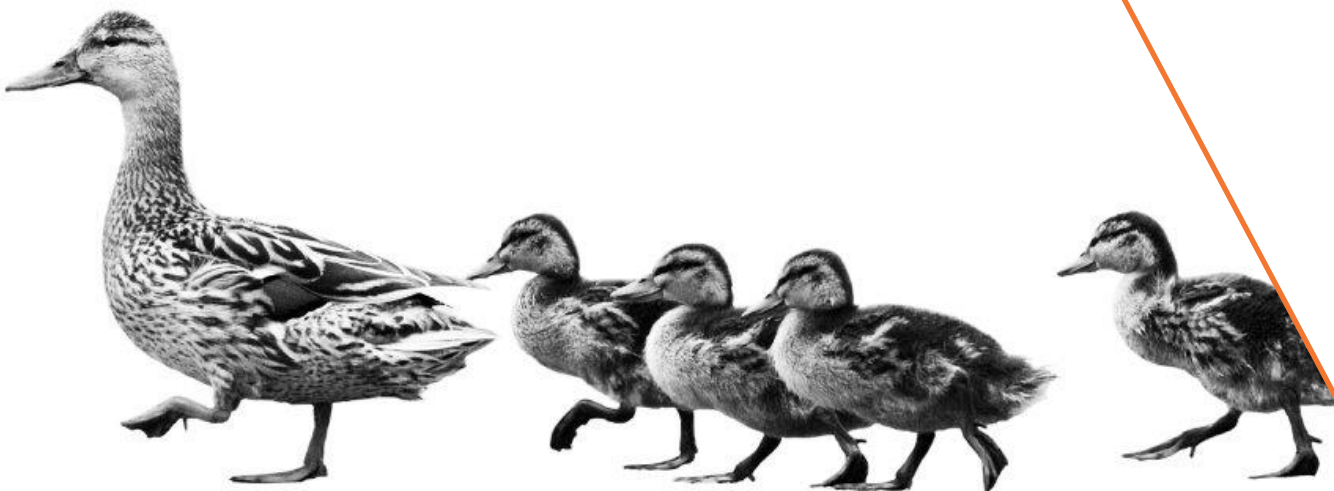


REPORT

EARLY DEVELOPMENTS

BRIDGING THE GAP BETWEEN
EVIDENCE AND POLICY
IN EARLY-YEARS EDUCATION



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ABOUT THE AUTHOR

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ABOUT THE PROJECT

This report is part of the wider IPPR project 'Childcare: A strategic national priority?', which seeks to analyse the case for, and core components of, a more strategic approach to early years provision in the UK, and explore the impact of childcare on gender equality, maternal employment and child development. Further details about this project, including future publications, can be found at <http://www.ippr.org/research-project/44/9892/childcare-a-strategic-national-priority>.



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POSITIVE IDEAS
for CHANGE

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EXECUTIVE SUMMARY

This paper attempts to bridge the gap between the available evidence on the impact of different childcare programmes and the policy agenda of boosting quality in the early years. We have synthesised the literature on child development, and drawn out some broad recommendations for policymakers on where and how to deploy resources, which aspects of the current childcare policy framework should be cemented, and which of them should be modified.

Quality childcare and education provision for children below school age is a government priority, and has been for some time. Numerous studies have demonstrated the importance of the first years of children's lives to their development, and the beneficial effects of early-years education and care. Children who are exposed to quality childcare have improved outcomes – from higher test scores at the start of their school careers to (in some evaluations) better broader outcomes into their adult lives. Importantly, the positive impact of high-quality childcare is more pronounced for those children who are at risk of starting school 'behind' their peers: those with less-educated parents, from lower-income groups, or for whom English is a second language. Childcare can therefore help level the playing field when children start school. The evidence base makes a compelling case: if you get the early years right, there can be social and economic benefits for society and the individual.

The current and previous governments have made considerable investment in developing quality early years provision, having accepted that childcare is not only good for supporting working parents but good for children themselves. The previous Labour government created Sure Start centres shortly after they were elected, and developed an Early Years Foundation Stage curriculum in 2006 which placed requirements on all adults working with under-fives to support children's learning and development. Labour also created an entitlement to free part-time care for all three- and four-year-olds, implemented Ofsted inspections for early years settings, developed new qualifications and introduced a Graduate Leader Fund to support the development and professionalisation of the workforce. The current government has recently announced the creation of Early Years Educator and Early Years Teacher qualifications, with the intention of reducing the gap in professional training and status between early years professionals and school teachers. It has also proposed changing the regulation and monitoring frameworks for early years, loosening regulation to allow providers more flexibility and autonomy, and encouraging market competition in the provision of training and places. In different ways, both the previous and current governments have attempted to drive up quality, acknowledging the importance of the early years agenda and its increasing political prominence.

Yet despite these measures, the quality of early years learning and care remains patchy, with large variations in Ofsted scores and impact on attainment. In 2011, only 59 per cent of children nationally were assessed to have a 'good level of development' at age five, and the proportion of providers within different regions assessed as 'good' or 'outstanding' varied from 64 to 98 per cent (NAO 2012). Most worryingly, children in more disadvantaged areas currently have lower rates of access to high-quality care (as measured by Ofsted), which undermines the potential of childcare provision to reduce disadvantage early in life. A Department for Education evaluation found that the take-up of childcare was 9 percentage points lower among disadvantaged three- and four-year-olds than among their peers in 2008 and 2009 (DfE 2011). In 2011 there was a gap of 11 percentage points between the proportion of 'good' or 'outstanding' providers in areas which fell into the most deprived decile and those in the least deprived (NAO 2012). Despite children from disadvantaged backgrounds having access to better-qualified staff,

services catering for more disadvantaged children tend to receive poorer quality ratings from Ofsted (Gambaro et al 2013). In short, poorer children are more likely to receive poorer care.

Why is reform proving difficult?

The introduction of new policies to boost quality is proving problematic, in part because there are different interpretations of 'quality'. The latest reforms proposed by the government, which aim to improve quality as well as affordability, have received vocal criticism from the sector. This has led to tension within the Coalition over the issue, with plans for ratio reform being publicly blocked.

Why is it proving so difficult? One reason is financial: investing in quality has associated costs. Policies that raise the workforce's qualifications and ensure access to subsidised care, while making that sure children receive enough adult attention, equipment and opportunities for learning, come with a price tag. And in the current economic context, government is reluctant, and parents often unable, to spend more on childcare.

However, the difficulty of quality reform arises not only from cost constraints. While there is now a vast literature on child development in the early years, much of it focuses on the potential impact of care and the longevity of the effect of different early years interventions.

What is less clear is exactly what specific components of quality care lead to the best outcomes for children, and the extent to which they vary for different age groups. There is a set of tricky questions to which the evidence does not provide immediate answers. For example, which elements of childcare should be prioritised for which ages? Do ratios matter more than qualifications? How important are general qualifications as opposed to childcare-specific qualifications? What impact do different types of settings have on children? How much time should children spend in care, and from what age?

One reason why it is so difficult to set out a clear, evidence-based case for how best to deploy resources is that different childcare models (and their evaluations) have different factors affecting their performance. Provision can be targeted for a specific group of children, or it can be open-to-all. But cohorts in open-to-all settings may not have a demographically representative mix of local children (in the sense that settings can, for example, 'group' into more or less affluent cohorts). The age and grouping of children vary, as do the type of settings, sectoral mix, intensity and duration of care. Providers have differing organisational structures, content and activities, as well as varying levels of autonomy, regulation and monitoring. And the staff who interact with children have contrasting levels of training, qualifications (both general and childcare-specific) and experience.

Looking abroad doesn't provide easy answers either. Programmes from other countries that have demonstrated sizeable developmental benefits can not necessarily be imported wholesale into the current British context. Many of the most impressive outcomes arise from intensive interventions working with highly targeted sections of the population, often in conjunction with other non-childcare-related policies. The evidence does not always provide easily replicable or appropriate models for arriving at the best approach for early years provision across the general population. Furthermore, childcare does not exist in a vacuum – the early years are a period of rapid development for children, and the wider policy context of work, care, public services and welfare matter a great deal.

Yet more challenging is the fact that the impact of structural aspects of childcare (elements that are more easily legislated on, such as the level of qualification that staff require, maximum ratios, or floor space per child) is mediated through the process aspects of childcare which affect development (like the nature of interactions, or the warmth and tone of conversations between children and adults).

While reforms could be made to any of these aspects of childcare and, if resources allowed, all could be improved, the difficulty comes in determining which factors, or combination of factors, have the greatest causal effect – particularly because successful providers often exhibit interrelated ‘goods’: highly paid staff are usually well-qualified, experienced, skilled at interacting with children, more likely to have an advantaged cohort and more likely to remain stably within one organisation.

Despite these challenges, across the literature there are some common lessons that can be drawn out for policymakers. While bringing up a child is not an exact science, and there is no blueprint for child development in early years, it is more important than ever that we use the lessons from research to inform policy choices.

This paper attempts to bridge the gap that exists between the evidence base that looks at the impact of different programmes, and the policy agenda of boosting quality in the early years. It will draw out some broad recommendations for policymakers on where to deploy resources, which aspects of the current childcare policy framework should be cemented and which should be modified. Because children develop so quickly in their early years, we have segmented the evidence by age group to outline broad lessons on each developmental stage.¹ These lessons are summarised briefly below, with more detail and discussion of the research which underpins them in the body of the report.

10 lessons for policymakers

1. **Children under 12 months old:** Childcare for the youngest children needs to be considered alongside parental leave policies. Babies need affection, stability and responsive communication from their carers, which can best be provided by parents. Parental involvement early on (by at least one, but ideally both, parents) has beneficial effects on development, allowing for early bonding and secure conditions for formative development. More generous leave arrangements make it more likely that mothers breastfeed (and for longer), and that fathers will be more closely involved with the child as it grows, both of which are linked to positive outcomes later in life. Enabling this early parental care requires reserved and financially supported employment leave. While new measures are coming in to allow parental leave to be more evenly split between parents, evidence from existing entitlements suggests that reforms are unlikely to substantially increase the involvement of fathers in childcare without introducing a period of supported leave specifically reserved for fathers.

Although the evidence on childcare in the first year of a child’s life is fiercely contested, there is some evidence that mothers’ return to work in the first year has a positive impact on child development (and lowers the risk of maternal depression). The main negative effects of childcare early on seem to relate to unstable sources of care, or to care provided in large groups. Childcare can

1 There is a much fuller evidence base on children aged three and over and the impact of formal group care settings, with less on younger children, informal care and nanny or childminder care.

run alongside or follow parental leave. Ideally, it should be in small-ratio groups, provided by a stable source of care like a relative, childminder or key worker.

2. **Children aged 8–22 months:** Young toddlers need to be cared for in low child-to-adult ratios. It is particularly important for the youngest children that adult interaction experiences are consistent, predictable and nurturing. Caring for small numbers of children gives adults more time to use complex language, be responsive, and demonstrate warmth to each child. This attention and interaction is pivotal for development, as well as allowing for the more practical elements of care needed at this age like feeding and changing nappies.

For professionals working with young toddlers, experience and sector-specific training is more important than high levels of formal education. As children develop early language through listening to and imitating adults, it is key that carers have a good level of spoken English. For disadvantaged children in this age group, there is some evidence that formal care settings (in childcare centres, or with childminders or nannies) increase cognitive development more than informal care by friends or relatives, partly because informal care usually reinforces home influences and level of education.

