The case for investing in early childhood interventions

Health Policy team

This information bundle on early childhood presents interventions to ensure that all children have a healthy start in life and their parents are supported to do this. The interventions in early childhood aim to reduce the number of children who become ill or whose illness progresses unnecessarily due to avoidable factors. This information was presented to NHS England to inform the development of their long term plan.

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What is the problem?

- England has high rates of infant and early childhood mortality, childhood obesity at school entry and high proportions with mental health problems, communication issues and low school readiness.
- Children from deprived backgrounds have much worse health and wellbeing than other children and young people1.
- Children living in our wealthiest areas have health outcomes that match the best in the world. But the gaps between the rich and poor are stark and some of the outcomes amongst deprived groups are amongst the worst in the developed world1.
- Universal health visiting services are disconnected from primary and community care in many areas.
- There is increasing evidence that early identification and intervention is important in preventing obesity and mental health problems and reducing the impacts of disability.

Numbers

England population under the age of 5 years was approximately 3.4 million in 2017. This equated to 6.1% of the population.

Obesity

In 2016-17, 13% of 4-5 year olds were overweight and 9% were obese. This equates to approximately 350,000 children aged 2 plus. This was 1.5-fold higher for the most deprived children.

School readiness

29.3% of children in England (1 million) are not 'school ready' (i.e. reached good level of development in Early Years Foundation Stage (EYFS) at 4-5 years[2].

Disability and learning difficulties

- 6% with a disability (200,000)
- 1.1% with mobility problems (37,000)
- 1.3% with significant communication problems (44,000)[3].

Health-related vulnerabilities

The Children's Commissioner estimates that 19.7% of children have 'health-related vulnerabilities' including physical or mental health problems, disability or special educational needs, equating to 670,000 children under 5 years old[4].

What is the intervention required?

An early childhood bundle of key individual level and system interventions is proposed. NHS England activity would be undertaken in collaboration with public health / local authorities.

A bundle of key actions will reduce mortality, reduce obesity and mental health problems and improve school readiness.

All Health Visitors deliver perinatal mental health interventions

Randomised controlled trial evidence shows that training Health Visitors with cognitive behavioural and person-centred approaches to prevent post-natal depression (PoNDER training) is both effective in improving maternal mental health and is highly cost-effective.

Evidence: the intervention was cost-effective at the NICE threshold of £20,000 per QALY gained (99% certainty) but also cost-reducing - adjusted 6-month post-natal costs in the intervention group were £82 lower than in the controls[5].

All Health Visitors deliver HENRY programme for infant feeding and nutrition

Health Visitor training

There is evidence that Health Visitors who have received training in feeding, nutrition and parenting can reduce Body Mass Index and overweight / obesity in children. Ultimately, this can save money for the NHS.

Evidence: randomised trial evidence that a nurse / Health Visitor delivered intervention from birth using a responsive parenting curriculum which coaches parents on how to respond to their child's needs depending on their behavioural state, focused on feeding, sleep, interactive play, and emotion regulation, resulted in lower BMI and halved risk of overweight or obesity at 3 years[6].

In England, halved risk of overweight or obesity equates to approximately 180,000 fewer overweight children.

HENRY programme

In England, the HENRY programme is currently commissioned by 35 local authorities. The programme focuses on identifying and acting on risk and protective factors for obesity prevention.

Evidence: an evaluation of the HENRY programme shows significant reduction in high sugar, high fat (HSHF) food intake, increases in healthy food and family mealtimes and reductions in screentime[7]. Programme evaluation from 144 programmes across the UK also found reductions in children's HSHF food intake, increases in health food intake and physical activity and reductions in screentime[8].

Return on investment from improved infant feeding

Low breastfeeding rates in the UK lead to an increased incidence of child illness with NHS costs >£30 million annually.

Evidence: the benefits of breastfeeding to babies are clear in terms of reduced illnesses and obesity. The benefits to mothers include reduction in breast cancer (by 6% for each year breastfeeding). Benefits to society also clear with evidence of higher IQ and productivity in adult life from those breastfed. A recent authoritative estimate reported the loss for high-income countries of not having 100% breastfeeding till 6 months were 0.53% of gross national income (GNI)[9].

