cambridge: Cambridge University Press),* triggering biological responses within muscles and organs to modify and regulate the structure and functions of the brain.

'*Until the brain reaches about the age of 7, the brain is primarily a sensory processing machine. This means that it senses things and gets meaning directly from sensations. A young child doesn't have many abstract thoughts or ideas about things; he is concerned mainly with sensing them and moving his body in relation to those sensations. His adaptive responses are more muscular or motor than mental. Thus the first 7 years of life are called the years of sensorimotor development.*' *(Ayres, AJ. 2005: 'Sensory integration and the child: understanding hidden sensory challenges', 25th anniversary edition, Los Angeles, CA; Western Psychological Services).*

The key objective of early years' education and physical activities **must be** to encourage children to achieve good multisensory integration to progress to the next stage in their development – this is a component of human development overall. These are foundation skills for literacy and numeracy and if absent, will restrict access to equal life opportunities. From birth to 8 years of age, humans develop motor sensory integration;

the foundation for all higher level skill development. Learning until seven or eight years of age is primarily grounded in action and experience and children need to utilise all motor skills and senses each day and to reach a point where they are properly integrated. They and their parents should be supported with clear advice on what specific developmental requirements are necessary for children and how to achieve them. All stakeholders should focus on these fundamental goals and foundation skills development should not be compromised by a rush to achieve complex, higher skills.

Even movement in very young children is important from a cognitive perspective. Research into infant activity (up until two years old) has considered their exploratory locomotive skills and findings suggest that the need to constantly change speed, direction and/or cope with complex surroundings makes them adaptive. As a result, they acquire cognitive flexibility *(Adolph, KE. 2006: 'Learning to learn in the development of action'. Reiser JJ, Lockman JJ, Nelson CA, editors. 'Action as an organizer of learning and development'. Vol.Vol33. Mahway, NJ: Lawrence Erlbaum Associates; p. 91-122; Berger SE, Adolph KE, 2003: 'Infants use handrails as tools in a locomotor task'. Developmental Psychology. 39:594-605. {Pub Med: 12760526}).*

Executive function (a higher order cognitive skill) is linked to the pre-frontal cortex which does not mature until late adolescence. It has been suggested *(Best, JR 2010: 'Effects of Physical Activity on Children's Executive Function: Contributions of Experimental Research on Aerobic Exercise Developmental Review', 30(4):331-551)* that physical movement drives cognitive development in part by requiring children to use flexible and adaptive thought processes.

There is a relative lack of contemporary research into physical activity and cognition in younger children (birth-seven years) despite the fact that at this time, the brain is experiencing major development. The majority of studies focus on children aged nine and above but there is some valuable work, including by Fisher, Boyle and Paton *('2011: Effects of a physical education intervention on cognitive function in young children: a randomized controlled pilot study'. BMC Pediatrics, Vol.11, No. 97)* demonstrating that intensive physical education impacted positively on spatial working memory, span and accuracy derived from a pilot study of six year old boys.

In one historical longitudinal study *(Shephard RJ, Volle M, Lavallee H, LaBarre R, Jequier JC, Rajic M. 1984: 'Required physical activity and academic grades: a controlled longitudinal study'. Children and Sport, Ed: IImarinen J, Valimaki l, Berlin: Springer Verlag, 58-63)* researchers found that a cohort of children taking five hours of physical education in a week were higher achievers academically than a control group of children who only received 40 minutes of PA per week. Moreover, some of the extra time for physical education was taken from the mathematics class allocation and yet the children in the experimental group returned higher scores in maths.

A further study of younger children that has highlighted the benefits of physical activity is the Early Years' Swimming Research Project *(Jorgenson R, 2012, 'Early Years' Swimming: Adding Capital to Young Australians - Interim Report'. Griffiths Institute for Educational Research, Mt Gravatt Campus, Griffiths University).* In this study, three-five year olds who regularly attended early years' swimming school were assessed for physical, cognitive and language development against non swimmers. The swimming

group performed markedly better in tests than the controls, even after controlling for socioeconomic status.

Mytime Active considers physically active learning to be a 'golden thread' running through all their successful MEND programmes. Whether light physical activity such as standing up and moving around a room in a workshop, or undertaking something more moderate to vigorous during practical physical activity sessions, the MEND approach fully embraces active learning. It is supported by a UK study published by the Department of Education *(Gutman L and Vorhaus J 201: 'The Impact of Pupil Behaviour and Wellbeing on Educational Outcomes', London: DfE)* finding that pupil wellbeing predicted their later academic progression and engagement in school. For example, pupils with better emotional wellbeing aged seven had a value-added Key Stage 2 score 2.46 points higher (equivalent to one term's progress) than pupils with poorer emotional wellbeing.

Advocates of the Daily Mile initiative make similar claims; citing as direct outcomes, improved concentration in the classroom and better mood and social relationships resulting in transformational change in the physical, mental and emotional health and wellbeing of all participants. This is endorsed by Dr Kay Brennan, Sports and Exercise Medicine Doctor, GP and Physical Activity Clinical Champion for Public Health England:

'*The link between physical inactivity and obesity in children is well established. One in ten children is obese when they start primary school and only 21% of boys and 15% of girls aged 5-15 in England take the physical activity they need for good development. Being physically active will… improve a child's self esteem, body confidence, sleep and concentration. We also know from large studies that there is a strong link between being physically active and improved academic achievement.*'

When free physical movement and opportunity blossoms, unfettered by the interruptions of well-meaning adults, an independence of learning (fuelled by self motivation and confidence) develops whereby challenges that are well matched to children's individual interests and abilities are established. As well as making essential connections within learning, integrated educational environments encompassing indoor and outdoor opportunities are vital as included within the Early Year Foundation Stage Framework. Correlation between physical activity and academic achievement is evidenced in older children (the children in the Dwyer, Sallis ,Blizzard et al. study are aged 10-11 years and the Californian Department of Education report considers children from that age group upwards) through many multi-national longitudinal studies:

- Dwyer et al noted a correlation between scholastic achievement and physical fitness and general activity measures when looking at 8,000 Australian children *(Dwyer T, Sallis J, Blizzard L, Lazarus R, & Dean K, 2001: 'Relation of academic performance to physical activity and fitness in children', Pediatric Exercise Science, 13, 225-237)*
- The evaluation of over 1 million Californian children's scores of physical fitness and language arts and mathematics proficiency (Californian Department of Education 2005) found significant positive associations between scholastic achievement and physical fitness and general activity measures

