Sound Foundations

A Review of the Research Evidence on Quality of Early Childhood Education and Care for Children Under Three

Implications for Policy and Practice

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January 2014

UNIVERSITY OF OXFORD

Improving social mobility through education

THE SUTTON TRUST

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Foreword by Sir Peter Lampl

Improving social mobility through education is the objective of the Sutton Trust. And in achieving that objective what happens in the first three years of a child's life is vitally important. Our social mobility summit in 2012 showed that in the UK, there is a 19 month gap in school readiness between the most and least advantaged children. Those gaps only widen as children get older. A better trained early years workforce was the top recommendation of delegates to that summit.

That's why this new research by Sandra Mathers, Professor Kathy Sylva, Naomi Eisenstadt, Elena Soukakou and Katharina Ereky-Stevens from Oxford University is so important. It draws on the international evidence to show how vital it is to have good quality early years provision for the poorest two year-olds.

The Government's expansion of the entitlement for 15 hours of free nursery education a week from three and four year-olds to the poorest two year-olds is a wholly welcome development. Since September, nearly 100,000 children have taken up this entitlement. But the extent to which it will help to narrow gaps in school readiness are dependent on that provision being of good quality.

Too many toddlers from poor homes lack the stimulation and vocabulary which is readily available in many middle class homes. Good nursery provision, with well trained and skilled staff, can help level the playing field at such a crucial stage of a child's development. But the researchers have uncovered worrying evidence that not all toddlers will have access to the sort of childcare and nursery workers who can make that difference.

It is vital that we get it right. We know that funding is tight at the moment. So the report suggests a way to do so within existing resources. The Government should first focus the available funding on really good provision for the poorest pupils rather than spreading the money too thinly by expanding the scheme too quickly. This could mean delaying the full extension of the programme for two or three years.

The report also makes a number of other important recommendations to ensure that good provision is the norm for those who benefit from this policy.

Proper training, at a minimum to A-level standard, for all those working with disadvantaged young children, including childminders, and graduates should play a stronger role in providing support. Young children develop best in small groups with the right environment to provide appropriate stimulation and support. The report stresses the importance of a good social mix in early years settings and urges funding only for settings rated good or better by Ofsted.

The Sutton Trust has always seen good early years provision as crucial to social mobility. In partnership with Impetus-PEF, we are currently investing in organisations specifically working with disadvantaged parents and their children aged 0 to 5 with the goal of narrowing the gap in school readiness for those children. Initiatives include Family Links, Ripplez (Family nurse partnership) and the 4 Children Children's centre network. We will be publishing further research on the under-fives in the coming months.

I am very grateful to the team at Oxford for this excellent report. Their practical recommendations can ensure that a good policy becomes a successful policy. This should be a great investment in the future, but only if quality is not sacrificed for the sake of quantity.

Sir Peter Lampl,
Chairman
The Sutton Trust and the Education Endowment Foundation

EXECUTIVE SUMMARY

The first three years of life are a period like no other. During these early years, babies and young children experience phenomenal growth in brain development, and in their understanding of themselves and the world around them. They are active and curious learners from birth, able to lead their own learning within the context of close, intimate and supportive relationships with responsive adults.

While we know a great deal about the kinds of environments in which babies and toddlers thrive, there is still much to learn about how to *create* these environments in the context of early childhood education and care. There is a new consensus that pedagogy for children under three needs to be specialised, and different to provision for older children.[1] With increasing numbers of children under three attending early-years settings, it is vitally important that the latest research be made available to guide the development of practice and policy which can shape and support these young minds.

In this report, we present an evidence-based review designed to answer the following question:

What does research tell us about the quality of early childhood education and care for children under three, and what are the implications for policy and practice?

We draw on international research into the dimensions of quality in early years education and care that facilitate the learning and development of children from birth to three, collating the findings of research reviews conducted primarily in the UK, US, Australia and New Zealand.

Our review considers the needs of all children from birth to three. However, given growing recognition of the role that early years provision can play in supporting children from poorer backgrounds to overcome their early disadvantage, we target our recommendations largely towards meeting the needs of this group.

The Coalition Government has promised to provide free early education places for the most disadvantaged 40 per cent of two year olds. This represents one of the most ambitious government initiatives in recent years, and one which is based on sound research evidence demonstrating the benefits of early years provision for children from less well off backgrounds.

However, although the programme has significant potential to narrow the attainment gap and improve outcomes for children, the research evidence is clear that developmental benefits will only be achieved if children are able to attend good quality provision.[2] Drawing on the evidence, we set out ten steps to ensure the success of the early education programme for two-year-old children; and a further two recommendations for promoting good quality pedagogy for all children under the age of three.

[1] Dalli, White, Rockel, Duhn et al., 2011
[2] Smith, Purdon, Mathers, Sylva, Schneider et al., 2009

KEY FINDINGS

1. Our review of the research evidence has identified four key dimensions of good quality pedagogy for all children under three:

    - Stable relationships and interactions with sensitive and responsive adults
    - A focus on play-based activities and routines which allow children to take the lead in their own learning
    - Support for communication and language
    - Opportunities to move and be physically active.

2. In order to deliver high quality pedagogy, practitioners need to be skilled and knowledgeable and to work within environments which support them in their practice. Our review of the research evidence suggests five 'key conditions' for quality:

    - Knowledgeable and capable practitioners, supported by strong leaders
    - A stable staff team with a low turnover
    - Effective staff deployment (e.g. favourable ratios, staff continuity)
    - Secure yet stimulating physical environments
    - Engaged and involved families.

RECOMMENDATIONS

On the basis of this review, and guidance from experts within the field, we recommend ten steps to ensure the success of the early education programme for two-year-old children. Many of these steps are also applicable more broadly and would act to ensure the quality of provision offered to all children in early education and care settings.

1. **Delay the roll-out of the two year olds early education initiative to 40 per cent of two year olds (planned for September 2014) until the Government can ensure good quality provision for all**

   The importance of ensuring good quality provision cannot be overstated. Worryingly, our review suggests that much current provision is not yet fit for purpose, risking the success of the programme in achieving its stated aims. Delaying the roll-out would enable current good quality provision to focus on catering for the most deprived 20 per cent of two year olds (those most in need), whilst allowing the time and funding to ensure that sufficient good quality provision is available to meet the needs of the 40 per cent *before* this is offered as a legal entitlement. Relieving the pressure to find places would also enable the eligibility criteria to be tightened to allow only settings graded as good or outstanding by Ofsted to offer funded places. If current provision is not of a sufficient standard to ensure developmental benefits, then expanding too soon will be counterproductive: spreading the funding too thinly will result in inadequate provision for a significant proportion of the children intended to benefit from the offer.

2. **Require that all staff working with funded two year olds be qualified to at least Level 3 (A-level standard) and have support from a graduate practitioner**

   The success of the two-year-old initiative will depend on the quality of the staff delivering it, and a baseline of Level 3 qualified staff is the minimum that should be considered. This would represent the greatest shift for childminders, for whom there are currently no qualification requirements. Childminders have unique potential to nurture children from disadvantaged backgrounds. However, if these children are to make progress and catch up with their more affluent peers, they will need well-qualified practitioners who can offer an intellectually stimulating as well as a nurturing environment; and the quality they experience should be comparable (although not identical) to that experienced by children in group provision.

   Children accessing funded places in group settings should also have direct access to a graduate practitioner for at least part of each funded session. Children who are likely to be lacking stimulation at home will need more than warm and responsive care to enhance their language and their thinking. Graduates would provide high-level support and language stimulation for individual children, and also play an important role in modelling good practice to less-qualified staff; in providing guidance with planning, observation and assessment tailored to individual needs; and in leading professional development. We do not include childminders within this element of the recommendation, since it is clearly not feasible to have graduate contact for every child attending a funded session in childminding provision. However, where graduate *support* for childminders can be achieved (such as through links with local centre-based settings) this could bring significant benefits.

3. **Ensure that all practitioners (including childminders) can access qualifications and ongoing professional development which adequately prepares them to meet the needs of disadvantaged two year olds and their families**

   Based on the research evidence, this should:
   - promote understanding of how young children develop (theory) and of how to apply this knowledge (practice), in order to deliver the aspects of quality which research shows matter most for children under three
   - include practical opportunities to link theory and practice within a supportive environment (ideally, higher-education-supervised practice during pre-service training and support from an experienced practitioner mentor in-service)
   - help them to engage and support children/families with diverse needs and backgrounds
   - develop their capacity to reflect on and adapt their practice
   - develop their leadership and management skills
   - prepare them for working with health services, particularly in the context of new proposals for the integrated health and education progress check at two, and with children's social care, particularly on safeguarding issues.

4. **Create a workforce development fund, similar to the Graduate Leader Fund**

   This new fund would enable delivery of the qualifications and training outlined above, for which there is currently insufficient funding within the system. It would support both childminders and practitioners working in centre-based settings (e.g. nurseries).

5. **Improve pay to reflect improved qualifications**

   Pay is a highly relevant issue for the early years sector in England: the recent Government paper *More Great Childcare*[3] cites average pay for childcare workers in English group care settings as £13,330 per annum, compared with £19,150 for an equivalent role in Germany and £33,250 for a qualified teacher working in a school in England. Pay is closely related to other issues facing the early years sector, including the relatively high turnover and low status of early years workers. Research suggests that improving pay would reduce staff turnover, helping to provide the stability and continuity in staffing which is so crucial for children under the age of three. It would also improve practitioner status and aid recruitment. One mechanism for improving pay might be to increase the hourly rate paid to providers for each funded place, to a level which allows for the provision of good quality through a well-qualified and well-rewarded workforce. Using a supply-side funding approach (provided directly to settings) would enable increased rates to be contingent upon improved qualifications, thus acting as a lever to quality improvement.

6. **Retain an overall ratio of 1:4 for group care settings and 1:3 for childminders**

   Research shows that the adult-child ratio is one of the strongest influences on quality for this age group, particularly in relation to care routines and support for children's individual needs. This is particularly important for funded two year olds, given that many will be developmentally younger than their chronological age in terms of their social, behavioural and/ or language development. Where additional support is needed over and above the 1:4 ratio for two year olds with specific needs, local authorities need to retain the funding to support settings in employing additional staff.

7. **Work to ensure that there is a good social mix in early years settings, so that poorer two year olds mix with other children and improve their social and language skills in the process**

   For example, Government plans to increase the availability of out-of-hours provision on school sites will enable more working parents to take up places for two year olds in the maintained sector. We support this commitment, provided that any new provision meets the needs of two year olds in a developmentally appropriate way; and would encourage the Government to consider other ways in which social mix can be achieved for children attending funded places.

8. **Settings should ensure that their physical environments are appropriate for two year olds**

   Ideally, minimum requirements should be checked as a condition of eligibility prior to offering funded places, and include:

   - stimulating but developmentally appropriate resources
   - space to meet routine care needs (such as sleeping and changing)
   - space and resources which promote physical activity indoors and out
   - small group sizes appropriate to age/stage, within a calm environment which promotes individual care and attention.

   Best-available evidence suggests that groups should comprise no more than 12 children. Settings with open-plan spaces could achieve this by sub-dividing a larger area into smaller units. Ensuring an appropriate environment will be particularly important for settings catering for two year olds for the first time (such as schools).

9. **Further strengthen the Ofsted inspection system to ensure that it provides a robust test of quality for settings wishing to offer funded places**

   Ofsted should:

   - make public the procedures for ensuring the robustness of inspections (including those contracted out) and the extent to which inspectors are knowledgeable about under-threes
   - reinstate the Early Years Foundation Stage judgement within school inspection reports to specifically reflect quality for children under the age of five

[3] Department for Education, 2013a

- add a specific grade or written statement to all inspection reports (for schools and early years settings) reflecting quality for children under the age of three.

Given that many schools will be taking two year olds for the first time, reinstating a specific Early Years judgement within school reports will be particularly important to ensure that quality can be closely monitored.

10. Develop a new framework for quality improvement support

Until recently, local authorities performed the majority of quality improvement functions. Since the publication of *More Great Childcare*, their role has been greatly reduced and this trend looks set to continue. Although enterprising organisations and individuals within the sector will no doubt move to fill the gap left by local authorities, it may not happen very quickly and could result in a fragmented, patchy and inefficient system of support at local level. Coupled with an increasingly rigorous inspection framework leading to many providers being downgraded, this means we are likely to face a period where many settings in need of support are unable to access it. As a first step in developing a quality improvement framework which is fit for purpose we recommend a government-led stakeholder consultation, which draws on the best of what local authorities offered but also recognises the potential for sector-led solutions.

On the basis of this review, and guidance from experts within the field, we recommend a further two steps to promote good quality pedagogy for *all* children under three:

1. **Revise standards and practice guidance to focus on what research shows matters most: interactions and relationships, play-based approaches which allow children to take the lead; support for communication and language; and opportunities to move and be physically active**

   This could be achieved by:
   - promoting existing UK practice guidance which reflects these approaches[4]
   - developing additional guidance where gaps exist
   - revising the Early Years Teacher and Early Years Educator standards to emphasise the importance of play-based learning approaches.

2. **Develop an Early Education Evidence Toolkit to support practitioners in identifying and implementing evidence-based approaches**

   The Sutton Trust and Education Endowment Foundation have already developed a successful toolkit for best practice in school improvement, and improving teaching and learning for the over-5s. A similar toolkit would be invaluable for the under-5s.

The authors gratefully acknowledge the contribution of our expert advisers for their invaluable guidance in carrying out this review: Hilary Cass, Carmen Dalli, Julie Dockrell, Charlotte Herxheimer, Eva Lloyd, Christine Malone, Edward Melhuish, Cathy Nutbrown, June O'Sullivan, Imogen Parker, Rod Parker-Rees, Tracey Sanders, Claire Schofield, Iram Siraj-Blatchford, Kitty Stewart and Ingrid Wolfe.

Thanks also to Conor Ryan, Laura Barbour and Liz Johnston at the Sutton Trust for funding the research, and for their guidance and support during the course of the study.

[4] Such as *Development Matters; Birth to Three Matters; Learning, Playing and Interacting; BHF Physical Activity Guidelines for Under Fives; Every Child a Talker* guidance

INTRODUCTION

Worldwide, increasing numbers of babies and toddlers are experiencing early years education and care while their parents are at work. In England in 2011, 36 per cent of children under three attended some kind of formal provision, including private day nurseries, preschools, nursery schools and childminders.[5]

We know from research that children under three have very different needs to those of older children. Yet we know relatively little about how these unique needs can and should be met within early education and care settings. While there is strong evidence on the dimensions of early years practice which support the development of three- and four-year-old children, much less is known about how to provide good quality care for under-threes. There is, therefore, an urgent need for evidence to guide the development of practice and policy.

In this report, we present an evidence-based review designed to answer the following question:

What does research tell us about the quality of early childhood education and care for children under three, and what are the implications for policy and practice?

The review considers international research on the dimensions of quality in early years education and care that facilitate the learning and development of children from birth to three. It collates the findings of research reviews conducted primarily in the UK, US, Australia and New Zealand.

- **Chapter 1** summarises key ideas about the development of babies and toddlers, and the implications of this for early childhood practice.
- In **Chapter 2**, we review research on the quality of early education and care, identifying the critical aspects that facilitate learning and development for under threes.
- **Chapter 3** summarises the current policy context in England.
- Finally, in **Chapter 4** we draw together the combined evidence from the field and input from our panel of experts, and set it in the context of current government policy to make recommendations for future policy and practice.

The review considers the needs of all children from birth to three. However, given growing recognition of the role that early years provision can play in supporting children from poorer backgrounds to overcome their early disadvantage, we also consider how early childhood education and care can best meet the particular needs of this group. In the latter sections of the report we focus our discussion and recommendations on the British Government's flagship policy to provide early education places for the most disadvantaged 40 per cent of two year olds in England. This represents one of the most ambitious government initiatives in recent years, and one which is based on sound research evidence demonstrating the benefits of early years provision for children from less well off backgrounds. However, although the programme has significant potential to narrow the attainment gap and improve outcomes for children, the research evidence is very clear that developmental benefits will only be achieved if children are able to attend good quality provision.[6] Drawing on the research evidence, we set out ten steps to ensure the success of the early education programme for two-year-old children, and a further two recommendations for promoting good quality pedagogy for all children under the age of three.

[5] Huskinson, Pye, Medien, Dobie, Ferguson et al., 2013
[6] Smith, Purdon, Mathers, Sylva, Schneider et al., 2009

1.1 Key ideas about the development of infants and toddlers

Observing how babies and toddlers interact with their environments, with adults and with other children has led to a new understanding of young children as active and competent learners, who are born into the world primed to be curious and to make discoveries about themselves and their environments. Infants enter the world with a drive to be near familiar people and to seek close, emotionally satisfying and engaging relationships. Their learning takes place within those close relationships; the intimate interactions between a young child and his carer/s form the foundations of cognitive development, and for the developing sense of self, including self awareness, social awareness, self regulation and a sense of agency.

New developments in research have made it possible to understand and describe the fine detail of babies' and toddlers' learning processes, and their active engagement with the social world around them. In recent years, great strides have also been made in understanding brain development, and how experiences during the early years influence basic brain structures and functions. This relatively new brain science reinforces messages from other disciplines. It confirms, for example, that warm and responsive relationships are the most critical factor supporting young children's development. The early social environment mediates the establishment of neural networks which regulate children's responses to stress and their capacity for self-control, and the 'serve-and-return' dynamic in social interactions is a crucial catalyst for young children's learning.[7]

Two important UK reviews, *Birth to Three Matters*[8] and *Early Years Learning and Development,*[9] have been influential in informing the early-years curriculum framework in England; together they provide us with a clear picture of young children's learning and development. Some of their key messages are summarised below.

From the very beginning, babies play an active part in shaping intimate interactions with their caregivers; they communicate in a variety of ways, including gazing, moving, crying, gurgling and smiling. Babies then rely on caregivers to be sensitive and responsive to those signals and, in doing so, to know how best to care for them and to interact with them. During attuned and affectionate exchanges, caregivers attribute meanings to children's signals, and mirror or imitate their actions. These early playful interactions, in which young children take the lead, are the driving force of infants' learning.

As infants become more able to attend to the wider world around them, they begin to reach for and grasp objects and, as they grow, they learn to crawl, stand and walk. They develop new ways of playful interaction with the objects and people around them, including other children. Responsive adults judge the most appropriate ways to help children interact with objects, and to share social situations with others. Although how adults engage with young children varies across cultures, we know that responsive caregivers are attentive to children's explorations and follow the spontaneity of the child's play, joining in and offering support and encouragement without interrupting the child's flow of thinking. Children's interest and motivation to learn is most effectively nurtured through child-centred, play based activities, which support both cognitive and emotional processes.

Language and thought are developmentally linked. Children first need to represent their experiences, feelings and ideas as thoughts in order to be able to express them to others.
Babies and toddlers express themselves in many ways, including movement and dance, singing, drawing and imaginative play. Active involvement in such activities allows children to use all their senses (listening to their own sounds, touching, feeling or smelling) and helps to facilitate the development and representation of ideas.

One of the most powerful ways in which humans share emotions, experiences and thoughts is through oral language; from very early on infants show interest in faces and sounds and practise their own voices. Caregivers who are sensitive to the 'tunes and rhythms' of a baby are able to join in with her expressions and vocalisations. These intimate conversations lay the foundations for developing language skills. They provide children with opportunities to extend their range of vocalisations, experiment with an extending range of words and learn about the rules of conversation, which include turn taking, sensitive timing, responsiveness to others' behaviour and facial expressions, and an ability to listen and respond.

[7] DiPietro, 2000; Fox, Levitt & Nelson, 2010; National Scientific Council on the Developing Child, 2005; Shonkoff, 2010
[8] David, Goouch, Powell, Abbott et al., 2003
[9] Evangelou, Sylva, Kyriacou, Wild & Glenny, 2009

As memory and language develop during the second and third years, children become able to recall and retell their experiences with family and the objects and activities that interest them. Often these personal stories (narratives) are about things which happen in their lives, and either affect them strongly or challenge their understanding. Reliving emotional events and explaining the actions of others helps children to develop their sense of self, their self regulation and understanding of others' minds. Again, caregivers have an important role in facilitating children's construction of narratives, by listening to, prompting and extending their stories.

Narratives are often retold in words, but can also be expressed in other ways such as movement and dance, singing and drawing. As well as capturing the here-and-now of children's lives, they are developed through hearing, sharing and discussing imaginary stories, or by recreating roles during pretend play. Storytelling and role play are important arenas for enabling the construction of narratives, which, in turn, promote children's ability to understand and predict human behaviour.