Enhanced Health Visiting for at risk 20% of population

Enhanced or sustained Health Visiting programmes (e.g. right@home programme in Australia)[10] targeted at deprived or at-risk families improves cognitive outcomes and school readiness and improves child and maternal health.

Evidence: randomised trials in Australia show that enhanced/sustained Health Visitors (15 visits to deprived families from antenatal to two years), additional to the universal Health Visiting offer, improves child cognitive and wellbeing outcomes, sleep and school readiness, parenting and responsiveness, home safety, maternal health out to 2-3 years of age and results in higher rates of breastfeeding.

These programmes have been implemented in the UK (e.g. Essex) and are compatible with UK Health Visiting systems, skills and practice11.

Effect sizes in the right@home trial of 0.25 standard deviations for most outcomes are difficult to quantify, but an increase of 0.25SD in Early Years Foundation Scores (EYFS) would be of the order of increasing the proportion of children starting school with a 'good level of development' from the current 71% to around 80%12.

Use of common identifier (NHS number) across health, education and social care

To ensure the smooth transfer of information across the various agencies which children come into contact with, the NHS number or common identifier should be used across different organisations to ensure information about child health is shared and enables issues to be flagged and interventions put in place in a timely manner.

Electronic Personal Child Health Record

National roll-out of the electronic Red Book with integration into primary care systems

Pilots are currently underway in England; this can be simply costed.

Primary care systems enabled to facilitate early childhood bundle

Primary care information systems currently lack electronic growth charts and other normative data to allow primary care professionals to identify obesity, early mental health or communication problems to track progress. These are necessary for Health Visitors and primary care professionals to respond to all early childhood issues. For example, GP information systems lack simple functionality for converting a child's weight and height into identification of overweight or obesity and lack the ability to track progress over time.

System enablers

1. Review of the Health Visitors contract to include identification of perinatal mental health issues and advice on feeding and nutrition.
2. NHS England should revise the Quality and Outcomes Framework (QOF) to include new indicators for children and young people. These should include:
    1. Opportunistic weight and Body Mass Index (BMI) centile recording on an electronic growth chart for all children (2-18 years), with only one reading needing to be recorded over a 12-month period.
    2. Consideration given about how children are more accurately 'counted' in QOF

targets. This would enable more holistic management for the child and their family.

3. NHS England should mandare all maternity services to achieve and maintain UNICEF UK Baby Friendly Initiative Accreditation.
4. Use of the common identifier.
5. National roll out of the ePCHR.

- 1. a. b. RCPCH (2017) State of Child Health. RCPCH: London
- 2. Early years foundation stage profile results in England, 2017. Department for Education.
- 3. CMO Report 2012. Our children deserve better.(2013)
- 4. Children's Commissioner (2017). On measuring the number of vulnerable children in England.
- 5. Henderson, C et al. (2018) Cost-effectiveness of PoNDER health visitor training for mothers at lower risk of depression: findings on prevention of post-natal depression from a cluster-randomised controlled trial. Psychological Medicine. pp.1-11.
- 6. Paul et al. JAMA Aug. 2018.
- 7. Willis Pediatric Obesity. 2013.
- 8. Willis Public Health. 2016.
- 9. Rollins et al. Why invest, and what it will take to improve breastfeeding practices? Lancet 2016; 387: 491-504.
- 10. Goldfeld et al. AnnNYAcadSci 2018;1419:141–159.
- 11. Kemp et al. ArchDisChild 2011; 96:533–540.
- 12. This is an estimate from published EYFS data. EYFS profile results for England, 2017. The 2017 mean EYFS score for England is 34.5 with an SD of approximately 8. An increase of 0.25SD equates to an increase of 2 points. Mean scores increased approximately 1 point between 2013-2014 and 2014-2017, with each 1 point increase associated with an approximately 10% increase in the proportion starting school with a ‘good’ level of development.