



# Early childhood education and care and poverty

Working paper prepared for the Joseph Rowntree Foundation

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## Chapter 1: Introduction

This review of the existing body of knowledge concerning the links between poverty and early childhood education and care (ECEC) provision<sup>1</sup> aims to inform the realisation of the Joseph Rowntree Foundation's 2015 UK anti-poverty strategy development programme. It has three main objectives:

1. To explore the relationship between poverty and early childhood service quality, affordability and accessibility.
2. To examine mostly domestic and some international research evidence on the prevention and reduction of poverty through early childhood policy and practice interventions.
3. To recommend what should be included in JRF's UK anti-poverty strategies in relation to early childhood education and care.

This evidence review is one of a series of 34 such reviews commissioned by the Joseph Rowntree Foundation (JRF) to inform a programme of anti-poverty strategies for the UK to be published in 2015/16. Thus the definition of poverty employed here is the one developed by JRF to underpin this programme: 'When a person's resources (mainly their material resources) are not sufficient to meet their minimum needs (including social participation)'. In the case of young children, this definition is mediated by the conditions within the households they live in and decisions made by parents as proxies for their children. This also applies to the three factors that JRF has identified as determining the sufficiency of any resources in relation to need:

1. the range, sustainability, quantity and quality of those resources
2. individuals' personal circumstances and characteristics
3. the choices people make.

JRF's detailed definitions of factors determining needs and resources are not listed here, but the same observations apply.

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<sup>1</sup>The abbreviation ECEC for early childhood education and care provision is commonly used in OECD and EU documents, and this term has been adopted for this review.

The definition of early childhood and care (ECEC) adopted here is the one used by the European Commission:

*...it refers to publicly subsidised and accredited provision for children under compulsory school age. 'Education' and 'care' are combined in the phrase to underline that services for young children can combine care, developmental and learning opportunities.*

(Leseman, 2009, p.7)

This complements the OECD (2006) definition of early childhood education and care used for its comparative study of 20 member states' ECEC systems, which includes any arrangements for providing education and care for children from birth to compulsory school age irrespective of the nature of the setting, its funding, opening hours or programme content; this also includes pre-school and pre-primary provision.

The impact of poverty on children's wellbeing, health and development and the need to address this issue strategically has been well documented, in recent Joseph Rowntree Foundation reports, such as a review of studies on the causal relationship between household incomes and children's wider outcomes by Cooper and Stewart (2013) and a study of the UK's devolved approaches to child poverty by McCormick (2013), as well as by others (Gregg et al, 2008; Brewer and Joyce, 2010; Brewer et al, 2010; Judge, 2012; Van Lancker, 2013).

## 1.1 Policy rationales for ECEC

In order to formulate precise questions to underpin this review, it is useful to take account of the triple rationales for public support for such services in the UK (Tisdall and Hill, 2011), and indeed in many other welfare states. Currently, public support for early childhood services in the UK and its three devolved administrations and in other European welfare states tends to reflect all three policy rationales (Penn, 2011a). Each of these rationales potentially gives rise to a whole raft of review questions. For practical purposes, these have been limited to no more than three in each case and are answered in relation to the current overall UK system of ECEC provision.

A social mobility policy rationale informs the provision of early education, mainly for 3- to 6-year-old children. Its promotion of children's socio-emotional and intellectual development is meant to lay the foundation for better educational outcomes, leading to stable employment and hence the escape from or avoidance of poverty (Goodman

and Sianesi, 2005; Apps et al, 2012; Melhuish, 2012). Review questions following from this rationale include:

- Does research evidence suggest that ECEC provision improves poor children's educational outcomes and social and emotional development?
- Does research evidence suggest that ECEC has longer-term consequences for poor children's economic and social life chances?
- How does research evidence suggest that any barriers to poor children's ability to benefit from ECEC provision should be addressed?

The more recent economic wellbeing rationale for ECEC is facilitating parental – notably maternal – access to the labour market, thereby strengthening young families' socio-economic position, so helping them to avoid or escape present poverty (Duncan et al, 2001a; Brewer and Shaw, 2004; Waldfogel and Garnham, 2008; Lawton and Thompson, 2013). The review questions following from this rationale include:

- Does research evidence suggest that parental labour market participation, especially of mothers in single- and dual-earner poor families, is facilitated and improved by ECEC provision?
- What ECEC features and which delivery conditions best promote maternal labour market participation?
- What evidence is there on the costs versus the benefits of promoting economic wellbeing through ECEC provision?

While further research is needed into the benefits of maternal labour market participation for poor young children's wellbeing, social and economic position and socio-emotional and cognitive development, this is beyond the present review's remit. Other parts of the JRF programme to produce evidence for UK policy strategies do address the complex questions surrounding this issue. Moreover, JRF has also already published in this area (Lawton and Thompson, 2013).

The third rationale for ECEC relates to social justice. ECEC's role in eliminating social and cultural inequalities and underachievement and promoting the inclusion of children with learning and physical disabilities is a policy priority emphasised by the European Commission (Leseman, 2009; European Commission, 2011). Family poverty reduces the likelihood of children's participation in ECEC (Lloyd, 2006; Schoon, et al 2010; Bennett et al, 2012), or it may hamper children's access to quality provision (Gambaro et al, 2013). The social justice rationale also applies to



the role ECEC plays in ensuring gender equality and equitable access to the labour market for men and women.

Research questions following from this rationale are much the same as those posed under the social mobility rationale above. Further review questions arising from this rationale include:

- Does research evidence suggest particular approaches which are helpful to achieving poor children's access to quality ECEC?
- Does research evidence suggest that compensatory ECEC programmes such as specialist language support improve poor children's wellbeing, development and outcomes?
- Does research evidence suggest which financing and delivery conditions for such programmes, e.g. targeted or universal, lead to good outcomes for poor children?

This review will attempt to address this third set of questions as part of the discussion of the first two pathways out of poverty via early childhood services in Chapters 2 and 3.

The intended impact of ECEC provision on poverty reduction and prevention, as reflected in the three policy rationales, has been explored in a large body of national and international research. The social mobility rationale has given rise to studies exploring the relationship between children's later educational performance and their experience of ECEC provision. In contrast, the economic wellbeing rationale generates research mostly exploring the impact on children's current wellbeing and socio-economic position of parental – mostly maternal – employment. The social justice rationale has stimulated the production of studies which have much in common with those emanating from the first, social mobility, rationale.