Young children's bodies are the centre of their experience. They explore the world through touch, sight, sound, taste, smell and movement. As young children become more able to move independently, anything reachable becomes an object to explore, something to 'play' with. Sensory and physical exploration of their environment helps young children to develop perceptual and spatial awareness. Through physical movement, babies and young children gain knowledge of their environments and become oriented. Movement also keeps children healthy, helping them to practise and develop their physical abilities and to gain confidence in them. Young children enjoy the experience of movement itself and the accompanying feeling of independence. This exploratory behaviour helps them to develop confidence to take the 'risk' of moving away, both physically and emotionally, from the security and protection of their caregiver. A responsive caregiver remains a secure base to which children can return when a rest is needed from risk-taking.

In summary, the early years constitute a period of phenomenal development. The average weight of a newborn baby is 7lb 6oz. An average three year old is four times heavier. By the time a child is three, s/he can walk, talk, make his feelings known and manage many of his physical needs. There is no period in human development after three where such radical changes occur. Recent neurobiological research has shown that the steepest rate of growth in synapses[10] and neurological pathways takes place in the early years. Although neural pathways remain adaptable into adolescence, we now know that the early years are a particularly sensitive period for selecting and establishing patterns of neural networks. The first three years of a child's life therefore hold significant potential for learning and development.[11]

1.2 Implications for early childhood practice

The rapid growth and development of babies and toddlers has important implications for the role of their caregivers. As young children develop and change, so do their relationships with their caregivers and the ways in which they connect and interact.

In the first months of life, babies require constant human attention that is sensitive to their needs. They rely on physical care and emotional nurturing by their caregivers who support and protect the infant's immature body, providing them with feelings of safety and comfort. Throughout their first years, young children's emotions fluctuate intensely and they need to experience close interactions with their caregivers to manage and develop themselves and to regulate their emotions.

All aspects of babies' early development are facilitated by close interactive play with their caregivers. This requires close attention on both sides: infants and caregivers who are mutually attuned to rhythms and expressions of voice, facial expressions, touch and body movements.[12] As babies become more mobile and able to focus their attention on the wider world around them, they increasingly need opportunities for physical movement and safe environments rich in things to explore. Early learning takes place through discovery and participation in an 'interpersonal world'. In their second and third years, this increasingly includes not only caregiving adults, but also other children. As toddlers start to become more aware of other children, they need encouragement and help to learn to interact with them.

[10] A synapse is a structure that permits a neuron (or nerve cell) to pass an electrical or chemical signal to another cell (neural or otherwise), thus allowing the flow of information from one neuron to the next, and providing the means through which the nervous system connects to and controls perceptions, thoughts, and other systems in the body.
[11] Belsky & de Haan, 2011; Dalli, White, Rockel, Duhn et al., 2011; Fox et al., 2010; Lenroot & Giedd, 2011; Shonkoff, 2010
[12] Trevarthen, Barr, Dunlop, Gjersoe, Marvick & Stephen, 2003

Between 12 and 24 months, and linked to a growing repertoire of gestures, behaviours, imitation and vocabulary, sharing experiences through narrative becomes increasingly important. Young children need opportunities for expression in many forms, including dance, song and other creative activities, as well as encouragement to engage in pretend play. Support from caregivers who observe and listen to the young child and prompt the telling of narratives is essential. Early conversations between a baby and her caregiver rely heavily on non-verbal cues which are not always easy to understand. Even the speech of two year olds can be difficult to understand, in particular for less familiar adults, and when heard out of context. Adults therefore need to be carefully attuned to the children they care for, in order to interpret their communications correctly and respond appropriately.

The period between 24 and 36 months is marked by advances in communication and language, co-operation and social competence, and thinking and memory. Children's development can be supported by adults through sharing and enriching children's narratives, creative games, storytelling, teaching of early literacy skills and encouragement to play imaginatively with other children, allowing children to take the lead and providing structure or guidance when needed.[13] Throughout their first years, children learn best through playful interactions, rather than formal activities.

Above all, young children need stable relationships with a small number of familiar people which are close, warm and supportive[14], which recognise their independence and which involve reciprocal interaction. From the very start of a child's life, carers have a key role to play in recognising, valuing, interpreting and responding to their efforts to communicate, express themselves and explore the world around them.

1.3 Growing up in poverty

We now understand a lot about the circumstances which best support young children in growing up to reach their full potential. Yet for many British infants those circumstances are far from ideal. In particular, poverty and its multiple associated risk factors seriously impact children's life chances, with effects beginning before birth and lasting into adulthood.

Over a quarter of children in the UK live in poverty, much of which is locally concentrated: within 100 UK local government wards, it is the case for 50-70 per cent of children.[15] Children in these areas often live in poor housing with inadequate heating, and experience restricted access to medical care, higher crime and violence rates and poorer quality childcare, schooling and outdoor play facilities. Their parents often cannot afford enrichment activities outside of school, let alone to go on holiday.

Living in poverty adversely affects children's wellbeing and development in all areas, including health, socio-emotional, cognitive and language development, and educational achievement. Children from poorer backgrounds lag behind at all stages of education. By the age of three poorer children are estimated to be, on average, nine months behind children from wealthier backgrounds, and this intellectual gap increases throughout their school years. By the age of 16, children eligible for free school meals achieve 1.7 grades lower at GCSE than those not eligible for free school meals.[16]

There are a number of factors that we know impact most on children living in poverty: experiencing poverty throughout their earliest years; experiencing persistent poverty; experiencing poverty combined with other risk factors, such as stressful life events or conditions; and having parents who are absent or fail to support them in coping with their challenging environment. We know, for example, that the stress associated with a life in poverty can reduce parental responsiveness and warmth, and increase inconsistency around routines and disciplinary practices.[17] There is also strong evidence that relationships and learning experiences in the home are linked to child outcomes, and that these relationships are often adversely affected by poverty: poverty affects home-based learning and parent-child interactions, which in turn affect young children's development.

However, poverty does not mean poor parenting. For the majority of poor families the main challenges are those that require money (adequate heat, healthy food, family outings) and many poor families struggle against the odds to protect their children from the ill effects of poverty. Parental practices have significant

[13] Stephen, Dunlop, Trevarthen & Marwick, 2003
[14] Dalli et al., 2011; David et al., 2003; Stephen et al., 2003
[15] see Child Poverty Action Group, http://www.cpag.org.uk/child-poverty-facts-and-figures
[16] Brookes-Gunn & Duncan, 1997; Smith, Brookes-Gunn & Klebanov, 1997
[17] Bornstein & Bradley, 2003; Brookes-Gunn, Klebanov & Liaw, 1995; McLoyd & Wilson, 1991

power to protect children from the negative effects of a life in poverty. Strong evidence in support of this comes from US and UK longitudinal studies, including the Millennium Cohort Study in the UK.[18]

Child characteristics and external support systems also play a role in moderating the effects of poverty. In particular, early childhood settings have the potential to make an important difference and to narrow the gap between the most and least affluent in society. By providing childcare, early-years settings enable parents to work. By providing support for parents, they have the potential to support the home environment and parenting strategies. And most importantly, in good quality early-years settings, warm, stimulating and responsive interactions between young children and their carers can directly facilitate children's resilience and foster their development.

Research on childcare in the first three years for disadvantaged children indicates that good quality non-parental care can be an important protector against behavioural problems and can increase academic skills among those children most at risk. However, family factors and childcare quality tend to go hand in hand, with low-income families usually having the poorest care.[19] There is strong evidence that low quality childcare produces either no benefit or negative effects for young children, particularly when children attend for very long hours early in their lives. Moreover, while poor children benefit most in socially mixed groups rather than in disadvantaged groups,[20] social mix is difficult to achieve in practice because families choose childcare close to their homes, and child poverty is more concentrated in some areas than others.

The provision of affordable and accessible good quality childcare for infants and toddlers therefore has significant potential to improve life chances for the poorest children; but also faces many challenges. While know a great deal about the kinds of interactions in which babies and toddlers thrive, there is still much to learn about how to *create* these environments in the context of early childhood education and care. We need to know much more about:

- what 'good quality' means within the context of an early childhood setting;
- how early-years settings can best provide an environment which meets the unique and sophisticated needs of infants and toddlers; and
- how good quality education and care can be made affordable and accessible for everyone, in particular for the most disadvantaged children.

In the following chapters, we explore some of these issues.

[18] Dearden, Sibieta & Sylva, 2011; Holmes & Kiernan, 2013; Kiernan & Huerta, 2008; Kiernan & Mensah, 2009; 2011
[19] Melhuish, 2004a
[20] European Commission, 2011; Jensen, Currie, Dyson, Eisenstadt, Melhuish, 2012; Melhuish, 2004a,b; Sammons, Sylva, Melhuish, Siraj-Blatchford, Taggart et al., 2003a; Sammons, Sylva, Melhuish, Siraj-Blatchford & Elliot, 2003b

CHAPTER 2: Dimensions of quality in early childhood education and care

As described in Chapter 1, the first few years of a child's life provide the foundation for healthy development and life-long learning. Research shows that children experience incredible growth during their first three years; and that babies and toddlers have unique needs and require appropriate environments and relationships to support their development. Although many of these needs are met within the home, increasing numbers of young children are now being cared for outside the home while their parents work. National data show that 36 per cent of children under three experience some kind of formal provision, such as a nursery or childminder.[21] As a result, there is a growing need to understand how early childhood education and care can shape children's development and learning.

The positive impact of good quality care on various aspects of children's development is one of the most consistent findings in developmental science.[22] We know that toddlers and preschoolers in good and excellent childcare have better outcomes than those in mediocre or poor childcare in many different areas, including cognitive and language development, behavioural development and relationships with peers.[23] Research also tells us that good quality early-years provision is particularly beneficial for children from low-income and at-risk families.[24]

So what does a good quality environment look like for very young children? We know that effective provision offers children warm and positive relationships, a safe and healthy environment and opportunities to learn.[25] While there is not yet a consensus on a single definition of quality, two broad dimensions are identified consistently in the literature as facilitating children's development and learning:

- the quality of the pedagogical practices, such as planning and implementing learning activities, and supporting children's emotional development through positive relationships
- structural aspects such as adult-child ratios, staff qualifications, group sizes and characteristics of the physical space.[26]

We also know that engagement with families is important. Early childhood settings which combine good quality centre-based education with strong parental involvement have been linked with more positive child outcomes and additional benefits for parents.[27]

However, while research on environments which support the development of preschool children is plentiful, we know less about how to meet the unique needs of babies and toddlers in early childhood settings. With increasing numbers of children under three attending early-years settings, it is vitally important that the latest research be made available, in order to guide the development of policy and practice which can shape and support these young minds. This is particularly important for children from disadvantaged homes, because research shows that the children likely to benefit most from high quality early education and care are the least likely to receive it. The annual reports of the regulatory body Ofsted[28] show that there are proportionally fewer settings graded as good or outstanding in the poorest areas compared with the most affluent.

In this chapter, we review international research on the aspects of quality that facilitate the development and learning of children from birth to three. We consider the needs of all children from birth to three, but also have a specific focus on meeting the needs of young children from disadvantaged backgrounds in the context of early childhood education and care. We draw primarily on research reviews from the UK, US, Australia and New Zealand, and consider both centre-based care and home-based care provided by childminders.

[21] Huskinson et al., 2013
[22] Shonkoff & Phillips, 2000; Sylva, Meluish, Sammons, Siraj-Blatchford & Taggart, 2010
[23] Howes & Brown, 2000
[24] Burchinal, Ramey, Reid & Jaccard, 1995; Caughty, DiPietro,& Strobine, 1994
[25] Shonkoff & Phillips, 2000
[26] Early, Maxwell, Burchinal, Alva, Bender et al., 2007
[27] Dalli et al., 2011
[28] For example, the Annual Report for 2010/2011, Office for Standards in Education, Children's Services and Skills, 2011

The primary aim of the chapter is to consider seven key dimensions of quality (Section 2.1):

1. relationships between practitioners and children
2. pedagogical practices
3. stability and continuity of care
4. the physical environment
5. family-practitioner partnerships
6. adult-child ratios and group sizes
7. practitioner qualifications and training.

Section 2.2 considers the broader context of early education and care, including issues related to children's age of entry into care, amount of time spent in formal care, differences between types (or sectors) of provision, and the integration between early education/care and health services. Finally, Section 2.3 presents some additional detail on the methodology of the review.

2.1 Seven key dimensions of quality in early childhood education and care

2.1.1 Relationships between practitioners and children

The most significant influence on children's development in their first three years is the nature of relationships they form with the adults who care for them.[29] Researchers agree on the main features of these relationships which support children's development,[30] identified as:

- sensitive, responsive caregiving
- attuned, reciprocal interactions
- positive, secure attachments.

In their first year, babies need to experience warm, reliable adult support and sensitive, responsive interactions in quiet, familiar spaces.[31] Sensitive and responsive caregivers are attuned to young children's subtle cues, preferences and temperaments, and to how they change as they grow older and develop.[32] Attuned interactions between babies and adults are characterised by joint attention (a shared focus on an object), reciprocal turn-taking, sensitive timing and responsiveness to the other's cues, such as verbal and facial expressions. Together, these characteristics form what is often termed 'inter-subjectivity'. Inter-subjectivity in interactions provides young children with opportunities to anticipate and predict, and forms the basis for early social interaction and problem solving.[33]

Sensitive and responsive interactions with adults allow babies to develop the secure attachments essential for supporting their development later in life.[34] Research shows that secure, stable attachments between children and their caregivers formed in the first three years support children in exploring their environments, forming relationships with peers and engaging in play.[35] Research with toddlers has shown that their patterns of social interaction vary greatly depending on the security of attachments with their caregivers.[36] Secure attachments between toddlers and key caregivers have also been associated with more complex play.[37] In contrast, inconsistent and unresponsive care by constantly changing caregivers may cause stress or withdrawal and may disrupt children's development of self-regulation skills (their ability to monitor and control their own behaviour, emotions and thoughts).[38]

The stability and continuity of relationships between young children and their caregivers is also a key component of quality, and necessary in order for sensitive, attuned, responsive interactions and secure attachments to develop. This theme is developed further in section 2.1.3.

[29] Dalli et al., 2011; David et al., 2003; Melhuish, 2004a
[30] Dalli et al., 2011
[31] Trevarthen et al., 2003
[32] Dalli & Rockel, 2012; Stephen et al., 2003
[33] Trevarthen & Aitken, 2001
[34] Melhuish, 2004a; Trevarthen et al., 2003
[35] Melhuish, 2004a
[36] Howes & Hamilton, 1992
[37] Melhuish, 2004b; Trevarthen et al., 2003
[38] Trevarthen et al., 2003

2.1.2 Pedagogical practices

Reviews of pedagogical practices which support the development of children under three identify the following key dimensions:

- play-based activities and routines which allow children to take the lead in their own learning
- support for language and communication (through use of narrative, shared reading, informal conversations, song and rhymes)
- opportunities to move and be physically active.

Play-based activities and routines

There is consensus among researchers that play is an important vehicle for supporting children's development and learning during their first years and beyond.[39] Play is recognised not only within the field of early childhood, but also in the health and paediatrics literature. A recent paper in *Pediatrics*, the journal of the American Academy of Pediatrics, begins:

> *Play is essential to the social, emotional, cognitive and physical wellbeing of children, beginning in early childhood. It is a natural tool for children to develop resiliency as they learn to co-operate, overcome challenges and negotiate with others. Play also allows children to be creative*[40]

For babies and toddlers, adult support for play is best provided within the context of predictable play-based activities and routines[41] through a balanced range of activities and experiences,[42] which include opportunities to explore the environment actively, to engage in different forms of play, and to experience play both indoors and out.[43]

Research shows that repeated patterns of play, which allow children to take the lead and make choices, foster cognitive and social development.[44] Two forms of play are considered particularly effective in supporting children's development: floor-based play which allows children to explore different objects and experiences; and symbolic, representational play. Symbolic play develops gradually in the second year of life and is typically understood as play which involves enacting familiar activities out of context, and using objects to represent other objects.[45] Engaging in symbolic play with a caring adult may form a basis for the private speech that is used to solve problems and support self-regulation in young children.[46]

Support for language and communication

Children begin communicating in their first year of life, and adult support is critical in promoting this development in use and understanding of language. For example, the influential study by the National Institute of Child Health and Human Development (NICHD) in the US found that the language support and 'stimulation' provided by practitioners during children's first year positively predicted their cognitive and language skills at 15, 24 and 36 months.[47] Two pedagogical practices that have been found to be particularly effective are the use of narrative and reading aloud. Narrative involves the recalling and retelling of experiences, either within children's own lives or through storytelling and imaginative 'role' play. It enables children to give meaning to their personal and social experiences and is a 'tool for thinking'. It is most effective when children are encouraged to form their own accounts, reflecting on experiences both real and fictional, and forming hypotheses about events and consequences (why did that happen, what will happen next?).[48] Initiating conversations with children about what is going on, what has taken place or what might take place helps children to develop their vocabulary.[49] Adults can also support children to develop their sense of self, self-efficacy and independence by telling them stories about previous events and their own achievements.[50]

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[39] David et al., 2003; Casby, 2003
[40] Milteer, Ginsburg & Mulligan, 2012 p.204
[41] Dalli et al., 2011
[42] Melhuish, 2004b
[43] Department of Health, 2011a, b; British Heart Foundation National Centre Physical Activity & Health, 2011
[44] David et al., 2003
[45] Watson & Zlotlow,1999
[46] Smolucha,1991
[47] Huntsman, 2008
[48] Evangelou et al., 2009
[49] Evans, Falkner & Leijaa, 2000
[50] David et al., 2003

We know that using familiar songs and rhymes, including those with movements, can help to foster children's early language skills.[51] Storytelling with or without books, and repeating the same story, offers infants a sense of security and familiarity and also promotes vocabulary development.[52] Simply looking at books and other texts together, even if only talking about the pictures and pointing to familiar objects, can promote early literacy skills.[53]

Gaps in research: supporting non-verbal and peer communication

Children learn to communicate their needs through their intimate interactions with familiar adults before they can use verbal language. The literature on adult-child relationships provides a clear picture of how children learn to communicate their needs and intentions in their first three years. However, there are far fewer evidence-based strategies for supporting children's development of non-verbal communication, and this is an important area for future research.

Likewise, existing research provides limited evidence on how to support young children's peer relationships and friendships in their first three years. The fact that children as young as 18 months play with their brothers or sisters suggests that similar opportunities to play and engage socially with other children in a childcare setting could support their development.[54] We know from the literature that support for children's peer interactions within an early-years setting is important,[55] and there is some research on the benefits and risks of peer interactions for preschool children's social development.[56] However, we know very little about the specific pedagogical practices that facilitate children's social experiences during their first three years.

Physical activity

Worldwide, recognition is increasing that young children need to be physically active in order to support their health and development. The most recent research evidence comes from Canada, gathered to inform the country's physical activity guidelines for the early years.[57] For preschool children, the review identifies low to high quality evidence (depending on the methodological rigour of the research) that increased physical activity is associated with reduced obesity, motor skill development, psychosocial health and cardio-metabolic health. The evidence base for children under three is sparser but the report identifies low to moderate evidence for infants and moderate evidence for toddlers that increased physical activity is associated with better outcomes such as reduced obesity, improved motor and cognitive development, and bone and skeletal health.

Similar (although less rigorous) reports in the UK confirm the importance of physical activity and movement for young children, for example the Department of Health's *Start Active Stay Active* report and accompanying *Physical Activity Guidelines for the Early Years*.[58] In Scotland, the national guidance *Pre-Birth to Three* emphasises that play and movement are essential for brain development and recommends experiences which promote the development of fine motor and gross motor skills.[59] Although evidence is growing on the importance of physical movement, the research is not yet detailed enough to identify which activities best support children's development at different ages, and how this might be supported by adults. Both the Canadian and UK reports[60] draw on the knowledge of experts within the field to interpret the available research and provide guidance for practice. For children not yet walking they highlight the importance of floor-based play (crawling, rolling, pulling up, time spent on their tummy), opportunities to practise important movements such as reaching, grasping and turning their head towards a stimulus, and play with other people, objects and toys. Once they begin to walk, children need opportunities for physical play and everyday activities which allow them to use large muscle groups and support the development of loco-motor, stability and object control skills, within different environments and spaces indoors and out. Guidelines suggest that babies should be active several times daily and that toddlers should experience three hours of physical activity each day. For all ages, avoiding sedentary behaviour is important.

