GREATERSPORT School Readiness and Physical Development Evidence Review

Transformational Approach to Change

1> The case for change

Establish the case for change (high level problem, current outcomes). Take time to understand what is already working well. Learn from this

2> Scale of potential impact

Risk stratification of whole population, identification of priority cohorts

3> Examine the evidence, data and insight

Where are the priority cohorts? What are the individual, social, environmental and policy factors that are influencing behaviours? What works to engage them? What do we know and understand about their lives, fears, barriers to change? What don't we know? How can we find out?

4>

Engage across sector/across the system and with priority cohorts

Start from an appreciative standpoint. Then explore the issue, question or challenge and co-design system change and solutions. Consider skills and workforce development

5>

Pilot system change or investment

Decision made on system change or investment required, enabling transformation or creation of system, service or approach. Typically start on a pilot basis – mainstreaming following successful pilot or trial

6> Implementation at scale

Agree plan for roll out, including options to test new models at a smaller scale and anticipated approach to scaling up across Greater Manchester appropriate to local need and assets

7> Final evaluation

Evaluate from the outset, including process, outputs, outcomes and savings. Final evaluation should be used to help refine delivery models, driving continuous improvement

8> Mainstream investment or decommissioning

Agreement on ongoing investment to support mainstreaming (for example, funding commitments/resource allocation to support system change)



1. The Case for Change



- Physical Activity in the Early Years Evidence Briefing, BHFNC (2015).
- Furthermore what happens during these early years (starting in the womb) has lifelong effects on many aspects of health and well-being (Marmot, M., 2010).

2. Scale of Potential Impact

- 225,000 children aged 5 & under, 37,290 eligible pupils for measure of good level of development (GLD) in GM.
- 1 in 3 children (32.5%) do not achieve a GLD as a measure of school readiness 12,100.
- Half again (16.3%) not achieving expected physical development (PD) 6,100.
- 1 of 3 prime areas of learning, only Bury and Trafford equal to and above national, slowest rate of improvement since 2013 6% vs 13% (Communication & Language) and 11% (Emotional, Social and Personal Development).
- 10.4% girls vs 22.1% boys, varies 10.4-19.5% across boroughs and 36.2-0% across wards. (DfE, EYFS Profile)

2. Scale of Potential Impact

- Only 9% of 2-4 year olds meet CMO physical activity guidelines of 3 hrs a day and only 16% 1 hr a day (Health Survey for England).
- Obesity in Reception 10.4% in GM compared to 9.6% nationally, varies 7.6-11.7% across boroughs (NCHMP)
- 4,900 2-4 year old children with SEN in GM, ranges from 9.9% in Salford to 3.6% in Trafford.
- A 2016 report by Dr Rebecca Duncombe from Loughborough University found that, "up to 30 percent of children are starting school with symptoms typically associated with dyslexia, dyspraxia, and ADHD conditions which can be improved with the correct levels of physical activity." So potentially 1,830 children.

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• 78% of respondents report physical development as a cause of concern and 13% most cause for concern (Family and Child Care Trust survey and NHAT).

3. The Research



1. Awareness

Comprehensive awareness raising, to ensure health and education professionals and families are aware of, and act upon, the Chief Medical Officers' physical activity guidelines for the early years (2011).

2. Education

Greater emphasis on the importance of physical activity across the Early Years Foundation Stage curriculum, alongside clear guidance and training for early years practitioners on how to promote and develop children's physical activity.

3. Environment

All children in the early years should have safe, stimulating and accessible physical activity and active travel opportunities in their community.

4. Health

Health professionals should track the physical activity levels of children in the early years alongside other health behaviours. These results should be shared with parents whilst supporting them to take positive action to increase physical activity levels among their children.