Many studies focus on only one of the ECEC policy agendas outlined above. Moreover, the national and international research literature regarding ECEC's educational/welfare/equality aims emanates from several disciplines with varying methodologies. These include psychology (Burger, 2010), educational studies (Sylva et al, 2004a; George et al, 2012), social policy (Dex, 2003; Lewis, 2003), economics (Heckman, 2000; Duncan et al, 2001a, b; Herbst and Tekin, 2010) and sociology (Brannen and Moss, 2003). Public health (Toroyan et al, 2003; NICE, 2012) and neuroscience (Doyle et al, 2009) also figure, as does interdisciplinary research such as the evaluation of the UK Sure Start initiative (Belsky et al, 2007a).

ECEC provision also interacts with other measures to support families with young children, notably parental leave policies (Kamerman and Moss, 2009) and direct fiscal support for childrearing (OECD, 2011a). Much research studies these interactions and the challenges faced by governments in agreeing a coherent programme of parental leave policies and financial support for families and for ECEC provision (Plantenga and Remery, 2009). Such challenges are magnified in majority world countries, where state support for ECEC is more variable or absent altogether, particularly in Sub-Saharan Africa (Garcia et al, 2010) and South East Asia (UNICEF and WHO, 2010). Instead, inter- and supra-national agencies play a dominant role in the delivery of early childhood development (ECD) programmes (Penn, 2005), which include strong healthcare components besides early education and care (UNESCO, 2006; Engle et al, 2007). But such issues fall outside the remit of this review.

## 1.2 The nature of this review

This review for JRF first examines the strength of existing national and international research evidence for ECEC's impact on poverty reduction and prevention via the three pathways for impact outlined above, with special reference to the UK. To this end, the main emphasis is on national qualitative, quantitative and evaluative research. The review also attempts to take account of recent research exploring the global economic downturn's effects on ECEC's sustainability and the currently rising child poverty levels in the UK. It then explores the conditions under which promising pathways out of poverty via ECEC provision might possibly be replicated or scaled up in the UK. Finally, the review formulates tentative recommendations to inform the articulation of JRF anti-poverty strategies for the UK in this area.

Studies about poor children's access to quality ECEC provision often emphasise the dual need for both reductions in income poverty in early childhood and access to good-quality ECEC. This is done by Bennett (2008), for instance, in his study on benchmarks for early childhood services in OECD countries, and by Melhuish (2012) in his assessment of the importance of early years education for poor children's development and adult outcomes. On the basis of the best available evidence, the review accepts that there is strong evidence that only good-quality ECEC can have long-term beneficial effects for poor children, and that, in contrast, the impact of poor quality is proportionally greater for poor children (Melhuish, 2004; Mathers et al, 2014).

Given that JRF's commission was for an 'expert-led' review, and in view of time constraints and the size of the body of ECEC research of potential interest, the chosen review method veers towards that of the question-led approach of the Rapid Evidence Assessment. REAs were originally developed at the EPPI-Centre at the

University of London<sup>2</sup> and are defined as follows by the Government Social Research Service in its Rapid Evidence Assessment Toolkit (Government Social Research Service, 2013):

A Rapid Evidence Assessment (REA) is a tool for getting on top of the available research evidence on a policy issue, as comprehensively as possible, within the constraints of a given timetable.

The next section provides a broad outline of the approach adopted for this expert-led review which was conducted for JRF between November 2013 and the end of July 2014.

### 1.3 The review approach

The review strategy's combined focus has been on quantitative – survey – research, including government reports, and empirical outcomes-related qualitative and mixed methods research addressing the three questions at the review's core. The logic models underlying this strategy correspond to the three pathways through which ECEC impacts on poverty. These in turn are reflected in the three distinct policy rationales which informed the selection of subject areas for the searches. This approach differs from systematic reviews (Penn et al, 2004; Penn et al, 2006) in being far less comprehensive in both its search strategy and its synthesis of the evidence related to the review question. Instead, it veers towards a hybrid form of both the Quick Scoping Review and the question-led approach of a Rapid Evidence Assessment (GSRS, 2013), although the authors have not closely followed any one model.

The conceptual framework underpinning this JRF review nevertheless has some key features in common with that of an REA. These concern the need to make explicit the assumptions underlying the review questions and those underpinning the criteria for the inclusion of studies, the relevant terms for searching the literature, describing and interrogating studies, and the framework for the review's synthesis.

The concept of purposive searching (Gough et al, 2012, p.114) is integral to the approach adopted here. This is a pragmatic response to both the need to address a wide range of potentially relevant studies across several disciplines and the need to

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<sup>2</sup>The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) is part of the Social Science Research Unit at the Institute of Education, University of London. Its two main areas of work are systematic reviews and research use. It has been undertaking, developing and supporting systematic reviews since 1993.

provide recommendations as to what should be included in JRF's UK anti-poverty strategies in relation to ECEC (review aim 3) within a limited timeframe.

#### 1.4 Search strategy

The strategy comprised a combination of words and phrases in the English language related to: preschool education; outcomes for children and families; and research categories (see Appendix 1). An initial decision was made to search three databases – ERIC, which is a very wide-ranging database on all aspects of education; British Education Index, for a UK perspective; and Business Source Complete for an economics perspective. An option was maintained for searching additional databases, should the above strategy prove inadequate. However, in practice, it proved difficult to reduce the size of the datasets from the three databases searched to a manageable amount, and a wide range of useful material was retrieved, so no further searches were undertaken.

The searches were undertaken by the second author, who also undertook an initial screening using the inclusion criteria listed below. Table 1 lists the outcomes of these searches.

**Table 1: Outcomes of searches**

Database	Initial results (reduplicated)	Selected on initial screening
ERIC and BEI (Proquest)	4,880	331
Business Source Complete	249	50

Note: Because ERIC and BEI were on the same host, it was possible to run the search on both simultaneously.

The listings were sent to the first author, who selected the material according to the following categories:

- Essential
- Possibly useful for further data
- Unnecessary.

Eighty-four documents were then obtained, supplemented by material already possessed by the first author. A list of these documents is appended as Annex 2.