3. **Children aged 18–36 months:** The cognitive development of older toddlers is best supported in lower-ratio, formal group provision. More hours in centre-based care at this age is associated with better language skills and mathematics, leading to higher academic outcomes in primary school. This effect is particularly pronounced for lower-income families. Though some studies have found negative behavioural impacts of formal care compared to care by family members, this is by no means universal, and in those cases with evidence of worse behaviour these effects were modest, short-lived and probably related to poor-quality childcare. Furthermore, recent studies have offered contrasting evidence of the *positive* behavioural effects of group care. As for younger children, the current low ratios should be protected for this age group.
4. **Children aged 30–50 months:** Formal group care provided by professionals with high-level, childcare-related qualifications should be prioritised for preschool-aged children. For these older children, a workforce with high-level relevant qualifications becomes the most important structural aspect of care, and is linked to better process interactions with children (interactions that improve their language and reasoning). The benefits of low-ratio group sizes become less pronounced as children get older, particularly in settings where staff are well-qualified. There is therefore a case to be made for a trade-off between relaxing child-to-adult ratios in exchange for more highly qualified staff, and in particular for graduate-level childcare professionals. In settings with less qualified staff, however, low ratios are still an important indicator of child outcomes.
5. **Graduates improve the quality of provision and outcomes for children –** particularly those graduates with degree-level qualifications in childcare (like the Early Years Professionals and Teachers).² The presence of highly qualified graduates also boosts the quality of care delivered by their less qualified colleagues, meaning they provide added value across the workforce. The Graduate Leader Fund was successful in lifting the qualification levels of early years staff, but as staff gained Early Year Professional status they reduced the amount of time they spent interacting directly with children down to just one-third of their day. The impact of graduates on child development is greatest where they spend a substantial amount of time directly

2 See appendix B for a description of qualifications and levels.

interacting with children, and where they are responsible for setting the curriculum. Therefore it is important graduates are well deployed.

6. From the perspective of child development alone, it is better to **prioritise access to high-quality care for children from an early age** than it is to extend the hours that older preschool children spend in early learning. More specifically, the extension of access to high-quality part-time childcare for children from the age of 18 months or two years old should take precedence over an increase the number of hours each week for those in childcare at ages three and four.
7. Despite the importance of children's cognitive development and preparation for school, **early years provision needs to resist the 'schoolification' of content and practice**. Early years education and care has the potential to improve school-readiness, but experiencing school-type learning at too young an age can be detrimental to development. Recent government proposals seek to encourage more early years provision in school settings, and, while there are benefits to hosting early years classes in schools, these need to offer age-appropriate, play-based learning, distinct from primary school practice.
8. **Ofsted may not always be an accurate judge or effective driver of early years quality**, particularly for the under-threes. Provision assessments using the highly respected Early Childhood Environment Rating Scales (ECERS), which are related to children's development level and social and cognitive outcomes, don't always match Ofsted judgements (Mathers et al 2012). Furthermore, Ofsted functions primarily as a monitor, rather than a supporter, of quality improvement. While it may be useful for Ofsted to flag up problems with provision, it is not best placed to improve standards. Cutting the role of local authorities in training and development leaves a gap which risks stalling or even derailing the continuing improvement of the workforce, as boosting quality will require training, development and professional interaction as well as monitoring.
9. **Open-to-all, mixed-social-class provision can have the greatest positive impact on development**, as children learn from peers as well as adults. However, the benefits of non-targeted provision only materialise if those at risk of starting school behind, who have most to gain from childcare, have access to high-quality provision. Currently the least affluent are doubly disadvantaged by being both less likely to access care, and more likely to access care that is assessed as 'inadequate' or 'satisfactory' by Ofsted. There needs to be a mechanism for boosting quality and uptake in more disadvantaged areas in order to eradicate or even reverse this trend.
10. **Early years provision which engages with parents and has a positive influence on the home learning environment can have the greatest impact on development**. Children of parents with low levels of educational attainment are more likely to have a less stimulating home learning environment. However, for the majority of families, this is not because less-educated parents are less able to engage in stimulating activities with their children – it is simply that they are less likely to do so.³ Developmental activities don't require great expertise: early years settings which encourage parents to read stories to their children, sing songs, paint and encourage them to play with friends, produce the greatest developmental benefits.

3 There are, of course, some families which are less able to provide a developmental home environment, because of illiteracy or because they face more complex problems.

Implications for policy⁴

1. Prioritise qualifications and ratios to meet age-related developmental priorities

Policy should better reflect what the evidence suggests about the different needs of different age groups within the early years population: stability for the youngest, low-ratios for one- and two-year-olds, and highly qualified childcare professionals for those aged three and over, alongside a workforce with good standards of English. These needs could be better met by:

- Offering more financially generous shared maternity and paternity leave in the first year of a child's life, including a use-it-or-lose-it 'daddy month'. Other than two weeks of paternity leave, the current proposals only allow for fathers to take parental leave if it is transferred from the mother. Instead there should be dedicated leave for fathers, with a longer-term aim for this to be extended and paid at a higher replacement rate.
- Rejecting current proposals to relax ratios for under-threes. There is a case for relaxed ratios for three- and four-year-olds (smoothing them into reception classes), but this should only be available for settings which meet a high quality requirement, such as a combination of an Ofsted rating and a level 6- (degree-level-) qualified workforce (see appendix B). Further work is needed on the detail, but we broadly support the current qualification-dependent ratios for three- and four-year-olds which allow for larger, teacher-led classes.
- Reinstating the Graduate Leader Fund alongside the target of having a graduate-level Early Years Professional (or, from September 2013, Early Years Teacher) in every setting that delivers the free entitlement, prioritising the providers which serve the most disadvantaged areas. These graduate leaders should spend the majority of their time directly interacting with children, while also planning the curriculum. More detail is needed about the new qualification proposals, but the introduction of specialist Early Years Teachers is a promising step.
- Rather than focusing on the potential savings from relaxing ratios for younger children, focusing on increasing the number of settings which are graduate-led. This could unlock greater opportunities for early years professionals to look after more children aged three and four, as teacher-led settings can care for 13 children (rather than the upper limit of eight children for adults without a relevant graduate-level qualification). As the government's own modelling illustrates, settings which take on graduates can realise substantial increases in revenue, which could be used to cut costs for parents, boost the profitability of the providers, raise salaries and invest in further training and development. For example, if a provider hired two graduates paid at the average primary school teacher salary of £33,250, increased their ratios for children aged three and over only slightly to 1:10, and cut the costs for parents by 25 per cent, the extra revenue from offering a greater number of places would still more than offset the higher salary costs (see appendix C for details). As more than two-thirds of non-local-authority full daycare providers currently do not have a graduate with Early Years Professional status, there is clearly scope for change (DfE 2013b).
- In the short term, all practitioners who have responsibility for working directly with children (as opposed to providing administrative or practical support in larger settings) should have or be working towards a full and relevant childcare-related level 3 qualification, which includes basic English. This is in line with recommendations made in the Nutbrown review (Nutbrown 2013). The government should set out a longer-term

4 The policy recommendations in this paper have the sole objective of maximising child outcomes. The wider 'Childcare: A strategic national priority?' project will also consider the potentially competing objectives of increasing and facilitating maternal employment through childcare policy.

goal for level 3 to become a prerequisite for practitioners delivering the Early Years Foundation Stage (EYFS) framework.⁵

2. Use funding mechanisms to boost uptake by the most disadvantaged children in high-quality care settings

To maximise impact on early child development, any additional government funding should be focused on providing more part-time care for younger children, rather than on more hours for older children. This approach should be balanced with outreach strategies that support the most disadvantaged children into quality care settings. These objectives could be achieved by:

- Introducing measures to encourage participation from disadvantaged areas. One option would be to encourage professionals to offer conditional cash transfers to fill targeted places. These could be offered on a discretionary basis to low-income families, with cash payments conditional on the child's attendance. There are international examples of such policies having both supported family income and encouraged the use of services (Ben-Galim 2011). Another option would be for local authorities to build on successful innovations which better engage new parents through assertive outreach. For example, children's centres run by Barnardo's on behalf of Manchester city council encourage new parents to come in, register the baby, and have a session with one of a range of local workers who can advise on health, social care, benefits and more. This better integrates health and care, brings families into interaction with service providers, and allows multiple different agencies to collaboratively get to know families in the local area. In 2012, 85 per cent of families who participated re-engaged with these services (Jozwiak 2013).
- Ensuring that children are accessing quality care, by only allowing settings to deliver the free entitlement if they are rated 'good' or 'outstanding' by Ofsted; the free entitlement should be withdrawn if they fall below this standard across two consecutive assessments. Offering financial incentives to the best-qualified staff to work in more disadvantaged areas could boost the quality of provision for children at risk of starting school behind.
- Considering an additional quality requirement (potentially alongside funding to address profitability issues that providers face in low-income areas) for settings in the most disadvantaged catchments, to help reverse the trend of poorer quality care in lower-income areas. For example, every room leader could be required to have or be working towards a level 5 childcare qualification (like a higher national diploma or foundation degree). The government should explore whether further initiatives can be funded to encourage quality in deprived settings, such as creating an early years pupil premium.
- If the free entitlement can be extended, prioritising the extension of care for younger children over expanding the hours given to older children. The first step should be to extend the part-time entitlement from disadvantaged two-year-olds to all two-year-olds. A longer-term aspiration should be to firstly offer free hours for one-year-olds from low-income households, and then extending this to all one-year-olds. This would help many mothers to (re-)enter work after maternity leave, and bolster the development of

⁵ This change would place a significant burden on the childminding sector, as currently only 59 per cent of childminders have at least a relevant level 3 qualification, compared to 79 per cent of group-based staff (DfE 2013b). However, a recent IPPR survey found large-scale support for extra requirements placed on childminders: three-quarters (73.2 per cent) of childminders wanted some extra requirements, and of these almost half (45 per cent) thought childminders should be required to hold a relevant level 3 qualification within two years of registration (Parker 2013).

those children who have the most to gain from childcare. As currently, this entitlement should be universal – not dependent on parental work status.

3. Ensure monitoring and assessment reflects best developmental practice

Ofsted scores need to better reflect child outcomes, and be brought in-line with ECERS, by:

- Assessing revised Ofsted scores against ECERS, and where possible incorporating elements of these scales into Ofsted inspection criteria.
- Placing a duty on Ofsted to train inspectors specifically in early years practice, and ensuring that they fully understand different types of early years settings.
- Considering developing Ofsted's role by publishing school-readiness scores by provider, and drawing up more finely-graded Ofsted scores, with suggested action points in detailed feedback.

4. Build professional infrastructure, alongside accountability and support structures, that drive quality

With the withdrawal of local authority support, there is not enough support in the system to drive quality improvement, either on an individual level or for provision as a whole, and the sector doesn't have the resources to pursue this goal alone. Some ideas which could help develop it are:

- Creating a royal college of early years practitioners. This professional body would be responsible for designing qualifications, commissioning training and accrediting workers (with links to Teach First for early years and apprenticeship qualifications). This would improve the status and identity of the workforce, and provide a body tasked with driving the quality of the sector and mentoring low-performing settings.
- Requiring all group settings to have governance arrangements which include the owners, staff and parents.
- Replicating the Challenge School improvement programme in early years settings.⁶

Some of these measures will have cost implications, particularly boosting qualifications. Broadly speaking, money could be found by making better use of current funding, rethinking proposals to extend tax relief on childcare (which will largely benefit higher-income families) or by diverting funds from other areas of government spending. IPPR's wider project on early years provision will examine these options in greater detail.

6 This programme was established in local areas to improve outcomes in low-performing schools. It used independent, experienced experts ('challenge advisers') to identify the needs of, and broker support for, underperforming schools.

