First 1001 Days Movement

EVIDENCE BRIEF 6

# Investing in Babies

## The economic case for action


## Summary

This Evidence Brief, produced by the First 1001 Days Movement, is one of a series evidencing the case for investment in pregnancy and the earliest years of life. This Brief focuses on the economic case for action.

During the first 1001 days, from pregnancy to age two, foundations are laid that will influence all aspects of a child's life. Investment in this period, therefore, generates long-lasting, cumulative benefits.

Effective support for families in the earliest years brings savings to the public purse through reduced costs for public services and increased participation in the economy.

Failing to invest in early development can bring a range of costs to individuals and society.

Early investment, targeted where it is most needed, makes more economic sense than later interventions which can be less effective and more costly.

Whilst there are challenges in measuring the return on investment from particular policies and interventions, there is a clear economic case for investment in the first 1001 days.


> **"The period from pregnancy to age three is when children are most susceptible to environmental influences. Investing in this period is one of the most efficient and effective ways to help eliminate extreme poverty and inequality, boost shared prosperity, and create the human capital for economies to diversify and grow."**
>
> World Health Organization, United Nations Children's Fund, World Bank Group[1]

## 1. During the first 1001 days, foundations are laid that will influence all aspects of a child's life. Investment in this period, therefore, generates long-lasting, cumulative benefits.

1.1. Development during pregnancy and the first years of life shapes the architecture of a child's growing brain. During this time, foundations are laid which will ultimately influence their education, physical and mental health, and their eventual career and lifelong wellbeing[2]. This is an important period to influence lifelong health and happiness, as outlined in our ***Age of opportunity*** Evidence Brief.

1.2. The brain is more 'plastic' or malleable during the earliest years of life, whereas it is harder to make changes later on. Studies following children exposed to extreme neglect, for example, have shown that those adopted earlier were much more likely to achieve normal levels of development[3]. Similarly, research has shown that the impact of exposure to unpredictable environments is much more significant if it occurs during the earliest years of life[4].

1.3. Given that what happens early in life has such a fundamental impact, it is a critical time for investment. This is when we can make a real difference to children's wellbeing and future social, educational and economic success.

1.4. During the first 1001 days, we have the opportunity to set children on a positive developmental trajectory. Getting things right early in life brings cumulative benefits, as children are better able to take advantage of later interventions and opportunities. For example, if a child starts school with basic skills such as language and emotional regulation, they will be more likely to engage with learning, and therefore will benefit more from what happens in the classroom.

1.5. If we miss opportunities to support families facing adversity during a child's early years, those children are less likely to achieve their full potential and their families are likely to need more help from public services throughout their child's lifetime.

> **"Investing in the early years is one of the smartest things a country can do. Early childhood experiences have a profound impact on brain development – affecting learning, health, behaviour and ultimately, lifetime opportunities."**
>
> World Bank[5]

1.6. Early interventions can be extremely cost-effective and generate long-lasting benefits. Conversely, if a child has a difficult start and falls behind in developing important emotional and social skills, it is harder, and more expensive, for services to make a difference to their outcomes later. Investing later, once children have fallen further behind their peers, may not be effective in tackling inequality or in increasing productivity in society[6-8].

1.7. We can liken child development to building a house: Supporting early development gives a child firm foundations from which to grow. It is more difficult to build on shaky foundations. However hard we try, a house built on shaky foundations may never be as safe and secure as one that was well built from the start.

**The rationale for an early years focus:**

- **An individual's experience in early childhood has a significant and long-lasting impact on their future health and wellbeing**
- **Early years interventions can be extremely cost-effective, generate long-lasting, cumulative benefits and at the same time reduce the need for remedial spending later in life**
- **Effective early years interventions will ensure that children are more responsive to follow-on interventions as they grow older**

GLA Economics[9]

1.8. The Nobel economist James Heckman has shown that the most economically efficient time to invest in developing children's skills and social abilities is in the very early years. He developed The Heckman Curve, which shows that the highest rate of economic returns comes from the earliest investments in children.

**"The Heckman Curve shows... the economic benefits of investing early and building skill upon skill to provide greater success to more children and greater productivity and reduce social spending for society."** [10]

## 2. Failing to invest in early development can bring a range of costs to individuals and society.

2.1. Prevention is not only better than cure but also often cheaper too. If we fail to act early in a child's life, we can miss opportunities to mitigate problems that bring costs to children, families, and to public services. The consequences of interventions that come too late are significant. And the cost of doing nothing can be very high indeed.