In addition to the electronic searches, the first author included material based on: her own library; her knowledge of reports by think tanks and interested parties; and her personal contacts. In this expert review, the first author used her knowledge of the topic (Lloyd, 2012a), coupled with judicious citation tracking and searches of government research documents in the National Archives.

The searches of the economics literature were supplemented with references provided by Professor Mike Brewer, a member of the JRF Task Group overseeing the programme, in the course of the review process.

Six initial inclusion criteria were adopted, with all categories required for a study abstract to be included:

1. Published after 1997
2. In English
3. A research study or a review of research studies (except for categories 5e-f, which might be government or interested-party reports)
4. Concerns out-of-home care for children from birth to the age of compulsory education in the country under study
5. Describes either universal provision or provision targeted at the poorer sectors of society
6. Either:
  - a) presents academic, cognitive or well-being outcomes for participating children at some point during or after their period of compulsory education
  - b) presents economic or socio-economic outcomes for participating children after leaving school
  - c) presents economic outcomes for parents/families of participating children
  - d) presents employment outcomes for mothers or single parents of participating children
  - e) analyses the childcare market in the country under consideration, considering any of: service quality, affordability, accessibility, workforce
  - f) gives costings for out-of-home care.

The quality of the reporting on sample, methods, analysis and results in the empirical study abstracts collected were assessed initially to determine whether to consider the full-text studies. This decision was prompted by the vast literature to be studied within the limited review timescale. However, major determinant for inclusion was how well studies matched the review questions.

Just as in the REA approach, a PICO analysis (Government Social Research Service, 2013) was applied to such abstracts in the first instance, asking four questions concerning:

- **P**opulation under study
- nature of the **I**ntervention
- **C**omparison group to test impact
- **O**utcomes reflecting review questions.

The abbreviation PICO represents the initials of the four areas, Population, Intervention, Comparison group and Outcomes, about which information must be included in the paper under review in order for it to qualify for in principle inclusion.

Another major factor has influenced the selection of studies to underpin this review's conclusions and recommendations; this is ECEC delivery models, and will be discussed in the next section.

The authors acknowledge the risks of bias inherent in the approach adopted for this review and have borne this in mind in formulating their conclusions and recommendations.

### **1.5 ECEC provision in the UK: early education**

The basic features of the UK ECEC system, such as the different types of provision that together make up the early childhood service system, are much the same for the four countries making up the UK, although their distribution, the proportion of each type of provision within the system as a whole and their uptake differ for each country. The school starting age, on the other hand, has traditionally varied between Northern Ireland, where it is the lowest at 4 and mainland Britain, as have other aspects of schooling.

After the 1998 devolution, local jurisdictions gained the ability to legislate in the area of early childhood policy and practice, notably around the curriculum, workforce qualifications and funding streams. Continual change since 1997 is a feature of

these areas in all four nations (Clark and Waller, 2007; Baldock et al, 2009). Each collects its own annual ECEC statistics, which are available from the UK National Statistics Publications Hub (UK National Statistics, 2013) as well as from the four separate national education departments. Registration, inspection and regulation are conducted by autonomous bodies, Ofsted for England, Estyn for Wales, the Education and Training Inspectorate in Northern Ireland and Her Majesty's Inspectorate of Education in Scotland. Children- and childcare-related tax provisions and parental leave policies remain Westminster's remit and are therefore the same for the four nations.

Administrative responsibilities at central and local level have been integrated within Education and within Children's Services Departments respectively, but funding systems remain split between those for early education services for three and four year olds and now also targeted two year olds, and childcare services for young children and school-age children. Another area characterised by splits is that of inspection, certainly in England. In its 2012/13 annual report (Ofsted, 2014, p.17), Ofsted proposed far-reaching reforms in this area, having noted that the different inspection regimes for early education delivered in maintained schools as opposed to day nurseries and childminders, made it difficult for parents to compare quality.

Splits in this system are also manifest in a traditionally parallel strand of primarily family support services for families with young children (Lloyd, 2012b). This means that a social welfare strand of provision is prominent alongside early education and childcare provision strands. Within the social welfare strand of provision, early childhood and care services may also be delivered, as in some Children's Centres (National Audit Office, 2009). Each strand of provision also has an associated workforce whose training, qualifications and deployment differ from those in other strands (Miller and Cable, 2008).

All forms of provision illustrated in Table 2 can be found in each nation, albeit in different proportions. The main differences are in the way early education is delivered and supported in the four nations.

At the time of writing, under the Coalition Government, all **English** 3 and 4 year olds have an entitlement to 15 hours of early education for 38 weeks annually, funded centrally by a supply-side subsidy directly to schools, private-for-profit and private-not-for-profit group settings and childminders, provided these are registered with Ofsted and prepared to work within the Early Years Foundation Stage Programme (EYFS) (Department for Education, 2014). This programme framework for 0 to 5 year olds extends to the end of primary reception year. Independent schools, free schools, faith schools and academies can all apply for dispensation to deliver their

own – approved – early childhood curriculum as long as they implement the safeguarding provisions of the EYFS. There is targeted educational provision for 2-year-old children (Gibb et al, 2011), introduced after a pilot under the previous government (Smith et al, 2009a; Maisey et al, 2013). The aim is to provide 15 hours' free education to up to 40% of targeted 2 year olds by 2014/15 in schools, day nurseries or pre-schools, or with childminders.

In England progress of children experiencing the EYFS programme is measured in primary school at the end of reception year when children are 5 years old. This is done by teachers using the Early Years Foundation Stage Profile, a non-standardised measure of developmental progress (Department for Education, 2014).

**Scotland** (Family and Childcare Trust, 2013; Naumann et al, 2013) provides 12.5 hours' free early education weekly to all 3 and 4 year olds for 38 weeks annually. This adds up to 475 hours. The plan is to extend this entitlement to 600 hours annually by August 2015 and include 27% of targeted 2 year olds.

**Northern Ireland** has the lowest compulsory school starting age, 4. Children are entitled to one year of early education in nursery classes, schools or private provision, and there is a 95% uptake rate for this. Towards the end of 2013, the NI Department of Education produced a framework document (Department of Education, 2013) to set out future plans for ECEC.

**Wales** regards the years 0 to 7 as the foundation years and in its latest early childhood development plan support for the expansion of ECEC is incorporated alongside support for young children's health and wellbeing, primary education for this age group and wider family support (Welsh Government, 2013). As part of its Flying Start programme, disadvantaged 2 year olds may receive early education.