Source: The Best Start in Life, A Manifesto for Physical Activity in the Early Years, BHFNC (2016)

- The preschool that a child attended explains 27% of the variance in activity levels (Pate, 2008).
- A child in full time childcare for 40 hours a week may be spending nearly half their waking hours in childcare.
- 93% of the 3-year old, 96% of the 4year old and 71% of the eligible 2-year old population benefitted from some funded pre-school education (DfE, 2017).
- Anecdotal evidence suggests only 1% of early years practitioners receive specialist training despite being a 'Prime Area'.
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3. The Research

Mitchell et al. (2012)

- Further investigation is needed to clarify and understand the specific parental influences and behaviours that are associated with physical activity in young children. In particular, longitudinal research is needed to better understand how parental influences and physical activity levels of children during the formative preschool and early elementary school years are associated.
- There were inconsistencies in the findings involving the social learning variable, parental enjoyment and variables involving parental behaviours such as maternal depression and self-efficacy, and rules for sedentary behaviour, and parental perceptions, which included perceived importance of physical activity, fear of safety, and perception of child's motor competence.
- While parents are their children's most important role models, staff have a role to play as well, and the importance of this is likely to be increased where children are spending a considerable proportion of their waking hours in childcare.

3. The Research

Early Years: Practical strategies for promoting physical activity, BHFNC (2016) recommendations within a setting:

- 1. Ensuring appropriate levels of practitioner support and training are in place.
- 2. Partner with external agencies to help practitioners develop knowledge and expertise about physical activity.
- 3. Involve parents and carers both directly and indirectly.
- 4. Offer more frequent, short periods of outdoor play.
- 5. Provide more activity friendly, portable equipment.
- 6. Include adult led activities to improve motor skills.
- 7. Use physical activity as a medium through which to integrate all areas of learning and development.
- 8. Ensure a balance of free play and adult led physical activity opportunities.

Promoting Physical Activity and Reducing Sedentary Behaviour in Early Years Settings, YST (2018) additionally:

- Have a written policy and PD champion in every setting with a responsibility to drive this forward.
- Limit sedentary opportunities and modify the environment to support activity.
- Implement a range of strategies to maximise effectiveness.
- From qualitative findings staff training, a positive ethos and environment and the involvement of parents were highlighted by respondents as particularly important.

6 evidence reviews and 21 studies in total, with particular focus on settings.

- Key recommendations include:
- Strong leadership, stakeholder engagement and support by staff as critical.
- Most effective intervention strategy seems to lie in the personal characteristics, and more specifically PA inservice training of teachers.
- Interventions of more than 12 months duration, should incorporate a sustainability component.
- Dependent on staff ability to incorporate within normal routine, as such designated times must be allocated and integrated into daily routines and other areas of the preschool curriculum.
- Staff indicated the hands on nature of workshops encouraged them to work collaboratively and facilitated acquisition of knowledge.

Downing et al. (2018)

- A BMJ study 'Interventions to reduce sedentary behaviour in O–5-year-olds: a systematic review and metaanalysis of randomised controlled trials' showed that preschool/ childcare setting, community and home based interventions were more effective in reducing sedentary behaviour than healthcare settings. Strong leadership, stakeholder engagement and support by staff as critical.
- The meta-analysis of 7 studies showed a significant post-intervention effect of 19 minutes reduction in sedentary behaviour, which is promising. If this potentially results in an increase in physical activity by 19 minutes this would be 10% of the CMO's recommended 3 hours, further with some studies showing up to 1 hour reductions .

Mehtala et al. (2014)

- A systematic review was conducted based on the socio-ecological approach to physical activity interventions in childcare and out of 23 reported 14 studies found increases in physical activity or reductions in sedentary time.
- It has been suggested that a comprehensive or whole-system, such as the socio-ecological approach may be essential for examining the multiple factors that might be determinants of PA. The intervention strategies were categorised as the following levels:



Intrapersonal

• Children given time and opportunity to practice their fundamental motor skills showed improvement and increased physical activity or reduced sedentary behaviour where this was primary outcome, but not where it was the secondary. More playground space resulted in higher physical activity in boys than girls and when playground density was lowered, girls benefitted more than boys. However in non-competitive environments there were no sex differences.