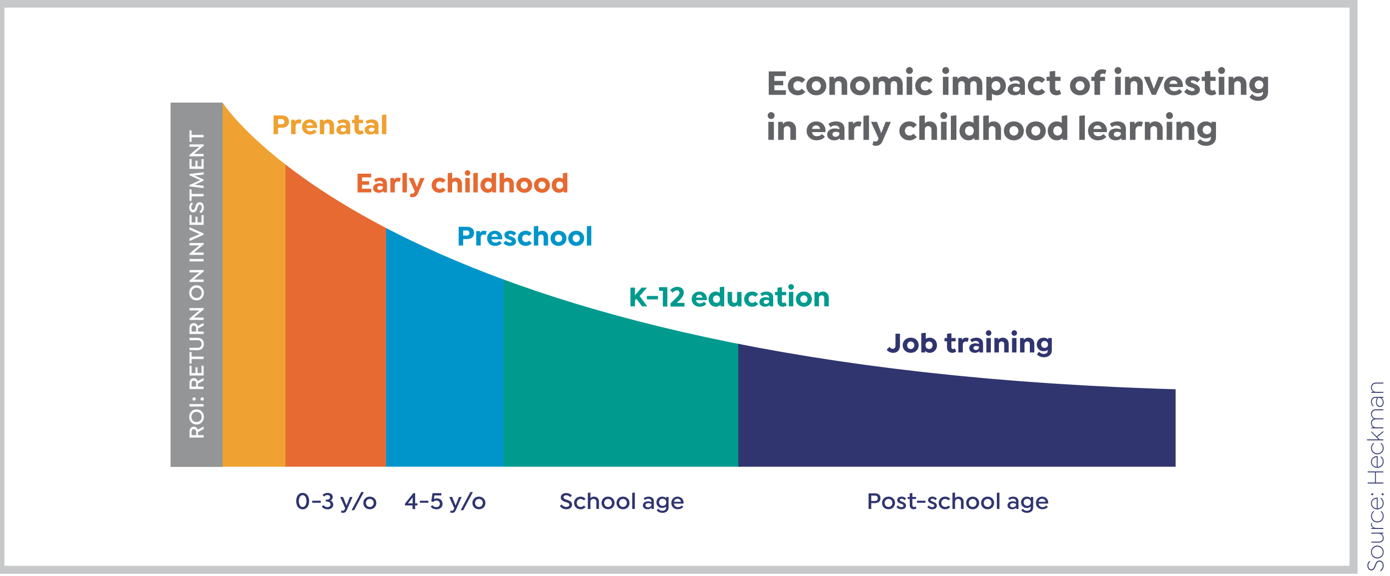
The Early Intervention Foundation has estimated that in England and Wales, the cost of late intervention in 2016/17 was £17 billion, equivalent to around £300 per person, because of the need for services to address problems such as mental ill-health, youth crime and exclusion from education[11,12].

The largest costs included:

- £5.3 billion spent on Looked After Children
- £2.6 billion spent on benefits for 18–24-year-olds who were not in education, employment or training.

Mental health problems during childhood and adolescence are estimated to cost between £11,030 and £59,130 annually per child in the UK[13].

These are immediate and short-term fiscal costs. The longer-term cumulative costs, over decades, will be considerably larger.



Untreated maternal mental illness during pregnancy and the first year of life has a long-term cost, estimated to be £8.1 billion for each one-year cohort of births in the UK[14]. Around 72% of this relates to the adverse impacts on the child, demonstrating the significant cost implications of adversity during the first 1001 days of life. A large portion of this cost, some £1.7 billion, is borne by the public sector.

Without stable, nurturing relationships in the earliest years, children can develop an 'insecure attachment' style.

Research has found a striking difference between the costs to public services for at-risk young people who are securely attached to their parents and those who are not. For example, the annual costs for health, education and social services for at-risk young people who were insecurely attached to their fathers were ten times more than those who were securely attached[15].

This difference remained significant, even after adjusting for other confounding factors such as family income, education, intelligence and antisocial behaviour.

The authors conclude: ***'Since adolescent attachment security is influenced by caregiving quality earlier in childhood, these findings add support to the public health case for early parenting interventions to improve child outcomes and reduce the financial burden on society.'***

## 3. Effective support for families in the earliest years brings savings to the public purse through reduced costs for public services and increased participation in the economy.

3.1. Investing in early childhood development, particularly for children facing disadvantage, provides a return to society through increased personal achievement and productivity. Research in developing countries has found that children not reaching their full developmental potential in the first five years of life results in an average adult annual income deficit of 19.8%[16]. UK research has found that psychological problems in childhood, are associated with a reduction in family income of 28% at age 50[17].