The differences in the four nations' current early education entitlements for 3 and 4 year olds have been summarised by Gambaro et al (2014, Table 2.1, p. 31). This table is reproduced in a slightly adapted version as Table 2.



**Table 2: Early education entitlements in the four UK nations**

	England	Wales	Scotland	Northern Ireland
<b>Hours per week</b>	15	10	12.5	12.5
<b>Time</b>	Usually term time	Term time	Usually term time	Term time
<b>Starting age</b>	1st term after 3 <sup>rd</sup> birthday			
<b>Setting</b>	Maintained and private-for-profit and not-for-profit sector, including childminders			
<b>Notes:</b>	Includes provision in Reception classes	Includes provision in Reception classes		Compulsory school starting age is 4

Statistics produced by the Department for Education in England biannually (Department for Education, 2013a) now contain rich details about numbers of 3- and 4-year-old children benefiting from publicly funded ECEC provision not only by provider type and by local authority, but also by Ofsted inspection ratings and by staff qualifications. Nevertheless, it remains hard to form a complete picture from the statistics of the uptake, cost to parents and possible combinations of different settings (e.g. childminder and nursery class) that the same children attend (Smith et al, 2009b). Hence regular surveys commissioned by the DFE since around 1997 provide complementary qualitative and quantitative data exploring parental views on early childhood provision (Huskinson et al, 2014) and the employment conditions, training and qualification of the early childhood workforce in England (Brind et al, 2012a).

Few other research reports provide an in-depth analysis of the current situation in each of the nations, though a 10-year-old policy analysis by Cohen et al (2004) and a recent international review of ECEC policy, delivery and funding for the Scottish Office (Naumann et al, 2013) provide good discrete data on both England and Scotland. There are also several surveys on the situation in Scotland (Hay, 2007; Family and Childcare Trust, 2013). Overall, the high uptake of universal early education in England since 1997 is viewed as a great success (Faulkner and Coates, 2013), although its reach has not extended to all poor children, as will be highlighted in Chapter 2 of this review.

## 1.6 ECEC provision in the UK: childcare

The situation regarding childcare in the four countries making up the UK is as follows. A demand-side subsidy in the form of childcare tax credits to parents aims to enable parents to buy additional 'wrap-around' childcare for 3 and 4 year olds and some 2 year olds outside the free entitlement, as well as childcare to cover the first two years of their children's lives and later out-of-school and holiday provision. The situation regarding the provision and availability of this demand-side/parent subsidy support for childcare provision is identical in the four nations. This model poses a major challenge for parents as the subsidy is paid retrospectively through the tax credit system, so that parents still need to find the full fees for such childcare at the point of delivery (Penn and Lloyd, 2013; Thompson and Ben-Galim, 2014). The UK is one of only three European countries where this parent subsidy system is operated in this way; the other ones are the Netherlands and the Republic of Ireland, although in the latter, this system only affects certain parents (Penn and Lloyd, 2013).

An employer voucher system has been in operation for a number of years, but is being phased out in favour of tax relief on childcare costs for all parents (Rutter and Stocker, 2014, p 6). About two-thirds of parents who pay for formal childcare do not receive any government support with costs from employer vouchers or tax credits (Butler et al, 2014).

Both Naumann et al (2013) and an important report on social inclusion in European ECEC systems by Bennett and Moss (2010) include data on ECEC format and use, as well as population statistics, key socio-economic data, employment systems, parental leave policies and school starting age, as they all play a role in contextualising uptake and quality data. We will return to this issue in chapter 4.

Table 3 is based on summary data from the most recent early years survey of parents in England, 2012 (Huskinson et al, 2014) and lists use of formal and informal early education and care by children aged 0 to 7. The survey team checked the definitions used by parents against the providers' details, as in previous surveys there had been confusion around the classification of 'day nurseries' as 'nursery schools'. They urged caution in interpreting the data on the use of reception classes, as parents of 4 year olds using these services, were not likely to classify them as childcare. As this review focuses primarily on the youngest age groups, only those data are provided here. The different forms of provision can be found in all four UK countries, but only the breakdown for England is provided here.

**Table 3: Use of childcare providers by age of child (based on Huskinson et al, 2014, Table 2.3, p. 41)**

Age of child	0–2	3–4	5–7
Base: all children	1,161	1,346	1,284
Any childcare	58%	91%	71%
Formal providers*	37%	88%	56%
Informal providers*	35%	31%	32%
No childcare used	42%	9%	29%

\* These two rows add up to more than the 'Any childcare' row because many families use both types of provision

Formal providers ranged from maintained nursery schools and classes to nannies, via day nurseries, maintained reception classes, breakfast and after-school clubs and childminders. Between 2011 and 2013 the most frequently used formal provision for children aged under 2 was a day nursery, 19%, and for 3 to 4 year olds a primary reception class, 22%. The use of informal providers decreased when children reached the age of 3 and started their early education. Grandparents formed by far the largest group of informal providers at 28% for under 3s and continued to fulfil an important role in the care of 3 and 4 year olds, where they cared for 24%, and in the care of 5 to 7 year olds, where they cared for 23%.

When analysed by parental income, this survey (Huskinson et al, 2014, Table 2.5, p. 47) confirms a 27% lower take-up of early education or formal childcare by children with parents in the lowest annual income bracket – 41% in families with an annual income of less than £10,000 – compared to that in the highest income bracket – 68% of families with an annual income of over £45,000. The rates of informal childcare use increased in parallel with parental income levels.

The use of informal care primarily reflects parental preferences, but also evidences difficulties in constructing a coherent package of childcare and early education, where appropriate, that fits in with parents' working hours, particularly where it involves the youngest children. This is confirmed by other studies (Bryson et al, 2011; Rutter and Evans, 2011a, b). Overall, the picture remains unclear.

For many international reports, including those produced for OECD and EU purposes (OECD, 2006; Bennett and Moss, 2010; Penn and Lloyd, 2013), ECEC data from England, Scotland, Wales and Northern Ireland are still amalgamated into a UK profile. Arguably, for the questions this review attempts to answer, any

structural differences between the four nations' ECEC systems are less important than trends and features that apply to the UK as a whole.