Interpersonal

- In 5 high quality studies, using a physical activity-related teacher training intervention, all accept one demonstrated positive changes in physical activity. When encouraged and guided by adults and especially when adults joined in physical activity intensity increased.
- Of 8 studies with parental involvement only one high quality study reported significant increases in physical activity. However it may be that families need to be more strongly committed, knowledge or materials alone may not be enough and it was suggested that the home component was not intensive enough. Further in some cases teachers were used as proxy-parents, only childcare levels of activity were measured or there were small samples which lacked power to detect significant differences (Reilly 2006).
- Although parent physical activity was not directly related to children's MVPA, results showed that parent physical activity indirectly affects preschool children's MVPA via its influence on family support for children's physical activity (Dowda et al., 2011). It is possible that greater parental involvement is important and perhaps vital in the early years for observable and lasting changes as suggested by Hesketh et al. (2010).

Organisational

- Provision of new play equipment momentarily increased physical activity but an activity-friendly playground was insufficient in the long term.
- More space and additional structured, but not free, outdoor play associated with more physical activity during break.
- Specific playground features i.e. open green space, grass hill and looping cycle path were associated with greater intensity.
- Structured physical activity was used in most studies considered here as a promotion strategy, which were relatively brief across intervals across the day allowed children to maintain intensity, however indicated more likely to be effective when every day rather than less frequently.

Community and Policy

- Although community level interventions are resource intensive they could potentially be cost effective in the long term.
- Interventions lacking at these levels i.e. overall culture of setting and status of physical activity within them. But Copeland et al. (2012) based on qualitative research suggested safety and school readiness priorities may be hindering children's physical development, with 3 particular barriers indicated to children's physical activity in child care as:
 - injury concerns,
 - financial
 - and a focus on academics.

Conclusion

- Even though it is difficult to draw general conclusions based on the mixed results of the studies included in the review, the most effective intervention strategy seems to lie in the personal characteristics, and more specifically PA in-service training of teachers.
- Although evidence is limited, it is growing, with 48% of articles included here being published after 2011.
- Only four studies had long term follow up over 6 months but the sustainability component for teachers is critical (Jones, 2006). Biddle et al. (2011) found that interventions of more than 12 months duration were more effective than 5-12 months at reducing sedentary behaviour, which is also supported for reducing screen time by Downing et al. (2018) suggesting future interventions would benefit from being six months or longer in duration.



Gordon et al. (2013)

Various other reviews carried out in 2012-13 suggest a small to moderate effect on general physical activity. With particular
effectiveness when provided in an early learning environment, directed by teachers, incorporate environmental changes, promote
unstructured activities or free play and provide outdoor play time.

Mindell et al. (2012)

- The quality of the childcare, training of staff, availability of portable over fixed play equipment (where possible placed in such a way that it encourages children to move from place to place to use it), and use of indoor spaces for motor activities were most effective.
 Kreichauf et al. (2012).
- Several studies showed that children are most active in the first 10-15 min but those reporting positive outcomes implemented physical activity sessions that lasted at least 30 min d(-1). Teacher training may be a key element for successful interventions. To overcome time constraints, a suggested solution is to integrate physical activity into daily routines and other areas of the preschool curriculum.

Ward et al. (2010)

Included 19 studies around interventions for increasing physical activity at child care and found that half had significant findings. The suggestion was that regularly provided, structured physical activity programs can increase the amount and intensity of physical activity that children receive and improve children's motor skills. The studies were categorised as curricular, of these eleven out of thirteen were significant, or environment/ policy, of which there were seven. Where equipment was added there was a significant effect but not where additional recess time was added. Where staff were trained one was significant but the other had no baseline to compare to. Where language was integrated in one there was a significant effect, suggesting potential for reverse integration.

Lust et al. et al. (2011)

 Interventions to improve fine motor skills may also be effective in a pre-school setting. A small, non-randomised trial of a multi-sensory based programme designed to improve pre-handwriting skills found that it was effective in improving pre-writing skills, kindergarten readiness and fine motor skills. The programme consisted of activities such as making letters with wooden pieces, rolling modelling clay into letter shapes and singing songs with co-ordinated actions.