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[51] McArthur, 1995
[52] Evans et al., 2000
[53] Whitehead, 2002
[54] Trevarthen et al., 2003
[55] Philips & Lowenstein, 2011; Selby & Bradley, 2003; Shin, 2012; Vandell, Wilson & Buchanan, 1980; Wittmer, 2008; Musatti & Panni, 1981; Rayna, 2001
[56] Fabes, Hanish & Martin, 2003; Melhuish, 2004a
[57] Tremblay, LeBlanc, Carson, Choquette, Gorber et al., 2012
[58] Department of Health, 2011a, b; British Heart Foundation National Centre Physical Activity & Health, 2011
[59] Learning and Teaching Scotland, 2010
[60] Department of Health, 2011a, b; British Heart Foundation National Centre Physical Activity & Health, 2011; Tremblay, et al., 2012

2.1.3 Stability and continuity of care

Reviews identify stability and continuity of care, and the working conditions which promote them, as key factors in meeting the needs of children under three.[61] Stability and continuity in staffing enable the development of secure relationships between adults and children, and of interactions which are based on an understanding and knowledge of individual children. Staff stability has been associated with more appropriate, attentive and engaged interactions with children;[62] and caregivers who have a good knowledge of a child's developmental stage and needs are also more likely to be able to support their learning and development effectively.[63]

Despite widespread recognition of the importance of sustained, reliable adult-child relationships, many infants and toddlers experience changes in their childcare arrangements and/or multiple forms of care at the same time.[64] Research on the impact of such instability is still in its infancy. However, available studies all support the conclusion that instability of care can negatively affect children's socio-emotional and language development, the security of their attachments with caregivers and their interactions with peers.[65] Interestingly, some recent studies have also shown that (depending on the circumstances) multiple care arrangements can have a positive impact on children's language outcomes,[66] perhaps because children who are less familiar to their caregiver face more challenges in making themselves understood, and so make extra effort with their verbal communication.

As a pedagogical practice, stability and continuity in staffing faces many challenges and is rarely achieved.[67] Factors influencing stability and continuity include:

- transitions between home and childcare settings, between childcare settings or between rooms/groups within a setting
- whether or not a 'key person' or 'primary caregiver' approach is implemented and how this is done
- issues of staff retention and turnover
- staff working hours, which affect the availability of caregivers on different days
- children's attendance patterns and their regularity of attendance.

Available research on children's transition between care arrangements[68] suggests that changes can be stressful for young children, and that we need to know more about how to support them in adapting to change. One of the ways in which continuity can be provided *within* an early-years setting is by implementing a key person or primary caregiver approach, in which individual children are linked with a specific practitioner. A child's key person will usually be responsible for their day-to-day care and is the person with whom they have a special relationship; the aim is to allow the development of meaningful and lasting relationships. The approach was developed in response to the implications of attachment theory, and to research highlighting the importance of continuity and security for young children.[69] In England, it was an important part of the Sure Start *Birth to Three Matters* framework,[70] which emphasised the importance of each child being special to at least one significant person.[71] Although the key person approach has a basis in developmental theory, and some basis in research,[72] relatively little is yet known about how it should best be implemented.[73] This is an important area for future attention.

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[61] Huntsman, 2008; Melhuish, 2004b; National Scientific Council on the Developing Child, 2009; Phillips & Lowenstein, 2011; Trevarthen et al., 2003; Whitebook, Gomby, Bellm, Sakai & Kipnis, 2009
[62] Helburn, 1995; Howes, Whitebook & Phillips, 1992
[63] Melhuish, 2004b
[64] Bowes, Harrison, Sweller, Taylor & Neilsen-Hewett, 2009; Bowes, Harrison, Ungerer, Wise, Sanson & Watson, 2004; Kohen, Hertzman & Willms, 2002; NICHD, 2005
[65] Adams & Rohacek, 2010; Barnas & Cummings, 1994; Bowes et al., 2009; Chirichello & Chirichello, 2001; Cummings, 1980; Department of Social Studies/Australian Government, 2013; Hanson, 1995; Harrison & Ungerer, 2000; Hennessy, Martin, Moss & Mellhuish, 1992; Howes & Hamilton, 1992, 1993; Love, Harrison, Sagi-Schwartz, van IJzendoorn, Ross et al., 2003, Morrissey, 2009; NICHD, 1998; Raikes,1993
[66] Tran & Weintraub, 2006; Wise, Edwards, Bowes, Sanson, Ungerer et al., 2005
[67] Dalli et al., 2001; Whitebook et al., 2009
[68] Cryer, Wagner-Moore, Burchinal, Yazejian et al., 2005; Hegde & Cassidy, 2004; Firth, Couch, Everiss, 2009
[69] Elfer, Goldschmied & Sellek, 2003; Theilheimer, 2006
[70] David et al., 2003
[71] Degotardi & Pearson, 2009
[72] Dalli & Rockel, 2012
[73] Dalli & Kibble, 2010; Elfer & Dearnley, 2007; Evangelou et al., 2009

High staff turnover forms one of the main barriers to stability and, in practice, often disrupts adult-child relationships, undermining young children's opportunities to form the bonds of attachment and trust they so vitally need.[74] Melhuish[75] notes that, where staff retention is a problem:

> *stable staffing for the youngest children should be prioritised. This issue of staff retention is critical to the quality of childcare. Indeed, without low staff turnover consistently good quality childcare becomes impossible.*

High turnover rates pose challenges to teamwork as well as to quality, and are viewed as indicators of poor working conditions which can in themselves affect practitioner performance.[76] Where working conditions are poor, practitioners are less likely to provide good quality education and care, and are also much more likely to leave. Research (mostly relating to children over three) has highlighted a particularly strong link between high staff turnover and low wages;[77] and staff salaries have also been linked to other measures of stability such as the number of centre closures.[78] Other important aspects associated with staff turnover include staff professional development and training, day-to-day working conditions, the quality of leadership and regulations related to group size and adult-child ratios.[79]

Finally, staff and child attendance patterns have the potential to influence the stability and continuity of care arrangements, particularly where children or practitioners are present only on certain days of the week. Although potentially significant, these issues are not yet prominent within research reviews on non-maternal care for under-three year olds; and this is an important area for future research. Available studies suggest that young children show greater wellbeing and social competence where their hours of attendance are spread over more days, when daily staffing and grouping patterns are more stable, and when their trusted caregiver (key person) is more available,[80] perhaps because they have greater opportunity to build up relationships with staff and peers.

2.1.4 Physical environment

The physical environment is considered to be an important structural predictor of quality, and includes indoor and outdoor spaces, equipment and learning materials. Spaces and resources should be appropriate, stimulating and safe; and issues of hygiene and nutrition are also important. Environments should also be non-stressful: feel calm, with spaces for quiet as well as active play, and designed to allow enclosed spaces for play whilst maintaining supervision. A physical environment which fulfils all these criteria will facilitate children's learning opportunities, physical activity and general health.[81] Different kinds of providers will face different challenges in offering a good quality environment for babies and toddlers. For example, settings unused to providing for very young children may need to work hard to provide a non-stressful environment, while home-based providers may have to work harder to provide the breadth of stimulating experiences.

Learning opportunities within the physical environment

A key message from the *Birth to Three Matters* framework[82] is that, from an early age, babies are curious and competent learners; they explore their environment through all their senses and want to share and express their ideas playfully in many ways (dancing, singing, music making, building, symbolic play, mark making and so on). Similarly, the literature review commissioned by the Scottish Executive on the development of under-threes[83] suggests that children in their second and third years need an environment rich in things to explore, with opportunities for physical movement, dance, song, rhyme, storytelling and creative activities.

Thus, planning and organising spaces is essential to the provision of good quality care. Materials and equipment need to be set up and stored accessibly and safely, and space should be organised to allow for a

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[74] National Scientific Council on the Developing Child, 2009
[75] Melhuish, 2004b (p10)
[76] Whitebook & Bell, 1999
[77] Helburn, 1995; Mill & Romano-White, 1999; Whitebook, Howes & Phillips 1998; Whitebook & Sakai, 2003; Smith, 2004; Blau & Mocan 2002; Phillips, Mekos, Scarr, McCartney & Abott-Shim, 2000; Whitebook & Bell, 1999
[78] Kershaw, Forer & Goelman, 2005
[79] Melhuish 2004b; Munton, Mooney, Moss, Petrie, Clark & Woolner, 2002; Trevarthen et al., 2003
[80] Campbell, Lamb, Hwang, 2000; de Schipper, Riksen-Walraven & Geurts, 2006; de Schipper, van Ijzendoorn & Tavecchio, 2004
[81] Expert Advisory Panel on Quality ECEC, 2009; Dalli & Rockel, 2012; Dalli et al., 2011
[82] David et al., 2003 (p111)
[83] Stephen et al., 2003

full variety of stimulating activities and experiences.[84] Evidence from England is provided by the evaluation of the Neighbourhood Nurseries Initiative[85], which found that children in centres with higher quality physical environments (spacious, well maintained, with appropriate furniture for care routines and educational activities, and comfortable areas for children to relax and spend quiet time) displayed fewer worried and upset behaviours.

Opportunities to spend time in outdoor areas and to engage with natural materials have been highlighted as an important means of promoting good learning and development.[86] Importantly, it has been found that three to five year olds in pre-school settings are most likely to be physically active when playing outdoors.[87] The physical early childhood environment has direct impact on children's physical activity, thus affecting their physical health. Yet, childcare studies which pay attention to the physical wellbeing and motor development of young children are rare.[88]

Other physical features of early childhood settings which can impact on children's health include numbers of children and noise levels. Dalli et al.[89] highlight research showing that crowding and noisy environments can affect children's stress levels and development, particularly for those with special needs or with chronic ear infections.[90] Research reviews emphasise that environments for babies and toddlers need to be calm, quiet and not over-stimulating, allowing for comfort, feeding and uninterrupted sleep.[91]

Good quality physical environments not only promote children's development directly; they also influence the interactions between adults and children and so have indirect consequences for children's experiences and development.[92] For example, the NICHD study in the US[93] found that clean, safe and uncluttered physical environments with developmentally appropriate toys and learning materials were associated with more positive care for babies:

> *… a caregiver who is concerned about danger in the environment has reduced opportunity for interacting with children, or thinking about how to best stimulate the child. In such conditions, caregivers are often highly controlling and restrictive of children's activities, thus limiting children's opportunities for learning.*[94]

Finally, it is worth noting that good quality physical environments in early childhood settings may be particularly important for young children from disadvantaged backgrounds, providing access to learning materials and experiences not provided in their homes.[95] This may in part explain the strong evidence regarding the developmental benefits of good quality centre-based care for low-income families.

Infections, illnesses and nutrition

Concerns have been raised about attendance at early childhood education and care settings and children's health, in particular for babies and very young toddlers. Bradley and Vandell[96] review a number of studies showing direct negative impacts on young children's health, due to the increased number of infections and illnesses they experience in their early years.[97] Within the longitudinal NICHD study[98] researchers found that children attending non-parental care had more ear infections and upper respiratory illnesses than children cared for at home, especially during the first two years of life. The number of children in the setting was also positively related to frequency of upper respiratory illnesses and gastrointestinal illnesses through to age three (that is, children's health was worse in settings with greater numbers of other children). However, these increased rates of illness did not significantly affect children's development within their first three years, or

[84] Learning and Teaching Scotland, 2010; Raikes, Edwards & Jones-Branch, 2008
[85] Mathers & Sylva, 2007
[86] Expert Advisory Panel Report on Quality ECEC, 2009; Learning and Teaching Scotland, 2010
[87] Brown, Pfeiffer, McIver, Dowda, Addy et al., 2009
[88] Huntsman, 2008
[89] Dalli et al., 2011
[90] Bedford & Sutherland, 2008; McLaren, 2008; Vernon-Feagans & Manlove, 2005
[91] Dalli & Rockel, 2012; Dalli et al., 2011; Trevarthen et al., 2003
[92] Mellhuish, 2004b; Trevarthen et al., 2003
[93] NICHD, 1996
[94] Melhuish, 2004b (p6)
[95] Dearing, McCartney & Taylor, 2009
[96] Bradley & Vandell, 2007
[97] Ball, Holberg, Aldous, Martinez, & Wright, 2002; Bradley & NICHD, 2003; Lu, Samuels, Shi, Baker, Glover, et al., 2004; Nafstad, Hagen, Oie, Magnus, & Jaakkola, 1999; NICHD, 2000a
[98] NICHD, 2005

affect their cognitive or language development over time.[99] In fact, some have argued that there may be benefits to children being exposed to illnesses earlier in life,[100] and that time spent in childcare centres may provide some protection against developing certain hypersensitivity reactions such as hay fever and asthma.[101]

Nevertheless, very high standards of hygiene in early childhood settings are important to prevent the spread of communicable illness, particularly for babies.[102] There are particular concerns about infant health and care within their first months, with evidence suggesting that parental care at home may provide the healthiest environment during this stage. A review by Waldfogel[103] on child health and maternal leave policies reported that longer periods of paid parental leave were associated with better child health, as measured by infant mortality rates. Such findings might be explained by US evidence showing that early maternal employment affects children's health in several ways, including the likelihood and length of time of breastfeeding, attendance at baby clinics and immunisations.[104] In their review of the literature on quality education and care for under-twos, Dalli et al.[105] refer to research which documents the health benefits of breastfeeding (including paediatric immunological benefits, fewer gastrointestinal disorders and lower obesity rates)[106] and advocates better support in childcare settings for mothers who wish to continue breastfeeding their children.[107]

A further issue for early-years settings relates to the organisation of care routines, which can be very time consuming. Care must be taken to organise health and hygiene routines so that they do not eclipse other important aspects of practice, particularly for toddlers and children approaching pre-school age. The Neighbourhood Nurseries Initiative evaluation[108] found that children in settings rated highly for personal care and hygiene practices were less co-operative, less sociable and less confident. The authors hypothesised that, where hygiene and care routines were paramount, less time and attention was spent on developing children's positive interactions and social behaviour.

Finally, concerns about obesity among American children and elsewhere has led to calls for increased attention to food and nutrition in childcare settings, including the nutritional quality of food served, staff training on nutritional issues, and the development of good eating habits.[109]

2.1.5 Family-practitioner partnerships

A supportive, two-way relationship between families and staff is recognised as another important dimension of quality. Although the research base on family-practitioner relationships is considerably thinner than that on child-practitioner relationships, evidence from professionals suggests that active family involvement supports children's engagement in early learning and their adaptation to care routines, and promotes the self-esteem of both parents and caregivers.[110] Existing literature emphasises three important dimensions of effective engagement with families.[111]

1. Considering the family's preferences, priorities and cultural differences in all aspects of planning and implementation of the curriculum.

Staff who seek information on families' cultural values and approaches to child-rearing help create a collaborative environment, within which families and practitioners can work together to support children's learning and development.[112] Research on home visits (often carried out before a child starts attending a setting) shows that visits which are focused on understanding family values and priorities can lead to greater

[99] Dalli et al., 2011; Bradley, & Vandell 2007
[100] Meyers, Rosenbaum, Ruhm, & Waldfogel, 2004; Waldfogel, 2006
[101] Ball, Castro-Rodriguez, & Griffith, 2000; Gilliland, Li, & Peters, 2001
[102] Dalli et al., 2011; Bedford, & Sutherland, 2008
[103] Waldfogel, 2006
[104] ibid
[105] Dalli, et al., 2011
[106] Arenz, Rückerl, Koletzko, Von Kries, 2004
[107] Akitt, 2007; Banks, 2005; Bartle & Duncan, 2009; Farquhar & Galtry, 2003; Mortlock, 2009
[108] Mathers & Sylva, 2007
[109] Story, Kaphingst, & French, 2006; Smith, 2003
[110] Walley, 1997; Trevarthen et al., 2003; Taguma, Litjens, & Makowiecki, 2012
[111] Trevarthen et al., 2003; Stephen et al., 2003; Taguma et al., 2012
[112] Trevarthen et al., 2003

confidence in parents' interactions with their children, increased engagement in home learning activities by children, and greater understanding about children's patterns of development.[113]

2. Implementing procedures for regular two-way communication between family and caregivers.

Regular communication between families and practitioners (including exchange of information on children's experiences) supports both parents' and practitioners' knowledge of children's learning and development. Effective procedures for encouraging communication include documentation in written, photographic or video form such as diaries or photos, and reviews of children's observed experiences.[114] However, while parent and caregiver reports suggest that both parties value communication and regularly communicate with each other, observational studies have questioned the extent to which intended communication actually takes place.[115] Implementing successful parent-caregiver communication may require putting determined effort into building mutual respect, understanding and trust between families and early educators. Rosenthal[116] suggests that it is only when this depth of relationship is established that a true partnership can develop.

3. Recognising and responding to signs of family stress or other difficulties in supporting children's development.

Families are often anxious when their child begins attending an early education and care setting, and need support in meeting their children's needs during their first years of life. Certain groups such as low-income and vulnerable families may particularly benefit from support in providing appropriate care for their children.[117] Creating opportunities for parental involvement, and providing family support services within the context of a childcare setting, is generally considered to be more effective than simply referring families to external agencies.[118] Research from the evaluation of government-supported early intervention programmes, such as Early Head Start in the US, have shown that programmes which combine centre-based intervention with home-visiting have greater benefits for families than those which rely on home-visiting alone. For example, parents participating in Early Head Start were more responsive to children's needs and read more frequently to their babies than parents in the control group, and also provided a more stimulating home-learning environment. [119]

2.1.6 Adult-child ratios and group sizes

Babies and toddlers within early childhood settings need close and affectionate attention from a small number of carers, with whom they can adapt emotionally and form secure relationships. Research identifies adult-child ratios and group sizes as two of the most important 'structural' means of achieving this, and of providing a good quality environment for children. There is strong evidence that more favourable adult-child ratios (fewer children per practitioner) promote better adult-child interaction (responsiveness, stimulation, availability, reduced restrictiveness) and are associated with better outcomes for children, including cognitive and behavioural development, health and attachment security.[120] Evidence on the impact of group size on child outcomes is less clear. However, a comprehensive UK 2002 review on staffing and childcare reported that group sizes, like adult-child ratios, have a direct impact on the ability of staff to provide sensitive and responsive care.[121] Recent evidence also suggests that the negative patterns of behaviour associated with long hours in care may be more evident when group sizes are larger.[122]

Although much of the research on adult-child ratios and group sizes relates to pre-school children, it is consistently argued that the impact of ratios and group sizes is even greater for babies and toddlers than for older children.[123] Recent evidence from England confirms the importance of ratios for children under three,

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[113] Taguma et al., 2012
[114] Trevarthen et al., 2003
[115] Vincent & Ball, 2006; Brooker (2010)
[116] Rosenthal, 2000
[117] Taguma et al., 2012
[118] Knitzer & Lefkowitz, 2005; Taguma et al., 2012
[119] Love et al., 2005
[120] Bradley & Vandell, 2007; Dalli et al., 2011; Elfer & Page, 2013; Huntsman, 2008; Melhuish, 2004b; Mooney, Cameron, Candappa, McQuail, Moss et al., 2003; Munton et al., 2002; Phillips & Lowenstein, 2011; Vandell, 2004
[121] Munton et al., 2002
[122] Zazlow, Anderson, Redd & Wessel, 2010
[123] Cleveland, Forer, Hyatt, Japel & Krashinsky, 2007; de Schipper et al., 2006; Expert Advisory Panel on Quality ECEC, 2009; Fiene, 2002; Hayes, Palmer & Zaslow, 1990; Huntsman, 2008

and is particularly associated with the quality of care routines and meeting individual needs.[124] This study is rare, in that it provides evidence specific to the UK; most studies on ratios and group sizes cited in early years evidence reviews have been carried out in the US. However, Munton and colleagues[125] argue that findings from American research are probably transferable to the UK because there are important similarities in the early years services between the two countries.