Such trends and features include child poverty levels, by region, over time, by family work status and by family structure (Joseph Rowntree Foundation, 2013), geographical differences in access, affordability and quality of provision and the fact that the four ECEC systems consist of a mixed-market economy where the maintained, private-for-profit and private-not-for-profit all play a role in the regulation, funding and delivery of services (Penn, 2007).

Lawton and Thompson (2013, p. 26) provide a good overview of the current UK ECEC policy framework and its recent history. They note some of the interface problems between the supply-side subsidy that is the early education entitlement and the parental tax credit subsidy, a demand-side subsidy, which supports the purchase of childcare within the ECEC market. These will be explored further in Chapter 3, which discusses the role of ECEC in enabling parental employment in the UK.

Chapter 4 discusses quality issues from the UK's early childhood service system, the mixed market economy, and the issue of ECEC service quality and its impact on poor children's access to provision.

### 1.7 Summary and conclusions

The provision of good-quality, affordable and accessible ECEC services creates three potential pathways for impact on child poverty prevention and elimination. It promotes young children's intellectual development, leading to better educational outcomes and life chances overall. It may facilitate parental – notably maternal – access to the labour market, thereby strengthening young families' economic wellbeing. By eliminating social and cultural inequalities and underachievement and including children from minority communities or with additional physical or learning needs, ECEC can also promote social justice.

Most European early childhood service systems are characterised by both short-term economic wellbeing and long-term social mobility and social justice aims (Penn, 2009, 2011a). Policy rationales are affected by prevailing attitudes (Plantenga and Remery 2009, p.53), national politics (Moss, 2012a) and changing perspectives on the role of welfare states (Hemerijck, 2012).

Only good-quality ECEC has long-term beneficial effects for poor children, while the impact of poor quality is proportionally greater for them. The availability of sufficient, affordable and high-quality early childhood provision interacts with local job

opportunities and the benefits system in determining whether dual- or single-earner families with young children can escape or avoid family poverty through paid work.

In all four countries of the UK, the ECEC system involves state, private-for-profit, not-for-profit and informal providers. While part-time term-time early education is free at the point of delivery for 3- and 4-year olds and some disadvantaged 2-year olds, parents otherwise pay high childcare fees, which may be only partially and retrospectively reimbursed. The detailed data provided for England highlight issues with the English ECEC system which are also characteristic of the systems in Scotland, Wales and Northern Ireland.

While current early childhood policy aims to promote social mobility, economic wellbeing and social justice for poor children, official statistics confirm that they still access less early education and affordable, high-quality childcare than better-off children.

## Chapter 2: Early childhood education and care and social mobility

In this review for JRF, we have set out to answer the following three questions in relation to social mobility:

- Does research evidence suggest that ECEC (ECEC) provision improves poor children's educational outcomes and social and emotional development?
- Does research evidence suggest that ECEC has longer-term consequences for poor children's economic and social life chances?
- How does research evidence suggest that any barriers to poor children's ability to benefit from ECEC provision should be addressed?

In this chapter, we attempt to answer these questions on the basis of robust evidence for ECEC's impact on social mobility. In doing so, evidence from UK studies is foregrounded over international research, given the review's overall aim of informing UK anti-poverty strategies in this area. International research is referred to where its findings usefully complement those from UK studies. As improvements in social mobility have been primarily associated with the developmental impact of early education, this relationship becomes the focus here, although in some of the research referred to, childcare and early education are not differentiated. The pathway between early childhood provision and children's economic wellbeing is primarily associated with the provision of childcare, and most of its discussion is reserved for Chapter 3.

The latest report in the series of childcare and early years surveys of parents in England that have been commissioned by the government since the late 1990s, offers some important data on uptake of ECEC by children in deprived areas and by poor children across England between 2011 and 2013. In deprived areas, less than half of all children aged 0 to 14 used formal childcare and only 41% of children in the poorest income quintile did so. Compared to the period 2010/11:

*Formal childcare increased from 38 per cent to 44 per cent in the most deprived areas, rose from 48 per cent to 54 per cent in areas in the middle of the deprivation distribution, and fell from 67 per cent to 60 per cent in the least deprived areas.*

(Huskinson et al, 2014, p.12)

Whereas 41% of children in families with an annual income of under £10,000 received formal childcare, 68% of children in families with an annual income of £45,000 or more did so (Huskinson et al, 2014, p.46). These figures serve as important contextual information against which to assess the research evidence presented in this chapter.

Since 2009, the 'level of development' of English children receiving publicly funded early education has been assessed by their teachers at the end of their primary school reception year. Their tool is the Early Years Foundation Stage Profile (EYFSP) (Department for Education, 2013b). A revised version of this profile was piloted before being introduced in late 2013 (Cotzias et al, 2013). The 2014 Ofsted early years annual report noted (Ofsted, 2014) that in 2013 only just over a third of children from low income backgrounds reached a 'good level of development' as measured by the revised EYFSP.<sup>3</sup> There remained a gap in outcomes between children from low-income families and their better-off peers (Ofsted, 2014, p.21).

The inspectorate's report also drew attention to the fact that in disadvantaged areas, far fewer providers were judged good or outstanding than in more advantaged areas, and, in the main, that early years provision did not succeed in closing the educational gap between poor and better-off children living in these areas, thus affecting their likely longer-term outcomes. In the next sections of this chapter we examine whether research since 1997 can shed light on the factors responsible for this persistent state of affairs.

### 2.1 Research on ECEC and social mobility

In order to identify the mechanisms by which the experience of ECEC provision may impact on poor children's social mobility, we need to examine studies that deal with the interaction between ECEC services and a wide range of variables associated with the children themselves: length of weekly attendance; number of years of ECEC experience; their age at entry; their home environment; and teacher/caregiver qualifications, experience and employment conditions (Melhuish, 2012). In Chapter 4, we examine in more detail how these and other factors may be associated with ECEC quality.

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<sup>3</sup>A good level of development is defined as achieving at least the expected level within the three prime areas of learning: communication and language; physical development and personal, social and emotional development; and the early learning goals within the literacy and mathematics areas of learning (Ofsted, 2014, p. 22).

