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CHAPTER 30:

Quality of early childhood education and care for children under three: Sound Foundations

Sandra Mathers and Katharina Ereky-Stevens

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Introduction

The first few years of a child's life provide the foundation for healthy development and life-long learning. While the home environment is the most powerful influence on development, there is an increasing trend in many countries for children under three years to attend an early education and care setting, often to support parental employment. In England, for example, the latest national figures suggest 40 per cent of under threes attend formal provision (Huskinson et al., 2016).

Good quality early childhood provision can bring cognitive, language and social benefits, even for very young children. However, achieving high quality in formal settings is a challenging task, particularly given growing recognition that the needs of babies and toddlers are different to those of older children. Evidence suggests that there is wide variation, and that a significant proportion of children under three attending early years provision do not experience good quality (Smith et al., 2009). This is not simply a lost opportunity for supporting development: research shows that attending low quality provision can actually be harmful, with long hours in low-quality group care for very young children associated with increased risk of anti-social behaviour, among other things (Melhuish et al., 2015).

Particular attention is needed to ensure that children from low-income and at-risk families are not relegated to low quality early childhood settings. Disadvantaged children often experience home environments that are less than optimal, not because poor families are poor parents, but because the stresses of living in poverty can lead to reduced parental warmth, inconsistent and chaotic routines, and limited language and learning environments (Bornstein, 2015). As a result, children from disadvantaged homes are at greater risk of developmental delay. Whilst good quality early years provision can contribute to narrowing this achievement gap (Heckman, 2006; Nores & Barnett, 2010), low quality provision exacerbates developmental risk factors.

Early childhood policy makers wishing to achieve maximum gains in child development, as well as social equity, should therefore aim to ensure access to good quality provision for the most disadvantaged. Many countries are now recognising this objective, either providing direct access via funded programmes or addressing issues of accessibility and affordability for disadvantaged children within early years policy. Despite these efforts, research shows that disadvantaged children do not always receive comparable quality to their more advantaged peers (Mathers & Smees, 2014). Particularly when it comes to ameliorating the effects of disadvantage, there is often a tension between measures designed to tackle poverty by increasing maternal employment and those designed to ensure that early childhood provision is of the highest quality. Whilst we recognise the key role played by employment in lifting families out of poverty, our focus here is on the potential of early childhood provision to directly promote improved child outcomes.

A good understanding of the ways in which early childhood education and care shapes development and learning in the first years of life is vital to inform policy and practice. We review the international research evidence, focusing particularly on the needs of young children from disadvantaged backgrounds. We draw largely on two recent pieces of work: a review carried out in England on early childhood quality and policy for under threes (Mathers et al., 2014), and work carried out as part of a collaborative European project¹ funded by the European Union to address issues related to the quality, inclusiveness and benefits of early childhood education and care in Europe (Melhuish et al., 2015; Resa et al., 2016; Sylva et al., 2015, 2016). Our work is therefore targeted rather than systematic, and draws on reviews as well as original research papers. In a short chapter on a wide-ranging subject area, it is not possible to fully reflect the evidence-base. In each case, therefore, the papers we cite represent *examples* drawn from a wider pool of research, including significant US and European studies.

The effects of early years provision on outcomes for under-threes

Research indicates that attendance at high quality provision before starting school can bring benefits in many developmental domains. The strongest findings relate to cognitive and educational outcomes: attending early childhood provision before age three can lead to gains in cognitive skills, language development and academic achievement, with some effects lasting into later childhood and adolescence (Jaffee et al., 2011; Sylva, et al., 2010; Vandell et al., 2010). Effects vary according to the characteristics of children, families, providers and patterns of attendance. Importantly, benefits are often found to be stronger for children from disadvantaged families (Geoffroy et al., 2010; Votruba-Drzal et al., 2013). Much of the evidence relates to attendance at centre-based provision, although some studies have also found benefits for home-based provision (Lekhal et al., 2011; Votruba-Drzal et al., 2013). Effects increase with length of attendance (Sylva et al., 2010; Votruba-Drzal et al., 2004) but it is not clear how many years of attendance are needed for maximum benefits. Some studies suggest more than one or two years (Biedinger & Becker, 2006; Bos et al., 2003) and others more than three years (Sammons et al., 2002; Wylie et al., 2006).