While firm recommendations on appropriate group sizes and ratios are important to support the organisation of early years settings, most studies are not specific about the optimum thresholds for different ages of children.[126] This is partly because optimum staff-child ratios and group sizes vary according to the aims and focus of the provision, the needs of the children and the characteristics of the staff. In truth, ratios and group sizes cannot be viewed in isolation from each other, or from other structural variables such as staff education and training, and other organisational features of the setting. All these factors are closely related to each other. For example, settings with better adult-child ratios and smaller group sizes also tend to have better-qualified staff. Because of this, findings on the relative importance of each of these factors in predicting quality and child outcomes should be interpreted with care.[127]

It is clear, then, that research cannot provide hard and fast guidance on universally appropriate ratios and group sizes. However, it may be able to specify appropriate upper and lower limits appropriate under a range of different conditions.[128] Phillips and Lowenstein[129] and Huntsman[130] review results from a handful of experimental studies (some of them natural experiments) which show that fairly minor changes in ratios and group sizes can affect the quality of care that children receive. For very young children in particular, a cut-off at ratios of 1:3 versus higher ratios seems to mark a significant difference in terms of caregivers' interactional quality with young children, as well as children's attachment security, communication, co-operation and wellbeing in early childhood settings.[131] In line with these findings, the optimum recommended ratios for under-twos in early-childhood centres is relatively consistently stated as 1:3;[132] while for two to three year olds recommendations range between 1:4 and 1:5.[133] Ideal group sizes for under-twos are generally identified to be between six and eight children, and for two to three year olds between 10 and 12 children.[134]

Most of the available research evidence relates to centre-based care. For home-based care, findings on the relationships between quality, adult-child ratios and group sizes are less consistent.[135] However, the NICHD study found that *across all non-maternal* settings, favourable child-adult ratios and group sizes were the best predictors of positive infant caregiving.[136] Optimum ratios for home-based care are likely to differ from those in centre-based settings because of differences in the context of care, such as group sizes, the mix of age groups, activities and the physical environment. However, none of the reviews analysed for this study offers evidence on optimal ratios for home-based settings and this is an important area for future research.

3.1.2 Practitioner qualifications and training

Among practitioners working in early years settings, types and levels of education, qualifications and training vary widely, both between and within countries.[137] Relevant considerations for quality include levels of formal education (post-16, post-18, diploma, university degree), the level of specialist early years-related training and the stage at which education and training is undertaken (pre-service, in-service, ongoing).

The complexity of the issue, and the fact that qualifications and training are so context-specific, means that it can be difficult to make generalisations from research carried out in different countries and contexts.[138] Nonetheless, there is a clear consensus among research reviews that staff qualifications and training are

[124] Mathers, Ranns, Karemaker, Moody, Sylva et al., 2011
[125] Munton et al., 2002
[126] Expert Advisory Panel on Quality ECEC, 2009
[127] Munton et al., 2002
[128] Munton et al., 2002
[129] Phillips and Lowenstein, 2011
[130] Huntsman, 2008
[131] Burchinal et al., 1996; de Schipper et al., 2006; Howes et al., 1992; Sagi et al., 2002
[132] Dalli & Rockel, 2012; Dalli et al., 2011, Elfer & Page, 2013; Expert Advisory Panel on Quality ECEC, 2009
[133] American Public Health Association, American Academy of Pediatrics and National Association for the Education of Young Children, in Munton et al., 2002
[134] American Public Health Association, American Academy of Pediatrics and National Association for the Education of Young Children, in Munton et al., 2002; Dalli & Rockel, 2012
[135] Kreader, Ferguson & Lawrence, 2005a
[136] NICHD, 1996, 2000b
[137] Dalli et al., 2011; Huntsman, 2008; Munton et al., 2002
[138] Munton et al., 2002; Tout, Zazlow & Berry, 2005

important for quality and have a direct impact on the ability of staff to provide sensitive, responsive and stimulating care and education, which in turn enhances children's learning and development.[139] In short, good quality staffing underpins good quality practice.[140] The following factors have been identified within the literature as having a positive impact on quality: general educational level, specialised early years training, both formal and informal training, continuing professional development after initial training and on-the-job supervision.[141]

Researchers agree that practitioner education and training is key to providing good quality early childhood education and care, and that continuing professional development following in-service training is fundamental,[142] particularly where levels of initial training are low and for practitioners working with children at risk.[143] What is more challenging is to identify specific *thresholds* of qualification and to identify 'how much' is needed to ensure quality.[144] The evidence for the pre-school age range is relatively strong, with particularly good evidence that graduate-led provision is important for quality and child outcomes.[145] But, as is often the case, the research is both less rich and less consistent when it comes to children under the age of three.[146] Studies in England have identified a number of qualification levels as being important for good quality care and better outcomes for babies and toddlers, including the average qualification level of the staff team as a whole, and whether the staff team is qualified to Level 3 (post-16)[147] or higher on average.[148] However, the evidence for graduate-led provision for children under three is by no means clear. For example, one study found that children showed more positive behaviours when a graduate with qualified teacher status was present.[149] However in the recent *Evaluation of the Graduate Leader Fund,* the presence of a graduate with the specialist Early Years Professional Status[150] had a positive impact on quality for pre-school children, but no relationship was identified with quality of provision for children under the age of 30 months.[151]

There are a number of possible reasons for the inconsistency of findings. It is possible, of course, that graduate-led provision is less important for children under three than for those older than three. The authors of the *Evaluation of the Graduate Leader Fund* argued that, in fact, we do not know enough to draw firm conclusions either way. They note that the very low numbers of Early Years Professionals working with babies and toddlers in their study meant that it was not possible to assess properly their impact on quality.[152] This mirrors a general trend whereby provision for under-threes is less likely to be graduate led than provision for older children.[153] Other explanations for the somewhat inconsistent research findings on qualifications and training include wide variations in the nature and content of different training programmes, differences in practitioners' general (academic) qualification levels, and the variety of contexts within which practitioners work once qualified.[154] For example, some qualifications may prepare practitioners more effectively for working with under-threes; and the impact of in-service continuing professional development is likely to depend greatly on factors such as the culture of the setting where the practitioner works and the level of supervision and support they receive within their setting.[155] This is a challenge for future research, and there is a pressing need to understand more about the relationship between qualifications and quality for children under three, and how these different dimensions of professional preparation and support relate to each other.

In summary, then, we know that qualifications are important for quality. There is clear evidence for three and four year old children that graduate-led provision is of higher quality, but the evidence is less consistent for

[139] Dalli et al., 2011; Education, Audiovisual & Culture Executive Agency, 2009; Howes & Brown, 2000; Munton et al., 2002
[140] Barnett, 2004
[141] Fukkink & Lont, 2007; Huntsman, 2008
[142] Dickinson & Caswell, 2007; Bierman, Nix, Greenberg, Blair & Domitrovich, 2008; Pianta, Mashburn, Downer, Hamre & Justice, 2008, cited in Hamre, Pianta, Burchinal, Field, LoCosale-Crouch et al., 2012
[143] Education, Audiovisual & Culture Executive Agency, 2009
[144] Dalli et al., 2011; Phillips & Lowenstein, 2011
[145] Saracho & Spodek, 2007; Mathers et al., 2011; Sylva et al., 2010
[146] Fukkink & Lont, 2007; Huntsman, 2008; Kreader, Ferguson & Lawrence, 2005b; Saracho & Sodek, 2007
[147] The National Qualifications Framework in England has nine levels, ranging from entry level through Levels 3 (post-16), 6 (undergraduate degree), 7 (masters) and 8 (postgraduate degree).
[148] Mathers & Sylva, 2007; Smith, Purdon, Mathers, Sylva, Schneider et al., 2009
[149] Mathers & Sylva, 2007
[150] Early Years Professional Status was a graduate level professional accreditation for the earl years sector and covering the birth-to-five age range. It was offered from 2006, and the final training intake was January 2013. The programme has now been superceded by the Early Years Teacher programme.
[151] Mathers et al, 2011
[152] Mathers et al., 2011
[153] Mathers et al., 2011; Ireland, 2006
[154] Early, Bryant, Pianta, Clifford, Burchinal et al., 2006; Munton et al., 2002; Whitebook et al., 2009
[155] Hughes-Belding, Hegland, Stein, Sideris & Bryant, 2012

younger children. For children under three, factors such as the overall qualification level of the staff team are important; and there is also evidence (discussed below) that specialised training with appropriate content on child development is beneficial for quality. It is also important that practitioners have access to continuing professional development opportunities following their initial training.

The content of qualification and training programmes

In their review on quality for the under-twos, Dalli and colleagues[156] summarise a number of important factors in preparing adults to work effectively with infants and toddlers. While they admit that the research base is slim, they identify a need for training programmes to include content relevant to the age group, and to reflect what is known about infant learning and development. This is confirmed by research showing that specialised knowledge of young children's development (rather than education alone) helps practitioners to be more attuned in their interactions with infants and toddlers.[157]

Drawing on a number of recent small-scale studies,[158] Dalli's report also makes a number of recommendations for the content of undergraduate early childhood training, suggesting that it should include emotional engagement, critical reflection, awareness of diversity and a research/evaluation focus (through mentorship within a team approach). Self-evaluation and critical reflection are also named as key features of good practice in the Scottish *Pre-Birth to Three* report,[159] and in an English report on the effectiveness of quality improvement programmes for early childhood education and care.[160] Finally, Siraj-Blatchford and Siraj-Blatchford[161] emphasise the importance of preparing practitioners to cope with issues faced by children and families in poverty or with multiple needs, and call for practitioners to receive appropriate training to enable them to engage with and support children and families from different backgrounds and with diverse needs.

Effective design and delivery

There is little within the literature which can provide specific guidance on design and delivery of training relevant to children under the age of three. For guidance in this area, we draw on a review addressing preparation of practitioners to work with children over three, as its messages are relevant and appropriate. Whitebook and colleagues[162] argue that qualifications and training should provide an understanding of child development, but that this must be tied to pedagogical knowledge: theory is of little use without an understanding of how it can be applied pedagogically to supporting children's development.

The review also emphasises the importance of ongoing on-the-job learning to help practitioners become effective professionals. This includes both learning through experience and supervision, and opportunities for continuing professional development. The authors note emerging evidence that the typical one-off workshops attended by most early years practitioners may not be worthwhile, and that effective programmes should include a substantial time commitment and strategies to help practitioners translate their new knowledge into their day-to-day practice. A recent clutch of studies suggests that coaching techniques, involving on-site personal support to develop specific knowledge and skills related to practice, are more effective than classroom-based training alone.[163] Whitebook and colleagues[164] also highlight important roles for support by skilled, well-trained mentors and for peer support in promoting professional development, and note that practitioners should have frequent opportunities to reflect on their fieldwork experience.

Leadership and organisational climate

Findings from the literature on provision for pre-school children identify leadership as a further important dimension which can facilitate or hinder the delivery of good quality provision. Important aspects include the continuity of leadership, the level to which the leader or manager is educated, supervisory support (including the *quality* of support received from leaders or mentors) and the organisational climate.[165] In the UK, one of

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[156] Dalli et al., 2011
[157] Howes et al., 1992; Melhuish, 2004a
[158] Elfer & Dearnley, 2007; Hallam, Buell & Ridgley, 2003; Morgan & Fraser, 2007; Nimmo & Park, 2009
[159] Learning and Teaching Scotland, 2010
[160] Mooney, 2007
[161] Siraj-Blatchford & Siraj-Blatchford, 2010
[162] Whitebook et al., 2009
[163] Neuman & Cunningham, 2009; Pianta, Mashburn, Downer, Hamre & Justice, 2008; Ramey & Ramey (cited in Whitebook et al., 2009)
[164] Whitebook et al., 2009
[165] Howes, James & Ritchie, 2003; Lower & Cassidy, 2007; Mill & Romano-White, 1999; Vu, Jeon & Howes, 2008; Whitebook, Sakai, Gerber & Howes, 2001 (cited in Whitebook et al., 2009)

the most important studies exploring the impact of quality on pre-school children's outcomes is the Effective Pre-School, Primary and Secondary Education Project research. As part of this work, Siraj-Blatchford and colleagues[166] carried out a qualitative study of settings where children had made more developmental progress than expected, based on their individual child and home characteristics. They found that in these centres, leaders and managers took a strong lead (especially in planning and curriculum) and that leadership was characterised by a clear philosophy for the setting which was shared by the staff. Leaders had a strong educational focus and supported staff to develop better ways to engage with the children.

The reports considered as part of this current review do identify a small number of studies which have considered the effects of leadership on quality for children under three. For example, the review of structural quality characteristics carried out by Munton and colleagues[167] cites a study showing that quality for babies and toddlers was higher in settings with more experienced directors.[168] Dalli et al.'s[169] review refers to the same study and cites a second study carried out in Portugal which identifies leadership experience as important.[170] Evidence from individual studies in the UK presents a mixed picture. The evaluation of the Neighbourhood Nurseries Initiative[171] found that manager qualifications were a significant predictor of quality in infant and toddler rooms, and that children under 33 months in centres with more highly qualified managers showed fewer signs of antisocial behaviour. However, in the later evaluation of the *Early Education Pilot for Two Year Old Children*,[172] which also considered provision for disadvantaged children, manager qualifications were not related to quality.

Qualifications for home-based providers

The majority of evidence on workforce development relates to group care settings. The evidence-base on childminding provision is thin, but the few available research studies suggest that qualifications and training are also predictors of quality for childminders.[173] In designing the content of qualification and training courses for childminders, the research literature on the home learning environment provides a rich source. Evidence shows that a rich home learning environment provided by parents is one of the strongest predictors of children's later success.[174] Much can be learned from this in relation to childminding provision, since home-based provision most closely resembles the parental environment.

The broader context

As a final note, although developing a highly skilled and qualified workforce is an important cornerstone of quality, simply improving qualification levels is not enough. As we have seen in this review, we need to know more about the content, design and delivery of effective qualifications and training to prepare practitioners for working with children from birth to three. Ongoing and continual professional development, supervision and support are also important, as is the quality of leadership; and workforce development policies need to be considered within the context of broader strategies to increase the supply of qualified early childhood practitioners.[175] Moreover, higher entry qualifications will not be effective if salaries and conditions are not sufficiently attractive to draw high-quality candidates into the profession of early education and care. This issue will be addressed in further detail later in this report.

2.2 The context of early education and care

2.2.1 Age at entry and amount of care

Children's attendance patterns at early education and care settings, and the age at which they first attend, can vary greatly. Understanding the individual and combined effects of variations in these factors is important for both researchers and policy makers; yet in reality they are hard to disentangle. In the US, where much of the research in the field has been carried out, the majority of children receive care in their first year and then, once they have begun, attend for relatively long hours throughout early childhood.[176] As a result, the effects of age

[166] Siraj-Blatchford, Sylva, Taggart, Melhuish, Sammons et al., 2003
[167] Munton et al., 2002
[168] Phillipsen, Burchinal, Howes & Cryer, 1997
[169] Dalli et al., 2011
[170] Pessanah, Aguiar & Bairrao, 2007
[171] Mathers & Sylva, 2007
[172] Smith et al., 2009
[173] Clarke-Stewart, Vandell, Burchinal, O'Brien & McCartney, 2002
[174] Sylva et al, 2010
[175] Expert Advisory Panel on Quality ECEC, 2009 (p23)
[176] Bradley & Vandell, 2007; Phillips & Lowenstein, 2011

at entry and the amount or 'dose' of care are often highly correlated. Most research reflects the combined effects of timing *and* amount. In this section, we discuss findings on children's socio-emotional development, attachment security and cognitive and language outcomes.

Socio-emotional development

More hours per week in early childhood settings and entry into non-parental care in the first year of life have been consistently associated with negative social-behavioural adjustment,[177] with the most significant effects seen for children rated as having the most difficult or emotionally reactive temperaments.[178] Most concern has been expressed regarding the use of *group* care settings for very young children, with evidence from the NICHD study that more hours in group care, particularly under the age of one, was related to increased behaviour problems.[179] Bradley and Vandell[180] cite research showing that the cortisol levels of children attending non-maternal care settings tend to increase across the day; particularly for toddlers, and for children who are more fearful, have difficulties regulating emotions or behaviour, or are less competent at interacting with their peers.[181] Increased cortisol levels were not seen within the home environment. The authors suggest that, for children who are just learning to negotiate with peers, the experience of long hours in group settings may be particularly stressful. Other reviews conclude that the experience of many hours of group care during the first years of life may elevate the risk of developing behaviour problems.[182]

In the UK, mixed effects were found for disadvantaged toddlers attending early years settings as part of the Neighbourhood Nurseries Initiative.[183] Children who spent more hours or days in centre-based care were more confident and more sociable, with the effects seen most strongly for children under 33 months and for those attending 35 hours per week or more. However, the number of hours per week children attended was also related to negative behaviours: children who attended for 30 hours or more each week were rated as more anti-social, and those who attended 35 hours or more as displaying more 'worried and upset' behaviours. Thus, long hours in centre-based provision improved children's social skills and confidence, but also made anti-social and anxious behaviour more likely. This suggests that early education and care brings benefits in terms of peer interaction, but that settings need to pay particular attention to helping children who attend for long hours to cope with the potentially stressful effects of having to interact and communicate for long periods of time. Attendance patterns *across* a week are also relevant: based on the results of a small-scale study, Campbell and colleagues suggested that young children who spent *fewer* hours but *more* days in an early years setting related better to their peers.[184] Hence, a few hours per day may be better than a few days with very long hours.

Attachment security

After many years of controversy over the issue, the results of the most extensive study in the field (the NICHD study) did not show a main effect of early childcare or maternal employment on children's attachment security. However, when the amount and quality of early care was considered in combination with maternal sensitivity, the *interaction* of these factors was significantly related to attachment security: babies had less secure attachments if their mothers did not provide sensitive and responsive care *and* if they also experienced poor quality childcare for ten or more hours a week *or* experienced multiple care arrangements.[185]

Cognitive and language outcomes

The literature reviewed for this study generally identifies a cognitive advantage for children beginning non-maternal care between the ages of two and three. In the NICHD study, children who had more experience of centre-based care in their first years had higher language and cognitive scores between the ages 2 and 4 and a half,[186] although this was only true for those children who attended after 27 months of age.[187] In the UK, the Effective Pre-School, Primary and Secondary Education Project study found that children who attended

[177] Bradley & Vandell, 2007; Jacob, 2009; Melhuish, 2004a; Phillips & Lowenstein, 2011; Vandell, 2004
[178] Han, Brooks-Gun & Waldfogel, 2004; Li-Grining, Votruba-Drzal & Chase Lansdale, 2004
[179] NICHD 2003, 2004
[180] Bradley & Vandell, 2007
[181] Belsky, Vandell, Burchinal, Clarke-Stewart et al., 2007; Dettling, Gunnar & Donzell, 1999; Tout, De Haan, Campbell, Gunnar, 1998; Vermeer & van Ijzendoorn, 2006; Watamura, Donzella, Alwin, Gunnar, 2003
[182] Jacob, 2009; Melhuish, 2004a
[183] Mathers & Sylva, 2007
[184] Campbell et al., 2000
[185] Melhuish, 2004a; NICHD, 1997; 2001b; Phillips & Lowenstein, 2011; Waldfogel, 2006
[186] NICHD 2000b, 2002
[187] NICHD & Duncan, 2003

centre-based care before the age of three years (and in some cases before the age of 2) had better language and social skills.[188]

Findings on the relationships between amount of early care and children's cognitive, language and academic outcomes are mixed: negative effects, no effects and positive effects (particularly for children at risk) have been identified.[189]

The moderating effects of quality

Particularly important are findings that quality of care may moderate the effects of hours spent in care on young children's outcomes. While negative effects of hours in early non-maternal care may be greater if children are experiencing poor quality, good quality care has been shown to facilitate development, particularly for children at risk.[190] On the basis of their thorough review covering the birth-to-five age range, Zaslow and colleagues concluded:[191]

> *Perhaps the most striking pattern of findings that we have identified in this review of the research on dosage of young children's exposure to early care and education is the increase in positive outcomes (and in some studies, decrease in negative outcomes) when children attend high quality early care and education program for more time. The pattern of findings is identified in studies focusing on concurrent participation as well as cumulative participation, in both large national studies and in studies with smaller local samples, and is noted for both cognitive and social emotional outcomes. In recent research, more sustained exposure to good quality care has been found to narrow the gap on measures of achievement between low income and higher income children.*

Zaslow and colleagues highlight a need to explore the interaction between quality and amount of care, and for a better understanding of the dimensions of quality which most support children's development. Given that their study covered the birth-to-five age range, there is also a need for specific studies focusing on children under the age of three.