3.2. Studies show how early childhood programmes can improve economic participation for today's parents, for their children, and even for subsequent generations:

- Research into the Sure Start Local Programmes showed that parents in these areas moved into paid work more quickly than parents in comparison areas resulting in a reduction in benefits payments and an increase in tax receipts[18]. Overall, by the time children reached the age of five, the programmes had brought benefits valued at between £279 and £557 per eligible child, equivalent to 6-12% of the total cost of the programme[19].
- Analysis of the Abecedarian/CARE programme, an intensive, high-quality childcare programme for children from birth to age five from disadvantaged families in the USA, found a 13% return on investment per child each year, through better education, economic, health and social outcomes. Studies have shown that the programme resulted in IQ gains[20], higher scores on achievement tests, higher levels of education, higher wages, greater likelihood of homeownership, and reduced likelihood of welfare support[21].
- A World Health Organisation study[22] has shown that children who receive home visits to provide nutritional advice and cognitive stimulation, show improved development when they are young and increased earnings in adulthood. In addition, when the participants of the study grew up and had children of their own, those children developed better. So, early investment can have social and economic benefits for generations.

3.3. In just a couple of decades, today's babies and toddlers will be preparing to work in and ultimately run the UK's business and public services. What we do for them now will profoundly affect their success and productivity at work and have implications for all our futures and our future economy.

## 4. Early investment, targeted where it is most needed, makes more economic sense than later interventions which can be less effective and more costly.

4.1. Not all spending on interventions generates a return on investment. Investment must be targeted on those interventions that can make a difference to important outcomes. We know that families facing disadvantage and adversity are less likely to have the economic and social resources to support effective early childhood development, and children in these families are therefore more likely to experience later difficulties. Investing in improving outcomes for these children will bring the greatest returns.

> **"Investing in disadvantaged young children is a rare public policy with no equity-efficiency trade-off. It reduces the inequality associated with the accident of birth and at the same time raises the productivity of society at large."**
>
> James Heckman[23]

4.10. More intensive programmes, which start earlier, have the most significant potential return on investment. Early years interventions that provide the best returns tend to be high quality (including using highly trained staff) and clearly targeted at disadvantaged groups for whom the model is known to be effective[24,i].

## 5. There are challenges in measuring the return on investment. A whole-system, long-term approach is needed.

5.1. Although the overall case for intervention in the first 1001 days is strong, whether any particular programme will generate specific benefits will depend on several factors, including the programme's effectiveness, the families being targeted and the quality of implementation.

5.2. Academic research has tried to quantify the returns on investment of interventions, through the savings made to other services and the benefits associated with better outcomes. The benefits of prevention and early intervention often accrue to a range of different public services across many years. This makes them very difficult to identify and quantify. Only a small number of interventions have been evaluated in this way.

5.3. Much of this research focuses on very specific, targeted and intensive interventions, which are easier to monitor and evaluate. They indicate the value that can be gained through investment in early social, cognitive and emotional development. We do not have clear evidence about the economic returns of other interventions, including universal services, because this analysis has not been done – but we can assume that other, well designed, evidence-informed and well-implemented interventions would also generate benefits.

- Analysis of the costs of services in 24 Sure Start Children Centres and their connection to improved outcomes for families found that services such as specialist support for parents provide benefits to the taxpayer that exceed the cost of delivery[25].
- The Nurse Family Partnership in the USA is an intensive home-visiting programme to promote sensitive parenting among young mothers during pregnancy and until their child is two. Long-term follow-up has shown improved academic achievement, as well as fewer internalising mental health problems, at the age of 12[26]. These benefits are financially meaningful, potentially providing a return of 6 to 1[27].
- The Headstart programme in America, which promotes school readiness in children from birth to age five from low-income families found a return on investment ranging from \$7 to \$9 for every dollar invested[28].

5.4. Investments in the earliest years rarely bring about short-term cashable savings to any particular agency or government department. They can, however, result in improved outcomes across a child's life and contribute to national economic growth. There is a clear economic case for early investment if policymakers are willing to take a whole-system, long-term view when making investment decisions.

---

i. This is not to say we should only invest in very targeted interventions – universal services play an important role in improving population health and also in identifying those who need targeted support and helping them to access it.

# A Call to Action

Supporting families in their first 1001 days gives babies the best chance of a happy and healthy early childhood and increases the likelihood of positive outcomes throughout their lives.

A healthy economy relies on a healthy, skilled and productive population. The foundations of health and development are laid during pregnancy and throughout the first two vitally important years. Failure to invest in the first 1001 days of life is therefore a failure to invest in the future of our country.

Evidence-based, targeted investment in our babies' development makes economic sense and brings economic benefits. It is by far the most sensible way to invest. The short-term costs are more than offset by the immediate and long-term benefits.

The First 1001 Days Movement calls on national and local decision makers across the UK to value and invest in babies' emotional wellbeing and development in the first 1001 days, giving every child a strong foundation in the earliest years of life.