In contrast to the largely positive findings for cognitive development, the effect of early education and care on socio-emotional development has long been a contentious topic; and the perspective that daily parental separation might reduce secure attachment influenced much early research on infant childcare. Evidence from more recent (and methodologically rigorous) research suggests that attachment security is only compromised when babies experience low quality care (Friedman & Boyle, 2008; Love et al., 2003). Other studies have identified negative effects on socio-emotional outcomes of long hours in group care at an early age (Loeb et al., 2007; Yamauchi & Leigh, 2011). However, a recent comprehensive review concluded that these effect are specific to populations not facing disadvantage (Huston, Bobbitt & Bentley, 2015). For children from disadvantaged homes, positive impacts of early attendance on behavioural and social outcomes can be found (Cote et al., 2008; Zachrisson, & Dearing, 2015) particularly related to centre-based care experience (Crosby et al., 2004) and to high quality care (Votruba-Drzal et al., 2004).

Another important concern is how attendance at early childhood provision can affect young children's *health*. Several studies have found negative impacts of attendance for babies and toddlers, including increased numbers of infections, and respiratory and gastrointestinal illnesses (Bradley & the NICHD ECCRN, 2003; Lu et al., 2004). Although evidence suggests that these early effects do not necessarily influence later development (NICHD ECCRN,

¹ Curriculum and Quality Analysis and Impact Review of European Early Childhood Education and Care; <http://ecec-care.org/>

2005), the particular demands of infant health and care in the first few months of life suggest that parental care at home may provide the healthiest environment during this stage. Some research also suggests that attendance at early years provision can raise young children's stress levels (as measured by their cortisol increase), particularly for younger children and where the quality of provision is low (Ahnert et al., 2004; Lisonbee et al., 2008). Finally, there are indications that the physical early childhood environment also has direct impact on children's activity levels, thus affecting their physical health. Yet, childcare studies which pay attention to the physical wellbeing and motor development of young children are rare. Effects can vary according to patterns of attendance. Length of attendance matters, and is closely related to starting age. There is evidence that attendance from age two is most beneficial in terms of cognitive, educational and socio-emotional outcomes (Barnes and Eryigit-Madzwamuse, 2012; NICHD ECCRN 2004), although other studies identify a starting age of between one and two years as beneficial (Coley et al., 2013; Lekhal et al., 2011). Very little is known about the effects of programme intensity (i.e. hours attended per day or per week). In general, full days appear to add little developmental value for the general population (Howes et al., 2008, Sylva et al., 2010) but there is some evidence that children from disadvantaged backgrounds may benefit more from higher intensity provision (Chang, 2012; Loeb et al., 2007). In general, the quality of the evidence on programme intensity is relatively weak, drawn largely from non-experimental research and from studies which did not control for programme quality.

In summary, there are clear indications that attending early childhood provision at an early age can bring benefits for cognitive and language skills, as well as later educational achievement. Benefits are also seen for disadvantaged children in relation to social and emotional development. Despite this broad research consensus, we must acknowledge that identifying the impact of early childhood provision on development is not an easy task, with mixed evidence coming from different countries and contexts. The impact of attendance must be viewed alongside other influences on development, including the home environment and later schooling.

One of the most consistent findings is the need for early childhood provision to be of the highest quality to ensure maximum benefits, particularly for disadvantaged children. Almost all identified benefits are stronger where provision is of high quality: children in good-to-excellent provision do better across a wide range of outcomes than their peers in mediocre or poor provision (Loeb et al., 2004) and effects are more likely to be sustained (Anders, 2013). Low quality provision results in few – or even negative – effects. In order for these findings to be of value in guiding policy and practice, however, we must unpack the concept of 'quality'. When studies conclude that good quality provision leads to better outcomes, what is meant by this? What are the specific features associated with improved outcomes for children under the age of three?