INTRODUCTION AND POLICY CONTEXT

The last 15 years have seen considerable investment in improving the quality of the early years sector. The Labour government established Sure Start centres shortly after its election, and in 2006 created the Early Years Foundation Stage (EYFS) curriculum, which contained learning and development requirements for all adults registered to work with children under the age of five. The previous government also implemented Ofsted inspections for early years settings, created a free part-time care entitlement for three- and four-year-olds, developed new qualifications, and introduced the Graduate Leader Fund to support the employment of more highly qualified staff (which has since been scrapped). The current government is committed to improving quality. Recent proposals include the creation of new Early Years Educator and Early Years Teacher qualifications, changing the regulation and monitoring framework for early years, and encouraging market competition in the provision of training and places.

These quality improvement measures are part of a broader trend which has seen childcare move higher up the political agenda. In recent decades, arguments about gender equality, particularly those concerned with the maternal employment rate, began to shift the issue of childcare from the private family sphere into the public arena. In parallel with debates about affordability and accessibility, support for quality childcare as a means of promoting children's wellbeing and development has been growing. These debates have shifted the focus from a harm prevention model of childcare to a child developmental one. Measures like free care entitlements for three- and four-year-olds (recently extended to two-year-olds in low-income households), and the creation of Sure Start centres and childcare subsidies are all effects of the shift in perception which now sees childcare as a social good rather than an individual responsibility. These policy developments have been backed by comparable increases in funding: between 1996 and 2007, spending on childcare and early years and children's social services almost tripled, from £3.6 billion to £10 billion (Cooke and Henehan 2012).

However, despite these important steps forward the state of preschool-age provision is still patchy in quality, with large variations in Ofsted scores, take-up and impact on attainment, as well as a comparatively low-skilled and low-paid workforce. And, despite prioritising childcare and acknowledging the importance of quality, several of the current government's recent proposals have met with vocal criticism from the sector itself, with some experts fearing that the proposed changes will prove detrimental to child development (Nutbrown 2013).⁷ There is also debate within the coalition government (Stratton 2013) and across the political spectrum about which elements are most important for quality.

Why is reform proving so difficult?

Part of the problem is funding. Boosting quality requires investment, and, given their straightened financial circumstances, both the government and individuals are reluctant or unable to pledge additional resources. While higher-quality care may deliver long-term cost benefits, these tend to be less sure, more difficult to quantify (as they often refer to potential costs which have been avoided), and split across government departments and budgets.

However, another part of the problem is that there is no clear account of the incremental steps needed to boost children's outcomes, or of what trade-offs should be made between competing goods. While the government has the aspiration of boosting quality, there is

7 Cathy Nutbrown's statement in response to the government's More Great Childcare policy paper describes its proposals as 'shaking the foundations of quality' (Nutbrown 2013).

disagreement about where which changes should be prioritised. Aspects of international good practice are fêted as case studies which should be emulated, yet it is difficult to isolate exactly which elements (ratios, qualifications, hours, cohort, curriculum, pay scales, regulation) are driving up quality for which ages. And while there are thorough academic and technical analyses of these issues, they do not easily lend themselves to the policy debate.

This paper attempts to help strengthen the link between evidence and policy by synthesising the rich literature on child development to draw out clear lessons, particularly concerning the different components of quality care that are most important for children of different ages. Growing up isn't a perfect science but, given the current financial constraints on both the public and private purses, it is more important than ever that we use the evidence base to inform policy choices.

The report that follows is structured around 10 lessons which aim to contribute to a better-informed the debate, and a set of policy implications concerning how resources could be deployed more effectively to achieve the best outcomes for children. It begins with a review of the evidence on the impact of childcare on development more generally, and will then tackle the question of what 'high quality' really means in the childcare context, and how different factors become more important for different ages. The crux of the paper presents each of the 10 lessons in turn, briefly summarising the evidence before exploring the implications for policy reform.

1. WHY FOCUS ON EARLY YEARS EDUCATION AND CHILDCARE?

There are three broad outcome-related arguments for investing in the early years through the provision of childcare. Firstly, high-quality childcare is good for children, with positive short- and longer-term impacts on their development. Secondly, early years education is good for equality, with the most disadvantaged children reaping the greatest benefits from childcare. Lastly, intervening in the early years can save money later. Investing early protects against costly negative outcomes in later life, like illiteracy or innumeracy; and, for human capital development there's a greater return on early investment than late.

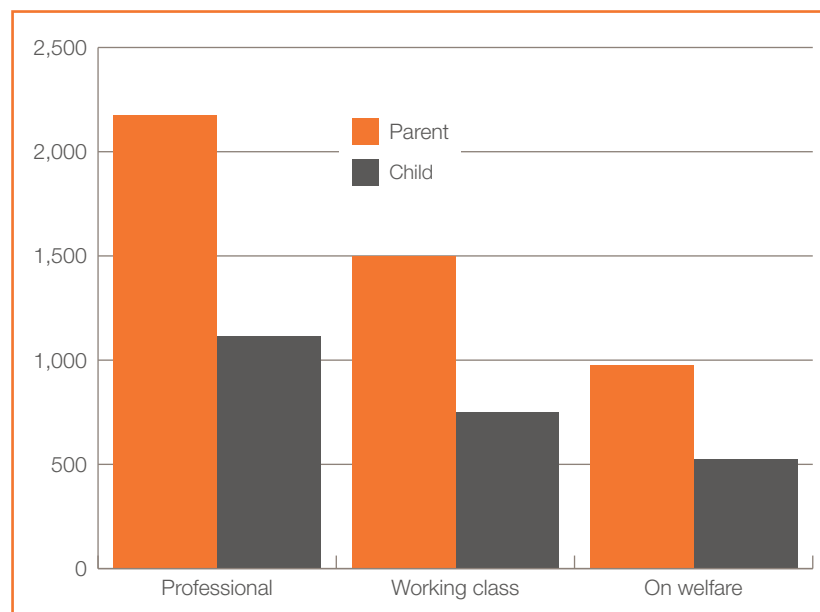
For these positive benefits to be realised, child care needs to be high quality. Various different factors go into creating high-quality settings, but what constitutes 'high quality' varies by age group. Chapter 2 explores what high quality means, and the steps needed to achieve it.

Childcare has a positive impact on development

The first few years of life lay down strong or weak foundations for children's subsequent development. During their first year, infants' brains rapidly create pathways, or synapses. In children's second year of life these synapses begin to be 'pruned' – pathways that are used are strengthened, and those that aren't are discarded.

The period between birth and the age of three sees cognitive, linguistic, social, emotional and motor development. Rapid growth in vocabulary starts at 15–18 months, and the ability to identify and regulate emotions is well under way in the second year of life (CDC 2007). Inadequate stimulation or barriers to opportunities for productive learning can lead to sizeable and persistent gaps in attainment. At 18 months, children of parents with lower incomes and lower levels of formal education are already scoring substantially lower in development tests than their peers, and these gaps typically continue to widen, with the children of homes with higher socio-economic status having double the excessive vocabulary of their low-status counterparts by the age of three (Hart and Risley 2003).

Figure 1.1
Vocabulary sizes, with
child average at 33–36
months old



Source: Hart and Risley 2003.

Note: the authors' define 'professional' and 'working class' as 'upper' and 'middle social economic status' respectively.

Because the foundations for future learning are laid down during the first years of life, early development is highly predictive of later achievement (Sénéchal et al 2006, Potter 2007). There's now a broad evidence base demonstrating that interventions in the first years of life, in the form of high quality early years education, have a positive impact on this early development. This in turn leads to better outcomes, in both the short and medium term, than those experienced by children cared for at home.

One of the most pertinent examples in the UK is the Effective Provision of Pre-school Education (EPPE) longitudinal study, which examined the impact of childcare in England. The research collected a range of information from a structured representative sample of young children in order to track their intellectual and social/behavioural development, alongside data about their home environment, parents and preschool settings. The findings demonstrated that children in good-quality care (defined through observational standard ratings scales) achieved higher literacy and numeracy levels than those in low-quality settings or who did not experience preschool. The authors argue that preschool enhances all-round development – their final report states that the effect of one year of part-time preschool is equivalent to raising the family's income by more than £10,000 a year in childhood (Sylva et al 2004a).

These higher outcomes in primary school and in the longer-term are confirmed by other studies which examine the impact of childcare in the UK (for example Feinstein et al 1998, Melhuish et al 2008 and George et al 2012), as well as examples from other countries which have different pedagogical traditions.⁸ In Argentina, the rapid rise in pre-primary school places in the 1990s boosted both test scores and behavioural skills for the pre-primary cohort (Berlinski et al 2009). Similarly, in Uruguay children who attended preschool had better grades and had a lower school drop-out rate than peers who did not (Berlinski et al 2008). Closer to home, the surge of places in France in the 1960s and 1970s saw children who had attended preschool more likely to score well at sixth-grade tests, less likely to have to repeat academic years at ages 11 and 16, and more likely to graduate from high school. Dumas and Lefranc (2010), who conducted the study, found that the positive impact of education during early years continued (albeit less markedly) into employment, with those who attended preschool receiving a monthly wage boost of 3 per cent in adulthood. Similar results were found following the expansion of childcare in Norway from the 1970s, which had substantial positive effects on long-term outcomes for those who had attended childcare, relative to non-attendees, that were still evident in adults into their thirties. Havnes and Mogstad (2009) estimate that the impact of universal childcare in Norway has been sizeable – decreasing the probability of dropping out of high school by 6 percentage points, increasing the probability of attending college by almost 7 percentage points, and reducing the probability of being welfare dependent by 5 percentage points.

Focusing on outcomes further into adulthood in the UK, the Longitudinal Study of Young People in England records attendance for early years. Using this data, researchers found that attending preschool had numerous positive impacts even when controlling for background characteristics. These impacts were not evident solely in school-readiness in the early years, but continued to positively affect academic results and wellbeing, and protect against negative outcomes. Graduates of early years education were significantly more likely to have better scores at Key Stages 2 and 3 and GCSEs, as well as more likely to apply to university; they also had more friends and a greater sense of satisfaction

⁸ While different studies focus on different types of intervention, and use different types of data, there are some common messages for policymakers.

at age 14, and at 20–21 were less likely to be not in employment, education or training (NEET) or to smoke or have tried cannabis (Apps et al 2012). Importantly, these longer-term effects were particularly pronounced for lower socio-economic groups, those in larger families and those with single mothers.⁹ Using the 1958 cohort data, Goodman and Sianesi (2005) found not only positive effects on test scores during school, but a positive but weak effect on higher education attendance, employment and wages at the age of 33 after controlling for background, family and neighbourhood effects. In other words, the paper found that those who attended early years education were more likely to do better at school, earn more and be in a job, regardless of their background and family circumstances.

Childcare is good for equality

In the UK, the relationship between family income while growing up and outcomes in later life is stronger than in most other developed countries. This gap in attainment is already marked when children begin compulsory education (Blanden et al 2005): at the beginning of their first year of school, children from the lowest-income families are already on average 16 months behind those from high-income families (Feinstein 2003).

While children from all backgrounds benefit from quality early years education, positive impacts on both school-readiness and longer-term life chances are repeatedly shown to be greater for those from disadvantaged backgrounds. Where childcare is delivered well, it can help reduce the achievement gap that is predicated on family background.

Different UK studies have found that childcare attendance had greater positive impacts on children at risk of starting school behind than it did on their more advantaged classmates. Numerous studies have demonstrated these more pronounced benefits for children from families with lower-incomes and lower socio-economic statuses (Sylva et al 2004b, Apps et al 2012, George et al 2012), children from single-mother families (Apps et al 2012), for those at risk of developing learning difficulties (Sylva et al 2004b), and children from immigrant families (Drange et al 2011). This shows that early years education provides an important levelling effect, reducing the inequalities that are often present at the start of school.