- The Three Rivers Project in Quebec analysed the academic grades of 546 children to reveal that those who were active performed better than control group children *(Shephard et al as above).*

Systematic reviews of sedentary behaviour and health indicators in the early years do not show that screen time benefits either cognitive development or psychosocial health. Instead, it is flagged up rather as a coping strategy *(Carson V, Clark M, Berry T, 2014: 'A qualitative examination of the perceptions of parents on the Canadian Sedentary Behaviour Guidelines for the early years', Int J Behav Nutr Phys Act 2014;11:65.doi:10.1186/1479-5868-11-65)* with stressed parents less likely to time-limit screen viewing. As most research concurs that it is volume rather than content that is more linked to the multiple health, psychosocial and developmental adverse effects of inappropriate screen time, alternative strategies promoting the potential gain to families of exchanging the screen for more active pursuits must be offered. There is also a substantial lack of research with younger children (up to 7-8) in the matter of correlation between physical activity and scholastic achievement.

Sedentary-reliant behaviours, enhanced with excessive screen use, begin at a very young age *(Wu X, Tao S, Rutayisire E, Chen Y, Huang K and Tao F. 2017: 'The relationship between screen time, night-time sleep duration, and behavioural problems in preschool children in China', European Child & Adolescent Psychiatry, Volume 26, Issue 5, pp541-548.doi:10.1007/s00787-016-0912.8)* and translate into adult issues later on *(Hancox RJ, Milne BJ and Poulton R. 2004: 'Association between child and adolescent television viewing and adult health; a longitudinal birth cohort study', Lancet 364(9430):257-262.doi:10.1016/S0140-6736 (04)16675-0).* A recent Chinese study (above) considering the connection between screen time and behavioural problems evaluated the actions of 8900 children aged between three – six years old. After adjustment for potential variants, those with two or more hours of screen time per day exhibited a significant risk of emotional difficulties, conduct problems, hyperactivity, peer and pro social problems as well as some symptoms on the autism spectrum.

Whilst evidence has been used to inform multinational guidelines throughout Australia, Canada and the Academy of Pediatrics (AAP), advocating that children younger than two should engage in no recreational screen use - and those aged three - five years of age should participate in one hour or less per day (Australian Department of Health and Aging 2006; Tremblay et al, 2012; AAP Committee on Public Education, 2001) no such guidelines exist in the UK. Therefore, parents are likely to believe that their own children, unlike those of their friends and acquaintances, do not have excessive screen time habits. Guidelines alone will not solve the problem of children's excessive screen usage but combined with well researched and supported recommendations could make a difference. However, they should be targeted at specific audiences and settings and accompanied by realistic resourcing and infrastructure. What is certain in this scenario is that **no** guidelines whatsoever is a poor starting point and this should be remedied by government at the earliest opportunity.

If we are to realise the potential of physical activity as a contributor to children's neural, motor, cognitive and social development, action must begin early. Studies of older children (typically seven-fifteen years of age) are valuable, but much more research is needed into patterns of the pre-school child. Recognising the relative lack of evidence in

this area, Cliff, McNeil; et al *('The Preschool Activity, Technology, Health, Adiposity, Behaviour and Cognition', (PATH-ABC0 cohort study: rationale and design, BMC Peidatrics, 17:95.doi 10. 1186/s12887-017-0846-4)* have initiated a new study with children aged three-five. Taking as its background, international estimates of physical activity (and increasing sedentary behaviour) and levels of screen-based entertainment (television, computer, tablet, phone) in pre-school children, the PATH-ABC study seeks to discover how these factors independently influence health outcomes and psychosocial and cognitive development. The study aims to track behaviour and outcomes in 430 children with physical activity being monitored periodically, while screen-based entertainment will rely on parental reporting, with outcomes to be provided via a number of cognitive and health measures.

With even young children appearing to become more sedentary, such research could have important consequences in providing the information that parents, educators and health professionals need, to encourage and support children to become physically active and to choose appropriate enjoyable activities that suit them.

Physical activity benefits the whole child and thence the whole person. It is then crucial that it is embedded into the habitual processes of early life so that it becomes a **way** of life from the outset and remains so throughout the lifespan.

Recommendations:

- **8.1 A National Curriculum framework that endorses outdoor play and learning and an inspection system (Ofsted) that challenges its ineffective delivery**
- **8.2 The National Curriculum to include examples of how physical activity content can be included within the classroom as part of traditional learning from early years' settings upwards**
- **8.3 Cohesive, unified research to be commissioned regarding the benefits of physical activity in a child from birth onwards, including a thorough consideration of the inherent consequences of excessive screen time**
- **8.4 Clear and concise guidelines to be issued that include the effects of excessive screen time in a format that is accessible and appropriate to the end user; parents, practitioners and teachers**
- **8.5 Investment in community level activity programmes including infrastructure to enable its success such as foot/cycle paths to link communities with the resources and activities that appeal to the whole family unit, encouraging unified participation**
- **8.6 Recommendations actively to be promoted and supported through publication, training and resourcing suitable to audience**
- **8.7 Planning for outdoor environments to be mindful of environmental and cultural practices so that children may perceive the space as fun, with greater provision of portable equipment, play space per child and regular infusions of interest.**

9. THE RELEVANCE OF PHYSICAL ACTIVITY TO CHILDREN WITH MENTAL / PHYSICAL DISABILITY

Physical activity is relevant to all children whether they have a statement of need or not. They all require support and opportunity to develop motor skills and embodied cognition at the highest level; ideally all should be able to achieve motor sensory integration and continue developing fully beyond that. For a few children with fundamental educational and developmental blocks this will not be possible, but they should be able to access physical activities to maximise lifelong cognitive and physical skills. Too frequently, children with learning difficulties are sidelined - programmes of developmentally appropriate daily physical activities should be everyone's right.

Engagement in physical activity during childhood is necessary for health, quality of life and wellbeing for all, whether they have a disability or not *(Sport England, 'Towards an Active Nation', 2016).*In the early years, PA affords opportunities for whole-child growth including a healthy weight, brain development, improved sleep, relationship formation, movement co-ordination and bone/muscle strength *(Sport England, 2011 Start Active, Stay Active: 'A report of physical activity for health from the four home countries', Chief Medical Officers)* and is part of a child's educational processes. 6% of UK children have a disability, whereby there is a physical or mental impairment that has a sustained, long-term adverse effect on their capacity to perform normal daily tasks. The World Health Organisation (WHO) *(International Classification of Functioning, Disability and Health (ICF) Geneva: 2001)* regards disability as three dimensional; each component contributing to limited PA, either directly, via skeletal functions or social and environmental factors:

1. **Impairment** in a person's body structure or function, or mental functioning; examples of impairments include limb loss, vision loss or loss of memory
2. **Activity limitation**, such as difficulty in seeing, hearing, walking, or problem solving
3. **Participation restriction** in normal daily activities, such as walking, engaging in social and recreational activities, and obtaining health care and preventive services.