Although there is not yet a consensus on a single definition of quality, two broad dimensions are consistently identified in the literature (Early et al., 2007). 'Process quality' is the term used to describe the nature of children's actual experiences within early childhood settings, primarily (although not restricted to) the pedagogical practices employed by the staff team. Structural aspects of quality include features such as adult-child ratios, staff qualifications, group sizes and characteristics of the physical space, and are generally considered to be a key means by which good process quality is achieved (NICHD ECCRN, 2002a). We consider each of these in turn.

Process quality: what do under threes need from their early childhood settings?

What does a good quality environment look like for very young children? The literature on supporting development and learning is vast and varied, and in a chapter of this length we

can only dip our toes in the water to consider some of the key ideas and practices. Very broadly, we know that effective provision offers children warm and positive relationships, a safe and healthy environment, and opportunities to learn.

The most significant influence on children's development in the first three years is the nature of relationships they form with the adults who care for them. Above all, young children need close and supportive relationships with a small number of familiar people, built upon a foundation of sensitive and responsive reciprocal interactions (Landry et al., 2006; Dalli et al., 2011). Sensitive and responsive adults are attuned to young children's subtle verbal and non-verbal cues, preferences and temperaments. Through this inter-subjectivity, they display shared attention, intention and emotion with the child (Tomasello et al., 2005), following their lead in interaction, exploration and play.

Such interactions support very children to develop the secure attachments essential for supporting their development later in life (Ahnert et al., 2006). Securely attached children do better than those with attachment difficulties across a wide range of domains, including emotional, social and behavioural development, peer acceptance, academic achievement and physical development (Sroufe, 2005; Green & Goldwyn, 2002). Although much of the literature on attachment relates to parent-child relationships, research also shows that children can develop bonds with other significant adults, and that secure attachments with staff in early childhood settings can support children in exploring their environments, forming relationships with peers and engaging in play (Howes, & Smith, 1995). Such interactions also form the basis for early social interaction and support the development of self-regulation and cognitive control (Trevarthen & Aitken, 2001), both of which have been found to related to school readiness and later school achievement, social competence and behaviour (Blair & Diamond, 2008; Kochanska et al., 2000).

It has been argued that stability of care is particularly crucial for the birth-to-three age group, and that continuity in relationships with adults is necessary for sensitive, attuned, responsive interactions and secure relationships to develop (Dalli et al., 2011). Despite this, many babies and toddlers experience changes in their care arrangements and/or multiple forms of care at the same time (Bowes et al., 2004; NICHD ECCRN, 2005). While research on the impact of such instability is still in its infancy, early studies indicate that it may negatively affect children's social competence (NICHD ECCRN 2003a), cognitive and language development (Loeb et al. 2004; Tran & Weinraub, 2006) and well-being (de Schipper et al. 2003).

Young children also need support for their emerging language and communication skills. Language underpins later learning but large variations, even from an early age, mean that some children are better equipped than others to become lifelong learners. Even by age two children from lower socio-economic background have smaller vocabularies than their peers, and these vocabulary skills predict academic and behavioural skills at age five (Morgan et al., 2015), which in turn predict later educational, economic and societal success (Chetty et al., 2011; Duncan et al., 2007). Much of the research relating to children's language development is based on interactions within the home, which are the most powerful influence on children's development (Roulstone et al., 2011). Evidence suggests that, while the *volume* of speech that children have directed towards them matters (Scheidman et al., 2013), the *quality* of talk is also important. Most effective is contingent talk – about what the child is paying attention to - which is rich, varied and complex (McGillion et al., 2013; Hoff & Naigles, 2002). Language-related activities such as interactive shared reading also support development (Mol et al., 2008). Despite the fact that much of the evidence relates to parental interactions, there is also good and growing evidence that similar techniques will support the language development of children under three within early childhood settings (Girolametto & Weitzman, 2002). With increasing movement of families between countries,

support for children learning a second language is increasingly also required. Bilingual preschool programmes that support language minorities to maintain their first language as well as providing second language support have been shown to be effective (Durán et al., 2010). Implementation of such programmes is challenging however, particularly where children with various language backgrounds come together. We need to better understand how to support children in groups with several languages.