2.2.2 Home-based care provided by childminders

Due to concerns about the effects of group care for very young children, home-based care with small numbers of children could be seen as a preferable choice for infants and young toddlers, with significant potential to meet their needs appropriately. Parents who choose home-based providers (known as childminders in England) tend to be looking for care which most closely resembles their own[192] and view the child's individual relationship with the caregiver as particularly important.[193] Studies on the quality of childminding provision show mixed findings, with some evidence that home-based settings offer good quality care, particularly for the very young,[194] and other research raising concerns.[195]

However, since most of the research on the relationship between non-parental care and child development has been carried out in centre-based (group care) settings, we know very little about the quality and characteristics of care provided by childminders. Home-based providers face a number of particular challenges related to their context: they work alone without peer support, supervision or management; they do not receive the same training and development opportunities as practitioners in centre-based care or deliver their services within a 'traditional' organisational framework, and research shows that their private views can strongly influence their practice.[196] Research in the UK also shows that childminders can feel undervalued for what they do. A 2008 study found that 40 per cent said that the most dissatisfying aspect of childminding was society's lack of recognition for their work, while 17 per cent felt they were paid less than they deserved, and 12 per cent reported a lack of appreciation from parents.[197]

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[188] Sylva et al., 2010
[189] Bradley & Vandell, 2007; Melhuish, 2004a; Vandell, 2004; Zazlow et al., 2010
[190] Bradley & Vandell, 2007; Melhuish, 2004a; Phillips & Lowenstein, 2011
[191] Zazlow et al., 2010 (p18)
[192] Firth et al., 2009
[193] Seo, 2003; Vincent & Ball, 2006
[194] Leach, Barnes, Malmberg, Sylva, Stein et al., 2008; NICHD, 2000b
[195] Bigras, Bouchard, Cantin, Bunson, Coutu et al., 2010
[196] White, 2004
[197] Mooney, Boddy, Statham & Warwick, 2008

In a review carried out in England, Siraj-Blatchford and Siraj-Blatchford[198] conclude that childminders have the potential to make a real difference to children's outcomes, but suggest that the quality of childminding provision might be enhanced through accredited networks, links with pre-school settings, training and support to improve quality, and encouraging more experienced childminders to continue to provide their service.

2.2.3 Service integration

Our review has focused on dimensions of quality *within* individual settings. However, when considering provision for very young children it is also important to consider the integration of early childhood education and care with other services, particularly health. While the field has not reached consensus on a single definition, such service integration is generally viewed as providing an 'integrated children's system' centred on meeting the needs of children and their families through coordination and integration of services. Service integration can take place within a single organisation or service sector, as well as across service sectors. For example, it can involve collaboration between settings, integration with other sectors such as health, collaboration between early childhood providers and primary schools, and integration between providers and local authorities. At present, there is very little evidence on the effectiveness of service integration. Most research has involved specific intervention programmes and has focused on the processes involved in integrating services rather than on the impact that inter-agency working may have on children's outcomes. A detailed description of research in the area is out of the scope of this review. Nevertheless, service integration is noted here as a potentially important aspect of quality, requiring additional research to understand whether and how services can be integrated within everyday provision (as well as through specific interventions) to improve outcomes.

2.3 How to balance what we do and don't know: managing the evidence

The aim of this review has been to draw together what is known about quality for children under the age of three and to use that evidence to make practical recommendations for the way forward. However, an equally important part of any review is to consider where current knowledge is *lacking* and where the evidence base needs to be strengthened. Despite increasing recognition of the importance of the early years, one of the most defining features of the literature on under-threes is its relative scarcity in comparison to that available for older children. This is a significant challenge to be overcome. As Marcy Whitebook and colleagues note:[199]

policy and practice cannot wait for the 'perfect' studies to be completed

So how can we make the best possible decisions based on scientific evidence in an area where research is scarce? The first important principle is to be very clear about the strength of the evidence which *is* available, and to be explicit about where the science base is strong and where greater caution should be exercised in interpreting findings.

The second principle is to find practical yet robust ways of building on best available evidence. A respected developing methodology is to draw on experts and practitioners within the field to evaluate existing research and develop recommendations which are anchored in the scientific evidence base but go beyond it.[200] We can also seek other sources of evidence, for example making inferences from scientific studies which suggest that certain practices or services will be beneficial even if there is, as yet, no randomised control trial that firmly demonstrates their usefulness. As an illustration, although there is no randomised control trial on the practice of assigning a 'key person' to children attending care settings, we do know that there is firm scientific evidence on the importance of attachment figures in a child's development which supports the use of this approach. We can also draw on parallel literatures to broaden knowledge within the field where gaps exist.[201]

We have incorporated elements of these methodologies in developing our recommendations. This review has a clear policy focus, with the aim of providing recommendations on how the English policy framework can most effectively support the provision of good quality early childhood education for under-threes. While we have not systematically graded the research we reviewed, we aimed to be transparent in setting out places where the evidence is strong and where greater caution should be exercised. The recommendations we present in Chapter 4 have been informed by research on early childhood provision and developmental science, as presented in Chapters 1 and 2. In developing them, we have consulted early childhood experts and drawn on evidence from parallel literatures, including research relating to older pre-schoolers and on

[198] Siraj-Blatchford & Siraj-Blatchford, 2010
[199] Whitebook et al., 2009 (p4)
[200] For example, Tremblay et al., 2012
[201] For example, Whitebook et al., 2009

parent-child relationships, as well as evidence from other disciplines such as health, psychology and professional development. We have identified policy approaches which, although they have not been rigorously tested for impact, are grounded in science with a clear theoretical base. This has allowed us to make recommendations for policy and practice without extending too far beyond science. To ensure the robustness of conclusions drawn, both these and our resulting recommendations were thoroughly tested by experts in the field, through discussion groups and individual conversations. These included policy makers at national and local level, training providers, early years' leaders, practitioners and other researchers.

We propose that this 'multiple source' approach be used more widely to strengthen the evidence base on how best to provide for children under the age of three, alongside an explicit and imaginative strategy to fund research to fill the gaps in what we know (some specific suggestions for future research are provided in Appendix A).

CHAPTER 3: The current policy context

3.1 Introduction

Early years education and care has been the focus of considerable attention in England for over 20 years, with a mix of universal and targeted programmes. Free part-time early years education for all four year olds was introduced by the Labour government in 1998, with a guarantee of 12.5 hours a week. In 1999 the Prime Minister announced the intention to end child poverty, and soon after the Government introduced the Sure Start Programme, aimed specifically at poor children in poor areas. Universal preschool was extended to all three year olds in 2004. In December 2004, the Government also published *Choice for Parents the Best Start for Children: a ten year childcare strategy.*[202] This document set out a series of commitments on childcare, including a commitment to improve maternity leave; a requirement of local authorities to ensure adequate childcare for parents wanting to work; and a network of Sure Start Children's Centres providing integrated services for all children, moving Sure Start from a targeted to a universal programme. Many of the commitments in the strategy have been implemented.

Since 2010 the Coalition Government has further improved the flexibility of leave for new parents and is expanding the free childcare offer to cover more children. Although some of the goals of the ten-year strategy have fallen by the wayside – including commitments on numbers of Children's Centres and requirements for settings to employ graduate-level staff – the Coalition Government has demonstrated a clear commitment to the early years. Like the previous government, they are interested in mixing targeted and universal programmes. Children's Centres are becoming increasing targeted, but some universal commitments on early years have remained, as well as a concerted effort to ensure childcare is available to more children. Two recent publications, *More Great Childcare*[203] and *More Affordable Childcare,*[204] set out a range of policy intentions, including financial help for working parents with childcare costs, an increased role for schools, the creation of new qualifications and significant changes to the quality monitoring and improvement roles of Ofsted[205] and local authorities. And, as under the previous Labour Government, tensions continue to exist between policies which aim to support parents going to work in order to reduce child poverty and those which aim to provide children with early education and care to support their development. In the following sections, we summarise the current early years context and discuss a number of recent policy changes in more detail.

3.2 Early education and care context for children under three years

Early years provision in England is offered through a mixed-sector model which combines publicly subsidised provision with childcare paid for directly by parents. All three and four year olds are now entitled to 15 hours of free early education provision per week for 38 weeks of the year, which they can access in schools or within the private, voluntary and independent sector. School provision is offered either within nursery schools specialising in early years education and care, or in primary schools with nursery and reception classes. In the private, voluntary and independent sector, provision includes for-profit day nurseries and pre-schools, sessional playgroups and pre-schools operating on a not-for-profit basis, and home-based childminders. Many Children's Centres, which integrate services for children and families, also offer early education and care. Schools are directly 'maintained' by the Government, while private, voluntary and independent settings receive funding from local authorities to cover the costs of the free early education places they offer. The free entitlement can be taken flexibly to support parental working patterns, and parents then pay for any hours they use over and above the free provision.

The majority of formal provision accessed by children under three tends to be in the private, voluntary and independent sector, paid for directly by parents. Data from 2011 show that 36 per cent of under-threes accessed formal early years provision, primarily in day nurseries (17 per cent) but also in nursery schools (five per cent), playgroups and pre-schools (seven per cent) and through childminding provision (five per cent). Use of formal provision generally increases as children get older, with 52 per cent of two year olds accessing such provision in 2011.[206]

[202] HM Treasury, 2004
[203] Department for Education, 2013a
[204] Department for Education, 2013b
[205] Office for Standards in Education, Children's Services and Skills
[206] Huskinson et al., 2013

It is likely that take-up of early years provision by two year olds has increased further since 2011, as moves to support access for two year olds from disadvantaged backgrounds gather pace. Introduced by the previous Government and extended by the current Coalition Government, the ambitious early education programme for two year olds offers 15 hours of provision per week to two year olds from low-income families, building on evidence that early entry to pre-school can help to overcome the risk of later developmental delay. Since September 2013, the poorest 20 per cent of two year olds in England (130,000 children) are legally entitled to 15 hours per week for 38 weeks of the year, rising to 40 per cent of two year olds (260,000 children) by September 2014 at a cost of more than £755 million.[207] Funded hours can be taken between 7am and 7pm, with a minimum session length of 2.5 hours and a maximum of 10 hours per day (although local authorities have the power to set a lower daily limit). Funding can also be stretched over more than 38 weeks if required, and providers are being encouraged to offer funded early education hours in ever more flexible ways to suit parental working patterns.

Of the 130,000 places planned for September 2013, current Department for Education figures show that 92,000 are in place and have been taken up.[208] Current government guidance suggests that children should attend funded places in settings graded as 'good' or outstanding' by Ofsted but that settings graded as 'requires improvement' can be eligible to offer the free entitlement where there is a shortfall. Some doubts have been expressed over whether there are sufficient good quality places available to meet Government targets[209] and achieve the intended outcomes for two year olds and their families.

Many local authorities are relying on childminders to meet demand. Expansion of childminding provision was a key strategy in the ten local authorities which took part in the 2012-2013 trial, prior to national rollout.[210] The recently published *More Affordable Childcare*[211] sets out a further government priority to expand the number of places offered by maintained nursery and primary schools. A demonstration project to run between 2013 and 2014 will involve 50 schools offering funded places to two year olds on a pilot basis, to test different approaches.

Parents pay for any early years' provision taken up outside the free entitlement. For children under two, all early years' provision is funded directly by parents, and is provided almost exclusively within the private, voluntary and independent sector. Parents of two year olds who are not eligible for funded places pay for all the childcare they access; while parents eligible for free places are required to pay for any provision they take up over and above the 15 funded hours. Provision paid for by parents tends to be taken up within the private, voluntary and independent sector (including through childminders), although there are moves to encourage schools to offer wrap-around provision to enable more working parents to access funded two year old places within the maintained sector.
There has been much recent debate over the price and cost of childcare, reflected in the national press, in parliamentary debates and in Government policy papers. The distinction between price and cost is important in terms of international comparisons. The price is what parents pay, and the cost is the actual cost of the provision. Countries with lower prices tend to have considerably higher government subsidies, so costs may not be lower. In England, a number of subsidies are available to help with the cost of early years' provision. Working households on low incomes are able to claim up to 90 per cent of their childcare costs via a combination of tax credits and housing benefit.[212] Under the new Universal Credit system, this will be reduced to 70 per cent, although further support will be offered allowing families with both parents in work to claim back up to 85 per cent of costs. Although it is not an issue explored in this study, the Government's welfare-to-work policies and overall benefits policies are critical in the decisions that families make about employment when children are under school age. It is worth noting that the majority of the Government's responses to concerns about childcare costs have been on the demand side (funding provided directly to parents). However demand-side funding is hard to control: there is nothing to stop childcare providers increasing their charges as the Government increases the amount that families can claim for their childcare costs. Many of the recommendations outlined in the following chapter relating to quality would be more easily promoted using supply-side funding (funding provided directly to settings), which can be more easily linked to and made contingent upon quality criteria such as improved qualifications.

Parental leave policies also shape decision making, particularly for the parents of very young children. The Government is currently legislating on changes to maternity leave that will increase the flexibility of paid leave

[207] Department for Education, 2013e
[208] http://www.publications.parliament.uk/pa/cm201314/cmhansrd/chan74.pdf
[209] Evans, 2012; Gibb, Jelicic, La Valle, Gowland, Kinsella, et al., 2011
[210] Department for Education, 2013c
[211] Department for Education, 2013b
[212] Citizens Advice Bureau (2013)

between fathers and mothers, and has maintained a full year of leave, with nine months paid and three months unpaid. This has consequently reduced the demand for formal care in the first year: the majority of such care tends to be informal, with grandparents often providing the care. Our policy recommendations focus largely on the free early education programme for two year old children. However, it is worth noting here that the research evidence also tends to support the Government's current policy on parental leave, given the importance of breastfeeding, new understandings about attachment between mothers and infants, and the vulnerability of small babies to infection. However, if parental choice is to be supported, and the needs of children who do attend formal provision during their first year are to be met, it is essential that care arrangements suit the distinct needs of this age group. Not enough is known about how to meet the needs of under-ones in formal early years provision, and we have highlighted this as an urgent recommendation for further research.

3.3 The Early Years framework

All providers catering for children from birth to five are required to follow the Early Years Foundation Stage framework. Within the framework, the Safeguarding and Welfare Requirements set out steps that providers must take to keep children safe and promote their welfare, and include legal requirements for staff qualifications and adult-child ratios. The Learning and Development requirements set out the aspects which providers must address in their activities and experiences for young children; the knowledge, skills and understanding children should have achieved by the end of the Foundation Stage – the end of the academic year in which they turn five; and the assessment arrangements for measuring this. Assessments are carried out against 13 'early learning goals', which are collated and reported nationally to track progress for different groups (such as comparing girls and boys) across the country as a whole.

The Early Years Foundation Stage was reviewed in 2012[213] and received widespread support as a document grounded in developmentally appropriate play-based practice. The resulting revision retained the main principles of the framework but slimmed it down considerably, to cut paperwork and bureaucracy. The non-statutory elements were published as a separate document known as *Development Matters*[214], which provides practitioners with guidance on what to expect as children develop through each age and stage, as well as ideas on how to support their development in each area of learning and development (such as communication and language). To provide specific support for those working with very young children, the Government also provides access to materials developed as part of the previous curriculum framework, which separated children aged under three (Birth to Three) and over three (Foundation Stage). Selected materials from the *Birth to Three Matters* framework are available on the Foundation Years website,[215] which provides resources and information for early years practitioners.

In 2013, an adapted version of *Development Matters* was published by the Department for Education.[216] This presents only those aspects reflecting typical development for each age group and omits the practice guidance illustrating how adults might support children's development. It is intended to support practitioners in making 'best-fit judgements' about whether a child is showing typical development for their age, but has prompted concerns about a focus on measuring children rather than on meeting their individual needs. This debate is being played out amidst a wider debate about the early years starting to resemble school too closely, with the Government promoting an agenda of greater structure and formality and a move away from play-based approaches.[217]

The revised Early Years Foundation Stage framework also introduced a progress check to be completed by early years providers when children are two years old. This is intended to allow early identification of additional needs, provide information to parents about their child's development and support both practitioners and parents in meeting children's needs more effectively. An integrated health and early education review at 24 to 30 months of age is currently in development by the Department for Education and the Department of Health, which will bring together the Healthy Child Programme review for children aged between 24 and 30 months and the Early Years progress check at two.

3.4 Workforce

[213] Tickell, 2011
[214] Early Education, 2012
[215] http://www.foundationyears.org.uk/early-years-foundation-stage-2012/
[216] Department for Education, 2013d
[217] Richardson 2013a, b; Learner, 2013; Parker 2013

There are considerable differences between the characteristics of the different early years sectors in England, not least in the qualifications of their workforce. The English national qualification framework comprises nine levels: Level 3 is equivalent to A level, while Level 6 represents a graduate qualification. Nursery schools and classes have traditionally been led by Level 6-qualified teachers, usually trained to work with children from the age of three and working at a ratio of one adult to 13 children. Staffing arrangements for schools offering funded places for two year olds are still being developed, as this sector adapts to providing for children under three for the first time. Since schools will be required to operate the 1:4 ratio applicable to two year olds, rather than the 1:13 ratio governing provision for older children, it is unlikely that graduate-led provision for two year olds will be financially viable. Early indications suggest that places for two year olds in the maintained sector will be led by staff qualified to Level 3, with the support of graduate-level staff from elsewhere in the school (such as the nursery class).

The minimum qualification requirements set by the Early Years Foundation Stage framework for the private, voluntary and independent sector are lower than in the maintained sector. In group care settings, the manager must be qualified to Level 3, and half the remaining staff must be qualified to at least Level 2. Legal ratios for group care providers are 1:4 for two year olds and 1:3 for children under two. Childminders are not required to have any qualifications but are restricted to providing for a maximum of three children under five, only one of whom can be younger than twelve months.

Qualifications and quality within the private, voluntary and independent sector have been a cause for concern since research was published showing that quality is consistently lower than in the state-maintained sector.[218] In 2007 a new graduate-level professional accreditation known as Early Years Professional Status was introduced to increase graduate leadership within the sector, supported by the £305 million Graduate Leader Fund. There are currently more than 11,000 qualified Early Years Professionals practising in England[219] and the programme evaluation showed a positive impact on quality for pre-school age children.[220]

However, a number of issues remain, particularly for very young children. Graduate leadership remains relatively low in the private, voluntary and independent sector, and evidence suggests that the most qualified staff are the least likely to be deployed to work with children under three.[221] This may explain why the evaluation of Early Years Professional Status showed few impacts on the quality of provision for babies and toddlers. There are also ongoing debates over the low status of practitioners working with young children, something recognised in *More Great Childcare* and closely linked to issues of pay and conditions. The most recent move to address such issues was the replacement of the Early Years Professional programme with a new Early Years Teacher role, which had its first intake in September 2013. The qualification is graduate level and, as with Early Years Professional Status, it covers the birth-to-five age range. However, as early years teachers will not be eligible for teachers' pay and conditions, this has been seen by the Government's early years adviser Professor Cathy Nutbrown as representing 'one form of inequality replaced with another'.[222] Her national qualifications review in 2012 also expressed concerns over the quality of Level 3 qualifications. The new Early Years Educator qualification, a Level 3 qualification to be introduced from September 2014, will have more robust entry requirements than previous qualifications of this sort: candidates will be required to have GCSE English and Maths at grade C or above to gain entry to training courses.

So, despite recent moves by the Government to address workforce issues, both pay and qualification levels, particularly in the private, voluntary and independent sector, remain lower than in many other European countries. How to strengthen the knowledge and skills of the workforce continues to be a topic for debate among policymakers and the sector.

3.5 Regulation and quality improvement

Compared with other European countries, early years providers in England are relatively closely regulated, perhaps due to the generally lower qualifications of the workforce. The extent to which providers meet foundation stage statutory requirements on learning, assessment, qualifications, ratios and other criteria is monitored by Ofsted. All settings providing early education and care over a certain number of hours must register with Ofsted and be subject to inspection at least once every four years; but the inspection experience of different settings varies. Ofsted's school inspections are much more rigorous than those in the private, voluntary and independent sector. Primary school inspections usually last two days and are led by Her

[218] Sylva et al., 2010; Mathers, Sylva & Joshi, 2007
[219] Department for Education, 2013a
[220] Mathers et al., 2011
[221] Mathers et al., 2011
[222] Nutbrown, 2012

Majesty's Inspectors and/or contracted inspectors. Inspections in the private, voluntary and independent sector generally involve a half-to-full-day visit and are all contracted out. The legislative and inspection frameworks for schools, for private, voluntary and independent settings and for Children's Centres are also different.

Following inspection, a grade is awarded for 'overall effectiveness', as well as a number of sub-grades assessing specific dimensions of provision. Within the private, voluntary and independent sector, four grades are awarded in total: quality and standards (the overall grade); how well the setting meets the needs of children who attend; the contribution of the early years provision to children's well-being; and the effectiveness of leadership and management. For schools, while several grades are awarded at the whole school level, separate grades are no longer awarded for their early years provision. Grades are awarded on a four-point scale ranging from outstanding (1) to inadequate (4). Written reports are also produced and publicly available on the internet, as are the inspection frameworks setting out the criteria which inspectors use.