The UK follows global recommendation for PA; broadly aligned by two developmental stages for early childhood. The NHS promotes the following: *http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-young-people.aspx*

- **0-5 years:** Children should partake in a minimum of 3 hours of physical activity per day with minimal periods of inactivity
- **5-7 years:** Five year olds should be active for 60 minutes daily.

Within these recommendations, no specific guidelines are given for children with disabilities as the complexity of physical and mental impairments makes generalisation difficult although the broad consensus is that any PA is better than none.

Current advice is for people with a disability to follow broad PA guidance, with appropriate adaptations made according to need and capacity *(Start Active, Stay Active: 'A report on physical activity for the four home countries' Chief Medical Officers, 2011).*

'*Whenever possible, children and youth with disabilities should meet these recommendations. However, they should work with their health care provider to understand the types and amounts of physical activity that are appropriate for them considering their disability*', (WHO 2010 Global Recommendations on Physical Activity for Health).

In the UK, there is no routine diagnosis by elimination for children with physical and/or mental disabilities. Neither is there identification of the root causes of their difficulties and therefore, distinction between problems that could be corrected through therapy, i.e. improvements to the environment *(Learning, Assessment and Neurocare Centre limited, 2017):*
http://www.lanc.org.uk/educational-psychology-assessment-adhd-asd/
and those that are not capable of change because they are the result of fundamental neurological or physical differences. The current position is that:

- There are no specific goals for motor skills development
- There are no routine checks of binocular vision or visual processing
- There are no routine checks of sound processing, even in children with speech and language delays
- There is no Physical Education curriculum for all children linked in detail to the developmental needs of the child and how that in turn links to cognitive development.

Health workers and teachers are not definitively trained in the chain of child development. There is no shared recognition that motor sensory integration should be achieved in order for a person to access higher level cognitive skills.

15.4% of pupils in English schools have identified special educational needs (equating to 1,301,445 pupils). This has been decreasing since 2010 (21%) representing a fall of 205% since 2016. The decline is due to a decrease in SEN without a statement or Education, Health and Care (EHC) plan. 2.8% of school pupils in England have SEN statements or an EHC plan (equating to 236,165 pupils). The figure has remained at 2.8% since 2007 *(DfE Special educational needs in England: January 2015)*.

Education Health Care Plans can be process - adversarial; often requiring parents with stamina and other resources to pursue their child's interests:
https://www.mumsnet.com/onlinechats/sen-legislation-changes-jane-mcconnell and the system has worsened as financial cuts have reduced funding allocations to children with identified needs.

If statemented by an Educational Psychologist, a child may be referred to an Occupational Therapist, a Speech and Language Therapist and or/various other professionals, possibly including vision therapy. Sound therapy is rare in the UK and a holistic understanding of the needs of the child is missing; how they inter-relate and SMART targets for improvement. 5 years olds are being medicated for 'behavioural' problems; they will still have entirely correctable difficulties with motor skills, sound processing and vision which nobody will be systematically addressing:

'*There was a marked increase in ADHD drug use amongst children in the UK from 1992 until around 2008, with stable levels of use since then. UK children show relatively long*

persistence of treatment with ADHD medications compared to other countries', *(Raphaelle Beau-Lejdstrom, Ian Douglas, Stephen J W Evans, Liam Smeeth: 'Latest trends in ADHD drug prescribing patterns in the UK: prevalence, incidence and persistence', Epidemiology Research, BMJ Open Access; June 2016 – Volume 6 Issue 6).*

Children who are looked after experience high levels of learning and behavioural difficulties:

'*In 2016, 57.3% of children looked after had a special educational need, compared to 46.7% of children in need and 14.4% of all children*', *('DfE outcomes for children looked after by local authorities in England', 31st March 2016 SFR 12/2017).* There is no programme to ensure that all children in Care or in need can access good motor skill control, sound processing or stereopsis of vision.

Trends across childhood as a whole indicate a pattern towards inactivity rather than movement with UK children being the least active generation to date, placing young people at increased risk of experiencing physical, mental, and social and health challenges throughout the life course. Young disabled children are presented with various additional daily challenges concerning accessibility *(Natalie, Camejo, Asfour, Unlhorn, Delamater and Messiah 2017: 'Promoting Healthy Weight Among Children With Developmental Delays: Journal of Early intervention').*

A recent systematic review into PA participation for disabled children *(Ross, Bogart, Logan, Case, Fine and Thompson 2016: 'Physical Activity Participation of Disabled Children: A Systematic Review of Conceptual and Methodological Approaches to Health, Frontiers in Public Health')* recognised that traditional views have been viewed through a 'medical model' prism with the 'health' of an individual based on the absence of illness and bodily impairments. A purely medical approach to PA makes the inherent assumption that it is physiological or functional deficits alone that prevent children from being active participants. Such views about the value of PA for young disabled people can lead to a reduced exposure to wider physical, social and personal experiences. A global change in thinking is required to understand disability from beyond a medical perspective, recognising the wide financial and community, social and psychological barriers that inhibit young disabled people from becoming more active.

What research consistently shows is that children with special health care needs and psychiatric disorders have higher rates of health related factors such as obesity, versus those who do not; indicating that the need for increased levels of PA is higher amongst this population than for children who are non-disabled. In particular, the important place of PA has been highlighted for children with autism spectrum disorder, attention deficit hyperactivity disorder and learning disabilities *(Chen, Kim, Houtrow & Newacheck, 2010 'Prevalence of Obesity among Children with Chronic Conditions', Obesity).*The most common of all childhood disabilities, Cerebral Palsy (CP) alone, presents extremely complex challenges for those participating in PA.