In addition to support for language development, practitioners must have an understanding of how children develop across all domains, and how to support learning through sensitive, responsive interactions. Play is recognised as being a particularly rich learning context, supportive of social, emotional, cognitive and physical outcomes, as well as the development of self-regulation, meta-cognition and problem-solving (Goswami, 2015; Milteer et al., 2012). However, evidence suggests that it is a more effective vehicle for learning when scaffolded by adults and – as children become older – when it takes places with other children (Goswami, 2015). Children are highly interested in other children from a very young age and, as they become older, they engage deeply with their peers (Parker et al., 2015). Peer learning is an important, but often undervalued and under-researched dimension of group care for young children; and adults have a key role to play in supporting children to engage successfully with their peers.

Young children also need to be physically active to support health and development, with increased physical activity linked to reduced obesity, improved motor and cognitive development and bone and skeletal health (Tremblay et al, 2012). Although research is not yet detailed enough to identify the most effective pedagogical strategies for encouraging physical development in very young children, practice guidelines which combine currently available evidence with professional expertise exist in several countries (Department of Health, 2011; Tremblay et al., 2012). Concerns about obesity in some countries have also led to calls for increased attention to food and nutrition, including the quality of food served in early childhood settings, relevant staff training and the development of good eating habits (Story et al., 2006). In addition – and particularly for young babies – good standards of health and hygiene are vital to prevent the spread of communicable illness (Dalli et al., 2011).

Parents are the most significant influence on children's development, and good relationships between early childhood settings and families are recognised as a further important dimension of quality. Although the research-base is thin, evidence from professionals suggests that active family involvement supports children's engagement in learning and their adaptation to care routines, and promotes the self-esteem of both parents and caregivers (Brooker, 2010). Positive practices identified include reflection of family preferences and cultural differences in planning and curriculum implementation, communication regarding the child's progress, support for the home learning environment (Melhuish et al., 2008) and awareness and response to signs of family stress, particularly for vulnerable families (Leseman and Slot, 2014).

In summary, the evidence suggests that high quality early childhood provision for children under three is built on a foundation of stable, sensitive and responsive interactions with adults, support for language and learning through playful interactions, opportunities for movement and physical activity, attention to health and personal care needs, and partnership-working with parents. As children become older, support for peer interactions becomes increasingly important. There is also recognition that quality for children under three – although it shares many features with provision for older children – must also reflect the unique needs of very young children (Dalli et al., 2011).

However, given that associations between quality and outcomes are not always consistent across different measures of quality (Beckh et al., 2015; Ruzek et al., 2014; Sylva et al., 2011), and that much of the evidence for this age-group is based on study of parent-child interactions, more work is needed to understand how specific features of early childhood provision influence the development and learning of under-threes. One of the features that makes early childhood provision different to parent-child interactions is the fact that multiple children are being cared for together. We need to know more about how techniques found to be effective within parent-child interactions can be applied in a group context. It is also important to understand how the effects of attendance and quality vary according to the characteristics of the children and families themselves, and particularly to establish the features which make most difference for disadvantaged young children. This should include attention to the social mix within early childhood settings, since research indicates both that disadvantaged children benefit from attending provision with a mix of social groups (de Haan et al., 2013; Sylva et al., 2010) and that it can be more challenging to offer high quality in settings attended by high proportions of children from disadvantaged backgrounds (Early et al. 2010; Mathers & Smees, 2014). Finally, we need to understand what *influences* the quality of provision within early childhood settings, in order to develop policy and practices which will be supportive of high quality. We discuss these structural characteristics below.

What are the drivers of quality and what does this mean for policy makers?