The Coalition Government has made significant changes recently to the framework for quality assessment and improvement, and to how Ofsted grades are used. There has also been a significant shift in power away from local authorities, with reductions in both responsibilities and funding. Until recently, councils were responsible for deciding which providers were eligible to offer government-funded early education places, and able to apply a range of quality criteria to make their decision in addition to the Ofsted grade. *More Great Childcare* set out proposals to remove these responsibilities and make Ofsted the sole arbiter of quality. Local authorities are also losing many of their quality improvement responsibilities, shifting the onus onto providers to identify and fund suitable training and support for themselves.

3.6 Provision for the most disadvantaged and low income families

Successive governments have invested heavily in provision for children growing up in poverty, guided by social purpose and strong evidence that good quality early years provision can help narrow the outcomes gap between the least and most advantaged in society. Initiatives have included the Neighbourhood Nurseries Initiative, Sure Start, Children's Centres and, most recently, the programme providing free early education for two-year-old children. However, debate continues about whether investment is best made in good quality substitute care to ameliorate the effects of poverty, in basic low cost childcare to enable parents to work and therefore reduce the numbers of poor children, or in improving the practice of parents to ensure a better home learning environment for poor children. The Coalition Government, in commissioning the Allen[223] and Field[224] reviews, implies that the issue is not poverty itself, but rather the risk of poor parenting within families on very low incomes. The establishment of the Early Intervention Foundation, designed to identify which programmes are most likely to be effective in improving parenting practices, is another example of this emphasis on parenting as opposed to improving the circumstances in which families in poverty find themselves.

There is mixed evidence on the success of early years investment in disadvantaged areas over the last fifteen years. While the National Evaluation of Sure Start[225] has consistently shown improvements in parental practices, this has not resulted as yet in better outcomes for children. Evidence from Ofsted suggests that settings in disadvantaged *areas* tend to be of lower quality and are less likely to be graded as good or outstanding than settings in more affluent areas.[226] Countering this, research looking at individual children rather than at settings suggests that the most deprived *children* may actually be receiving better quality provision because they tend to be catered for in the maintained sector, which is generally of higher quality.[227] While this provides some reassurance, concerns remain, particularly for children under three, who are disproportionately likely to attend private, voluntary and independent settings. A continued focus on improving the quality of early years provision, particularly for disadvantaged children and families, is therefore vitally important.

3.7 Conclusions

In summary, four issues dominate the current childcare policy debate:

- a welcome recognition of the importance of the first year of a baby's life with proposals to make the current nine months' paid maternity leave more flexible in its use by mothers and fathers

[223] Allen, 2011
[224] Field, 2010
[225] NESS 2010
[226] For example, the Annual Report for 2010/2011 (Ofsted, 2011)
[227] Gambaro, Stewart & Waldfogel, 2013a

- an expansion of free early education provision for disadvantaged two year olds
- a policy discourse about child poverty that has shifted the explanation for poor outcomes onto inadequate parenting rather than lack of financial resources
- an increasing emphasis from the Government on formality and structure in early education and care for very young children.

It is clear that early years' provision in England forms just one part of a range of policies, processes and services that aim to ensure children are healthy, happy and reach their full potential; and that parents can work to support their families. Successive Governments have been, and continue to address issues such as:

- *what happens to children in a care setting*: what should the curriculum, learning goals and attainment levels at certain ages look like?
- *who makes it happen*: how can the workforce be best qualified, trained and deployed, and should this differ depending on type of provision and children's age?
- *what is an acceptable and safe environment for small children*: how much space do children need and what should this look like, how should we provide for routine care needs and keep children safe and healthy, what adult-child ratios are appropriate, and how do requirements differ in domestic versus group care settings?

In the next chapter, we consider a number of these policy questions with reference to the research evidence on quality for under-threes presented in Chapter 2. Using current policy as a starting point, we draw on the evidence base to develop recommendations for future policy and practice, with the aim of improving the quality of early years provision for all children under three and, in particular, for disadvantaged two year olds accessing free early education places.

Although not within the remit of this review, recommendations for policy and practice need to be considered within the broader fiscal framework, addressing the question of 'who pays': what should the state contribution be, and should this be through national or local government; what should the parental contribution and the employer contribution be; should payment be made directly to providers or to parents (demand- or supply-side funding); and how is funding related to quality and price?

So what do we conclude from reviewing the literature? We began this report by considering what children under three need to support their development. Do their needs differ from those of children over three and what implications does this have for how we care for them? Do explicit policies need to be developed to guide provision for babies and toddlers?

The answer to both questions is, undoubtedly, yes. New developments in neurological research highlight the importance of getting it right from birth, as the first years of a child's life see the steepest rates of growth in brain development. While there are many things that *all* children need, we know that some aspects are particularly important for children in their first three years of life; primarily, opportunities to form warm and loving relationships with responsive adults. Babies and toddlers also need individual support in developing as communicators, as physical beings and as emotional beings; it is no coincidence that these three tenets form the prime areas of the Early Years Foundation Stage curriculum. We know that, even in their earliest years, babies and young children are capable of being sophisticated participants in their own learning and development. And finally, while all children need to be kept safe and healthy, effective hygiene and routine care is particularly vital for the very young.

Chapters 1 and 2 of this report considered what young children need to support their development, and the implications for providing good quality early education and care. This chapter draws together the combined evidence from the field and sets it in the context of current government policy (described in Chapter 3) to make recommendations for future policy and practice. While we recognise the importance of the role of parents, particularly when setting policies relating to the first years of life, the primary focus of our review and recommendations is on the promotion of good quality early education and care.

Section 4.1 considers how best to promote good quality pedagogy for children under three. In Section 4.2, we address the structural conditions (such as qualifications and ratios) which can most effectively support good practice, focusing our recommendations on the government's policy to provide free early education places for disadvantaged two year olds. This is the most significant and ambitious early years policy of recent years, and its success will depend largely on the extent to which the children accessing funded places are able to experience good quality provision. Finally, Section 4.3 presents overall conclusions.

4.1 What young children need: the components of good quality pedagogy

Our review of the research evidence has identified four key dimensions of good quality pedagogy for under-threes:

1. stable relationships and interactions with sensitive and responsive adults
2. a focus on play-based activities and routines which allow children to take the lead in their own learning
3. support for communication and language
4. opportunities to move and be physically active.

Sensitive and responsive interactions between adults and children are at the heart of effective practice. Interactions are *sensitive* when they take into account the needs of the individual child, and *responsive* when they adapt to that child's changing needs and status.[228] The opportunity to experience such relationships with their carers is the single most important element of quality for children under three, providing the underpinning not only for good quality pedagogy but also for the individual care routines which young children need. In order for practitioners to be sensitive and responsive to individuals, and for children to develop secure attachments with them, staff and children need to spend enough time together to develop relationships over time: stability and continuity of care are therefore also important.

The second principle underpinning effective early education and care is the importance of play. Play is recognised as the main vehicle for active learning which supports children's intellectual and social development, and the literature provides clear evidence that under-threes learn most effectively through

[228] Waldfogel, 2006 (p29)

play-based approaches. Research also highlights the important role of skilled adults in helping children to engage in different forms of play and to explore their environments through a mix of child- and adult-led experiences;[229] and in understanding when adult intervention will enhance learning and when it may hinder it.

The third important dimension of quality identified in the literature is support for children's developing communication skills through play and routines. Non-verbal conversations enable babies to develop their sense of self, their well-being and their attention, as well as providing a precursor to later language. As children learn to speak, adults support their development through informal conversations, through songs and rhymes with movements, through shared reading and through the use of narrative. Asking children to discuss stories or real events (describing what happened, what comes next and what other possibilities might be) helps children to develop their language skills, their thinking and understanding of the world, and lays the foundations for higher planning skills.

Finally, there is growing recognition that movement and physical activity are fundamental to young children's health and development. While guidelines suggest that babies should be active several times daily and that toddlers should experience three hours of physical activity each day, research shows that this is rarely achieved. International data suggest that only just over half of children aged between two and six are physically active for one hour or more per day;[230] and figures from England show that nearly one in ten of children are already classified as obese by the age of five.[231] While good nutrition also plays a role, there is clearly an urgent need to ensure that policy and practice encourage children's physical development.

Implications for policy

It is imperative that statutory frameworks, practice guidance and practitioner standards reflect and develop these four key dimensions of quality. All four are currently well represented in the statutory Early Years Foundation Stage curriculum.[232] The curriculum sets out three 'prime' and four 'specific' areas of learning and development. The three prime areas are the most relevant for children under three, as they are considered to build the foundations for later learning. They are:

- personal, social and emotional development
- communication and language
- physical development.

The Early Years Foundation Stage also identifies a number of overarching principles and 'characteristics of effective learning' upon which all support for learning and development should be based. These strongly reflect the importance of relationships and of play-based approaches which develop children's sense of agency, for example:

- children learn to be strong and independent through positive relationships
- playing and exploring (children investigate and experience things, and have a go)
- active learning (children concentrate and keep on trying if they encounter difficulties, and enjoy achievements).

The current statutory framework does a good job in promoting evidence-based practice for children under three. Relationships, play and active learning are recognised as underpinning *all* practice, and personal development, communication/ language and physical activity are reflected as essential dimensions of effective pedagogy.

The Early Years Foundation Stage document itself is deliberately brief and sets out the principles without prescribing specific approaches. Practitioners also need to have access to guidance which supports them in putting these principles into action. The non-statutory guidance, *Development Matters*, commissioned by government and developed by Early Education,[233] provides a valuable accompaniment to the statutory

[229] For example, one practitioner might support the 'picnic play' initiated by children in the home corner, joining in with the tea making, cake baking and sandwich making but letting the children lead the narrative, adding an occasional new idea or word to extend play and language. A second might set up a planned and supervised water play activity for babies, supporting them in discovering and enjoying splashing, sprinkling, trickling and pouring.
[230] Tucker, 2008
[231] National Child Measurement Programme/Department of Health, 2012
[232] Department for Education, 2012
[233] Early Education, 2012

framework. For each of the areas of the Early Years Foundation Stage, it offers explicit guidance for practitioners on typical behaviour for each age group and on strategies for supporting children's development. In doing so, it recognises the role of the adult in supporting children's learning through positive relationships and through providing an enabling environment. For example, in the prime area of 'communication and language', guidance for practitioners working with children aged between 22 and 36 months includes (among others) the following suggestions:

- 'help children expand on what they say, introducing and reinforcing the use of more complex sentences' **(p.15, Positive Relationships**)
- 'plan to encourage correct use of language by telling repetitive stories, and playing games which involve repetition of words or phrases' **(p. 19, Enabling Environments**).

The more recent, slimmed-down version of *Development Matters*[234] omits this valuable practice guidance and includes only those elements focusing on children's expected stage of development and early learning goals. It is intended as guidance for practitioners and Ofsted inspectors in reviewing children's development in the foundation stage. However, it is currently unclear whether practitioners should use the new alongside *Development Matters* or as an alternative; and Ofsted inspectors are being discouraged from using the original document during inspections. Using *Early Years Outcomes* in place of *Development Matters* may encourage a focus on assessing the children themselves rather than on the role of the adult in supporting their development. We therefore recommend that the original version of *Development Matters* continue to be promoted as useful practice guidance to support all aspects of children's development. We also support the continued promotion of the *Birth to Three Matters* guidance developed as part of the previous early years curriculum framework, which is still available for reference on a number of national websites.[235]

In addition, more detailed guidance is needed to support practitioners fully in individual areas of practice. Several publications already provide such guidance, for example:

- The British Heart Foundation's *Physical Activity Guidelines for Under Fives*[236]
- The National Strategies' *Learning, Playing and Interacting*,[237] which provides guidance on learning and teaching through play, and on balancing child-initiated play with playful adult-led opportunities
- Materials produced as part of the *Every Child a Talker* programme, for example the *Guidance for Early Language Lead Practitioners*.[238]

Existing materials also need to be reviewed against the research evidence to identify gaps. For example, one area which has so far received relatively little attention is support for children's interaction with peers, which we know can be particularly beneficial in settings with a good social mix.[239] Another common gap is guidance which adequately addresses aspects of communication before children start using formal speech, such as non-verbal communication in babies. Practitioners also need tools to support them in identifying evidence-based approaches, and to promote a culture of evidence-based practice. We recommend the development of an Early Education Evidence Toolkit modelled on the toolkit published for schools by the Sutton Trust Education Endowment Fund. It would provide practitioners at all levels of experience and qualification with accessible summaries of research on evidence-based approaches to early learning, as well as detailed guidance on the training required to implement such approaches.

Finally, standards for early years' practitioners should reflect the key dimensions of good quality pedagogy for children under three. In England, firm acceptance of the importance of play-based learning for young children is being challenged by the Government. For example, there is currently much debate over the standards for the newly created Early Years Teacher and Early Years Educator roles, and the omission of explicit references to learning through play.[240] This policy shift away from play-based approaches can also be seen in guidance published on the free early education places for two-year-old children; and *More Great Childcare*[241] cited the benefits of structured group learning for toddlers and young children but made no mention of play. Particularly where providers (such as schools) may be providing places for children under three for the first time, it is important that guidance from central government promotes a developmentally appropriate approach.

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[234] Department for Education, 2013d
[235] http://www.foundationyears.org.uk/early-years-foundation-stage-2012/
[236] British Heart Foundation, 2011
[237] National Strategies, 2009
[238] National Strategies, 2008
[239] Sylva et al., 2010
[240] for example, Gaunt, 2013a
[241] Department for Education, 2013a

A move away from play-based learning could limit the potential of providers to meet the needs, not only of disadvantaged two year-olds, but of all young children.

Policy recommendations

On the basis of this review, and guidance from experts within the field, we recommend that good quality pedagogy for all children under three be promoted by:

- revising standards and practice guidance to fully articulate those dimensions identified by research as important for the development of children under three (interactions and relationships; play-based approaches which allow children to take the lead; support for communication and language; and opportunities to move and be physically active).

  This could be achieved by:

  - promoting existing UK practice guidance which reflects these approaches (such as *Development Matters; Birth to Three Matters; Learning, Playing and Interacting; BHF Physical Activity Guidelines for Under Fives; Every Child a Talker* guidance)
  - developing additional guidance where gaps exist
  - revising the Early Years Teacher and Early Years Educator standards to emphasise the importance of play-based learning approaches

- developing an Early Education Evidence Toolkit to support practitioners in identifying and implementing evidence-based approaches.

4.2 Creating the conditions for quality: a focus on two year olds

Effective practice does not happen in a vacuum, and practitioners need the skills to enable the delivery of good quality pedagogy and environments which support them in doing so. In this section, we consider how government policy and the early years sector can work together to create the conditions which promote good quality experiences for under-threes; including pedagogy, routines and the good quality relationships which underpin them.

Our review of the research evidence suggests five key conditions for quality:

1. knowledgeable and capable practitioners, supported by strong leaders
2. a stable staff team with a low turnover
3. effective staff deployment (e.g. favourable ratios, staff continuity)
4. secure yet stimulating physical environments
5. engaged and involved families.

While these conditions are important for all children under three, we focus our discussion and recommendations on the Government's flagship policy to provide early education places for the most disadvantaged 40 per cent of two year olds. This represents one of the most ambitious Government initiatives in recent years, and one which is based on sound research evidence demonstrating the benefits of early years provision for children from poorer backgrounds. However, although the programme has significant potential to narrow the attainment gap and improve outcomes for children, the research evidence is clear that developmental benefits will only be achieved if children are able to attend good quality provision.[242]

The following sections explore the implications of the research evidence for the two-year-olds programme in relation to:

- workforce development
- organisation of staff and children
- organisation of the physical environment

[242] Smith et al., 2009

- the broader context (regulation, funding and the quality improvement framework).

4.2.1 Workforce development

Good quality staffing underpins good quality practice. Although evidence for under-threes is, as always, less available and less consistent than the literature for pre-school children, we do know that qualifications and training have a direct impact on practitioners' ability to offer good quality care and education, which in turn affects children's learning and development. It is difficult to say with certainty that a specific qualification level will *guarantee* quality; but evidence from England suggests that having a good level of qualification for the staff team as a whole is an important factor for under-threes. Should provision also be graduate-led? The evidence for babies and toddlers remains inconclusive. However, with strong evidence for over-threes that graduates bring benefits for quality and outcomes, their potential for lifting the quality of practice for two year olds should not be ignored.

Thinking now about the *content* of qualifications and training, a consistent finding is the importance of a specialised early years focus reflecting current knowledge of how babies and toddlers develop. Two distinct aspects of knowledge are important. First, an understanding of child development enables practitioners to know what to expect as children grow and mature: for example, understanding that the two year old apparently ignoring calls to tidy up is not being wilful, but applying her single-channelled attention to the game she is engrossed in and cannot easily 'switch track'. Pedagogical knowledge (linking theory to practice) helps practitioners to foster the next stage of development: for example, to support that same child in shifting her attention by using her name and then pausing before giving instructions. An understanding of child development must therefore be tied to pedagogical knowledge: one without the other is insufficient. Theory is of little use without an understanding of how it can be applied to support children's development. And without a grasp of developmental theory, practitioners can implement only 'wholesale' the ideas gained through their training. Understanding different developmental trajectories, and *why* certain practices are important, enables them to adapt their practice to new situations and tailor provision to individual children's needs; essential when caring for disadvantaged children with diverse needs.

As well as preparing practitioners to meet children's needs directly, the research literature also identifies a need for skills in engaging parents and working in partnership with them, in ways which recognise and value their preferences, priorities and cultural differences. Evidence suggests that active family involvement brings benefits for both children and parents. Settings supporting disadvantaged and vulnerable families will also need additional skills in helping parents to meet their children's needs, including the provision of a rich home learning environment.

In summary then, the evidence suggests that effective training has a dual focus on developmental theory and on the pedagogical skills needed to put theory into practice when working with children and families. While theory can be taught in the classroom, the development of pedagogical skills requires practical experience. During initial training, these skills are best nurtured through learner placements with experienced leaders, and then further refined through on-the-job supervision and support. Staff supervision within settings is of vital importance and the skill and knowledge of mentors and supervisors, as well as peer support and relationships, all play their part in ensuring successful training outcomes.

Practitioners also need opportunities for continuing professional development following pre-service training, in order to develop and sustain effective practice. Recent research suggests that professional development is also most effective when linked to actual practice. Training which supports practitioners in applying their knowledge, and ongoing on-site techniques such as coaching, can be more effective than one-off and one-size-fits-all taught sessions which practitioners are then expected to adapt to their own contexts. Practitioners also need the time and capacity to reflect on and review their practice, both during initial fieldwork experience and once they are working. This could be supported, for example, through regular opportunities for practitioners to engage in professional conversations with colleagues, supported by a challenging practitioner mentor, following the model within Reggio Emelia pre-schools. The leadership context is also important, with evidence from the literature on pre-school children indicating an important link between the quality of early childhood settings and the attributes and approaches of their leaders.

It is worth noting that the majority of evidence on workforce development relates to group care settings. The evidence base on childminding provision is thin, but the few available research studies suggest that qualifications and training are also predictors of quality for childminders. It is therefore reasonable to extrapolate from the group care literature and argue that qualifications, training and support are just as important for home-based providers in order to ensure that they have the knowledge and skills needed to provide good quality. In designing the content of qualification and training courses for childminders, the

literature on the home learning environment provides a rich source, since home-based provision most closely resembles the family environment; although we should not forget that childminders are caring for children who are not their own and therefore also require different skills to those of a parent.

Implications for policy

The success of the two-year-olds initiative will depend on the quality of the staff delivering it. Evidence suggests that effective practitioners have:

- expert knowledge of how young children develop (theory) and of how to apply this knowledge in pedagogical contexts (practice)
- practical opportunities to link theory and practice within a supportive environment
- access to ongoing professional development and support
- the capacity and the opportunity to reflect on and adapt their practice.

Qualifications and continuing professional development for group- and home-based practitioners at all levels should include these elements, and be carefully designed to ensure that they are fit for purpose. They should have robust entry requirements, clear guidance and checks on appropriate content, and well-qualified trainers and mentors. Following the 2012 Nutbrown Qualifications Review, the Government has made progress towards ensuring that Level 3 qualifications are fit for purpose, and the rollout of new Early Years Educator courses must be closely monitored to ensure that training providers are offering rigorous and effective preparation for practitioners.