Jones et al. (2011)

- An RCT was conducted of a 20-week *Jump Start* physical activity program for preschool children, consisting of professional development for setting staff and structured lessons 3 times a week around one of 5 fundamental movement skills, with unstructured activity facilitated later in the day to provide an opportunity to practice the skill learnt earlier that day.
- Greater improvements were reported in the intervention group compared with the control, with a medium to large effect size for the jump and a statistically significant difference, as well as the sum of the 5 skills overall. Greater objectively measured physical activity and less time being sedentary was recorded using accelerometers.
- However at follow up these differences in physical activity were not maintained, despite all staff indicating strongly they would continue to implement the program, highlighting the very real barriers to sustained change. Key recommendations include:
 - Strong leadership, stakeholder engagement and support by staff as critical.
 - Dependent on staff ability to incorporate within normal routine as such designated times must be allocated.
 - Interventions should incorporate a sustainability component.
 - Staff indicated the hands on nature of workshops encouraged them to work collaboratively and facilitated acquisition of knowledge.

- As well as working to promote good health of children in their care, a healthy early years setting also has a role to play in promoting
 good physical and emotional health among staff. This is important in terms of issues such as staff wellbeing, sickness rates, staff
 turnover and reducing spread of infection. Staff also have an important role to play as role models to children in their care by modelling
 behaviours such as healthy eating and physical activity.
- A trial of an educational intervention to promote healthy diet and physical activity among parents, staff and children among Head Start Centres in 5 US states, found significant decreases in BMI and obesity in staff, parents and children. This programme adopted a 'train the trainer' approach whereby staff were trained first and then delivered the intervention to parents. Staff also received ongoing support to initiate physical activity. This study had no control group (Herman, 2012).



HOST- Homestart Oldham, Stockport and Tameside based initiative

- Volunteer led home support for children under 5. Volunteers are parents themselves, using a peer mentor scheme to visit registered homes for 2-3hour weekly sessions. Sessions are used to tackle a range of issues from breastfeeding, attachment issues, welfare that are a precursor to school readiness criteria. Utilise active play and learning to support physical development such as coordination and movement.
- Key paradigm of this initiative tackle issues of attachment and reciprocity within the primary caregiver-child relationship.
- Utilise the WellCommtoolkit to tackle speech and language delay issues. Opens potential for similar steps to be used to incorporate a physical activity based toolkit working with the knowledge that good physical literacy underpins the development of speech and learning skills.
- HOST is one of six independent HomeStart schemes across Greater Manchester, but has the most comprehensive strategy and structure.

SPLAY

- Physical development intervention scheme delivered across three platforms (school-community-private nurseries).
- Improving the opportunity for children to be more active as a precursor to developing fundamental movements such as throwing, catching etc.
- Initial assessments are given to children displaying a lack of capability with fundamental movements, providing additional time and support to engage in formative physical activity.
- There has been positive feedback highlighting how the programme has supported greater development against other prime areas of EYFS.

Let's Get Moving

- A joined-up and coordinated programme of education, advice and support for the children, young people and families across the borough that meet the eligibility criteria for the service and includes oral health, diet and nutrition, physical activity and weight management.
- Also have a range of other programmes in place that are delivered from places such as our Start Well Family Centres, which will include some aspects of physical activity and will be flexible in their delivery in line with priorities.

Kids on the Move (Wigan Athletic)

- 2 years ago they became involved in the Premier League Primary Stars Programme in Schools, which enhanced there already good relationships with schools and the Start Well team. This led to them becoming aware that School Readiness was a priority for the Council and Latics thought they could support this through physical activity, they worked with the Start Well Team to assess the current issues and collaborated to develop a 24 week pilot with 2k funding from Wigan.
- From this they applied to Wigan Deal receiving 10K AND 30K Children in Need for a 3 yr project to start Sep 2018. Start Well signpost families that would benefit from attending as an intervention, the programme is looking to upskill Practitioners, develop parental interaction and share simple messages that can be taken into the Home Learning Environment.
- They utilise 12 baseline challenges (Fundamental Movement Skills) to track through Start Well and schools to see if making a difference. There are 5 Start Well Centres in Wigan all of whom will be involved in the programme, there will be a lead deliverer who is already staff at Latics the funding will support his P/T role on the programme.