In this section we consider the structural predictors of quality, including organisational characteristics such as adult-child ratios, the qualifications and training of the workforce, and the ways in which such structural features vary across provider types and early childhood systems. We also consider the issue of providing appropriate curriculum guidance for staff working with children under the age of three. Variations in these characteristics – and the ways in which early childhood policies work to influence them – will greatly affect the potential of early childhood provision within individual countries to improve children's development. There are considerable differences in the approaches taken by different countries to policy-making, and in the weight given to promoting specific structural features, particularly with regards to the younger age groups in ECEC (Resa et al., 2016).

Workforce preparation

Identifying a clear story to tell in relation to early childhood qualifications is not an easy task. Types and levels of education, qualifications, training and in-service professional development vary widely between and within countries (Dalli et al., 2011; Huntsman, 2008; Resa et al., 2016). Since the effects of qualifications and training are necessarily dependent on their nature and content, and on the workplace contexts within which they are enacted, this limits the extent to which generalisations can be drawn (Tout et al., 2006; Whitebook et al., 2009). In addition, findings on qualification effects are not always consistent across age groups, with some studies identifying positive effects for under-threes and others identifying no effects (Fukkink & Lont, 2007). Despite these challenges, comprehensive reviews conclude that workforce preparation has 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. Positive effects have been found for general educational qualifications, specialised pre-service training, in-service professional development following initial training and in-work supervision (Dalli et al., 2011; Howes & Brown, 2000; Munton et al., 2002; Fukkink & Lont, 2007).

While for pre-school children there is good evidence that graduate-led provision is important for quality and child outcomes, the evidence is less consistent for younger children. The overall qualification level of the team is important (although there is little evidence on specific

thresholds) and some argue strongly for specialised training with appropriate content on the development of babies and toddlers (Mathers et al., 2014). In general, studies show that staff working with under threes tend to be less well qualified than those working with older children, particularly in relation to graduate status (Mathers et al., 2011). There are also differences in the extent to which young children have access to staff trained in education or are primarily looked after by staff with 'care' qualifications (Resa et al., 2016). Similarly, while some studies highlight the need for setting *leaders* to be well qualified and trained for their role (Ballaschk & Anders, 2015; Melhuish et al., 2015), there is much variation in requirements for staff in leadership positions across different countries and provider types. Recent reviews have emphasised the need to bring expectations for the under-three workforce in line with those for older children (Resa et al., 2016) and to better specify the appropriate content, design and delivery of qualifications (Expert Advisory Panel on Quality Early Childhood Education and Care, 2009).

Evidence is also growing that in-service professional development can improve the quality of practice and – as a result - children's outcomes (Markussen-Brown et al., 2015; Jensen & Rasmussen, 2016). Specific studies relating to professional development for practitioners working with children under three are almost non-existent. This gap needs to be addressed. However, the impact of professional development rest largely on the extent to which *adult* learning is successfully fostered; there is therefore also much to learn from studies relating to staff working with preschool or school-age children. As with qualifications, the content and structure of professional development varies enormously. Not all forms are equally effective, and there is evidence that one-off external workshops and conferences of the type traditionally offered and attended by most early years professionals do little to promote change in practice (Cordingley et al., 2015). There is evidence that formal training courses *can* be effective when they are of sufficient duration, and well-designed using evidence-based principles (Hamre et al., 2012). Research also supports the use of coaching and mentoring (Mashburn et al., 2010), combinations of training and classroom-based mentoring (Neuman & Cunningham, 2009) and collaborative teacher-led approaches (Vescio, Ross & Adams, 2008; Borko et al., 2010). The current evidence-base would benefit from specific studies addressing the effects of professional development for staff working with children under three, and identifying promising design features and content. Finally, given findings on the potential challenges of providing high quality when meeting the (potentially wide-ranging) needs of children from disadvantaged backgrounds, we need to know more about how to prepare staff for this role. Evidence suggests that this is best achieved when staff are well supported, qualified and experienced (Slot et al., 2015a), when there is a focus on education and when programmes are combined with family support services and coaching (Blok et al., 2005).