To get a sense of the size of childcare's impact, the EPPE study identified a third of children as being 'at risk' of having special educational needs (SEN) at entry to preschool, a figure which dropped to a fifth by the time of their entry to primary school. Those children who did not attend any form of preschool had a far higher proportion of children at risk of SEN at entry to primary school (42 per cent, compared to 26 per cent of preschool graduates), a finding which led the authors to suggest that early childhood education and care may be effective at reducing SEN, especially for the most disadvantaged and vulnerable groups of young children (Sylva et al 2004a).

International evidence corroborates the fact that these positive impacts on equality last into adult life. In Norway the expansion of childcare was found to have had the greatest effects on children with lower-educated mothers, and produced the most positive long-term outcomes for women in the form of increased labour market attachment and reduced likelihood of low wages (Havnes and Mogstad 2009). In a second paper the same authors concluded that wide access to subsidised childcare reduced the importance of family background on child development, helping to level the playing field in terms of intergenerational mobility as well as minimising the gender wage gap (Havnes and Mogstad 2010). In fact, they found that

⁹ This study only had access to data on whether children had attended preschool (rather than hours or quality).

early childcare resulted in an increase of the proportion of adults earning around the average (decreasing the proportion of earners both below and above the average), thereby having an equalising effect.¹⁰

A study of the expansion of childcare in France in the 1960s and 1970s found that the long-term positive effects were driven largely by boosted development and outcomes for children from middle- and lower-economic-status social groups. While children from higher-grade professional households received relatively low returns from preschool attendance, children of manual workers and farmers gained significantly. The authors found that one additional year in preschool compensated for 10 per cent of the gap between children from lower and middle economic status social groups in the probability that they will graduate from high school, and at least two years of preschool closed the wage gap between children from middle and upper social groups as adults by a quarter (Dumas and LeFranc 2010).

In the US, a pilot programme enrolled children with low birth weights (often used as a proxy for disadvantage) from high- and low-income households in a two-year, centre-based childcare programme between the ages of one and three (with free, full-day early education, offering 7–9 hours of childcare daily, using a game-based curriculum which emphasised language development). The programme's impact was found to be much larger for children from low-income households than for those from higher-income backgrounds. Academics who projected this impact on to the US population as a whole suggested that if the programme were offered to all low-income children it would essentially eliminate the income-based gap at the age of three, and substantially reduce the gaps at five and eight (Duncan and Sojourner 2012).

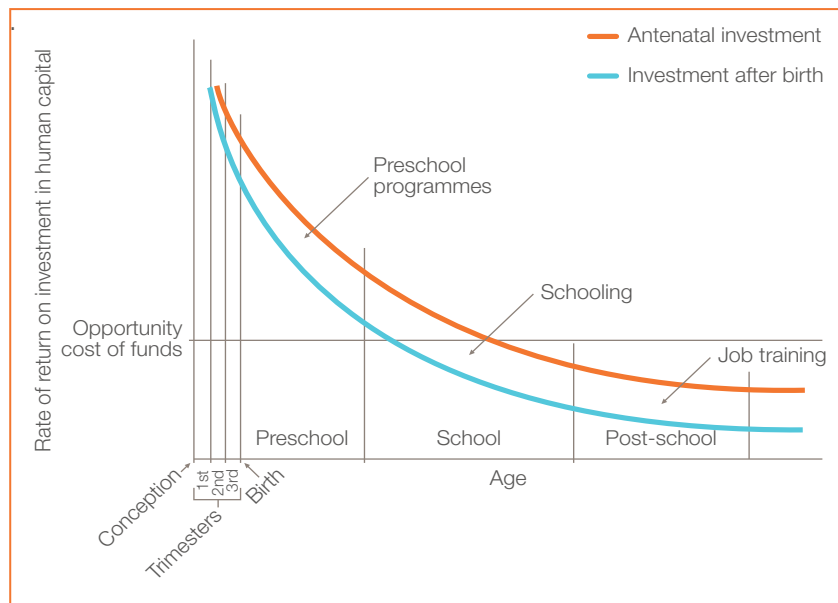
Intervening in the early years saves money later

As well having important positive impacts on children's life chances, investment in early years education can also prevent the need for far more expensive interventions later in life. Evidence for this comes largely from the more intensive programmes that target at-risk groups, but experts have concluded more generally that early years provision is the most productive form of education and intervention. Looking at it purely as an economic development strategy, the return to the public on investment in early years is much greater than that on interventions in later years (Doyle et al 2007; see figure 1.2).

Several high-profile studies have calculated that early childhood education and care gives large long-term returns on investment, in the form of protection against both costly future interventions and loss of earnings because of illiteracy, innumeracy, crime or unemployment. For example, the HighScope Perry Preschool Study in the US found that, for three- and four-year-olds deemed to be at significant risk of poorer outcomes in later life, two years of high-quality learning with a qualified teacher had an impressive return on investment. By the time the participants were 40, there had been a return of over \$16 for every dollar spent, almost \$13 of which went to the public, largely through reduced expenditure on crime (Schweinhart et al 2011).

¹⁰ Havnes and Mogstad (2010) estimate that the expansion of universal childcare decreased the probability of becoming a low-earner by 3.6 percentage points, increased the likelihood of becoming at least an average earner by 5.1 percentage points, and decreased the likelihood of being a high-earner by 3.4 percentage points across the cohort.

Figure 1.2
Rates of return to human capital investment, presuming investment to be equal across all ages



Source: Doyle et al 2007

The return on investment in the Chicago Longitudinal Study which followed at-risk preschool children (alongside a control group) was, by the time those children reached the age of 26, calculated at over \$10 per dollar invested in the preschool programme, through a lower SEN count, fewer arrests and lower rates of substance abuse, as well as increased earnings and tax revenues (Reynolds et al 2011). The Abecedarian Programme (which successfully targeted children at high risk of poor cognitive or social development) was estimated to have provided a \$4 return on investment per dollar spent, through boosted earnings (of both participants and their mothers), savings to schools because of a minimised need for extra tuition, and health savings through a diminished likelihood of smoking (Melhuish 2004).

While return on investment is, in some senses, a more meaningful evaluation than upfront costs, there is fairly limited evidence on this, and the leading studies which exist largely evaluate very small-scale, highly intensive programmes targeted at children identified as being at risk. The return on highly targeted interventions will not necessarily be replicated when extended to different groups, or when expanded to non-targeted provision; and of course, in the current fiscal climate upfront costs have more weight than potential returns.

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The case for childcare has been well-made both over time and across the world. We now need a full account of which elements are needed to make childcare high-quality, and which should be prioritised in order to produce the best outcomes for children.

2. WHAT CAN THE LITERATURE TELL US ABOUT QUALITY?

There is good evidence that high-quality childcare can lead to positive outcomes for children. However, there is not a perfect prescription for making care 'high quality'.

There are high-profile examples of childcare settings which have lifted children's attainment and social development. The difficulty that faces policymakers is that early years programmes have numerous different factors affecting their performance. For example, a cohort could be made up of specific targeted groups (low-income families, migrants, those with disabilities) or be open to all. Even open-to-all settings may not have an even representation of children of all backgrounds. The age and grouping of children varies, as does the type (childminders, nurseries, child centres), intensity (hours per day and per week) and duration (months or years) of care. Childcare also varies in terms of content or syllabus, the activities offered, and the provider's levels of autonomy, regulation and monitoring. Staff have differing levels of experience, training and qualifications, and organisations can be state-run, private, voluntary or independent. Even within individual settings, the nature and type of interaction can be vastly different between different professionals.

In research examining these types of factors, a distinction is typically drawn between 'structural' and 'process' variables. Structural measures look at stable preconditions of care which might affect outcomes or development, like group sizes, child-to-adult ratios, management structure, pay, staff turnover, qualifications, centre size and equipment. Some of these structural aspects are associated with better child outcomes, and are relatively straightforward levers of quality improvement or government policy. As they are more readily quantifiable, they are the focus of the majority of research studies.

However, improvements to structural factors alone do not necessarily boost quality. Process factors, which are to do with the way children interact with and experience care, also have a large impact on child development. Examples of process factors in childcare settings include the way activities are organised, the quality of conversations, and the variety of stimulation.

Structural factors can be valuable in themselves, but they can also act as proxies for quality processes (for example, highly qualified staff are more likely to engage children in developmental activities), or as means of facilitating quality processes (fewer children to look after at any one time allows adults to engage children in more conversation; smaller group sizes mean that each child is more likely to be able to initiate his or her own activities). While studies have found associations between structural factors and high-quality provision, that doesn't mean that simply improving structural factors will raise quality. Giving a low-performing childcare professional fewer children to look after will not necessarily improve the content of that care.

High-quality care is made up of a combination of process and structural factors, including elements like highly qualified teachers, small class sizes, low child-to-adult ratios, high salaries, age-appropriate and stimulating materials, warm interactions, developmental content, excellent and spacious physical environments with outdoor space, opportunities for educational trips, experienced staff, and continuing professional development for carers.

While there is widespread acceptance of the importance of such elements, different countries (and different programmes within countries) prioritise different factors on the 'wish list'. France focuses on developing a very highly qualified workforce to care for the over-threes in large classes. Scandinavian countries have low regulation at a national level, but a system built on a highly respected pedagogical tradition. In the US there are examples of highly intensive targeted interventions for specific groups. In the UK,

we balance a little targeting alongside a largely universal offer, with high monitoring and a fairly prescriptive (but well-respected) syllabus, low ratios, and a comparatively low-qualified and poorly remunerated workforce.

Reform can be pursued through tinkering with any of these elements, but given current financial constraints our policy interventions need to be targeted, and policy decisions based on solid evidence. There is a danger that, when drawing comparisons, individual aspects of childcare systems are singled out without the other factors at play being taken into account. For example, the respected French *école maternelle* nurseries have been used to exemplify high-quality provision which leads to good outcomes, despite their high numbers of children per adult (Truss 2013). However, the potentially negative impact of large class sizes in France is mitigated by the highly qualified, respected and well-paid workforce, and by the restriction on children attending unless they are *propre* – toilet trained – which frees up adult time from the more practical demands of caring for young children.¹¹

This exemplifies one of the difficulties in extrapolating aspects of quality from other programmes: provision that boosts child development usually demonstrates many features associated with quality. It can be difficult to disentangle which of these are critical factors and which are complementary or less important, and how different factors interrelate: for instance, highly paid staff are usually well-qualified, experienced, less likely to work with children from low-income backgrounds, and more likely to remain stably within one organisation. This means that while there is compelling evidence of the importance of high-quality provision in the early years, the significance of individual components of that provision is less obvious.

This is particularly true for young infants and toddlers. The vast majority of the literature focuses on children aged three and upwards, which means there is more debate about what is best for younger children, even between experts. Similarly, the bulk of the literature examines centre-based care, because of its high participation rates and major evaluative studies. The impact of informal care, nannies and childminders is less studied and more open to debate.

Another difficulty in synthesising the material is that studies use different definitions of quality provision. Some focus on cognitive outcomes, through (in the UK context) assessments administered at the beginning of school. Other studies use monitoring and assessment results such as those from Ofsted, or Early Childhood Environmental Rating Scales (see appendix A) – which don't always get the same results – as a proxy for quality. Some studies focus on long-term outcomes, others on immediate factors like parental approval; and different studies measure different aspects of provision for comparison (structural elements, process elements, wellbeing, safety), and control for different factors (education, family size, birth weight, maternal factors, hours in care).

Furthermore, the programmes evaluated have different aims: while some programmes are highly targeted and very intensive, other studies look at universal provision which is offered for only a few hours a week, or provision that is focused on blended outcomes such as child development, parenting practice, or child health and obesity. Findings from interventions that are highly targeted are unlikely to be directly applicable to any other population group, and even less so to universal interventions.