A CP register review identified that for children diagnosed with the condition at age 5, 3 in 4 were in pain; 1 in 3 could not walk; 1 in 3 had hip displacement; 1 in 4 could not talk, 1 in 4 had epilepsy; 1 in 4 had a behaviour disorder; 1 in 4 had bladder control problems; 1 in 5 had a sleep disorder; 1 in 5 dribbled; 1 in 10 were blind; 1 in 15 were

tube-fed and 1 in 25 were deaf. It is likely that children with CP will experience their condition deteriorating with age and many will encounter other health changes over time *(Novak, Hines, Goldsmith and Bailey 2012: 'Clinical Prognostic: Messages from a systematic review on Cerebral Palsy'. American Academy of Pediatrics)*.

As PA levels amongst the general population decrease with age, embedding good habits from early childhood is essential. The projection for young disabled people as they move towards adulthood is worrying because the number of impairments a person has is directly linked to overall inactivity over time. Additionally, a Government report identified that those people with a disability are less likely to engage in sport or cultural activities compared with non-disabled groups *(HM Government, 'Sporting Future: A New Strategy for an Active Nation', 2015)*. In the UK, only 36% of adults with three or more impairments are active compared with 65% who are non-disabled.

A further complication is the likelihood that young people with existing underlying health issues and disabilities are also from low socioeconomic backgrounds or live in poverty *('Moving the Goal Posts: Poverty and Access to Sport for Young People', 2015; Start Active, Stay Active, 2011)* meaning that access, affordability, opportunity and safe spaces in which to play form extra barriers to achieving a healthy and active lifestyle. US PA guidelines and Sport England suggest that a unified approach to PA across the home and wider community can assist people with disabilities by improving the capacity to carry out daily living activities and boosting independence. This can lead to improved autonomy and social interaction in adulthood as well as reducing risk of chronic health conditions like Coronary Heart Disease, Cancer, Mental Health Disorders and Diabetes in addition to pre-existing health conditions: *https://www.cdc.gov/features/physical-activity-disabilities/index.html*

Interventions for PA and motor development within early childhood have demonstrated a positive outcome on children's physical experiences. The school environment can offer specialist interventions for children, focusing on targeted motor development programmes leading to increased motor control, participation and confidence *(Black and Davies 199: 'An Activity-Based Approach to Physical Education for Preschool Children with Disabilities: Adapted Physical Activity Quarterly').* Since 2014, The Youth Sport Trust have established a network of 60 lead inclusion schools to support the professional development of teachers in helping young people with special educational needs and disabilities (SEN/D) in and through PE and school sport. YST has also designed 'Project Ability' to improve and advance school provision for SEN/D pupils to participate in sport through intra and inter school competition. However in a recent report examining training of primary teachers in England *(Randall, Richardson, Swaithes and Adams, 2016 Generation Next: 'The preparation of pre-service teachers in Primary Physical Education')* it was identified that many new teachers feel neither confident nor competent to support children with complex physical, health or learning needs during curriculum time. The report recommended that the teaching of inclusive PE should become part of core content curriculum teacher training for all primary teachers and the most recently revised Ofsted ITT training handbook has said that all primary teachers during their training should:

'*Teach physical education and demonstrate good subject knowledge and teaching strategies, including for pupils/learners with special educational needs*', (*2015*).

The Primary PE curriculum in England has moved towards outsourcing provision whereby a large number of external companies without qualified teacher status and with minimum experience of working with young people who have complex health and disability issues are delivering statutory lessons.

Young people's early experiences of PA, PE and school sport can have lasting effect on later attitudes towards being physically active adolescents and adults. Therefore the schools and wider communities responsible for childcare and education for early year's children require a highly skilled and qualified workforce, capable of supporting a range of those with disabilities to access daily PA. Physical activity for young people must be addressed in the broadest sense of engagement and participation, recognising that the breadth of individual involvement can range from and embrace motor skill development, play, physical independence, games, sport and PE.

Recommendations:

9.1 Further research to be commissioned into how PA guidelines can be met for young people in the early years with special needs and disability from a social and psychological perspective. Examples of good practice should be cascaded to all relevant settings (school, home, community)

9.2 National bodies for PE, PA and sport to prioritise funding for children with disabilities to improve and increase access and infrastructure for increasing participation. These bodies should further promote more disabled role models who participate in physical activity, education and sporting activities

9.3 Free access to physical activity for all young people with a special educational need or disability

9.4 Development of guidance for the modification of activities to support young people with special educational needs or disabilities

9.5 All initial teacher training programmes for the Early Years Foundation Stage and Primary education to dedicate explicit time in their core curriculum to support trainees in teaching children with special educational needs and disabilities

9.6 Free training for schools to support teachers and early years' practitioners in helping young disabled children to match high quality outcomes for physical activity, motor development and broader physical education goals

9.7 Where appropriate, a proportion of Primary PE and School Sports Premium to be spent on target populations of disabled children between the ages of 5-7 to increase physical activity patterns throughout the day.

10. THE LEGISLATIVE WAY FORWARD IN THE PROMOTION AND EXPANSION OF PHYSICAL ACTIVITY PROGRAMMES AND TAKE-UP FOR ALL CHILDREN IN THE UK

Child health and wellbeing is key to any nation's future and must be prioritised by all stakeholders; primarily government. Policy and initiatives must be realistically resourced and should also be holistic and capable of widespread application and

adaptation. With this in mind, it is useful to describe the progress to 'mainstream thinking' of one idea, The Daily Mile, described earlier in this report.

The Daily Mile Foundation has held talks with UK Ministers about establishing The Daily Mile as an integral part of health and wellbeing initiatives in nurseries and primary schools. In August 2016, it became the only scheme of its kind to be recommended in the Government's Childhood Obesity Strategy. This led to consideration of the inclusion of The Daily Mile as part of a 'healthy rating toolkit' for use by headteachers in England. Thought has also been given as to how some of the additional Primary PE and Sport Premium might be spent on, for example, installing all-weather Daily Mile routes in schools.

The Daily Mile has been variously introduced into English schools; including via County Sports Partnerships (CSPs), Local Authorities and the NHS Clinical Commissioning Groups (NHS CCGs). The tendency has been for Education and Health to agree joint implementation and for PE/sport to provide direct support to schools. In Essex, Cheshire West and Surrey, the CSPs Active Essex, Active Cheshire and Active Surrey have been pivotal in the delivery and quality control of the programme. Examples of successful regional implementation include:

- The NHS (Clinical Commissioning Group), Public Health (Local Authority) and Active Cheshire (County Sport Partnership) are also working in cooperation to boost health and wellbeing in nursery and primary aged children in the Cheshire West region. Active Cheshire has lead on school engagement, the support for delivery and the quality control of that programme
- Wigan Council provides an excellent example of full collaboration between the Directors of Education, Public Health and Leisure Services resulting in schools and nurseries running The Daily Mile increasing from 4-53 in a matter of months
- NHS Manchester and Greater Sport are devising a health plan for the City of (and Greater) Manchester region, in which The Daily Mile has been included as a key component of nursery and primary strategy
- Hertfordshire County Council aims to roll out The Daily Mile to all primary schools across the county. 32 schools have already signed up with 25 more pledged to launch soon.