Adult-child ratios and group sizes

Moving now to consider staff deployment, it is often argued that higher adult-child ratios (fewer children per practitioner) and smaller group sizes promote higher quality and more individual adult-child interactions, and that these features are more important for younger children (Expert Advisory Panel on Quality Early Childhood Education and Care, 2009; Huntsman, 2008). Most countries operate minimum standards and regulations in this regard. However, a closer look at recent studies shows no clear effects for under-threes, particularly across European countries (Albers et al., 2010; Slot et al., 2015b). As with staff qualifications, these inconsistencies may arise from differing structural quality characteristics across countries and contexts (Slot et al., 2015a). Group size or ratios can often depend on other structural variables such as staff education and training, or the organisational

characteristics of the setting. For example in England, settings with higher qualified staff allow high child-adult ratios.

A factor not usually considered is that the organisation of activities *within* a group relates strongly to pedagogical practice in a classroom. Ratios and group sizes by themselves provide a limited picture of children's experience. Where more than one adult is present, groups with smaller numbers of children are often created. Case studies show that the structure of the grouping within a classroom (small-group activities) is an important variable to consider when providing good quality early childhood education and care (Slot et al., 2016).

Curriculum

Curriculum is one of the key factors influencing pedagogical practice. Curriculum frameworks aim to facilitate coherent pedagogical approaches to assure more even quality of provision for all children, and maximise gains from early childhood attendance (European Commission Working Group, 2014). As part of its work, the recent CARE Project considered curricular frameworks across Europe (Sylva et al., 2015; Sylva et al., 2016); in this section we draw on this work to consider issues relating to guidance for providers working with children under the age of three.

The picture of curriculum frameworks in Europe is complex. While there is a trend towards a more integrated system, with a common standard curriculum for all types of provision, this is not yet realised in many countries, and splits exist between frameworks for different age-groups and different types of providers. Where there are gaps in curriculum frameworks, these usually concern the younger group. One of the challenges of curriculum development is finding a balance between a curriculum for the younger children that harmonises with the framework with older children in bringing together diverse perspectives and methods of both, while remaining sensitive to the characteristics of babies and toddlers.

The lack of a shared conceptual framework for the younger age-group goes hand in hand with a lack of clarity (and more divergent views) on the way learning is conceptualised, especially in relation to intellectual goals (Broekhuizen et al., 2015; Sylva et al., 2016), despite the broad agreement on the value of a balanced approach where learning and socio-emotional objectives are combined within a play-based framework (Slot et al., 2016). Relatedly, there are differences in the focus that is given to the learning of skills in pre-academic/academic subject areas. This tension becomes particularly apparent when we think about a good curriculum for children with more disadvantaged backgrounds. If early childhood provision is to help to close the education gap between more disadvantaged and affluent families, a curriculum needs to ensure learning for all children in all domains, while at the same time strengthening support mechanisms which assure pre-academic skill development for those at risk of falling behind, and language development for migrant and ethnic minority children (Leseman & Slot, 2014).

Finally, curriculum implementation needs to be in tune with children's interests and needs, the specific situation, and the context. Thus, curriculum frameworks are constructed to be open and flexible enough to enable educators to apply the general guidelines whilst using their knowledge and analysis of the local context and the specific situation. Partnerships with parents and the wider community, observations and documentation of children's experiences and learning, and continuous evaluation of practice are commonly stressed as important elements that support such responsive practice. Thus, curriculum implementation is a complex task, requiring a knowledgeable, skilled and well-supported workforce.

Provider characteristics and early childhood systems

International reviews (e.g. European Commission, 2014) indicate a complex picture of early childhood services in many countries, with wide variation in provider types and in the ways in which services are combined to meet the needs of children and families. Differences are seen in many of the structural characteristics known to influence quality, including staff qualifications, professional development opportunities, ratios, group sizes and the existence and application of curriculum frameworks. As a result, quality can vary significantly by type of provider (Sylva et al., 2010; Slot et al., 2015a).