11 <http://www.education.gouv.fr/cid161/l-inscription-a-l-ecole-maternelle.html>

Finally, child development doesn't occur in a vacuum – childcare is only one influence in a stage of rapid development. Time spent in childcare would otherwise have been spent in different ways, providing different stimuli and developing different relationships. Formal evaluations of early years programmes face the problem of the counterfactual case, particularly with the expansion of universal childcare, where there are difficulties in tracking a neutral control group with which to compare outcomes.

However, despite these hindrances, across the literature there are some common lessons for policymakers to be drawn out, which the next chapter will explore in turn.

3. 10 EVIDENCE-BASED LESSONS FOR POLICYMAKERS

1. Children under 12 months old

Young infants need affection, stability and responsive communication, which is best provided through financially supported parental leave policies and key-worker care.

Childcare for the youngest children needs to be considered in tandem with parental leave policies. At the outset, the needs of babies can be best met by parents. There is a strong case for prioritising the role of mothers in care when it comes to breastfeeding – established evidence on the health benefits of breastfeeding, and emerging evidence on its cognitive benefits (Winter 2010), emphasises the importance of the mother in childcare during at least the first six months of life. Delaying mothers' return to work through extended periods of protected maternity leave is positively related to breastfeeding (Baker and Milligan 2008, Berger et al 2005, Scott et al 2006, Hawkins et al 2007).

There is also emerging evidence that links fathers' time off work after the birth of a child (heavily influenced by paid leave entitlement and reserved 'daddy days'), their involvement in childcare, and child cognitive and behavioural outcomes in the UK (Huerta et al 2013, CMPO 2006). This early parental care relies on protected and financially supported employment leave for both parents. Newly announced policy changes represent a small step in the right direction, with parents being able to share 52 weeks of parental leave between them from 2015. However, this parental leave relies on the mother having maternity leave entitlements that she can transfer if she wishes; and, critically, the international evidence suggests that unless leave is both well-paid and specifically reserved for fathers, there will not be a large shift in fathers' involvement in care. The government's own impact assessment predicts that only between 2 and 8 per cent of fathers will take up additional leave (HM Government 2012).

The evidence about childcare in the first year of a child's life is a contested and contentious area. According to the widely accepted attachment theory, young children need a warm, intimate and continuous relationship with a mother or mother figure (Leach 2009). Building a strong bond in the first year of life protects against distress at later separation: while toddlers may be unhappy to be separated from their parents, those who have built up a secure attachment during their first year will be less vulnerable to ill effects, and more able to forge a positive relationship with a new caregiver.

Yet while attachment theory's account of the youngest children's need for stable care is widely accepted, there is no compelling evidence that this care needs to be provided by a mother or father. A National Institute of Child Health and Development (NICHD) study corroborates this, finding that the amount, type or quality of childcare had no direct effect on attachment security, unless a mother was lacking in sensitivity towards her baby and either the childcare was poor quality, the child spent more than 10 hours per week in care, or was in more than one childcare setting during the first 15 months of his or her life (NICHD 1997).

Similarly, while there is some evidence of maternal employment having a negative impact on child development, this impact is not universal (Barnes et al 2009), and above all reflects the quality of alternative provision (Waldfogel and Brooks-Gunn 2002). In fact, a recent study found that mothers not being in work during the first year of an infant's life had a detrimental effect on the child's socio-emotional behaviour, even when controlling for household income, maternal depression and education (McMunn et al 2011). More broadly, numerous reports have found links between maternal depression (which has negative impacts on child development) and employment status. For example, Harkness (2012) found that mothers in employment (those both in a couple and single) have lower levels of depression, and that

moving into work leads to improved mental health, which has positive implications for their child's development.

While there is not a lot of evidence on the impact of the various types of care for these youngest children, several studies have found that nurseries offer worse quality care than maternal care, care by a relative, childminder or nanny, or family day-care (Sagi et al 2002; Leach et al 2006), even where nurseries have more trained and specialised staff, because of the higher child-to-adult ratios in nurseries (NICHD 2000). Sagi and colleagues examined a cohort of 758 infants aged 12 months in Israel, and found that the only childcare variables which affected attachment were being in centre-care (compared to not) and being exposed to larger infant-adult ratios while in group care, which increased the likelihood of an insecure attachment relationship. This was particularly pronounced where there was low maternal sensitivity combined with any of a number of issues: low-quality care; being in care for more than 30 hours per week; entering care at younger than 13 weeks old; having more than one type of carer; or having an infant-to-adult ratio of more than 6:1. It was centre-care specifically (as opposed to professional or non-maternal care) which saw a rise of insecure attachment, while care by relatives had higher levels of attachment security than others. Another important finding from this study was that researchers found no significant difference in attachment between children who received more or less than 20 hours of care per week.

On this evidence, the UK should support protected leave for mothers and fathers, with maternity leave of at least six months combined with a reserved period of remunerated 'daddy leave'. Childcare that runs alongside or follows on from this leave should be in small ratios (maintaining the current standard of 3:1 at most) with a stable source of care like a relative, childminder or key worker in a group setting.

2. Children aged 8–22 months

Young toddlers need low child-to-adult ratios, with warm, predictable interactions. It is more important that childcare professionals have experience, a good grasp of English and sector-specific training than it is that they have high levels of formal education.

There is compelling evidence that early experiences affect brain development and can have long-term effects on physical and mental health, learning and behaviour (Winter 2010). Several elements go into creating the best environment for early development. For the youngest children, it is particularly important that experiences are consistent, predictable and nurturing. Positive relationships (in particular the use of complex language, responsiveness, touch and warmth) are pivotal in positive developmental outcomes and wellbeing. If these relationships are to develop, stability is critical – in terms of the amount of time spent with a caregiver, the duration of that relationship, and having a minimal number of different childcare arrangements (Leach et al 2006, Herbst and Tekin 2008).

Warm, responsive interactions with physical touch are central to development and wellbeing. The younger the child, the more crucial low ratios are both for development and for taking care of more practical needs like feeding and changing (TCRU 2002, Leach et al 2006, Sagi et al 2002).

Little comparative work has been done on the question of what the best type of care is for this age group, but there is some evidence of lower test scores for those in centre-based care (NICHD ECCRN 2004) than other types of care – except for children from low-income

families (Leach et al 2006). There is also mixed evidence on informal care, which is usually undertaken by grandparents. On the one hand, grandparents are more likely to be able to provide a stable, one-on-one (or very small group) environment than nurseries or children's centres, which is beneficial to development, particularly for the youngest. However, care by grandparents is also likely to reinforce the influence of family circumstances on development.

For example, Bryson et al (2012) found that while children looked after by grandparents from the age of nine months had, on average, similar vocabulary scores at three years old than those attending formal care (and scored better compared to other informal care arrangements), they were behind on assessments of school-readiness like understanding colours, letters and numbers. Similarly, the Centre for Market Public Outcomes (CMPO) research team found that children who, before the age of two, spent 20 or more hours a week in informal care settings (which, in most instances, meant care by grandparents) had negative outcomes on school entry assessments at ages four or five, compared to positive results for those in centre-based care (CMPO 2006).

The key here seems to be a mother's education. Where the children of more highly-educated mothers are looked after by grandparents, they tend to experience higher levels of development compared to children receiving only centre-based care, but the opposite trend is found for the children of mothers with lower levels of educational attainment (Bryson et al 2012). Therefore, on balance, grandparents provide weaker developmental care at this age than formal, centre-based care provision, particularly in families with lower education levels (Hansen and Hawkes 2009, Bryson et al 2012, Leach et al 2006, CMPO 2006).

For infants and toddlers, the experience (Leach et al 2006, Kreader et al 2005, Phillipsen et al 1997) and specialised training (Huntsman 2008) of caregivers is more strongly associated with development than formal qualifications. As children develop language through listening and imitating, adequate levels of general education (and spoken English in particular) are important.

In summary: for the youngest children, low ratios with a designated keyworker should be maintained in formal childcare settings. Staff should have experience and adequate levels of English, but low ratios should be prioritised above formal qualifications.

3. Children aged 18–36 months

The cognitive development of older toddlers is best met in lower-ratio group provision, though this could involve a trade-off with poor behavioural outcomes.

More hours in centre-based care between the ages of 18 and 35 months are associated with better language skills (NICHD ECCRN 2004) and mathematics (Sammons et al 2002), and so leads to academic benefits at primary school (Sylva et al 2004b, CMPO 2006). These benefits are most pronounced for lower-income families (Love et al 2003).

However, while care at this age seems to be beneficial to cognitive development, the evidence about care's impact on social or behavioural outcomes is more mixed. Several studies have found a trade-off between the positive cognitive outcomes of formal care and its negative social or behavioural outcomes for this age group compared to care by family members (Loeb et al 2004 and 2007, Magnuson et al 2007, Melhuish et al 1990). Negative social outcomes, where found, were more noticeable in those in intensive care (more than 30 hours a day or three days a week, and worse again at more than 35 hours or five days a week). However, the EPPE study found that adverse behavioural effects at

this age disappeared later in childhood (Sammons et al 2004, Sylva et al 2004a), and that in any case these negative effects were only small except for those in care for 45 or more hours a week for a period of more than three months.

On the other hand, some studies have shown group care to have a pronounced positive impact on behaviour, particularly for children in full-time care. Barnes et al (2009) found that childcare had no impact on disruptive behaviour at 36 months, regardless of the number of hours or type of care. In fact, this study found that children in this age group (18–36 months) who spent substantial amounts of time (35 or more hours a week) being cared for by non-family members and in groups were reported as being more confident, joining in with more activities and having more sympathy with their peers. This was particularly true for those who spent more time in a nursery or with a nanny.

A recent extensive study in Norway found very little evidence that even long hours in full-time childcare (compared to parental care) had a significant influence on problem behaviour at 18 and 38 months. Even where there was some evidence of negative behavioural impacts for children in care for more than 45 hours a week, the effect – as in the EPPE's evidence – was small and comfortably within the normal range of behaviours (Zachrisson et al 2013). However, we need to interpret these findings within the context of the Norwegian childcare system: comprehensive parental leave provision in the first year, near-universal early years attendance care from the age of one, with highly qualified staff and (relatively) low ratios.

The majority of cases of problematic outcomes occur in evidence from the US, where there is little parental leave (only seven weeks after the birth) – and where childcare therefore starts extremely young for many children, and continues for most of the first year of life, with little regulation to ensure quality care.

The effect of different ratios on this age group has been studied. De Schipper and colleagues (2006) observed the same caregivers' interaction with children in ratios of 3:1 and 5:1. In the lower-ratio group caregivers were significantly more supportive and respectful of children's autonomy, and children were more cooperative (particularly the youngest children). When caring for under-threes, 5.5 per cent of caregivers were rated as having given 'inadequate support' in 3:1 ratios, a figure which rose to 11 per cent when ratios increased to 5:1. This effect evened-off at around 40 months, indicating that smaller ratios make the biggest difference to the youngest children.

So, across the studies, formal group care has been found to be beneficial to cognitive development. Though there are questions regarding the impact of childcare on behaviour, even in those studies which found a negative impact, the effect was modest (except for those in care for more than 45 hours per week) and disappeared with time. As they should for the youngest children, low ratios should be protected for this age group.

4. Children aged 30–50 months

For preschool age children, formal group care provided by professionals with high-level, childcare-related qualifications should be prioritised above small group sizes.

As the evidence focuses on older children, the importance of high-level, childcare-related qualifications becomes greater, and ratios (comparatively) less important.