This partnership approach has led to every London Borough having at least one school adopting The Daily Mile and many with more than one school. Some of the poorer Boroughs have found that it allies well with attempts to offer inclusive health solutions to every child. Lewisham Public Health has incorporated The Daily Mile as an integral component of strategy to tackle child overweight and obesity and to encourage physical activity. The Daily Mile continues to engage with the Government to explore ways of supporting its continued growth across the UK.

At the devolved level, The Daily Mile Foundation has worked with policy leaders in Health and Education to assist with regional efforts to implement it in primary and nursery schools UK-wide. In March 2017, The Daily Mile Wales (Cymru) was launched and the Foundation has subsequently worked with the Welsh Government and Public Health Wales to roll out the scheme via the Healthy Schools Network. In January 2017,

the Welsh Government wrote to all primary heads in Wales encouraging them to consider innovative and simple approaches to improve the health and wellbeing of children during the school day - including adopting The Daily Mile. In support of the new Welsh curriculum, this programme supports primary schools to increase children's physical activity levels and help to safeguard pupil wellbeing whilst working towards curriculum implementation.

A large-scale roll-out of an initiative like this requires a strong communications strategy. The Daily Mile Foundation monitors and grows its following of Daily Mile schools principally via a website:
www.thedailymile.co.uk
and social media *(Facebook/Twitter).* These digital platforms contain information and resources that are frequently developed and updated by the Foundation, to provide guidance for schools and teachers on how best to implement and sustain the programme. Further 'best practice' is shared across the network of Daily Mile schools, and information is provided about how the initiative benefits children's physical, mental, social and emotional health and wellbeing.

Many countries in Scandinavia and Eastern Europe have established early years' programmes, specifically aimed at maximising children's physical and emotional development *(European Parliament, Quality in Early Childhood Education and Care, 2013. Policy Department Structural and Cohesion Policies).* Formulation of such detailed developed policy is need in the UK where children should all have the opportunity to achieve motor-sensory integration, in order that they can progress to achieve higher level skills *(Dionne-Dostri et al, Multisensory 'Integration and Child Neurodevelopment', Brain Sciences 2015 Mar: 5(1):32; Gori et al, 'Young Children do not integrate visual and haptic form information', Curr Biol, 2008;18(9): 694-8; Nardini et al, 'Development of Cue Integration in Human Navigation', Curr Biol.2008 18: 689-693).*

Motor sensory integration is dependent upon a daily active education for all children wherever they live with opportunity to develop their motor skills through a well-structured Physical Education programme with emphasis upon the following:

- Posture
- Gross motor skill control; development of primary reflexes
- Fine motor skill control including use of hands, feet and facial muscles
- Learning to use eyes efficiently at all points
- Activities to promote motor sensory integration including music, movement, dance, building and undertaking obstacle courses.

A well integrated programme to boost motor sensory integration should also include active participation in musical activity, art and design, aerobic exercise, speech, drama, trying a foreign language for the differing linguistic movements, self–calming activities, cooking and nutrition and having access to a wide variety of playground opportunities. All children should be formally assessed at 7 years of age for motor skills, motor sensory integration, sound processing and binocular vision with measures in place for reassessment if progress in any of these areas is cause for concern. Government should also ensure that this assessment process is applied to children in Care, need and the youth offending system and physical activity patterns of behaviour both at home and in

institutions should be promoted *(The Daily Telegraph, 3rd March 2017)*: *http://www.telegraph.co.uk/news/2017/03/03/people-learning-disability-treated-second-class-citizens-has/*

Policy makers should be alert to the training needs of teachers and health professionals (to include their own motor sensory education) and also the design of buildings and equipment that will promote, rather than inhibit, physical activity and bodily confidence. All people involved as professionals with any aspect of children's lives require dedicated training so that they understand the key stages in child development and how they themselves can contribute to children's cognitive and emotional progression with efforts made to boost development through regular physical exercises and activities. In conjunction with this, physical development checks should form part of any general assessment of a child's mental or physical health and children should not be medicated for behavioural problems before all other issues have been eliminated.

Stakeholders and teachers who are involved in the design and layout of classrooms require training in how the building and furniture design can impact upon a child's developing physiology. In addition, all policy modification should embed support that parents and carers can access so that they can ensure that their children, whatever their family and living circumstances, can develop their potential to the full.

Recommendations:

10.1 Increased government funding for research into the part played by physical activity in early childhood development in all aspects

10.2 Physical development checks for all children at age seven with follow-up dependent upon outcomes

10.3 Additional training and CPD for health and education professionals in physical activity/motor sensory integration

10.4 Employers to be encouraged to support all their employees in achieving good skills in motor sensory integration (thereby supporting the child by making it 'everyone's business')

10.5 Basic, accessible support packages provided for all parents and carers on appropriate play and activities to ensure optimum development goals

10.6 Annual child developmental timetabled face to face sessions with health/education professionals for parents/carers

10.7 Government to establish a Physical Activity Champions Taskforce whereby promoters of successful schemes (like The Daily Mile) can act as national roving ambassadors, encouraging take up in other institutions and areas.

11. DIVERSITY AND CHOICE IN ACTION: GOOD PRACTICE CASE STUDIES

Lack of physical activity is bi-directionally linked with obesity and a single 'catch-all' approach simply encouraging more activity will not of itself prevent children carrying and maintaining too much weight *(NHS Choices 2014 Obesity-causes)*: *http://www.nhs.uk/Conditions/Obesity/Pages/Causes.aspx*

Sustained interventions are needed at all society levels, from communities through to governments, private organisations and non-governmental bodies. Obesity-related risk

factors are embedded in society's framework, influenced by many areas of national policy. If children are to be more physically active, the promotion of social change is necessary and an important lever is strong evidence-based communication generating healthier communities *(Robert Wood Johnson Foundation 2009: 'Battling childhood obesity in the US: An interview with Robert Wood Johnson's CEO'. March).* It is disturbing that young children can spend over six hours watching TV, video games and using mobile phones and the Millennium Cohort Study found that more than half of the 12,556 children sampled had a television in their bedroom at age seven. They were also more likely to be overweight *(The Times 2017: 'Bedroom TV increases the Risk of Child Obesity', 3rd June).*

More evidence must be gathered and well evaluated to establish how to get children moving and off the sofa. However, caution has been raised about self-reported statistics on physical activity which can overestimate the amount of movement. The quality and reliability of the activity also demands close scrutiny. Concerns have been raised recently with regard to the funding of such research and whether there is evidence of vested interests. This is considered to be a growing problem by academia. However, none of this detracts from the key message; children are meant to move and at present, they are not moving enough.