All studies reviewed here include a focus on poor children; most have been selected via the search strategy described in Chapter 1. While a brief description of the nature of the population, sample, methodology and findings of each study may be provided here, it should be assumed that the study met this review's wider inclusion criteria set out in Chapter 1 and in Annex A, which are not repeated here. The most robust evidence is obtained from empirical intervention and evaluation research employing comparison groups to measure impact, as well as from longitudinal cohort studies. This evidence is best interpreted within the wider framework of survey research on service uptake and parental attitudes towards ECEC provision.

Although we focus primarily on UK research, we have chosen to highlight first some findings of an influential systematic review of recent empirical studies from Europe, the US and elsewhere in the industrialised world by Burger (2010). The dual rationale for doing so is that his paper's adoption of a systematic review methodology resulted in reliable and transparent evidence and because Burger's conclusions about the reporting and possible methodological quality of that research evidence are important to the interpretation of these studies.

Burger (2010, p.160) concluded that the evidence showed that most centre-based larger-scale ECEC programmes had considerable short-term and fewer longer-term positive effects, and that these trends were even more pronounced for poor children. Yet they could not completely compensate for the impact of disadvantages experienced in the home learning environment. Therefore these programmes' ability to establish true equal educational opportunities for all children was limited, irrespective of whether they were targeted or universal.

Burger sounded a strong note of caution about the quality of research in this area. He strongly recommended that in future research, the differential effects of factors such as institutional quality, pedagogical curricula, age at entry and duration and intensity of ECEC experience should be more clearly disaggregated (2010, p.161), in order to achieve higher research quality standards. This conclusion about poor reporting quality in the area of early childhood research echoes those of a systematic review of studies on the benefits of integrated early education and care to which the authors of the present review contributed (Penn et al, 2004).

Also important was Burger's exclusion from the review of some of the major longitudinal US studies of 'demonstration programmes' that have greatly influenced ECEC policy making in Anglo-Saxon countries during the last quarter century (Heckman et al, 2006). This decision was justified on the basis of their relative lack of external validity (Burger, 2010, p.144) as compared to quasi-experimental studies of larger-scale programmes which more closely approximate children's 'real world'



experience. These demonstration programmes were developed to scale-up nationally in the USA. Another reason was that these model programmes were not confined to early childhood education and/or care services, but actually consisted of two-generation approaches which involved working with and supporting the children's mothers. In fact, these programmes offered an extended range of services. These US studies will be discussed briefly later in this chapter.

In the UK, the importance of ECEC for poor children's development first became evident in the 1958 National Child Development Study. This is a birth cohort study of 17,000 children born in the same week in England, Scotland and Wales (Elliott and Vaitilingam, 2008), whose participants were most recently studied in 2013 at the age of 55. An analysis of factors that promoted poor children's development into adulthood (Blow et al, 2005), using data from the same cohort study, identified long-lasting cognitive effects of ECEC attendance in tests taken during their school careers, as well as small gains in employment status and wages compared to their parents, when these children reached adulthood (Blow et al, 2005, p. 7). In contrast, early small effects on social skills faded out in this cohort. A similar lack of socio-emotional effect would later also be demonstrated in the EPPE study discussed below. Interestingly, the study by Blow and her colleagues calculated the effect of ECEC on wage gains in those children's later adult life to be around 3%, compared with a 6% increase due to an extra year of schooling later during their educational trajectory.

The British Cohort Study (BCS), which follows more than 17,000 children born in the same week in 1970 in England, Scotland and Wales, yielded findings on the developmental impact of early disadvantage which proved very influential on policy and practice. Feinstein's analysis (2003) identified that at the age of 22 months, the development of children from poor families already lagged behind that of their better-off peers in the BCS and that this gap was even wider at age 5. By age 6, even the highest achieving poor children were overtaken by better-off peers who had initially been low achieving, and this effect was still apparent in terms of their position within the labour market at age 26.

Although his analysis did not focus on the impact of any ECEC experiences, it did illustrate the cognitive gap that has to be closed by good-quality ECEC in the case of disadvantaged children. Note that at the time these data were collected, British children did not yet have universal access to publicly funded early childhood provision. Feinstein's conclusions (2003) regarding social mobility, based as they were on findings from a single measure, were heavily criticised by other researchers (Jerrim and Vignoles, 2011), but nevertheless continue to inform policymaking in this area, as do several other important papers establishing evidence for the longer-term

impact of ECEC on cognitive development in both these cohorts (Feinstein et al, 1998; Goodman and Sianesi, 2005).

One of the more recent analyses of the longer-term impact of ECEC is based on data from yet another cohort, born in 1990 and recruited into the Longitudinal Study of Young People in England (Apps et al, 2012). This study also established a clear link between the experience of early childhood provision with cognitive test scores in adolescence, at ages 11, 14 and 16, factoring out other explanatory variables. The impact was particularly marked for disadvantaged children. Regrettably, no detailed information on the types of settings that children used was available, or on setting quality or weekly number of hours attended by these children.

The results for aspects of social and emotional development were less clear-cut. ECEC attendance was associated with a slightly greater likelihood of being in higher education or employment at age 21. The authors acknowledged (Apps et al, 2012, p.24) the need for further research to establish the ‘transmission channels of the effects’. Citing findings from these three cohort studies here, even though the initial data collection was done outside the reference period for this review, was deemed important by us, because of the interesting data reported on the differential long-term impact of ECEC for poor versus well-off children.

## **2.2 The impact of ECEC attendance on children aged 3 and over**

Several findings from the first two UK cohort studies mentioned above would be echoed in the first longitudinal study exclusively focused on the impact of ECEC provision on children’s development, the Effective Provision of Pre-School Education (EPPE) project. Evidence from this major English longitudinal study specifically commissioned to investigate the impact of pre-school education on the socio-emotional and cognitive development of children aged 3 to 7 years (Sylva et al, 2004a, b) continues to exert a major influence on policy and practice decisions regarding UK ECEC provision.

The EPPE project 1997–2003, using a quasi-experimental and mixed-methods approach, studied 3,000 children attending 141 group settings; these were not, however, a representative sample of the English population. The settings were selected from six English local authorities in five different regions of the country. This sample was stratified for provider type and geographical location and included local authority nursery schools and classes, local authority and private day nurseries, playgroups/pre-schools and integrated centres providing care and education, alongside a ‘home’ group of children lacking such an experience as a comparison group (Taggart et al, 2000). Apart from standardised tests on the children

themselves at 3, 4–5 and 7 years of age, other factors analysed by means of observations and interviews included the home learning environment, parental and setting characteristics and aspects of practice. Twelve case studies of settings where children's outcomes were good were included in this phase of the project, and they served to illustrate the importance of particular pedagogical practices.