Huntsman (2008), in a wide-ranging literature review, argued that the relationship between qualifications (which were defined differently in various studies) and quality provision is the strongest of the structural components of high-quality care. Importantly, by synthesising

the evidence base, she suggested that formal education is more important for the carers of preschool-age children, and that specialised training is more important for infants and toddlers.

The EPPE study found that settings which employed a qualified Early Years Teacher were more likely to be of a high quality, and that employing someone with this qualification significantly improves the warmth and quality of interactions, and children's language and reasoning (Sylva et al 2004b). Other studies have shown that the employment of a qualified teacher improves the quality of the maths and science curricula offered within the setting (Mathers et al 2011), and encourages children to engage in more complex play and creative activities (Howes 1997).

For these older groups of preschool children, limited resources should be focused on employing more highly qualified staff, rather than on increasing staff numbers to maintain low ratios. As mentioned above, by the age of 40 months the difference in outcomes between smaller and larger ratios (in terms of the supportive presence of a caregiver, child cooperation and wellbeing) becomes less pronounced. The report does point out that ratios still matter more with less well-trained staff (De Schipper et al 2006).

Across the studies, then, the implication is that for early childhood education and care settings catering for children aged three and older, priority should be given to employing staff with high-level childcare-related qualifications, rather than maintaining smaller child-to-adult ratios.

5. Graduate staff

Graduates, particularly those with degree-level qualifications in childcare, drive up the quality of early-years settings for children and staff. But the impact is greatest where they spend a substantial amount of time directly interacting with children.

The Graduate Leader Fund was highly successful at boosting the proportion of childcare settings with highly qualified staff (Mathers et al 2011). Settings which gained a graduate-level Early Years Professional saw an increase in the quality of provision. The evaluations found that having a graduate leader provided 'added value' above and beyond their individual interactions with children: less-qualified staff were also significantly better at supporting learning when working with qualified teachers. This reinforces findings from the EPPE which found that settings that employed a qualified teacher were of a higher quality, and that employing someone with this qualification significantly improved the warmth and quality of interactions and the cognitive development of children (Sylva et al 2004b).

While some improvement was observed in the presence of any graduate, the evaluation of the Graduate Leader Fund concluded that gaining an Early Years Professional had the greatest impact on a setting's overall quality. However, by gaining EYP status these individuals reduced the amount of time they spent with children to just 35 per cent of their time, despite the fact that the more time graduates spent interacting with children, the greater their positive impact on children's development. It is therefore important that those who are most qualified do not step back from child contact.¹²

12 The evaluation also noted that the impact of higher-qualified staff was not significant for younger children, but that this could be explained by the fact that highly qualified staff spent four times more time with early-years-aged children than with infants and toddlers. The result is therefore not necessarily meaningful: the impact on the youngest children may not show up as significant in studies because highly qualified staff do not interact with these children.

So, to boost the quality of settings, providers need to employ qualified individuals and ensure that they spend the bulk of their time interacting directly with children. The current model requires nursery managers to have at least a level 3 childcare-related qualification, but managers have to split their time between looking after children, staff and administrative necessities. The sector should move towards having all childcare professionals hold or be working towards a level 3 qualification (with an adequate standard of English), and ensuring that all settings which care for three- and four-year-olds have at least one individual with an early years graduate-level qualification (either Early Years Professional or Early Years Teacher status).

6. Duration of care

Duration of care in months matters more than the number of hours per week: it is more beneficial for children to access care at a younger age than to have more hours in care later.

The EPPE study found no difference in outcomes for children in the general population experiencing 15, 30 or 40 hours per week of care, but duration in months did have positive relationships with outcomes (Sylva et al 2004b; CMPO 2006). The CMPO found that entering centre-based care at or before the age of two advances children's test scores by around 4 percentage points by the time they reach school age. This reinforces findings from neuroscience literature that it is more beneficial to access stimulation early in the life course.

There is slightly more mixed evidence on the impact of long hours. As mentioned earlier, some studies have identified a small increase in behavioural problems with longer hours in non-parental, and particularly centre-based, care (NICHD 2005, Ritter and Turner 2003, Belsky et al 2007). This may imply that part-time care may, from a purely developmental perspective, be preferable to full-time care.

Currently the government provides 15 hours of free care for all three- and four-year-old children, and is currently piloting the provision of 15 hours of free care for disadvantaged two-year-olds. Priority should be given to extending part-time care to all two-year-olds, rather than increasing hours for three- and four-year-olds.

7. Avoiding 'schoolification'

Despite the focus on education outcomes, beware of the 'schoolification' of content and practice. Adopting school-type learning too young can be detrimental to development.

There is broad consensus on the stimulus needed for young children's development, including free play, child- and adult-initiated activities and sustained shared thinking, as well as warmth, routine, and clear discipline policies (Coghlan et al 2010, Sylva et al 2004b).

Early years education and care has the potential to improve 'school-readiness'. However, focusing too early on formal education (literacy and numeracy), or the adoption of primary school methods of teaching in early years settings, can have a detrimental effect on learning. The OECD emphasises the importance of age-appropriate methodologies, horizontal (child-to-child) activities, and encouraging the natural learning strategies of younger children through play, exploration of the outdoors and freedom of movement, and relationships and discussion with other children in the classroom (OECD 2001). It is important to protect the broader development goals that are complimentary to cognitive development. Norway and Sweden, for example, have curriculum goals which focus on

wider aspects of development like physical and motor, socio-emotional, personal and social skills, and artistic and cultural development. They place emphasis on 'authentic' approaches to literacy, numeracy and science by encouraging learning wherever they are encountered naturally.

While the British EYFS is internationally respected as a curriculum for early years, the risk of introducing school-type practices at too young an age is exacerbated by the low-qualified nature of the sector in the UK. Due to the substantially lower status and pay of early years education and care professionals in the UK compared to other OECD countries, there is a risk that the primary discourse would become one of primary school educators, which would squeeze out good pedagogical practice for the under-fives (Moss 2013). Proposals to introduce a new Early Years Teacher qualification could help prevent this by promoting the expertise needed to work with the youngest children. But the new EYTs, as Naomi Eisenstadt and colleagues point out, will not have access to comparable training or qualified teacher status, meaning that there is a risk they will operate as 'second-class teachers' (Eisenstadt et al 2013). Furthermore, government proposals that seek to make it easier for primary schools to move into early years provision (Truss 2013) could increase the risk of 'schoolification'. Indeed, concern has already been voiced at the minimal recognition of 'play' in the proposed new qualifications (Gaunt 2013).

In summary, current provision sees large numbers of children in the early years being cared for in school settings, and this is being encouraged by the latest proposals (DfE 2013a). While there are benefits to school-based early years education, it is important that this provision offers distinct types of age-appropriate, play-based learning rather than a more formal education.

8. The role of Ofsted

Ofsted is not always the best judge of early years quality, particularly for the youngest children, and functions primarily as an inspector rather than a supporter of quality improvement.

In the UK, discussions about quality tend to be focused on structural regulation and monitoring processes.

Structural elements of care (like ratios, qualifications and experience) are easily measurable proxies for high quality, and are associated with more positive and developmental process interactions such as stimulation, warmth, discipline and stability (see appendix A). Changes to structural factors of care lend themselves to policy: it is easier to regulate ratios than warmth. However, broader consideration is needed to boost the quality of process provision in the early years, including developing appropriate types of training and qualifications, and facilitating professional interactions through mentoring and sharing best practice. While weakening structural regulations could undermine quality, strengthening them will not necessarily improve quality if professional training, development and peer-to-peer engagement is not considered.

One shift proposed in *More Great Childcare* (DfE 2013a) is cutting local authority inspections and their duty to provide training, leaving Ofsted as the sole arbiter of quality. As well as Ofsted inspections for all childcare settings, the current system gives local authorities the power to decide which settings can deliver funded places, and to require settings rated 'satisfactory' or 'good' to take further measures to improve (like participating in local authority quality assurance schemes). Local authorities also currently have an obligation to

ensure there is information, advice and training available for childcare providers. Weakening local authorities will leave a gap which Ofsted cannot comfortably fill.

There is also the question of how good an assessor of quality Ofsted is. While Ofsted ratings are a reasonably good predictor of outcomes at school age, Ofsted grades for early years settings are less accurate at predicting children's developmental outcomes (Hopkins et al 2010).¹³ A study published by the Daycare Trust examined the relationship between Ofsted scores and Early Childhood Environmental Rating Scales (ECERS), which were formulated to measure quality and are strongly indicative of children's developmental outcomes (Sylva et al 2006). While the Ofsted scores and ECERS scores were broadly aligned for better-performing centres for older children (aged three and upwards), there was less overlap for lower-performing centres, and no significant associations between Ofsted grades and Infant Toddler Environmental Scale (ITERS-R) scores which assess centre-based care for children under 30 months old. While the introduction of the EYFS better aligned Ofsted grades to ECERS scores, the same was not true of ITERS-R scores (Mathers et al 2012). In fact, the report points out that settings graded as 'outstanding' by Ofsted often received the lowest scores on the ITERS-R scale.

As well as a potential misalignment in Ofsted's ability to measure quality, there are questions regarding how successful it is as a driver of quality. Published qualitative work with stakeholders highlighted the issue that providers who received 'good' and 'outstanding' scores considered these not as a minimum standard, but as an indication that they need make no further improvements. In practice, the assessment categories are so broad that they operate more as a traffic-light snapshot of performance than as an indicator of best practice in early years care and education. In interviews, several local authorities recounted the difficulty of encouraging settings to develop their practice if they had been 'sanctioned' by Ofsted as good enough (Campbell-Barr and Wilkinson 2010).

The quantitative work by Mathers and colleagues found that settings that participated in a local-authority-led quality assurance scheme scored more highly on ECERS, suggesting that these settings provided a higher-quality learning environment. Ofsted similarly found that participants involved in these schemes were better able to assess their own performance (in self-evaluation) and had a greater capacity to maintain continuous improvement (Mathers et al 2012).

It is clear that in the past Ofsted has not consistently reflected which settings are best for children's development, particularly for the youngest children. There is also a question over whether it is able to act as a driver of quality, and indeed some evidence of it actually inhibiting improvement, particularly where it undermines the role of local authorities. Ofsted evaluations and changes to structural regulations without other complementary measures like quality assurance schemes and continuing professional development will not be enough to drive up the quality of early years provision, particularly for the youngest children.

9. Promoting equality in childcare provision

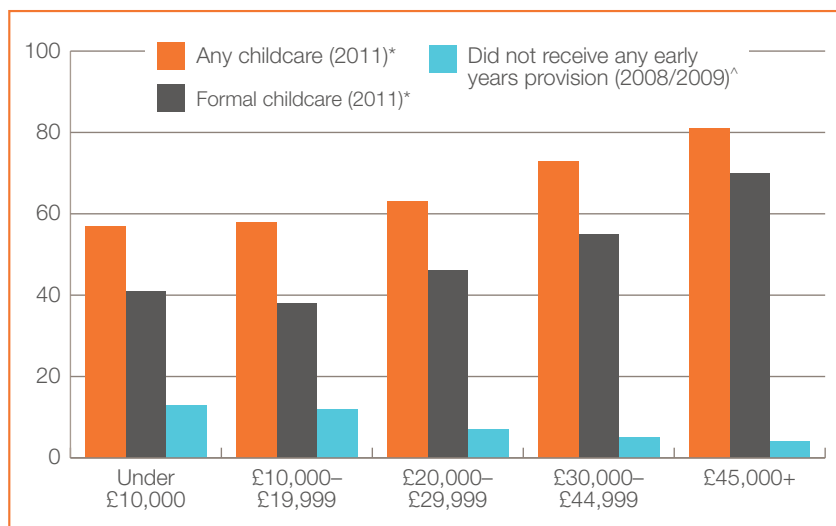
Open-to-all, mixed provision can have the greatest positive impact on development, but currently the least affluent are doubly disadvantaged by being less likely to access care, and more likely to experience low-quality care.