# References


1. World Health Organization, United Nations Children's Fund, World Bank Group. (2018). *Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential.*
2. Center on the Developing Child. (2007). *The Science of Early Childhood Development* (InBrief).
3. Rutter, M. (1998). Developmental catch-up, and deficit, following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry*, 39(4), 465-476.
4. Simpson, J. A., Griskevicius, V., Kuo, S. I., Sung, S., & Collins, W. A. (2012). Evolution, stress, and sensitive periods: the influence of unpredictability in early versus late childhood on sex and risky behavior. *Developmental psychology*, 48(3), 674.
5. Retrieved from https://www.worldbank.org/en/topic/earlychildhooddevelopment on 16th May 2021.
6. Conti, G. (2020) The Economics of Prevention in the Early Years. In S. Cowley & K. Whittaker (Eds.), *Community Public Health in Policy and Practice* 3E (pp. 219-238).
7. Cunha, F., Heckman, J. J., & Schennach, S. M. (2010). Estimating the technology of cognitive and noncognitive skill formation. *Econometrica*, 78(3), 883-931.
8. Heckman, J. J., & Mosso, S. (2014). The economics of human development and social mobility. *Annual Review of Economics*, 6(1), 689-733.
9. GLA Economics. (2011). *Early years interventions to address health inequalities in London – the economic case.*
10. Graph and text retrieved from https://heckmanequation.org/resource/the-heckman-curve/ on 16th May 2021.
11. Early Intervention Foundation. (2018). *Realising the Potential of Early Intervention.*
12. Early Intervention Foundation. (2016). *Costs of Late Intervention.*
13. Suhrcke M, Puillas D, Selai C. (2008). *Economic aspects of mental health in children and adolescents. In Social cohesion for mental wellbeing among adolescents.*
14. Bauer, A., Parsonage, M., Knapp, M., Iemmi, V., & Adelaja, B. (2014). *The costs of perinatal mental health problems*. London: Centre for Mental Health and London School of Economics.
15. Bachmann, C. J., Beecham, J., O'Connor, T. G., Scott, A., Briskman, J., & Scott, S. (2019). The cost of love: financial consequences of insecure attachment in antisocial youth. *Journal of Child Psychology and Psychiatry.* 60(12), 1343-1350. (Costs calculated at 2009/10 prices)
16. Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., Strupp, B., & International Child Development Steering Group. (2007). Developmental potential in the first 5 years for children in developing countries. *The Lancet*, 369(9555), 60-70.
17. Goodman, A., Joyce, R., & Smith, J. P. (2011). The long shadow cast by childhood physical and mental problems on adult life. *Proceedings of the National Academy of Sciences*, 108(15), 6032-6037.
18. National Evaluation of Sure Start Team led by Pam Meadows. (2011). *National evaluation of Sure Start local programmes: An economic perspective.* Research report DFE-RR073. Department for Education, London.
19. Conti, G. (2020) The Economics of Prevention in the Early Years. In S. Cowley & K. Whittaker (Eds.), *Community Public Health in Policy and Practice* 3E (pp. 219-238). Elsevier.
20. Knudsen, E. I., Heckman, J. J., Cameron, J. L., & Shonkoff, J. P. (2006). Economic, neurobiological, and behavioral perspectives on building America's future workforce. *Proceedings of the National Academy of Sciences of the United States of America*, 103(27).
21. Cunha F., Heckman J., Lochner L., Masterov D. *Interpreting the Evidence on Life Cycle Skill Formation.* Amsterdam: North–Holland; 2005.
22. World Health Organisation, *Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human Capital*, 2018. https://apps.who.int/iris/bitstream/handle/10665/272603/9789241514064-eng.pdf?ua=1.
23. Heckman, J. J., & Masterov, D. V. (2007). The productivity argument for investing in young children. *Applied Economic Perspectives and Policy*, 29(3), 446-493.
24. Greater London Economics (2011) *Early Years Interventions to address Health Inequalities in London.*
25. Gaheer, S., Paull, G. (2016). *The Value for Money of Children's Centre Services: Evaluation of Children's Centres in England (ECCE) Strand 5.* Research brief, Department for Education, London.
26. Kitzman HJ, Olds DL, Cole RE, et al. (2010). Enduring effects of prenatal and infancy home visiting by nurses on children: follow-up of a randomized trial among children at age 12 years. *Arch Pediatr Adolesc Med* 2010;164:412–8.
27. Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth.* Washington State Institute for Public Policy.
28. Ludwig, J. and Phillips, D. (2007). The Benefits and Costs of Head Start. Social Policy Report. 21 (3: 4); https://www.headstartva.org/assets/docs/Head_Start_Return_On_Investment_Brief_LAS-yv.pdf.

First 1001 Days Movement