In some countries, for example, use of informal care arrangements and home-based care arrangements are common for the younger age-group. The majority of the research indicating benefits of early childhood provision relates to centre-based group provision. Evidence on impacts of informal or home-based provision is less conclusive. Some argue that home-based provision is ideal for very young children, because groups are commonly smaller and more intimate, with fewer peers and greater adult-child ratios than in centre-based programs (Dowsett et al., 2008). Studies that directly compare provision types draw mixed conclusions, with some studies identifying centre-based and others home-based provision as offering a more optimal environment for young children, including disadvantaged children (Groeneveld et al., 2010; Luijk et al., 2015), while others find no differences (Barnes et al., 2010). It is likely that differences arise from variation in the characteristics of provider types in different countries, and the levels of support each receives. Undeniably, we do not know enough how home-care settings relate to children's development, and how to support practitioners offering home-based care. Even less is known about informal care arrangements, which cannot be regulated, and within which children's experiences may vary widely.

Financial and governance structures also vary from country to country. Many systems include a mix of private and public provision, with sufficiency of provision for the youngest children often relying heavily on private provision paid for directly by parents. In some countries private provision has been found to be of lower quality (Sylva et al., 2010), and some have suggested that reliance on parental fees and the pressure to remain competitive can influence the extent to which private providers focus on improving quality (Akgündüz et al., 2015). Other factors influencing differences between provision types include differences in legal requirements governing qualifications and adult-child ratios. In England, for example, the qualification requirements for the private sector are lower than for government-maintained providers, which are all graduate-led.

Finally, variations in opening times and costs can influence the accessibility of certain provision types. For example, half-day provision is less likely to meet the needs of working parents, while unsubsidised provision is less accessible to low-income families. This can lead to segregation, with high proportions of children from more disadvantaged backgrounds in certain types of providers. This works against principles of inclusion, and challenges providers in ensuring good quality for all (Slot et al., 2015a; Toyon & Howes, 2003).

Conclusions and implications for policy

In this chapter we have outlined the evidence-base on early childhood provision for children under the age of three. Research confirms that attendance at a high quality provider can be beneficial, particularly for disadvantaged children.

The first implication is therefore that disadvantaged children should have **access** to early childhood provision from the age of two, and possibly before. This conclusion is drawn based on potential benefits for children's development: many countries also promote access

to enable parents to work, thus potentially improving outcomes by lifting children out of poverty. Increased recognition of the value of early childhood provision has led to higher investments and service expansion in many countries. Increasingly policies introduce targeted free entitlements and put measures in place to reduce costs for those families in need. Yet, participation rates for under threes vary greatly in European countries, and are generally lower for more disadvantaged families (OECD, 2014; OECD/PISA, 2012). Demand is also commonly higher than supply for this age-group (European Commission, 2014). For policy-makers, there are challenging decisions to be made regarding targeted versus universal provision. Should resources be spent on ensuring access for the most disadvantaged by reducing costs for this group, or on providing for everyone? With a fixed amount to be spent, increasing subsidy for all potentially reduces the funds available for ensuring that provision is of good quality. In England, free half-day places is offered to the 40 per cent most disadvantaged two-year-olds. The evaluation of the pilot showed positive effects, but only for children attending higher quality provision (Smith et al., 2009) and there has been some debate about whether the policy was extended too widely (i.e. from the most disadvantaged 20 per cent to the most disadvantaged 40 per cent) before ensuring that places were of sufficient quality to help children catch up with their peers (Mathers et al., 2014).