When they leave primary school, a third of UK children are overweight, and we are gradually 'normalising' obesity and forgetting what a healthy child looks like. Parents compare their own children to the children of their friends and relatives and if extreme cases of obesity are the reference point, no action on food intake or physical activity is taken. **Dr Angela Jones** of Newcastle University has developed a web intervention to show parents how their children with high Body Mass Index would look as adults; tapping thereby into parental concerns. Many were shocked and took remedial action on food and activity. However, other parents hold the opinion that 'obesity is a real problem – for others,' *(The Times 2017: 'Virtual Images of Fat Children Shock Parents').*

A higher priority should be given to activity levels outside the school gates. **Professor Nick Wareham** has claimed that much physical activity decline occurs out of school hours and at weekends. It is significant that 30% of children living within 2km of the school are driven there every day. **Dr William Bird** has highlighted Primary Care:

'*..the GPs particularly need to have their knowledge increased. Physical activity should be part of being a good doctor. It is not quite there yet. The evidence is there but it needs to be put in the hearts and minds of doctors,*' *(House of Commons Health Committee 2015 'Impact of Physical Activity and Diet on Health', Sixth Report of Session 2015-15. The House of Commons: The Stationary Office, London).*

A multi-stake holder approach is required for effective interventions in order to modify interactions between individual health-related behaviours and the range of determinants that contribute to the obesity epidemic in UK young children. According to **Jane Landon** of the UK Health Forum:

'*We have the tools available to us; we have dietary guidelines; we have physical activity guidelines. We are only really using them when we talk to the individual when these should*

be guiding policy decisions across Government departments. We need to reframe some of the discussions', (HoC Health Committee 2015 as above).

After protracted inertia for many years, these issues are finally being challenged and there is no time to waste. Young children in the UK have a right to health:

'*The nutritional patterns laid out in the early years can define a child's health for life. We are in danger of destroying the health of a whole generation of children… we need to ensure every child has a healthy and varied diet and regular exercise.*' *(Pryke 2006: 'Weight Matters for Children - A complete guide to weight, eating and fitness'. Oxford).*

What follows is a compendium of programmes with a whole child approach to physical activity. The beneficent influence of The Daily Mile in the UK has been described earlier.

1. Nationally and internationally, positive use can be made of free Wi Fi to promote healthy activities in young people and families. Many go into fast food restaurants to use free Wi Fi and as part of sign up, restaurants could advertise healthy physical activities in the geographical area, supported by a local authority drive. More free Wif Fi could similarly be offered in parks and leisure centres
2. 'Exercise break' cues could become part of children's television programme experience *(Deborah Cohen 2014: 'A Big Fat Crisis- The Hidden Forces behind the Obesity Epidemic - and How We Can End It', National Books. New York)*
3. Kirklees, West Yorkshire has an excellent Physical Activity and Sports Plan 2015-20; Everybody Active. The Kirklees vision is to get everybody physically active through work, play, sport, travel or leisure by 2020. It is linked to their joint Health and Wellbeing Strategy, Kirklees Economic Strategy, Kirklees Food Plan and the Kirklees Safer Stronger Communities Partnership. Kirklees also follows the Green Infrastructure Delivery Plan, Children and Young People
4. Iceland: 'Everything Affects Us Especially Ourselves' was started in 2005 in 25 municipalities to promote healthy lifestyles for children and families by emphasising increased physical activity and improved diet *(Franco Sassi 2010: 'Obesity and the Economics of Prevention. Fit not Fat.', Edward Elgar Publishing Ltd .ISA)*
5. Japan: by alerting urban design, they have managed their transport networks making mass transit convenient. The Japanese people eat less and walk considerably more
6. USA - Activate the Parks: these programmes yield multiple benefits beyond physical activity. The parks are safer and families are thereby more confident about interacting *(Deborah Cohen as above)*
7. Bogata Columbia: their streets area closed to cars *(*Ciclovias*).* In Bogata Columbia, the main streets close every Sunday and two million pedestrians and cyclists come out to enjoy the uninterrupted peace and exercise *(Deborah Cohen as above)*
8. New York USA: in 2005 Central Park New York City installed 'The Gates', a temporary art exhibition of bright orange banners over 23 miles of walkways which attracted 4 million visitors (94 times the usual number). This concept of art installation to improve physical activity requires more investigation *(Deborah Cohen as above).*

9. Finland: has focused for over 30 years on increasing physical activity. Much attention has been paid to the construction and maintenance of sports facilities. There is one physical activity site for every 176 Finns and these are used by 90% of the population. There is one public swimming pool for every 18,000 citizens and they are used by 70% of the population. Few Finns report barriers to exercise like distance or lack of money *(Deborah Cohen as above)*
10. Sweden: day care schools offer activities for younger children during and after school hours
11. Hungary: schools open the playgrounds for families to engage in sports activities together
12. Columbus Ohio USA: Walk with a doc – just a walk in the park. Dr David Sabir, a cardiologist initiated this activity with a weekly walk for one hour every Saturday. It was a grassroots level effort based on sustainability and simplicity. On his first walk, 100 people arrived and it is now taking place all over the US and is nationally recognised. All family members including young children are encouraged to participate: *www.walkwithadoc.org*
13. USA: Step it Up! Family Groups Walks in Ottawa County, Michigan to motivate residents. The whole family walks together, promoting walking and walkable communities. The programme is recognised by the US Surgeon General.

Recommendations:

11.1 Local Authorities, Health and Educational concerns invited to submit PA community schemes for central evaluation by Government Task Force with the aim of establishing a set of recommended pilots for national roll out. Good practice from international sources (as above) to inform this work

11.2 A greater use of qualitative research data; merely filling in questionnaires will not necessarily reveal the true picture of the amount of current activity and thence the base from which improvements must be made.