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Physical Development Champions Pathway Stockport

- Physical Development only Early Learning Goal (ELG) below national average June 2017
- Changes in EYFS statutory framework March 2017
- Inclusion of CMD guidelines for physical activity prompted launch of an LA model policy
- EY event in September (70 participants)
- Observation of impact of physical awareness training on all areas of development on visits to nurseries
- Early Years annual CPD conferences and sector network meetings Settings, Schools and Childminders. Promoted as part of training for head teachers (GreaterSport).

- Commissioned PD Champion training to ensure legacy
- 55 PD Champions in total across the borough childminders, nursery staff, school teachers
- Case studies of the improvement in practice and impact on staff, children and families

- Strength of the message consistent and across the EY workforce
- Message supported by practical ways to make a difference
- Linked to EYFS practice EY curriculum and assessment, and child health review: 9, 18 and 24 months.
- Quality and engagement of the trainer Sharon Skade impacted on positive feedback and increased understanding and confidence.
- Seeing the impact that small changes can make enabling environment and EYFS COEL
- The sharing of practice peer-to-peer model
- Ways to support parents' understanding improved home learning environment



Seen in practice...











Stockport Early Years Physical Development Champion Pathway in partnership with **Greater**











- At the start of the year before attending PD Champion training 40% of the cohort were below age related expectations for 'Moving and Handling. This figure has now dropped to 10% and we are continuing to support these children (Vernon Park Primary School)
- On our recent Ofsted report it was noted how beneficial the champion training is, and that the inspector could see the benefits of this for the children. (Holly Tree Montessori Nursery)

"Managers lead and implement changes extremely effectively. For example, they noticed that the physical development of a proportion of children was not keeping pace with their otherwise excellent rates of progress. The team shared ideas and attended training. They introduced more opportunities for children to develop strength and coordination. This had a measurable and positive impact on children's progress and the work has been disseminated to other local providers as an example of good proactive."

- Staff have developed the environment and routines to cleverly promote children's physical skills. They
 encourage children to move in a variety of ways such as lying on their tummies during morning singing sessions.
 (Holly Tree Montessori Nursery)
- There has been a reduction in referrals to OT and a reduction in accident forms. (Home form Home and Little Faces Nursery)

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Next steps...

- Continue to promote this work across the EY workforce through existing partnerships and networks relationships for change
- Explore further funding opportunities in order to continue this work more PD champions promote the use of primary PE premium for EYs.
- Support the development of 'Little Movers' family PD intervention sessions within Stockport Family Start Well Hubs (based on the GM 8 stage model and intervention pathways and success of the Speech and Language pathway)
- Key action as part of GM early education leads and school readiness board plan to develop a specification for EY PD based on the work in Stockport.

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• Latest issue of Nursery World – Training article on Physical development – Time for action

Engage the whole system in a conversation to:

- 1. Understand the key influencers on physical activity and literacy in early years.
- 2. Identify what we can do individually and collectively to bring about positive change.
- 3. Co produce a set of recommendations for GM School Readiness Board:

How we can ensure that increased physical literacy makes a major contribution to school readiness in Greater Manchester?





Sports Development
Public Health
Health Visitors
University

- Education
- Physic
- Community Sports Clubs
- Early Years
 NGB
 Health

-Think about a child you know/have known under 5, what are the benefits of them being active every day?

more energy better behaviour Happy reduces childhood obesity develop gross motor skills improves coordination lifelong attitude to health confidence develop fine motor skills makes adults more active too improves concentration and learning increases curiosity Develops fundamental movement skills self esteem sleep betterlinks to positive physical development strength confidence to be brave and take risks builds self abilities in later life social and emotional wellbeing calm improves language development wants to be involved learn patience and control builds a habit to be healthy develops physically developing the whole child huge impacts

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- Who and what are the key influences on the physical activity levels of children in early years across the wholesystem?