In England, evidence on the need for **stability and continuity** to support young children's socio-emotional development and secure attachments formed the basis for introducing the statutory 'key worker' system for early years providers. A child's key adult is responsible for helping them settle in, offering a secure relationship, tailoring provision to meet their individual needs and building a relationship with parents. However, given the agreed importance of stability, surprisingly little is known about other factors which may exert an influence. Although adult-child ratios are oft-studied, there is little evidence to provide guidance on optimal attendance patterns, use of multiple providers or the effects of different lengths of day. While full days are generally thought to add little developmental value over part-time provision, and long hours in low quality provision have been associated with some negative outcomes, there is some evidence that longer hours may be beneficial for disadvantaged children. More research is needed to guide practice and policy in this regard, particularly since children of full-time working parents will be often attending long days or (in countries with little full-time provision) accessing multiple forms of provision to make up a full-time place.

The third key consideration is how to ensure **high quality provision**, particularly for disadvantaged children. Although – as noted above - there are potentially tensions between policies designed to widen access and those which aim to ensure quality, the evidence shows that many developmental benefits will be lost unless attention is paid to quality. A primary consideration is the **quality of the early childhood workforce**, and policies should ensure that staff working with young children are well qualified and have access to high-quality in-service professional development. While the evidence is unclear on the importance of graduate-led provision for this age group, it is clear that higher qualifications in general are associated with higher quality and that staff working with under-threes require specialised input relevant to the age group. Evidence suggests that this is not always the case. In England, for example, where the government's flagship programme offering free early education to disadvantaged two-year-olds has been introduced within recent years, less than half of respondents to a national workforce survey felt that their initial qualifications had prepared them well for working specifically with this age-group (Georgeson et al., 2014). Professional development often falls well below initial qualifications on the policy agenda, and workforce development in many countries would benefit from greater attention being paid to its potential. Current approaches vary widely between different European countries, in terms of the extent to which efforts are co-ordinated and/or compulsory for early educators

(Jensen et al., 2015). Policy-makers should work to ensure greater parity in qualifications and professional development opportunities between provider types, for example private and public providers and centre- and home-based providers. Pay and conditions for early childhood professionals are also significant factors, not considered in this review, but closely linked to issues of quality, including qualifications and staff turnover.

The evidence on other structural features such as **adult-child ratios, group sizes** is less clear-cut, although it does seem wise to ensure lower ratios for younger children than for older pre-schoolers (in the majority of countries this is the case). In truth, the many different structural features of early childhood provision interact with each other, influencing child development in combination rather than individually. In the majority of European countries, **different provider types and early childhood systems** operate widely differing combinations of qualifications, ratios and operational structures, and policy-makers should consider the system as a whole when developing policy solutions. In England, for example, government-maintained providers have higher qualification requirements than privately-funded provision but can operate at lower ratios (i.e. more children per adult); and they have been shown through research offer higher overall quality than the private sector (Sylva et al., 2010). The government has made recent attempts to level the playing-field by introducing a single funding formula to calculating the amounts received by all providers offering the free early education entitlement, and debates continue as to whether the net effect will be to improve quality within the private and voluntary sector, or to lower quality in the government-maintained sector.

There is limited room here to explore different **mechanisms for policy-makers to promote quality**, and the widely different approaches taken to monitoring and regulation, funding mechanisms and the use of curricular frameworks to provide guidance for practice in different countries. Whatever the methods employed, it is clear that policy should incentivise providers to improve quality in addition to supporting access for disadvantaged children under the age of three. In general, the evidence suggests that parental choice is not sufficient to incentivise providers to improve quality and that other means are necessary (Stewart et al., 2014). Where funding is used as a lever, this suggests benefits in supply-side incentives for quality (i.e. additional funding for providers with well-qualified staff) may be more effective than demand-side approaches (i.e. providing funding directly to parents). Policy-makers should also ensure recognition of the particular needs of very young children, for example by ensuring that regulators monitor provision offered for different age groups and that qualifications include specialist content relating to this age group.

In conclusion, although knowledge is increasing about the features of early childhood practice that support children's development, provision for babies and toddlers remains under-studied in comparison to that for older children. Further work is needed to guide policy and practice to ensure that all children attending early childhood provision before the age of three have their needs met effectively, and that we make the most of its powerful potential to act as an early intervention for disadvantaged young children.

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