12. AN IN-DEPTH ANALYSIS OF THE IMPORTANT ROLE THAT BABY AND INFANT SWIMMING HAS TO PLAY IN HELPING TO ACHIEVE PHYSICAL, COGNITIVE AND EMOTIONAL GOALS

This report concludes by making the case for recognition of baby and infant swimming in all programmes to enhance the health and fitness of young children. It comes at a time when a recent study:
http://www.sportsmanagement.co.uk/Sports-news/latest/Swimming-UK-Education-Policy-/333260?source=search
has highlighted the fact that a third of school pupils aged 11 will finish Year 6 unable to swim despite a national requirement that every Year 6 leaver be capable of unaided swimming over 25 metres:

'*use a range of strokes effectively and be able to perform self-rescue techniques in various water-based situations.*'

The report highlights a failure of 53% of primary schools to provide any curriculum guided swimming lessons, a reluctance to 'disrupt' the normal school day, a lack of formal training for teachers directing swimming classes and the prohibitive cost of transport to swimming pools. Report commissioners, Swim England have called for additional resources for delivering school swimming lessons and a new national top-up programme for schools currently recording the lowest swimming attainment levels. The observations have received qualified support from Robert Goodwill, Minister of State for Children and families who has said:

'*Swimming is a vital life skill and schools have a duty to teach children how to swim and learn about water safety at primary school. These findings show that more needs to be done to ensure all schools feel confident teaching swimming to students, which is why we will continue to work closely with Swim England to review the recommendations within this report.*'

Any recognition of the benefit of swimming is welcome, but swimming lessons at school are some way removed from an approach that would credit the activity with its position in the whole development of the child; in the properly physical, social, linguistic, intellectual, emotional and creative terms in which PA has been examined elsewhere in this report. Scientific surveys at the German Sports College Cologne show that early swimming for young children accelerated their development physically emotionally and intellectually in comparison with a control group that did not take year-round lessons. The studies showed that:

- Children who swam consistently from infancy were stronger and better co-ordinated
- Children who swam scored higher for intelligence and problem solving; continuing to success in academic tasks
- Swimmers had more self-discipline, self-control and an increased desire to succeed
- Swimmers had higher self esteem and were more independent and comfortable socially than the control groups

(German Sports College Cologne: 'Baby Swimming Advance Independence and Development of Intelligence'. World Aquatic Babies and Children Network).

Aquatic therapy is inclusive and water has proved to be an excellent environment in which to support the development of children with a range of disabilities including those on the autistic spectrum who have recorded the benefits of improved motor performance, *(Mortimer, Privopoulos & Kumar 2014; Vonder Hulls et al, 2006)* greater attention, breathing skills and family bonding *(Huettig & Darden-Melton 2004).*

Whilst aquatic therapy may not suit all ASD children, it has had success in achieving a decrease in negative social behaviours together with an increase in socialisation *(Mortimer, Privopoulos & Kumar and Vodner Hulls as above).*

Neonatal swimming has been analysed, *(Zhao, et al., 2005)* the study finding that implementing such a programme can accelerate infant growth and development. Water Babies' swimming programme provides specialist hydrotherapy opportunities for very

small and premature babies to experience the benefits of water and its properties to stimulate growth and development. Hyptonia relieves the joints of weight whilst supporting muscle development. Lung development and stamina can also benefit. Also, a structured baby swimming programme can assist the whole family. Water Babies include parents and carers into their lessons as central to helping babies in the activities.

In 15 years of teaching baby and toddler swimming, Water Babies have observed that mothers with postnatal depression can benefit from a weekly swimming lesson via focus and structure plus the chance to socialise with peers, sharing experiences and bonding opportunities. The 'one on one' parent-child time also furthers positive parent/child activity interaction, including understanding and interpreting a child's non-verbal communication and skin to skin contact alongside touching, talking and singing to a baby *(ukactive Research into pre-school physical activity for Water Babies).* Water Babies' programmes are open to all family members and carers, seven days a week with resultant advantageous patterns that can be seen in both child and adult activity and health.

The aquatic environment itself is a unique arena in which both babies and toddlers can flourish. Physical benefits include:

- Chest-deep water providing resistance to strengthen the diaphragm; influential in breathing for speech
- Support to the trunk, head and neck, affording good positioning for jaw and tongue; promoting increased feeding skills and more intelligible articulation
- Better muscle tone; ease of movement and thereby a positive and stimulating environment for learning and development.

Studies conducted at the Norwegian University of Science and Technology *(Sigmundsson H, Hopkins B: 'Baby Swimming, Exploring the effects of Early intervention on Subsequent Motor Abilities'. Child, care, health and development, Science daily 210, 36 (3); 2010)* found that baby swimmers had better balance, movement and grasping techniques than non-swimmers. The difference persisted even when the children were five years old.

A number of research studies *(Zealazo PR, Weiss MJ: 'Infant Swimming Behaviours; cognitive control and influence of experience': Journal of cognitive development 7(1) 2006 pp1-5; Draganski B, Gaser C: 'Changes in the Gray matter induced by training', Nature 427 2004 pp311-312; Jorgenson et al, 'Early Years Swimming Research Project' at Griffith University, Splash magazine, 2001; Healthmade Magazine, 'The Benefits of Swimming Especially for Children – the Function to teach Swimming to infants', 2011)* have also pinpointed the following advantages:

- Water buoyancy as a boost to infant motor development
- Swimming toys stimulating motor skills and hand-eye coordination
- Fine motor skills honed; improved eyesight and focus
- Spatial development; a freedom to move that can also be linked to cognitive and kinaesthetic development muscle strengthening due to high water resistance.

Water Babies report that their swimming programmes stimulate infant cognitive development and toddlers are issued instructions during the course of the lessons

containing some simple skills to follow and action. These include songs, teaching recognition of body parts and the environment and a variety of toys introducing concepts of floating and sinking. A four year project begun in 2009 by Griffiths University and covering the US, Australia and New Zealand *(Early Years Swimming Research Project with 45 swim schools)* has released preliminary findings showing that under fives taking swimming lessons are more advanced in cognitive and physical development than non-swimmers. The swimmers were 11 months ahead in oral expression and six and a half months ahead in mathematical reasoning. Similar results were recorded by researchers in Melbourne in 2011, academics from the University of Essex and University College London and a 1979 study *(as above)* from the German Sports College Cologne. During swimming, a child experiences tactile body stimulation from water resistance and this encourages neurological development. The movement involved in swimming activates both cerebral hemispheres and all four lobes of the brain simultaneously which can encourage heightened cognition and learning capacity. Good communication in the cerebral hemispheres leads to an overall efficiency in brain processes; in particular encouraging language development.