The EPPE 3–7 study identified preconditions for ECEC to have a positive impact on children's development at primary school Key Stages 1 and 2 (4–5 and 7 years), including that of poor children. The three main areas of investigation were: a) the developmental impact of attendance; b) the impact of setting quality and practices; and c) the impact of the home learning environment. The main findings in each of the three areas that formed the focus of this study were as follows (Sylva et al, 2004b):

1. Developmental impact

- The enhanced cognitive and social developmental effects of pre-school experience were still evident in the early years of primary schooling, with children starting before age 3 showing even greater effects.
- There was no difference in impact between full- and part-time attendance.
- Good-quality provision benefited disadvantaged children significantly, especially if the settings attended included a mixture of children from different social backgrounds.

2. Impact of setting quality and practices

- Setting quality significantly influenced both cognitive and social development into Key Stage 1, but was no longer significant for social/behavioural development at the end of this stage.
- High-quality pre-school experiences had the longest-lasting developmental impact.
- The advantages of attending a high-quality setting persisted until age 7.

3. Impact of the home learning environment

- The educational quality of the home learning environment, e.g. reading to the child, teaching children songs and nursery rhymes, promoted all children's development.

- The home learning environment was more important than parents' social class or levels of education, though these were also related to children's development, and its effects persisted until age 7.
- Parenting styles were influenced by children's gender and parents engaged more often in specific learning activities with girls.

The impact of the home learning environment proved very important. A later paper from the same research team exploring the effect of the home learning environment on children's cognitive outcomes in the EPPE 3–7 study via multi-level modelling (Melhuish et al, 2008) cited the National Institute of Child Health and Development Early Childcare Research Network's longitudinal study (2006). One of the reliable findings of this US study indicated that:

*Typically, for cognitive outcomes, the effect sizes for preschool childcare are only about a half to a third as large as those for parenting.*

(Melhuish et al, 2008, p.96)

However, the quality of settings attended by the EPPE 3–7 sample also interacted with the home learning environment (parenting) in influencing cognitive outcomes and Melhuish et al (2008, p. 104) recommended further research in this area. Recent research has provided an overview of optimal strategies for promoting a good home learning environment among a wide range of families with young children (Siraj-Blatchford and Siraj-Blatchford, 2010).

Another EPPE 3–7 finding of note was that the home background of children who had no experience of early childhood provision differed significantly from that of children who had. Therefore, it was not possible to deduce that the lack of this experience was responsible for the 'home' group's much more limited developmental progress at age 7. The research team concluded, however, that the beneficial impact findings for children who did attend early childhood provision was strong and convincing (Sylva et al, 2004b, p.3).

Given the definition of ECEC and other methodological criteria employed in the present review for JRF, there are several limitations to the ability of the EPPE 3-7 study design to answer this review's questions. As the focus was on early education, at that time only delivered in group settings, childminding was excluded from the study; the nursery schools and nursery classes (over)sampled for this study did not deliver full-time services. Most importantly, no direct measurements, but only retrospective parental accounts, could be collected on the children's experience before age 3.

The EPPI 3-7 study led to a follow-up: the Effective Pre-School and Primary Education 3-11 Project (Sylva et al, 2008). This demonstrated that the effects of pre-school experiences were still felt at the point where children transitioned to secondary education, when child and family factors were controlled for. Service quality yet again proved key to positive outcomes (Hall et al, 2009).

For all social outcomes, the benefits of pre-school were greater for boys, for pupils with special educational needs (SEN), and for pupils from disadvantaged backgrounds. However, for some of the outcomes, notably English, mathematics and 'hyperactivity', only pre-schools of medium or high quality had lasting effects. Finally, the higher the value-added academic effectiveness of the pre-school attended, the better the longer-term outcomes for children. Attending any pre-school has lasting benefits for 'pro-social' behaviour and academic outcomes, but the effects are largely carried by medium- to high-quality pre-schools. Children who did not attend pre-school and those who attended low-quality pre-school showed a range of poorer outcomes at age 11 (Sylva et al, 2008, p.iii).

Ultimately, the EPPI 3-7 cohort was followed up till the end of compulsory schooling, thus providing a rich database on the impact of ECEC on children aged 3 and over. The Effective Provision of Pre-school, Primary and Secondary Education (EPPSE) 3–16 project had an explicit focus on how experiences in pre-school, compulsory schooling and home learning experiences could reduce inequality (Siraj-Blatchford et al, 2010). It had been informed by a pilot study of disadvantaged children 'succeeding against the odds' (Siraj-Blatchford, 2010). The EPPSE 3–16 study again confirmed the crucial role played by parents from every community providing practical and emotional encouragement and support, independent of their educational levels and socio-economic status. This interacted with the impact of good-quality early childhood provision on children's educational trajectories. Girls remained more likely than boys to benefit from a good home learning environment.

The Early Years Transition and Special Educational Needs (EYTSEN) project was a separate study linked to the EPPE 3–7 project and using the same data (Sammons et al, 2003). This focused on children at risk of developing special educational needs (SEN) in terms of their cognitive development. This appeared strongly related to the experience of 'multiple disadvantage' in terms of child, family and home environment characteristics. Multiple disadvantage was defined as the experience of, for example, child and parental ill health coupled with low income, all risk factors for poor child outcomes. Again, risk was lessened by parental support and attending good-quality early childhood provision. All these findings have continued relevance for early childhood policy and have informed more recent policy making.

Relatively recently, the design of the EPPE 3–11 study was repeated in Northern Ireland. The Effective Pre-school Provision in Northern Ireland (EPPNI) project identified similar positive effects on cognitive development (Melhuish et al, 2013) as the English studies. Also worth noting here is that the EPPSE 3–16 project findings on the importance of ECEC for poor children’s development echoed those of the 1958 National Child Development Study.

There has been a longstanding need to supplement EPPE project research findings with data on the role of ECEC in promoting the development of children aged under 3. The Millennium Cohort Study (MCS) (Dex and Joshi, 2005) permits such an analysis, as well as a more in-depth exploration of the ways in which disadvantage impacts on poor children’s development and whether ECEC can ameliorate these effects. In the next section, relevant MCS findings are discussed alongside those from other relevant studies that meet this review’s inclusion criteria.