¹³ The Ofsted inspections framework for early years has since been revised, but not enough time has elapsed to allow any analysis of the impact of these changes.

As children learn from peers as well as from carers, a mix of backgrounds in early years is beneficial for all, and particularly so for more disadvantaged children (Sylva et al 2004b, Siraj-Blatchford et al 2003). Universal provision protects against early segregation.

However, more deprived families are currently less likely to take up childcare provision, and are less likely to access, or be able to access, high-quality provision. The latest Department for Education data (for 2011, published in 2013) finds marked differences in the uptake of childcare provision by household income, with 41 per cent of families with household incomes of under £10,000 using formal childcare compared to 70 per cent of households with annual incomes of over £45,000. Even focusing solely on the uptake of the free 15-hour entitlement, lower-earning families are less likely to take up these hours for three- and four-year-old children.

Figure 3.1
Percentage of parents using different forms of childcare by household income, and parents with a three- or four-year-old child who did not use their free entitlement or hours

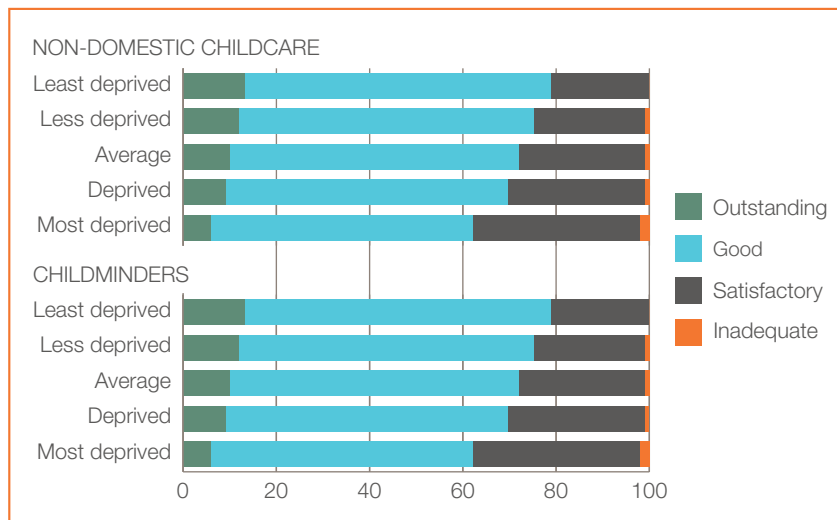


Sources: *DfE 2013b (Childcare and early years survey of parents, 2011) and ^Speight et al 2009 (analysis of 2008/2009 DfE data).

Just looking at three- and four-year-olds' entitlements, children in the least deprived areas are twice as likely to access outstanding provision than those in the most deprived areas. 27 per cent of the least disadvantaged decile of children have outstanding provision in non-school settings, compared to just 16 per cent of the most disadvantaged. Similarly, while the proportion is low, more than double the percentage of the most deprived quintile use inadequate provision (2.3 per cent) compared to the least deprived (1.1 per cent) (Gambaro et al 2013).

This disparity in quality is present despite more-deprived three- and four-year-olds being more likely to have access to a teacher or an Early Years Professional, because a greater proportion of them are in nursery schools rather than other settings (Gambaro et al 2013).

Figure 3.2
Ofsted Quality scores by deprivation quintile, 2012



Source: Ofsted¹⁴

While there is not as strong a relationship between quality of provision and deprivation as might be expected – perhaps because quality is less visible – differences do nevertheless exist. Children in disadvantaged areas, who stand to gain the most from childcare, are both less likely to access care (even the free entitlement), and more likely to access poor-quality care. For childcare to act as an equalising force, children at risk of disadvantage need access to high-quality care.

The offer of childcare to three- and four-year-olds requires some additional measures to boost participation and quality among those at risk of disadvantage. As IPPR has argued elsewhere, one possible mechanism to increase participation rates would be to empower outreach professionals to offer conditional cash transfers (CCTs) in order to fill targeted places (Ben-Galim 2011).¹⁵ These could be offered on a discretionary basis to low-income families, with cash payments conditional on the child’s attendance. There also needs to be a quality component – perhaps higher qualification requirements for disadvantaged catchment areas, which would require room leaders to have or be working towards a level 5 qualification (like an advanced national diploma or foundation degree).

10. Improving the home learning environment

Childcare which has a positive influence on the home learning environment has the greatest impact on development.

While childcare can help to mitigate any negative effects associated with parental background, the home learning environment has a greater impact on development (Melhuish et al 2001, 2008). Comparatively, the home learning environment makes more of a difference than parental occupation, education and income (Sylva et al 2004b), with the effect size of childcare only between a third and half as large as parenting (Melhuish et al 2008, CMPO 2006).

¹⁴ <http://dataview.ofsted.gov.uk/>

¹⁵ CCTs are programmes that transfer cash to low-income households for investments in education and development that rely on some form of participation. These types of programmes have been successful in both Latin America and New York City in lowering poverty rates and narrowing inequality gaps (Ben-Galim 2011).

Children of parents with lower levels of educational attainment are likely to have a less stimulating home learning environment. However, this is largely because less-educated parents are less likely to engage in stimulating activities with their children, not because they are less able to.¹⁶ The CMPO study found that parents' teaching behaviour, such as reading to children before they begin school, is the largest single influence on children's early learning, but there is no evidence that (on average) better-educated parents teach and read to young children more effectively – they simply do it more often (CMPO 2006). As the EPPE study put it, 'what parents do is more important than who they are' (Melhuish et al 2001). The CMPO research also found that the home environment accounted for around 10 per cent of the early learning deficits of children from academically or financially disadvantaged families (CMPO 2006).

Early years settings can make the greatest impact by encouraging parents to follow good practice. For example, the Sure Start programme improved children's social development through demonstrable effects on parenting behaviour which made them more likely to provide a more stimulating home learning environment (NESS 2012, Siraj-Blatchford et al 2003).

¹⁶ There are, of course, some families which are less able to provide a developmental home environment, because of illiteracy or because they face more complex problems.

4. WHERE NEXT? IMPLICATIONS FOR POLICY

While policy decisions will need to strike a balance between competing objectives such as boosting maternal employment rates, parental choice, and the gender balance of work and care, there are four core areas in which new thinking is needed to better reflect the developmental evidence. The final report of this IPPR project, which is planned to publish towards the end of 2013, will work through policy recommendations in detail, but below are some options which could help meet the objective of boosting child development.

1. Prioritise on qualifications and ratios to meet age-related developmental priorities.

Policy should better reflect what the evidence suggests about the different needs of different age groups within the early years population: stability for the youngest, low ratios for one- and two-year-olds, and highly qualified childcare professionals for children of three and over, alongside a workforce with good standards of English. This could be addressed by:

- Offering more financially generous shared maternity and paternity leave in the first year of a child's life, including a use-it-or-lose-it 'daddy month'. Other than two weeks of paternity leave, the current proposals only allow for fathers to take parental leave that is transferred from the mother; instead there should be dedicated leave for fathers, with a longer-term aim of extending this and paying it at a higher replacement rate.
- Rejecting current proposals to relax ratios for under-threes. While there is a case for relaxing ratios for three- and four-year-olds (smoothing them into reception classes), this option should only be available to settings which meet a high quality requirement, like a combination of an Ofsted rating and a level 6 (degree-level) trained workforce (see appendix B). Further work is needed on the detail, but we broadly support the current qualification-dependent ratios for ages three and four which allow larger class sizes for those which are teacher led.
- Reinstating the Graduate Leader Fund, alongside the target of having an early years professional with graduate-level training in every setting delivering the free entitlement, starting with those serving the most disadvantaged areas. These graduate leaders should spend the majority of their time interacting directly with children, while also planning the curriculum.
- Rather than focusing on the potential savings from relaxing ratios for younger children, focusing on increasing the number of settings which are graduate-led. This could unlock greater opportunities for early years professionals to look after more children aged three and four, as teacher-led settings can care for 13 children as opposed to the upper limit of eight children for adults without a relevant graduate-level qualification. The government's own modelling illustrates the fact that settings which recruit graduates gain the potential to substantially increase their revenues – gains which could be used to cut costs for parents, boost the profitability of the providers, raise salaries and invest in further training and development. For example, if a provider hired two graduates paid at the average primary school teacher salary of £33,250, increased their ratios for children aged three and over only slightly to 1:10, and cut the costs for parents by 25 per cent, the extra revenue from offering a greater number of places would still more than offset the higher salary costs (see appendix C for details). As more than two-thirds of non-local-authority full daycare providers currently do not have a graduate with Early Years Professional status, there is clearly scope for change (DfE 2013b).
- In the short term, all practitioners who work directly with children (as opposed to providing administrative or practical support in larger settings) should have, or be working towards, a full and relevant childcare-related level 3 qualification, which includes basic English. This is in line with recommendations outlined in the

Nutbrown review (Nutbrown 2013). The government should set out a longer-term goal for level 3 to become a prerequisite for practitioners delivering the EYFS.

2. Use funding mechanisms to boost uptake for the most disadvantaged in high-quality care settings.

To maximise impact on early child development, any extension of government funds should be put towards more part-time care for younger children as a priority, rather than more hours for older children. This approach should be balanced with outreach strategies that support the most disadvantaged. These strategies could include:

- Introducing measures to encourage participation from disadvantaged areas. One option would be to encourage professionals to offer conditional cash transfers to fill targeted places. These could be offered on a discretionary basis to low-income families, with cash payments conditional on the child's attendance. There are international examples of such policies having both supported family income and encouraged the use of services (Ben-Galim 2011). Another option would be for local authorities to build on successful innovations which better engage new parents through assertive outreach. For example, children's centres run by Barnardo's on behalf of Manchester city council encourage both new parents to come in, register the baby and have a session with any one of a range of local professionals who can advise on health, social care, benefits and more. This better integrates health and care, brings families into interaction with service providers, and allows multiple different agencies to collaboratively get to know families in the local area. 85 per cent of families who participated in 2012 re-engaged with Sure Start services (Jozwiak 2013).
- To ensure that children are accessing quality care, settings should only be allowed to deliver the free entitlement if they are rated 'good' or 'outstanding' by Ofsted; the free entitlement should be withdrawn if they fall below this standard across two consecutive assessments. Offering financial incentives to the best-qualified staff to work in more disadvantaged areas could boost the quality of provision for children at risk of starting school behind.
- Considering an additional quality requirement (potentially alongside funding to address profitability issues that providers face in low-income areas) for settings in the most disadvantaged catchments could help to reverse the trend of poorer quality care being offered in lower-income areas. For example, every room leader could be required to have, or be working towards, a level 5 childcare qualification (like a Higher National Diploma or foundation degree). The government should explore further policies to encourage quality in deprived settings, such as creating an early years pupil premium.
- If the free entitlement can be extended, the priority should be extending care to younger children, rather than expanding the hours offered to older children. The first step should be to extend the part-time entitlement from disadvantaged two-year-olds to all two-year-olds. A longer-term aspiration should be to offer free hours for one-year olds from low-income households, ultimately extending it to all one-year-olds. This will help many mothers to (re)enter work following maternity leave, and bolster the development of those children who have the most to gain from childcare. As it is currently, this entitlement should be universal – not dependent on parental work status.