The Nutbrown review set Level 3 as the baseline for all staff working with young children, and we support this recommendation for the two-year-olds early education programme to ensure that quality is sufficient to provide developmental benefits. This would represent the greatest shift for the childminding sector, since there are currently no qualification requirements for home-based providers. Childminders provide a unique environment with great potential to nurture children from disadvantaged backgrounds. However, if these children are to make progress and catch up with their more affluent peers, they will need well-qualified practitioners who can offer an intellectually stimulating as well as a nurturing environment; and the quality they experience should be comparable (although not identical) to that experienced by children in group provision. And if childminders are to offer funded places, then the support they receive, and the standards to which they are held, should be equivalent to practitioners working within centre-based provision. In fact, many local authorities have already made good progress towards increasing the number of Level 3 childminders offering the free entitlement. For example, current local policy in Hampshire requires childminders to be at Level 3 in order to offer funded places to two year olds, and 72 per cent of all childminders within the local authority are already at that level.[243] To ensure that availability of places is not adversely affected, and to give an incentive to providers to offer funded places for two year olds, we recommend that a workforce development fund similar to the Graduate Leader Fund be made accessible to settings offering (or planning to offer) funded places. This could be used to support staff in gaining a qualification or to access specialist training courses.

Based on strong evidence on the benefits of a graduate workforce for pre-school children, we also recommend that two year olds have *direct contact* with a graduate (Level 6) staff member for at least part of each funded session. Children who are likely to be lacking stimulation at home will need more than warm and responsive care to enhance their language and their thinking. They will require highly qualified staff with specialist pedagogical knowledge, and the capacity to extend their ideas and vocabulary in a way which recognises their developmental starting points. In addition to expert knowledge, practitioners will need the linguistic skills to model and shape children's developing vocabulary and grammar. Graduates supporting two-year-olds provision would not only provide high level support and language stimulation for individual children, but also play an important role in modelling good practice to less-qualified staff; in providing guidance with planning, observation and assessment tailored to individual needs; and in leading professional development.

Unlike the Level 3 recommendation, we are not including childminders within our recommendation, since it is clearly not feasible to have graduate contact for every child attending a funded session in childminding provision. However, where graduate *support* for childminders can be achieved, this could potentially bring significant benefits. One solution might be to encourage links between childminders and graduates in local centre-based settings or Children's Centres, with supply cover for graduates funded (if needed) by the

[243] It should be noted that the recently published 2013 *Statutory Guidance for Local Authorities on Early Education and Childcare* discourages local authorities from setting their own criteria governing providers' eligibility to offer the two year old entitlement, and states that LAs should use the Ofsted grade as the only criterion. http://www.education.gov.uk/aboutdfe/statutory/g00209650/code-of-practice-for-las

'Graduate Leader Fund'. Many children's centres already encourage childminders to attend drop in sessions. Such sessions could include additional support from graduates, and also act to ensure that children in home based care have some sessions with other children. Childminder agencies could also play a role in recruiting minders with higher qualifications and using them as mentors for others and/or in employing peripatetic graduates to support home based care.

All practitioners working with funded two year olds should have regular access to a special education needs co-ordinator, either within their own setting or via their local authority inclusion team, and (for those working in group care) be supported by strong leadership. Finally, practitioners working with funded children will require specific training in supporting children and families with diverse needs and backgrounds, particularly within settings providing for disadvantaged two year olds for the first time. Based on the research evidence, we recommend that centre- and home-based practitioners have opportunities to access qualifications and ongoing professional development which:

- promotes understanding of how young children develop (theory) and of how to apply this knowledge (practice), in order to deliver the aspects of quality which research shows matter most for children under three
- includes practical opportunities to link theory and practice within a supportive environment (ideally, involving higher-education-supervised practice during pre-service training, and support from an experienced practitioner mentor in-service)
- helps them to engage and support children and families with diverse needs and backgrounds
- develops their capacity to reflect on and adapt their practice
- develops their leadership and management skills
- prepares them for working with health services, particularly in the context of new proposals for the integrated health and education progress check at two, and with children's social care, particularly on safeguarding issues.

Two aspects will be important here: firstly, ensuring that suitable training is available. One possibility might be to fund Children's Centres to deliver training to settings within their area, using their experience in engaging hard-to-reach families and in supporting children and families with diverse needs. Since such provision is already loosely included within Children's Centres' core purpose, tighter monitoring of its delivery would be another option. Secondly, at a time when local authority funding for training is being severely cut, the provision of a national fund to support access to professional development opportunities will be important.

Policy recommendations

On the basis of this review and guidance from experts within the field, we recommend that the quality of the two-year-olds early education initiative be promoted by:

- requiring that all staff working with funded two year olds be qualified to at least Level 3 and have support from a graduate-level practitioner. Children accessing funded places in group settings should also have direct access to a graduate practitioner for at least part of each funded session
- ensuring that all practitioners (including childminders) can access qualifications and ongoing professional development which adequately prepares them to meet the needs of disadvantaged two year olds and their families
- creating a workforce development fund similar to the Graduate Leader Fund, to enable delivery of the qualifications and training outlined above, for both childminders and practitioners working in centre-based settings.

4.2.2 Organising staff and children

If practitioners are to be sensitive and responsive to individual children, and if children are to develop secure attachments with them, staff and children need to spend enough time together to get to know each other well and to develop individual relationships over time. Particularly for very young children, where care routines are necessarily intimate, being comfortable with a familiar adult is an essential part of feeling secure. Here, we briefly summarise evidence from Chapter 2 on how the organisation of staff and children can promote good quality staff-child interactions and child outcomes.

A stable staff team with a low turnover

One of the most significant influences on workforce stability is staff turnover – the extent to which practitioners stay within their settings for long enough to provide continuity; and high turnover has been associated with poorer provision and child outcomes. Research suggests that the primary determinants of turnover are staff working conditions, including regulatory features such as ratios, professional development opportunities, the quality of leadership and, most crucially, wages. Early years' practitioner salaries are a vitally important issue, with implications both for the quality of provision and staff retention.

Effective staff deployment

The main way that stability for individual children is ensured *within* early years settings in England is through the key person approach, where children are assigned to a named adult who takes primary responsibility for their well-being and development. There is as yet little scientific evidence to prove its effectiveness. However, this approach is grounded in attachment theory, appears intuitively sensible and is often supported by practitioners and parents.

While the key person approach aims to promote *stable* relationships, the ratio of adults to children influences the *individuality* of those relationships. Adult-child ratios are one of the most significant structural predictors of effective interactions, with convincing evidence that having fewer children per adult not only enables more interactions to take place, but also makes it more likely that they will be responsive and individual. Put simply, practitioners with fewer children to care for can give each of their charges more individual attention. More favourable ratios are also associated with better child outcomes, including attachment security, behaviour, cognitive development and health. Although research does not provide hard and fast guidance on optimum ratios, the best available evidence suggests that the current legal ratios of 1:3 for children under two and 1:4 for two year olds are appropriate.

Staff and child attendance

Staff work and child attendance patterns also have significant potential to influence the continuity and stability of children's relationships with staff and peers. Although research in this area is scarce, the few available studies suggest that children's social skills and well-being are greater when their hours of attendance are spread over more days and when daily staffing and grouping patterns are more stable, perhaps because they have greater opportunity to build up relationships with staff and peers through regular sustained contact.

Social mix

An additional consideration for children from disadvantaged families is the social mix of the settings they attend. Strong research evidence on pre-school children indicates that a mixed environment is particularly beneficial for children from poorer backgrounds, while posing no negative impact on the wider group of children.

Implications for policy

Turnover and pay are highly relevant issues. Turnover tends to be high within the private, voluntary and independent sector, which provides the majority of care for babies and toddlers. Pay in the private, voluntary and independent sector is also low in comparison with both the maintained sector in England and equivalent roles in other countries. The recent Government paper *More Great Childcare,*[244] acknowledging this thorny

[244] Department for Education, 2013a

issue, cites average pay for childcare workers in group care settings in England as £13,330 per annum as compared with £19,150 for an equivalent role in Germany, and £33,250 for a qualified teacher working in a school in England (Table 1). It also recognises the comparatively low status of early years workers, an issue highlighted by recent research from England showing that the primary barriers faced by graduate Early Years Professionals in improving quality were a lack of clarity around their role and a lack of authority to bring about change, particularly where the Early Years Professional was not also the manager.[245]

Table 1 Average annual salaries (GBP £)

European country	Childminders (home-based day care)	Childcare workers in group settings	Supervisors / managers of group settings	Primary school teacher
Denmark	£21,500	£20,350	£32,800	£38,050
Finland	£14,800	£18,800	£22,300	£28,100
France	£13,250	£16,300	£23,950	£25,400
Germany	£14,600	£19,150	£28,250	-
Netherlands	£22,500	£22,100	£34,400	£34,000
Sweden	£20,150	£22,450	£29,250	£23,250
England	**£11,400**	**£13,300**	**£16,850**	**£33,250**

Source: *More Great Childcare* (DfE, 2013a, p.18)

More Great Childcare proposed improving pay through funds released by weakening ratios, and introduced the new Early Years Teacher role to replace Early Years Professional status in an effort to raise the profile and status of graduates working in the early years. Proposals to amend ratios have since been withdrawn. However, the issue of low pay remains and was not addressed in the more recent Government policy paper *More Affordable Childcare.*[246] Since Early Years Teachers will not be legally eligible for the same pay and conditions as qualified teachers, they may find it difficult to secure improved pay through gaining their Early Years Teacher qualification, particularly if settings are not offered a financial incentive to employ graduates at higher pay. And even where settings *do* employ a graduate, the evidence suggests that they are least likely to be deployed to work with children under the age of three.[247] Efforts therefore need to be made to develop strategies which will reduce turnover and thus improve the stability of staffing for children under three, including improving staff salaries. Improved pay would also have additional benefits such as easing recruitment and improving the recognition and status of practitioners. One mechanism for improving pay might be to increase the hourly rate paid to providers for each funded place, to a level which allows for the provision of good quality through a well qualified and well rewarded workforce. The hourly rate has been noted as an area of concern for providers,[248] and potentially acts as cap on what they can afford to pay staff. Using a supply-side funding approach (provided directly to settings) would enable increased rates to be contingent upon improved qualifications, thus acting as a lever to quality improvement.

Turning now to ratios, evidence suggests that the current legal thresholds of one adult to four two year olds (1:3 for childminders), and one adult to three children under two, are appropriate. Research from England on the predictors of quality for children under three shows that adult-child ratio is one of the strongest influences on quality for this age group, and is particularly associated with the quality of care routines and meeting individual needs. This is particularly important for funded two year olds, given that many will be developmentally younger than their chronological age in terms of their social, behavioural and/ or language development. We recommend giving highest priority to maintaining the current ratios for two year olds, despite more relaxed ratios in other countries within Europe (the maximum ratio is 1:6 in the Netherlands and Ireland). It is also likely that a higher proportion of funded children will have specific needs requiring one-to-one support than is the case in the general population. Some local authorities still choose to support settings in employing additional staff to meet these needs. It is vitally important that this option be maintained, to ensure that the neediest children can access the support they need to overcome their early disadvantage.

Efforts are also needed to ensure that children attending funded places experience a broad social mix among their peer group. Segregation is always more likely with a targeted rather than a universal offer. However, since the current financial climate means that two year olds' places can be offered only to the most disadvantaged, at least in the first instance, we must consider how to ensure that funded children are not separated from those whose parents are paying. Simple, low-cost solutions might include raising awareness

[245] Mathers et al. 2011
[246] Department for Education, 2013b
[247] Mathers et al., 2011
[248] http://www.ndna.org.uk/news/sector-news/Business+Performance+Survey+June+2013

among practitioners, so that settings understand the issues. It is likely that the maintained sector will face the most difficulty in achieving a social mix, given that nursery schools and classes tend to cater for a greater proportion of children from non-working families than the private and voluntary sectors.[249] A common barrier is a lack of after-school care, without which full-time working parents find it difficult to take up a part-time place at a nursery school or class. The Government has already set out a commitment to work with schools and childcare providers to make it easier for out-of-hours provision to be made available on school sites.[250] We support this commitment and would encourage the Government to consider other ways in which a social mix can be achieved for children attending funded two year olds' places.

Finally, we recommend that research be commissioned to explore the potential effects of staff and child attendance patterns. At present, there is too little evidence to provide a basis for informed expert opinion, although indicative findings suggest that more stable patterns are better for children (for example, fewer hours spread over more days). In fact, Government policies have generally been directed at making childcare more flexible for parents by allowing children to attend for a smaller number of long days. The tension between policy designed to reduce child poverty by allowing parents to work, and policy designed to improve developmental outcomes for disadvantaged children, is evident in the debate on flexibility versus quality. This is an area which requires urgent attention to ensure that policies aimed at encouraging employment do not reduce the developmental benefits of early years provision for children or cause adverse outcomes.

Policy recommendations

On the basis of this review, and guidance from experts within the field, we recommend that the quality of the two-year-olds early education initiative be promoted by:

- improving pay to reflect improved qualifications and aid recruitment and retention (potentially by increasing the hourly funding rate paid to providers per funded place, for settings able to demonstrate a certain qualification level)
- retaining an overall ratio of 1:4 for group care settings and 1:3 for childminders. Where additional support is needed over and above the 1:4 ratio for two year olds with specific needs, local authorities need to retain the funding to support settings in employing additional staff
- working to ensure that there is a good social mix in early years settings, so that poorer two year olds mix with other children and improve their social and language skills in the process.

4.2.3 Organising the physical environment

Good quality physical environments, resources and materials support children's learning and physical development, as well as promoting health and safety, particularly for disadvantaged children who may not have access to rich learning materials and experiences within their home environments. How the physical environment is organised can also promote individual and positive relationships; and there is evidence that good quality environments are associated with better child well-being and with more positive caregiving by practitioners.

Based on the available evidence and the judgment of our experts, we recommend that physical environments should

- be clean, safe and uncluttered
- have appropriate space to meet routine care needs (such as sleeping, changing)
- provide a range of stimulating, varied and accessible resources to meet different needs and interests
- encourage movement and physical development indoors and out
- provide a calm environment with intimate spaces which promote positive and individual relationships, routines and communication.

Environmental factors are more important for some children than others. Research tells us that children with additional needs are more sensitive to noise and environmental stress. Settings that provide for funded two year olds therefore need to pay particular attention to the aspects of the physical environment which promote individual care and attention, to make sure that children are not overwhelmed. This might involve, for example, ensuring that two year olds are catered for in smaller spaces rather than in large open-plan layouts. Group

[249] Gambaro, Stewart & Waldfogel, 2013a, b
[250] Department for Education, 2013b

size can also significantly influence the feel and tone of an environment: even with comparable ratios in operation, a room catering for 36 toddlers will have a very different atmosphere to a room providing for 12 toddlers. While the research evidence on group size is less robust than for qualifications and ratios, it is often identified as the third structural predictor of quality; and best available evidence suggests groups of 6-8 for under-twos and 10-12 for two year olds to be developmentally appropriate. Settings with open-plan spaces could achieve this by sub-dividing a larger area into smaller units. Other strategies to ensure children are not overwhelmed might include ensuring that they do not mix with large groups of older children when playing outdoors, ensuring rooms have adequate sound absorbing materials, providing cosy spaces indoors for one or two children to play and avoiding large group activities. Paying close attention to the provision of an appropriate physical environment will be particularly important for settings catering for two year olds for the first time (such as schools) to ensure that their needs are met.

Policy recommendations

On the basis of this review, and guidance from experts within the field, we recommend that the quality of the two-year-olds early education initiative be promoted by:

- settings ensuring that their physical environments are appropriate for two year olds. Ideally, minimum requirements should be checked as a condition of eligibility prior to offering funded places, and include:
    - stimulating but developmentally appropriate resources
    - space to meet routine care needs (such as sleeping and changing)
    - space and resources which promote physical activity indoors and out
    - small group sizes appropriate to age/stage, within a calm environment which promotes individual care and attention.

4.2.4 The broader context: funding, regulation and facilitation frameworks

Our recommendations have so far focused on workforce development and on how staff, children and physical environments are organised within individual early years settings. In this final section, we address the broader framework for quality improvement and regulation, and how this supports providers and local authorities in successfully implementing the two-year-olds initiative.

The first consideration is the extent to which the regulatory system is effective in ensuring the quality of funded places for two-year-old children. Recent Government reforms mean that Ofsted grades are now the sole test of quality determining whether or not a setting is eligible to offer places as part of the programme. The success of the programme will therefore depend on the extent to which Ofsted can effectively weed out settings which fall short. However, recent research raises questions about the extent to which Ofsted judgments provide a full and accurate picture of quality for children under three. The *Improving Quality in the Early Years* study[251] showed that there was no statistical association between grades awarded by Ofsted and scores awarded to the same settings using the research-validated Infant Toddler Environment Rating Scale.[252] Ofsted has responded positively to the issues raised in this research, strengthening its focus on quality and increasing the extent to which inspections focus on progress for different age groups. However, no work has yet been undertaken to assess the effectiveness of the changes made and the sector has raised serious concerns about Ofsted's quality assurance procedures and the extent to which inspectors are knowledgeable about early years practice.[253] To ensure that inspections provide an adequate measure of the quality of funded places for two year olds, we therefore recommend that Ofsted make public its procedures for ensuring the robustness of inspections (including those contracted out) and the extent to which inspectors are knowledgeable about the needs of under-threes. We also recommend that inspection reports include a grade (or at minimum, a written statement) reflecting the quality for children under the age of three; and that the Early Years Foundation Stage judgement within school inspection reports is reinstated. Given that many schools will be taking two year olds for the first time, it is essential that the quality of this provision can be closely monitored, which will be impossible without a distinct grade which is separate from that awarded for the school as a whole.

Secondly, careful thought must be given to the mechanisms by which quality improvement strategies are implemented. The recommendations set out in this report will be of little use without a framework within which they can be delivered. Until recently, local authorities performed the majority of quality improvement functions.

[251] Mathers, Singler & Karemaker, 2012
[252] Infant Toddler Environment Rating Scale Revised (ITERS-R)/Harms, Cryer, & Clifford, 2003
[253] Gaunt & Morton, 2013

Since the publication of *More Great Childcare*, their role has been greatly reduced and this trend looks set to continue. The local authority framework was by no means perfect, and there were variations in the extent to which authorities were successful in improving quality and child outcomes. However, they fulfilled a number of vitally important functions and provided a co-ordinated team of support for early years providers, offering targeted training and improvement support based on in-depth knowledge of each setting, brokering support for families through Children's Centres and providing support for children with additional needs. Although enterprising organisations and individuals within the sector will no doubt try to fill the gap left by local authorities, it may not happen very quickly, and this is likely to result in a fragmented, patchy and inefficient system of support at local level.

Ofsted is clear that its remit for quality improvement involves monitoring, inspection and dissemination of good practice,[254] and is unlikely to extend to provide individual support or training for settings. Coupled with an increasingly rigorous inspection framework leading to many providers being downgraded,[255] this means we are likely to face a period where many settings in need of support are unable to access it. Regardless of confidence in the quality of inspection, downgrading has an impact on morale and confidence in the sector overall. We do not propose a solution, since the development of a quality improvement framework which is fit for purpose is an exercise which will require input from many stakeholders. Instead we propose a broad-ranging consultation to identify:

- the levers for quality improvement
- the roles currently performed by local authorities to support improvement and the consequences of a reduced local authority role
- optimum roles and responsibilities for each stakeholder group (settings, professional networks/bodies, local authorities, Ofsted, central government)
- the most effective ways for the different groups to work together to develop a cohesive and effective system for supporting and improving quality
- ways to ensure that approaches to quality improvement are evidence based (building on our earlier recommendation for an Evidence Toolkit to support practitioners in identifying and implementing evidence-based approaches).

The consultation should aim to distil the best of what local authorities offered to support quality improvement, to identify the areas where sector-led solutions offer most potential (including how they can be promoted), and to inform the development of a new framework for quality improvement support. Given the importance of links with health, and plans for an integrated progress check at two, the scope of the review should be broad enough to include integration with other services.

Finally, we consider the two-year-olds programme itself, and whether or not it is likely (in its current form) to be successful in narrowing the gap between children from disadvantaged families and their more affluent peers. The programme is based on sound research evidence demonstrating the benefits of early years provision for children from deprived backgrounds. But evidence from the evaluation of the pilot programme[256] showed that developmental benefits will be achieved only if children are able to attend good quality provision. So the key question to be considered is whether the current provision is sufficient to improve outcomes for those most in need. Worryingly, our review suggests that it may not be.