Swimming for babies and infants can also help emotional development; affording children significant opportunities to share space with peers and explore movement together *(Connell G, Todd A, 'Reference Manual for Early Childhood in Water'. Auckland, New Zealand 2007).* Group participation contributes to social development and the Water Babies swimming programme incorporates opportunities for sharing, taking turns, watching individuals, whole group involvement and celebrating success and goal achievement. It uses action songs to develop self control, including the ability to stop, wait and listen. There are also opportunities to recognise concepts such as beginning, ending, tidying toys and working collaboratively with others. The early years curriculum supports 'water play' and the swimming environment fosters emotional development as well as understanding why and how things happen; learning about properties such as 'warm' 'wet' and 'cold' and why and how objects float and sink. Water Babies' carefully designed songs and games are also ideally placed to teach children about weather, numbers, colour and body parts – helping them to become 'school ready', with a capacity to enjoy learning and to form and sustain positive relationships with peer group friends and adult mentors.

Successive governments have stressed the importance of swimming from a safety perspective and a case-controlled study conducted by Ruth Brenner and colleagues has found that participation in formal, structured swimming classes can reduce the risk of drowning by 88% among children aged between one – four years *(Brenner RR, Gitanjali ST, Haynie DL, Trumble, AC, Quian, C, Klinger RM, Klebanoff MA: 'Association between Swimming Lessons and Drowning in Childhood - A case control study', Archives of Paediatrics and Adolescent Medicine 2009 163(3) 203-210).*

However, the universal desire to reduce infant deaths by drowning has been misguidedly abused by the UK introduction (since 2016) of lessons targeting parents of young children with so-called 'drown-proofing' methodologies that up until this point have only had a presence in the USA and Australia. The credibility of these lessons as offering lifesaving skills for very young children require serious and urgent review because at best they represent an ill-conceived approach and at worst are indeed, tantamount to child abuse with no evidential positive effect upon infant drowning rates

and causing infant stress that risks long term harm to a child's brain development. In July 2017, Swim England, STA (Swimming Teachers Association) RLSS (Royal Life Saving Society) and prominent UK swim schools were united in vocally discrediting these techniques as highlighted in The Daily Mail:
http://www.dailymail.co.uk/news/article-4669568/Grieving-mother-criticised-baby-swim-survival-lessons.html
and The Times:
https://www.thetimes.co.uk/edition/news/backlash-over-self-rescue-swimming-classes-for-toddlers-mthlb67x2

The Water Babies organisation (supported by fifteen years' proven successful and innovative experience in delivering swimming programmes for babies, toddlers, children, their parents and carers) is unequivocal in its outright opposition to these methodologies. It strongly rejects their deployment in each and every setting, has never practised them nor advocated their usage by Water Babies' personnel or others and would never do so. Roundly criticising the terminology 'Infant Self Rescue' for the methodologies mentioned above, Water Babies' Managing Director, Steve Franks has branded the techniques as being '*a dangerous threat to the development and wellbeing of young children*' and warmly welcomes all efforts to dissuade well-meaning parents and carers from joining any programmes following such instruction.

The so-called 'Infant Self Rescue lessons' have also been roundly criticised by Dr Francoise Freedman *('Sink or Swim?: Drown-proofing methodologies', June 2017)* There is an urgent need, as practised and advocated by Water Babies, to develop safety techniques in line with a baby's physical and emotional development. The ISR model ignores developmental milestones and YouTube clips of ISR techniques and lessons arbitrarily subjecting babies to rigid 'flip and float' methods (whilst ignoring the clearly audible cries and protests of the infants) serve to distress and confuse babies whilst operating on the erroneous premise that an infant falling into deep water, if 'taught' in this way, will rotate themselves round and float until rescued. All safety methods advocated **must** be based upon current scientific research rather than the views of self-appointed 'parenting experts' who are not recognised specialists.

Freedman also points out the very real dangers to brain development of these techniques:

'*In the light of both research showing that violent conditioning is detrimental to early brain development, potentially causing trauma to sensitive infants, and the unproven outcomes of drown-proofing methods in statistically reducing drowning fatalities among the 0-4 year old children population, forcefully training large numbers of infants to roll over and back float is therefore not socially commendable…..the only true way to ensure a child is prevented from drowning is 100% supervision from a responsible adult.' (Freedman 2017 as above).* These points are supported by Sue Gerhardt in her book 'Love Matters' (2004) as she argues that infants need a supportive learning environment to prosper. The ambivalence itself of drown-proofing is one of the strongest arguments against it:

'*While parents entrust their infants to trainers with loving intent, the experience of enforced conditioning does not match this loving intent for the child. The contradictions*

inherent in receiving praise and rewards at the cost of inflicted pain are known to those who study child abuse.

For a young child, being thrown into water and struggling to keep afloat under the loving gaze of his parents simply does not amount to the perception of the world as a safe place. How much violence has been inflicted on babies under the pretext that it is for their good?'

A well-developed, nurturing child-centred early years' swimming programme should deliver safety skills and increased parental awareness and co-operation that will save children's lives. In the widest sense, it is time for the over-neglected area of baby and infant swimming to be afforded its proper role as part of a national, government – promoted and supported strategy to boost physical activity for children in early life, thus providing the best start for whole-child development including physical fitness, emotional wellbeing, heightened cognitive skills and a healthy weight that will provide the strongest foundation for adult prosperity.

'*Teaching children to love, respect and gain confidence in the water should be at the very heart of a good overall pre-school strategy*'. *(Susan Freedman 2017 as above).*

Now is a good time to begin.

Recommendations:

- **12.1 Widespread overhaul and review of the early years' and primary curriculums as they affect baby/infant swimming with guidelines and policy developed that concern whole-child development**
- **12.2 Swimming teaching and training to form part of all early years and primary professional training with regular update as part of CPD**
- **12.3 Antenatal care/postnatal providers to signpost parents to swimming and water therapy classes and for these to form part of antenatal and postnatal maternal health programmes**
- **12.4 All child swimming proposed safety techniques/teaching packages to be subjected to government research and scientific proofing before being licensed for use in UK swimming and teaching facilities. Current methods that have not been examined to undergo the testing procedure before being licensed to continue**
- **12.5. Grants/Sports Premium finance to be made available for transportation costs for school-based infant swimming opportunities**.