3. Ensure monitoring and assessment reflect best developmental practice

Ofsted scores need to better reflect child outcomes, and be brought in line with internationally respected Early Childhood Environmental Rating Scales (ECERS), including infant- and toddler-specific scales. This could be achieved by:

- Assessing the revised Ofsted criteria and scores against ECERS, where possible by incorporating elements of these scales into Ofsted inspection criteria.
- Placing a duty on Ofsted to train its inspectors specifically in early years practice, and to ensure that they fully understand different types of early years settings.
- Considering developing Ofsted's role by publishing school-readiness scores by provider, and having more finely-graded Ofsted scores with detailed feedback and suggested action points.

4. Build up professional infrastructure alongside accountability and support structures that drive quality

With the withdrawal of local authority support, there is not enough support in the system to drive quality improvement, both for individuals for and provision as a whole, and the sector alone does not have the resources to achieve this. Some ideas to help develop it are:

- Creating a royal college of early years practitioners. This professional body would have the responsibility of designing qualifications, commissioning training and accrediting workers (with links to Teach First for early years and apprenticeship qualifications). This would both improve the status and identity of the workforce, and provide a body tasked with driving up the quality of the sector and mentoring low-performing settings.
- Requiring all group settings to have governance arrangements which include the owners, staff and parents.
- Replicating the Challenge School improvement programme in the early years sector.¹⁷

As explored in appendix C, the cost of additional graduates can be offset by the increased potential to care for additional children aged three and over. However, our calculations are only illustrative, and more work needs to be done to fully consider the costs of the up-skilling, additional floor space and increases in other non-staff costs which are associated with such a change.

Some of these measures will have cost implications, boosting qualifications in particular, as wages account for the majority (70–80 per cent) of childcare costs. It is difficult to quantify exactly the impact this will have. The Daycare Trust considered a high-quality model which worked through the costs for more ambitious qualification requirements than are suggested in this report. The requirements for their high-quality model comprised:

- For over those working with children aged two and over: 50 per cent of staff qualified to level 6, and the remaining 50 per cent to level 3.
- For those working with under-twos: 33 per cent of staff qualified to graduate level, and the remaining 67 per cent to level 3.

The authors calculated this would lead to a substantial rise in costs.

¹⁷ This programme was established in local areas to improve outcomes in low-performing schools. It used independent, experienced experts ('challenge advisers') to identify the needs of, and broker support for, underperforming schools.

Table 4.1
 Cost per child of one hour of ECEC provision in the current UK system versus the Daycare Trust's high-quality model

	Costs with current staffing	High-quality costs
Under-twos	£4.09–£5.05	£10.37–£12.48
Two-year-olds	£3.27–£4.11	£8.26–£10.40
Three-and four-year-olds	£1.85–£4.44	£2.94–£6.17

Source: Goddard and Knights 2009

By the authors' estimation, these requirements would almost double the cost of childcare if costs were passed directly onto parents, or (in various funding options) substantially increase government investment by between £400 million and £5.7 billion. However, Goddard and Knights' high-quality model assumes that the workforce would be paid at the median of the primary school payscale – a substantial jump from current salaries.

Insisting on everyone in the early years workforce having or moving towards a level 3 qualification should be achievable. In 2011, 79 per cent of the childcare workforce had at least a level 3 qualification – and among those who didn't, a majority of those working in full-time settings were working towards it (66 per cent of full-day care staff, and 58 per cent of full-day care staff in children's centres). These changes will have the greatest impact on childminders, 41 per cent of whom do not currently have a level 3 qualification (DfE 2013b). Nevertheless, a recent IPPR survey found large-scale support among childminders for extra requirements being placed on them: three-quarters (73.2 per cent) of childminders wanted some extra requirements, and of these almost half (45 per cent) thought childminders should be required to hold a relevant level 3 qualification within two years of registration, and a fifth thought that childminders should have reached level 3 before they are allowed to deliver the EYFS (Parker 2013).

Broadly speaking, those of the measures proposed above which have cost implications could be paid for by making better use of current funding, by rethinking proposals to extend tax relief on childcare – a measure which will largely benefit higher-income families – or by diverting funds from other areas of government spending. The final report of this project will work through these options more detail.

Conclusion

Quality early years provision is a government priority. The quality of childcare has been improving in the UK, and in some aspects – particularly its low child-to-adult ratios and EYFS curriculum – it is internationally respected. However, if the government is serious about boosting the quality of care as well as its affordability and accessibility, it needs to reconsider some current proposals which may prove detrimental, and instead focus more on supporting the training and development of the sector.

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APPENDIX A

ASSESSING QUALITY MEASURES

Structural factors

Structural measures look at stable preconditions of care which might affect quality, outcomes or development, such as group sizes, child-to-adult ratios, management structures, pay, staff turnover, qualifications, centre size and equipment. Some of these structural aspects are associated with better child outcomes – these are more straightforward levers for quality improvement and government policy, and, as they are more easily quantifiable, they are the focus of far more literature than are process factors. However, structural changes may boost quality because of their interactions with process factors.

Process factors

Process factors concern the qualitative delivery of care: that is, the way in which children experience childcare and early education. This includes aspects of care like the interactions between adults and children, between children and their peers, the ways in which activities are organised, the quality of conversations, and the variety of stimulation in a care setting.

The NICHD Early Child Care Research Network found that the relation between carer training and ratios, and children's cognitive and social development, was mediated by process quality.

Assessment scales

ECERS and **ITERS** assess both process and structural components, having identified the elements which may improve outcomes (rather than measuring outcomes through cognitive tests). They are widely used and respected internationally.

The Early Childhood Environment Rating Scale Revised (ECERS-R) is made up of 42 items across seven subscales which focus on different aspects of the quality of the care environment (space and furnishing, personal care routines, language-reasoning, activities, interaction, programme structure, and parents and staff), rating each on a seven-point scale. The scale is applied to assess provision for children aged between 30 months and five years old.

The Early Childhood Environment Rating Scale Extended (ECERS-E) was developed for the EPPE, and focuses on the educational aspects of early years settings. It is made up of 18 items across four subscales: literacy, mathematics, science and environment and diversity.

The Caregiver Interaction Scale (CIS) is a rating scale made up of 26 items describing the characteristics of interactions (with a four-point scale from 'not at all' to 'very much'). The items form four subscales: positive relationship, punitiveness, permissiveness and detachment. CIS is used to assess provision for children aged between three and five.

The Infant and Toddler Environment Rating Scale (ITERS) is designed for children aged 0–30 months, and focuses on the same seven subscales as ECERS-R.

Ofsted and the Early Years Foundation Stage (EYFS): the Early Years Foundation Stage (EYFS) was set out in 2008, and aims to cover the care and development needs of children from birth until the age of five. Ofsted assessments are based on both observation of childcare in practice (the process elements), and paperwork and policies (the structural elements).

APPENDIX B

QUALIFICATIONS AND LEVELS

Qualifications

Early Years Professional status is the equivalent of a level 6 (the same as a degree-level) qualification in early years education, and involves both academic study and practical experience. Early Years Professionals must be graduates in any subject, or hold a relevant level 6 qualification.

Early Years Teacher status is the new qualification proposed in the government's *More Great Childcare* policy paper (DfE 2013a). The Early Years Teacher qualification will be equivalent to the existing Early Years Professional status which it will replace. The impetus behind the new qualification is to place early years leaders on a par with school teachers. However, they will not have qualified teacher status.

Early Years Educator is the new level 3 qualification proposed in *More Great Childcare* (DfE 2013a), which will take two years to complete on average. Entrants will need to have at least grade C GCSEs in English and Maths, and further criteria is under consultation.

Currently, early group settings must be managed by someone with a relevant level 3 qualification, and at least half of staff in a group setting need to be qualified to level 2. Childminders need to complete a pre-registration session with their local authority and a 12-hour paediatric first aid course before registering with Ofsted, but currently do not have any qualification requirements.

As well as university routes, there are vocational qualifications in early years education, from the Council for Awards in Care, Health and Education, City and Guilds, BTEC and Montessori. Different qualifications have different levels, which have equivalents to academic qualifications (see below).

Levels

Levels relate to Curriculum and Qualification Agency definitions.

Level	Equivalent
Level 1 (Foundation level):	GCSE grade D–G, foundation level GNVQ, level 1 NVQ
Level 2 (Intermediate level):	GCSE A*–C, intermediate GNVQ, level 2 NVQ
Level 3 (Advanced level):	A-level, vocational A-level (advanced GNVQ), level 3 NVQ
Level 4	Higher-level qualifications, BTEC higher nationals, level 4 NVQ (for example, level 4 certificate in early years practice)
Level 5	Higher level qualifications, BTEC Higher Nationals, level 5 NVQ (for example, diploma in higher education and playwork, early years foundation degree)
Level 6	Honours degree (e.g. BA early childhood studies, bachelor of education (BEd), Early Years Professional Status)
Level 7	Master's degree, PGCE, National Professional Qualification for Integrated Centre Leadership (NPQICL)
Level 8	Doctorate (PhD)

APPENDIX C

RATIO CHANGE MODEL

We have adapted the ratio model used by the Department for Education (DfE 2013c) to test some scenarios arising from the introduction of more graduate leaders into childcare settings. These are only illustrative examples, and do not consider the costs of additional floor space, other non-staff costs, or the costs of training-up staff to graduate level. Our forthcoming paper will examine these issues in further detail, but the calculations below do provide a compelling case for considering investment in a graduate workforce in more detail.

The government scenario (DfE 2013c) is a hypothetical nursery setting comprised of 10 staff, three of whom look after children aged three or above, three of whom look after two-year-olds, and four of whom look after under-twos. The DfE model calculates potential revenue change based on centres relaxing ratios for under-threes as well as taking on more children at three and four. However, our adaptation of this model (below) does not relax ratios for under-threes, as we believe that this would be detrimental to the quality of care.

If none of the senior staff are graduates, the maximum number of children who can be cared for at any one time is 48:

- **24** over-threes (at a ratio of 8:1)
- **12** two-year olds (at a ratio of 4:1)
- **12** under-twos (at a ratio of 3:1).

Without relaxing ratios, but with the introduction of a graduate leader, the number of children cared for at any one time could be increased by almost a third, to 63:

- **39** over-threes (at a ratio of 13:1)
- **12** two-year-olds (at a ratio of 4:1)
- **12** under-twos (at a ratio of 3:1).

The DfE model assumes that the setting has acquired two graduate supervisory staff, who are paid the same salary as the average primary school teacher (£33,250) rather than that of the average manager of an early years setting (£16,850). (However, given the relatively low salaries of early years professionals, graduate salaries may not be this high in practice.)

Taking this increased expenditure on salaries into account, under numerous different scenarios there is nevertheless a considerable increase in revenue. Some of this additional revenue would, of course, be spent on non-staff-related costs which we do not take into account opposite.

These illustrative examples indicate the changing cost to parents, number of children, and hours of childcare use.

Scenario					Revenue (excluding non-staff costs)		
Total children aged 3 and 4	Additional children	Working adult:child ratio for 3- and 4-year-olds	Hours per week	Weeks per year	Cost per hour	Total revenue	Revenue minus staff costs
39	15	1:13	39	52	4	121,680	88,880
33	10	1:11	39	52	4	81,120	48,320
30	6	1:10	39	52	4	48,672	15,872
39	15	1:13	19.5	52	4	60,840	28,040
39	15	1:13	19.5	52	3	45,630	12,830
30	6	1:10	39	52	3	36,504	3,704

In this hypothesis, even if childcare providers with two highly-paid Early Years Teachers took on an additional two children per staff member and charged parents 25 per cent less per child, they would still have the opportunity to boost their revenues. Likewise, if a provider were to take on the maximum number of children on only a part-time basis, and charged parents 25 per cent less per child, its revenues would still increase.

POSITIVE IDEAS
for CHANGE