In this report, we have identified a number of key conditions for quality, and made recommendations for achieving that quality. While we have made every effort to identify low-cost solutions, a number of the recommendations (primarily those related to workforce development) will require additional investment. These include setting a minimum requirement of Level 3 for all staff working with funded two year olds; ensuring that centre-based staff and children have access to a graduate; the provision of specialist professional development; and improving pay across the sector.

Just the first of these would involve significant cost. It is not the aim of this report to provide a fully costed analysis. However, initial estimates[257] suggest that setting a baseline of Level 3 for all staff working with funded children would require more than 20,000 additional practitioners to complete Level 3 qualifications in order to support the expansion, planned for September 2014, to offer places to 40 per cent of all two year olds. Once qualified, these practitioners will expect to be paid more to reflect their increased expertise.

[254] Wilshaw, 2013
[255] Gaunt, 2013b; Morton, 2013a
[256] Smith et al., 2009
[257] See Appendix B

Identifying differences in pay between practitioners working below and at Level 3 is not straightforward,[258] making it difficult to calculate the potential costs of an uplift. However, initial estimates[259] suggest that a minimum of £27 million per annum would be needed to raise the salaries of newly qualified Level 3 staff by an average of £2.30 per hour, to cover funded sessions. Of course, in practice, the Government would be unlikely to address qualifications and pay only for those practitioners working with two-year-old children, so these estimates are provided for illustration only. Addressing the pay of the early years sector as a whole would involve a substantially larger investment, as would the implementation of recommendations on graduate input and specialist continuing professional development.

It is clear that even the most basic steps towards ensuring good quality provision for 40 per cent of two year olds cannot be achieved without significant cost. However, the importance of ensuring quality cannot be overstated. If current provision is not fit for purpose, then time and resource will be needed to address the gaps, and improve quality to a level sufficient to achieve the intended developmental benefits. Within the current climate, we think it unlikely that additional funding can be identified at short notice. We therefore propose that the expansion to 40 per cent of two year olds planned for September 2014 be delayed. This would enable current good quality provision to focus on catering for the most deprived 20 per cent of two year olds (those most in need), whilst allowing the time and funding to ensure that sufficient good quality provision is available to meet the needs of the 40 per cent *before* this is offered as a legal entitlement. Expanding too soon may well be counterproductive, and risk the success of the programme in achieving its stated aims.

In further support of a measured expansion, recent figures indicate that almost one third of local authorities think they will be unable to provide sufficient places to cater for 40 per cent of two year olds by the 2014 deadline.[260] In which case, moving too quickly towards expansion will mean quality standards are lowered yet further. While eligibility guidance for local authorities states that places should be identified in 'good' and 'outstanding' settings only, it allows the flexibility to fund settings graded as 'requires improvement' where there is a shortfall. Delaying the rollout would relieve the pressure to find places, enabling eligibility criteria to be tightened to allow only settings graded as good or outstanding by Ofsted to take part in the programme. It would also allow more time for local authorities to build capacity. Consultation with local authorities whilst developing our recommendations revealed concerns about the time available to prepare settings, given the push to meet targets for places by September 2014. Allowing more time would enable some of the recommendations outlined here to be implemented, for example providing training in meeting the needs of children and families with diverse needs, and improving qualification levels. Adequate preparation of settings is particularly important given that parents will be finding their own places rather than being 'placed' by local authorities; a positive move for parental choice but one which means that all settings potentially need to be ready to receive and meet the needs of disadvantaged two year olds. Each sector will face different challenges in providing good quality places. For example, the majority of schools will be providing for children under three for the first time; whilst the lack of qualification requirements for childminders means that this sector will need to work harder to achieve a Level 3 baseline. Delaying the rollout would allow a significant amount of funding to be channelled into supporting the improvements needed to ensure quality for those most in need before expanding further, as well as into efforts to sustain quality through training and targeted support.

In summary, we fully support the aims of the two-year-olds early education programme, including expansion to 40 per cent of all two year olds; but suggest that a more measured rollout would allow sufficient time and resource to ensure the good quality needed for the programme to achieve its aims. This might be achieved by expanding to cover 30 per cent of two year olds (rather than 40 per cent) by 2014, moving to 40 per cent of two year olds by 2015 or 2016.

[258] Brind, Norden, McGinigal, Oseman et al., 2012
[259] See Appendix B
[260] Morton, 2013b

Policy recommendations

On the basis of this review, and guidance from experts within the field, we recommend that the quality of the two-year-olds early education initiative be promoted by:

- further strengthening the Ofsted inspection system to ensure that it provides a robust test of quality for settings wishing to offer funded places, including:
    - make public the procedures for ensuring the robustness of inspections (including those contracted out) and the extent to which inspectors are knowledgeable about under-threes
    - reinstate the Early Years Foundation Stage judgement within school inspection reports to specifically reflect quality for children under five
    - add a specific grade or written statement to all inspection reports (for schools and early years settings) reflecting quality for children under the age of three
- developing a new framework for quality improvement support which draws on the best of what local authorities offered but also recognises the potential for sector-led solutions. As a first step, we recommend a government-led stakeholder consultation
- delaying the roll-out of the two-year-olds early education initiative to 40 per cent of two year olds (planned for September 2014). This would enable current good quality provision to focus on catering for the most deprived 20 per cent of two year olds (those most in need), whilst allowing the time and funding to ensure that sufficient good quality provision is available to meet the needs of the 40 per cent *before* this is offered as a legal entitlement.

4.3 Conclusions

The challenge of quality in early childhood is one which successive Governments have addressed and will no doubt continue to address for many years to come. In this report we have attempted to shine a light on an aspect which is often overlooked: the need for specific practices and policies designed to meet the needs of children under three.

The first three years of a child's life are increasingly recognised as a crucial period of development. Babies and toddlers are unique, with unique needs which are different from those of older children. Yet, explicit policies which address these needs are rare. In this report, we have reviewed the evidence base on quality for children under three in order to develop recommendations for early years practice and policy in England.

Looking first at the components of good quality pedagogy for children under three, we conclude that the statutory Early Years Foundation Stage framework does a good job in promoting evidence-based practice through its focus on:

- stable relationships and interactions with sensitive and responsive adults
- play-based activities and routines which allow children to take the lead
- support for communication and language
- opportunities to move and be physically active.

We have made a number of recommendations for revising standards and practice guidance to articulate these dimensions more fully; and for supporting practitioners in identifying and implementing evidence-based approaches.

The second strand of our work considered the conditions needed to promote good quality pedagogy, routines and relationships for children under three. We identified five pillars of good quality practice:

- knowledgeable and capable practitioners, supported by strong leaders
- a stable staff team with a low turnover
- effective staff deployment (e.g. favourable ratios, staff continuity)
- secure yet stimulating physical environments
- engaged and involved families.

In considering these key conditions for quality, we focused on the Government's flagship programme providing free early education places to two year olds. This ambitious programme aims to provide the most disadvantaged in society with a means of overcoming the odds stacked against them: it is bold, purposeful and potentially life changing for the children who will receive it. Getting it right is therefore essential. However, our review suggests the programme in its current form is unlikely to lead to the expected developmental benefits for the children receiving it. Further investment is needed; and we have made a number of recommendations for workforce development, deployment, pay and conditions, as well as considering the wider regulatory and quality improvement contexts. These changes come with a price, but a limited investment that fails to achieve quality will be a poor use of public money. It will not yield the expected gains. In order to fund the improvements needed to the two-year-olds programme, we have therefore advised slowing the speed of expansion in order to ensure that quality can be achieved: delaying in order to deliver. By ensuring that the children less likely to succeed have the provision they need within their first few years, we help to narrow the gap in outcomes between poor children and the rest, and to secure the future of the next generation.

Summary of policy recommendations

On the basis of this review, and guidance from experts within the field, we recommend two steps to promote good quality pedagogy for all children under three.

1. Revising standards and practice guidance to fully articulate those dimensions identified by research as important for the development of children under three (interactions and relationships; play-based approaches which allow children to take the lead; support for communication and language; and opportunities to move and be physically active). This could be achieved by:
   - promoting existing UK practice guidance which reflects these approaches[261]
   - developing additional guidance where gaps exist
   - revising the Early Years Teacher and Early Years Educator standards to emphasise the importance of play-based learning approaches
2. Develop an Early Education Evidence Toolkit to support practitioners in identifying and implementing evidence-based approaches.

On the basis of this review, and guidance from experts within the field, we recommend ten steps to ensure the success of the early education programme for two-year-old children.

1. Require that all staff working with funded two year olds be qualified to at least Level 3 (A-level standard) and have support from a graduate-level practitioner. Children accessing funded places in group settings should also have direct access to a graduate practitioner for at least part of each funded session
2. Ensure that all practitioners (including childminders) can access qualifications and ongoing professional development which adequately prepares them to meet the needs of disadvantaged two year olds and their families
3. Create a workforce development fund, similar to the Graduate Leader Fund, to enable delivery of the qualifications and training outlined above
4. Improve pay to reflect improved qualifications
5. Retain an overall ratio of 1:4 for group care settings and 1:3 for childminders
6. Work to ensure that there is a good social mix in early years settings, so that poorer two year olds mix with other children and improve their social and language skills in the process
7. Settings should ensure that their physical environments are appropriate for two year olds. Ideally, minimum requirements should be checked as a condition of eligibility prior to offering funded places, and include:
   - stimulating but developmentally appropriate resources
   - space to meet routine care needs (such as sleeping and changing)
   - space and resources which promote physical activity indoors and out
   - small group sizes appropriate to age/stage, within a calm environment which promotes individual care and attention.
8. Further strengthen the Ofsted inspection system to ensure that it provides a robust test of quality for settings wishing to offer funded places. Ofsted should:
   - make public the procedures for ensuring the robustness of inspections (including those contracted out) and the extent to which inspectors are knowledgeable about under-threes
   - reinstate the Early Years Foundation Stage judgement within school inspection reports to specifically reflect quality for children under the age of five
   - add a specific grade or written statement to all inspection reports (for schools and early years settings) reflecting quality for children under the age of three.
9. Develop a new framework for quality improvement support which draws on the best of what local authorities offered but also recognises the potential for sector-led solutions. As a first step, we recommend a government-led stakeholder consultation.
10. Delay the roll-out of the two year olds early education initiative to 40 per cent of two year olds (planned for September 2014) until the Government can ensure good quality provision for all.

[261] Such as *Development Matters; Birth to Three Matters; Learning, Playing and Interacting; BHF Physical Activity Guidelines for Under Fives; Every Child a Talker* guidance

APPENDIX A: Recommendations for research

Our review of the literature highlights a number of areas in which further research is particularly needed.

1. The specific pedagogical practices that facilitate the learning and development of babies and toddlers. There are particularly significant gaps in knowledge around the influence of peer relationships for children under three and how children's social experiences can be supported by adults; and around effective practices for supporting children's physical development.
2. The specific features of pre-service qualifications, in-service training, supervision and support which are most effective in preparing practitioners to work with babies and toddlers (including level of qualification, content, intensity and modes of delivery).
3. The factors which influence stability and continuity of care for children under three in early childhood education and care settings, including: staff salaries; staff deployment and grouping; use of the key person approach; staff and child attendance patterns; and the management of transitions.
4. Aspects of the physical environment which are most important to support the learning, development, health and well-being of babies and toddlers; and the effects of regulating for these aspects.
5. How early years settings can most effectively engage and support parents with diverse needs and backgrounds, including support in developing a rich home learning environment.
6. Effective leadership and management practices, particularly in relation to the quality of provision for children under three.
7. The predictors of quality for home-based childminding provision, including adult-child ratios and qualifications, in-service training and support. Further research is also needed to understand more fully the pedagogical practices of childminders working with children under three, and how these differ from centre-based practitioners.
8. The specific aspects of early childhood education and care and of early childhood interventions which are most effective in improving outcomes for disadvantaged children.
9. Innovative methods for meeting the needs of children under the age of two within early childhood education and care contexts, in ways which meet their developmental needs whilst also supporting parental employment.
10. The effects and potential benefits of service integration (such as early childhood education and care and health) outside the context of specific interventions.

APPENDIX B: Indicative calculations to support recommendation 1

1. The proportion of practitioners requiring training in order to achieve a minimum standard of Level 3 for all staff working directly with funded two year olds

Providing for the 40 per cent most disadvantaged two year olds will, according to Government calculations, require places for 260,000 children, to be provided across all sectors. Table A.1 sets out our indicative calculations of the number of staff members required to deliver these places. Column 1 shows the proportion of all two year olds (funded and non-funded) accessing formal early years provision in 2011 within each sector. It is likely that the distribution across sectors has changed since the roll-out of early education places to the most disadvantaged 20 per cent of two-year-old children in September 2013. For example, many local authorities are relying heavily on childminders to offer places. It has proved difficult to obtain accurate estimates of the proportion of *funded* two year olds' places likely to be offered by each sector. We have therefore used the 2011 figures as a starting point, and increased the proportion of places offered by childminders to 15 per cent to allow for additional capacity generated to deliver funded provision (Column 2). Column 3 shows the estimated number of funded places *required* within each sector, to reach the Government target of 260,000 places. Columns 4 and 5 show the legal ratios for each sector relevant to provision for two year olds, and the resulting calculation of the number of early years staff required to deliver places within each sector.

Table A.1 Calculation of the number of staff required to deliver 260,000 funded places

	1	2	3	4	5
	Of all 2 year olds who accessed formal provision in 2011, the proportion who did so within each sector	Estimated proportion of *funded* 2 year olds who will be catered for by each sector	Number of funded places required within each sector to reach 260,000 target	Relevant staff-child ratio for 2 year olds	Number of staff required to deliver 260,000 funded places
Nursery schools	18.2%	17.7%	46,044	1:4	5,755
Primary schools with nursery class	1.8%	1.8%	4,604	1:4	576
Full day care	40.0%	39.0%	101,296	1:4	12,662
Sessional provision	27.3%	26.5%	69,065	1:4	8,633
Childminders	9.1%	15.0%	39,000	1:3	39,000
Total	**96.4%**	**100.0%**	**260,009**		**66,626**

Notes and assumptions:

Column 1. Source: *Childcare and Early Years Survey of Parents*.[262] Only figures for the sectors likely to be offering funded two-year-olds places have been reported here; figures for breakfast clubs, after-school clubs and nannies/au-pairs have been excluded. As a result, percentages do not add up to 100.

Column 2. Sectors not offering two-year-olds places were removed from the calculations so that the five provider types represented here cover 100 per cent of children. The proportion of childminders has been fixed at 15 per cent and the remaining percentages have been calculated proportionally.

Column 5. Figures have been calculated using the ratios relevant to each sector, and assuming that:

- centre-based providers can offer two funded places per day (for example, am and pm). Thus, the number of staff members required within the nursery school sector has been calculated by dividing 46,044 by four (using the relevant staff:child ratio) and then dividing again by two to allow for a morning and an afternoon place to be offered each day. Due to the flexibility of places being offered, it is in fact likely that many providers will be able to offer more than two funded places per day, thus reducing the

[262] Huskinson et al., 2013

number of staff members they need to cover the places offered. However, this is offset by the fact that many settings will be unable to employ a stable staff team to cover all sessions and will therefore need to employ more than the minimum they technically need. We have therefore retained our assumption of two funded sessions per day for the purposes of this calculation.

- each individual childminder is likely to offer a place to only one funded two year old, due to the nature of their provision (e.g. restricted number of places, may already have other children already attending)

In Table A.2, we take the estimated staffing requirements from Table A.1 and current data on the proportion of practitioners qualified to Level 3, and use these two figures to create an estimate of the number of practitioners who would require additional training, if a minimum requirement of Level 3 were introduced for all staff working with funded children.

Table A.2 Calculation of the number of staff members required to deliver 260,000 funded places

	1	2	3
	Proportion of paid staff members qualified to at least Level 3 in 2011	Number of practitioners required to deliver funded places (Table A.1 Column 5) likely to be qualified to Level 3	Number of practitioners who will need additional training to reach Level 3
Nursery schools	88%	5,065	690
Primary schools with nursery class	85%	489	87
Full day care	84%	10,636	2,026
Sessional provision	78%	6,734	1,899
Childminders	59%	23,010	15,990
Total		**45,934**	**20,692**

Notes and assumptions:

Column 1. Source: *2011 Childcare and Early Years Providers Survey*.[263] The proportion of staff members in full day care offered by Children's Centres is actually slightly higher than the proportion presented here for full day care as a whole (90 per cent rather than 84 per cent). However, since only four per cent of children attending full day care provision attend places at Children's Centres,[264] the overall figure for full day care (84 per cent) has been used for this calculation.

The estimates above are indicative and subject to many assumptions. However, even using these broad-brush workings, it is clear that a significant number of practitioners (we estimate more than 20,000) will require additional training to achieve a baseline of Level 3-qualified staff working with funded two-year-old children.

2. Potential costs of increasing pay to reflect improved qualifications

The estimates above suggest that approximately 66,626 practitioners will be required to deliver 260,000 funded places, and that more than 20,000 of these will require additional training to reach Level 3. What are the likely cost implications of increasing pay to reflect improved qualifications? This depends on a number of factors, not least whether we consider the increased pay only of newly qualified Level 3 practitioners, or whether we consider that the pay of all practitioners should be improved. We consider both options below.

The annual *Childcare and Early Years Providers Surveys* are the most commonly used source of information on staff wages. They present data for three broad categories of early years staff: senior managers, supervisory staff and other paid staff. The 2011 hourly wages for each of these three categories are set out in Table A.3 below. The authors of the survey acknowledge the difficulties in identifying finer gradations of wages for each level of qualification.[265] For full day care and sessional providers, therefore, it is difficult to identify the potential wage increase required to reflect a move from below Level 3 to Level 3 (also for childminding provision, for which no wage data is reported in the annual survey). For the maintained sector, however, we have separate figures for Level 3 Nursery Nurses and for 'other paid early years support staff'.

[263] Brind et al., 2012
[264] Brind et al., 2012
[265] Brind et al. 2012

Taking the average for nursery schools and primary schools with nursery classes, the difference between these two categories is **£2.30 per hour**. We have used this figure to reflect the potential cost for *all* sectors of an uplift to reflect achieving a Level 3 qualification. Applying this figure to the estimated 20,692 practitioners who will require training to Level 3 allows us to calculate the potential cost of this uplift. Working 15 hours per week for 38 weeks of the year to cover funded sessions, an increase of £2.30 per hour would mean an additional £1,311 per practitioner per annum; an additional **£27,127,212** in total per annum for the 20,692 newly qualified practitioners working with funded two-year-old children. Providing these additional sums via the per-head rate offered to providers would enable settings to cover the extra costs and avoid childminders being disadvantaged.

Table A.3 Hourly rates from the *Childcare and Early Years Providers Survey 2011*[266]

	Senior manager/ Head Teacher/EYFS co-ordinator	Supervisory staff/Qualified teachers	Other paid staff
Nursery schools	£29.50	£22.60	Nursery Nurses £11.50 Other paid EY support staff £8.80
Primary schools with nursery class	£24.40	£20.50	Nursery Nurses £10.70 Other paid EY support staff £8.80
Full day care	£10.60	£8.10	£6.60
Sessional provision	£9.80	£7.90	£6.80
Childminders	Not reported	Not reported	Not reported

Abbreviations: EY, early years; EYFS, early years foundation stage.

The calculations above are very conservative compared with other recent work. We have considered only practitioners newly qualified to Level 3, and used an hourly rate increase equivalent to £2.30 per hour. For an early years practitioner with an average wage in the 'other paid staff' bracket, this would still represent a final hourly rate of only £8.90 in full day care; and £9.10 in sessional provision. The recent *Quality Costs*[267] report published by the Daycare Trust proposed an hourly rate of £18.47 for Level 3 staff which would represent a further increase of £9.57 per hour for our full day care practitioner, and £9.37 for our sessional practitioner. And yet, at an equivalent salary of £19,508 per annum, it would bring their wages only just in line with average salaries for childcare workers within other European countries (see Table 1 in the main report). The costs of improving pay to a level equivalent to the maintained sector, and to wages in other countries, would therefore be considerably greater than the £27 million per annum identified above. And in practice, of course, the Government would be unlikely to address qualifications and pay only for those practitioners working with two-year-old children, meaning that the true costs of improving qualifications for the workforce as a whole would be even higher.

[266] Brind et al., 2012
[267] Goddard & Knights, 2009

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