Policy

- Physical literacy needs to be embedded in statutory guidance and key indicators
- Spatial framework reducing green spaces, needs to be a minimum size when building new facilities or housing, can schools be an asset to this and present an opportunity for free space by reallocating section 106 to share money with school to improve facilities open to the community
- ASQ vs EYFS outcomes not comparable data and looking beyond these outcomes
- Integrated pathways and long term collaborative approaches, link nursery and health visiting and disseminate development assessments to parents and on to schools, share learning and good practice across GM
- Language and marketing around early education and free childcare
- Use of social media, use images of children not just elite athletes

Environment

- Transport links to sports venues and green spaces
- Access to green spaces and promotion of these spaces
- Access to safe neighbourhoods and roads
- Technology (children wanting to be on computers and not outside)

"Activity might be free but getting there is expensive."

Organisation

- Education care givers understanding the impact and their own activity levels, and educating parents
- Local providers, workshops, organised activities and opportunities (e.g. groups to attend) as well as cost and access to, like we have for speech and language
- Health visitors , PD focus in pre-natal conversations, need to remove the 'us and them'

"Are messages consistent? People go to services to be "fixed" and aren't prepared to have more open conversations." "Changing the workforce to see PD as part of the day to day rather than a programme with an end point."



Social/ Individual

- Patents motivation, confidence, energy levels, mental wellbeing, work, time, socio-economic background and money, choices made through availability of resources, other priorities take precedence
- Family dynamics, parents as positive role models and experience of healthy habits, having older siblings can make younger children more active
- Level of awareness of the importance of physical activity to child development and impact of technology
- Support networks, peers/ friends, social norm
- Children who aren't accessing nurseries, those who are isolated or not engaging in community settings how to break down barriers to cultural institutions i.e. Jewish, Bangladeshi communities

"When life is hard, it's easier to stick a child in front of the TV!." "Physical activity isn't a priority where debt is a problem and the TV becomes a babysitter."

Recommendations

Recommendation	Action
1. Strategic leadership in Greater Manchester. Parity of physical development parity with reading, writing and maths	 Identify SRD for physical development and school readiness. Assign programme lead and programme management capacity. Work with Dfsted to recognise the importance of physical development in early years.
2. Raise awareness of the importance of physical activity among early years staff and parents, in particular, its potential impact on brain development and school readiness.	 Workforce development programme Communities of learning Marcomms plan
3. Early Years Settings policies and training to implement a physical development strategy across the setting to use physical activity as a medium through which to integrate all areas of learning and development, integrating into daily routines.	 Support and advice to settings on policy and strategy Develop specification for all settings Physical development champion and training over a 12 month period in every setting. Influence training within professional qualifications, college and university courses.

Recommendations

Recommendation	Action
 Engagement of parents and families; awareness, messaging, support and opportunities within the community. 	 Engaging materials and messages shared with parents via settings. Parents evenings and workshops in settings, 'Kite-mark' for settings
5. Support a wide range of professionals and community connectors with ideas and resources to help engage parents not engaged via settings. Focus on engaging those in most need of support to enable engagement in the home environment, addressing inequalities.	 Engage through community engagement route, supporting VCSE and other relevant groups on the principle of 'going to where people are' and understanding people's lives.
6. Train and support system-wide workforce (midwives, health visitors, early help services, physios, OT, GP etc.) to make every contact count in enabling parents, with practical ideas and inspiration.	 Programme of physical activity champion training across the system, supporting positive conversations, and the development of engaging materials to inspire and support parents.
7. Quantitative, qualitative and system change evaluation. High quality data collection. Determine which components of the plan are most effective in promoting physical activity and reducing sedentary behaviour in early years.	 Develop consistent framework and measures/ indicators. Secure commitment to grow and scale what works across Greater Manchester.

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