### **2.3 The impact of ECEC attendance on children aged under 3**

In an important analysis of the effects of early maternal employment and a parallel early entry to non-parental care on child outcomes, Gregg and his colleagues (2005) traced impacts on cognitive development among the Avon Longitudinal Study of Parents and Children (ALSPAC), now known as the Children of the Nineties study cohort, when these children were aged between 4 and 7. Overall, there were some small negative effects on development related to full-time care initiated before children were 18 months of age and these were primarily related to the use of informal rather than formal care.

Among this cohort the proportion of mothers returning early and using only informal care for their children was small, only 6%. No negative effects were found from part-time work or childcare beginning after the child reached 18 months. Negative effects were more prevalent among children of better-educated mothers, whose development showed no positive enhanced effect of ECEC attendance, than amongst children with less-well-educated mothers. This suggested to the researchers that the beneficial effects of higher income in poor families counted more heavily than the impact of an early start in ECEC (Gregg et al, 2005, p.74).

The authors also noted how small these negative effects actually were compared to those reported in USA studies. They considered that these results possibly reflected better maternity leave provision in the UK compared to the USA and more part-time working for mothers in the UK. This would result in few children experiencing an early entry into non-parental childcare in the early months of infancy, and among those, there would be fewer experiencing full-time childcare. The paper’s policy

recommendations included the promotion of part-time maternal work as well as improved access to quality childcare. Since this ALSPAC cohort accessed childcare, much has changed in its availability and quality, so these findings must be interpreted within their historical context. The authors expanded their discussion and exploration of the issues raised by these findings in a 2008 analysis (Gregg et al, 2008).

The sheer complexity of the interactions between setting and child characteristics and the difficulty of establishing cause and effect is illustrated by the case of the apparent lack of impact of ECEC quality on 4-year-old children's development reported as part of the National Evaluation of Sure Start (NESS). In 1998, the then Labour Government started the roll-out of Sure Start Local Programmes (SSLPs) in all four countries of the UK in order to reduce child poverty and social exclusion. By 2004, 524 SSLPs had been established in the 20% most deprived communities in the UK. These programmes targeted families with children aged 0-4. From 2005, this programme was reconfigured so that SSLPs became part of a much larger number of Children's Centres being established nationally in every community, offering family support services and in some cases ECEC. From 2001, the National Evaluation of Sure Start explored all aspects of the development of the original complement of SSLPs (Belsky et al, 2007a).

As part of this evaluation, the nature, quality and impact of ECEC provision and its impact on a range of 3-and 4-year-old children's outcomes was studied in 150 deprived SSLP areas (Melhuish et al, 2010), using as comparator MCS settings (Mathers et al, 2007). Outcomes included measures of child physical health, cognitive and language development, social and emotional development and Foundation Stage Profile (FSP) results. The FSP was a precursor of the Early Years Foundation Stage Profile introduced in 2008. This study found only one significant developmental result, namely that:

*After taking into consideration pre-existing family and area background characteristics, the analyses indicated that the higher the pre-school childcare quality, the higher the child's attainment in language development as measured by the BAS 'Naming Vocabulary' scale (italics in original).*

(Melhuish et al, 2010, p.v)

Surprisingly, this was the only significant outcome finding related to overall provision quality. It applied across different subgroups of the population of children studied, e.g. to those with single parents as much as to those growing up with two biological parents. In view of the importance of language development to all later learning and achievement, this finding led the research team to emphasise the importance of

enhancing the quality of those aspects of childcare most closely related to language development for children growing up in disadvantaged areas. They recommended improving staff training as a route towards such improvements.

The Millennium Cohort Study findings form an important source of information on the impact of ECEC on poor children aged under 3. The approximately 19,000 children recruited to the Millennium Cohort Study (MCS) in 2000/01 were part of the first generation to have experienced the universal roll-out of early education for 3 and 4 year olds under the 1997 Labour Government. This roll-out was completed in 2004, the same year that the offer of free education to targeted 2 year olds was mooted (Smith et al, 2009a). This UK-wide cohort study thus avoided two of the main interpretational drawbacks of the EPPE project. It is a representative study which collects observational, health and psychometric data on children from birth (Roberts et al, 2010), and it over-samples areas with high densities of ethnic minorities and large numbers of disadvantaged families (Dex et al, 2005). So far, five surveys of this cohort have been conducted, gathering data on the children at 9 months and 5, 7 and 11 years.

A study using regression analyses of the association between childcare received by MCS children in the first nine months and cognitive and behavioural outcomes at age 3, found positive impacts which varied with the type of childcare and whether children suffered from disadvantage (Hansen and Hawkes, 2009). Formal group care, in day nurseries, was associated with better scores on a measure of school readiness, but only for the advantaged groups (these included children in two-parent families, girls and children with better-educated mothers). However, there was evidence of a positive but small effect for disadvantaged groups, including families on benefits. The authors nevertheless concluded that formal group care at a very young age can reduce educational inequalities between advantaged and disadvantaged children when they reach the age of 3.

However, in later analyses, the picture changed somewhat, and led to the conclusion that, at age 5, MCS children from lower-income families with less-educated parents did worse than other groups despite the impact of ECEC experience (Hansen, 2010, p. 214). Skinner (2011) summarised the main consistently positive and negative factors associated with MCS children's development at age 5, as measured by the Early Years Foundation Stage Profile (EYFSP). Among the positive factors were being a girl, some formal childcare experience up to age 3 and parental income. Becker (2011) argued that the findings on ECEC and vocabulary development at age 5 indicated that ECEC experience did not help MCS children with less-educated parents to catch up fully with their better-off peers. Without such experience,



however, the gap between children of better-and less-educated parents would grow even larger.

Kiernan and Mensah (2011) also used EYFSP data (Qualifications and Curriculum Authority, 2008) collected at age 5 to show that negative impacts of both episodic and persistent poverty could be mediated by positive parenting, a finding that yet again echoes the importance of support for parenting and for the home learning environment already identified in the EPPE project.

A logical next step was a study of the type and quality of 301 childcare settings used by a subsample of MCS children in 2005 (Roberts et al, 2010). Less-advantaged children turned out to be less likely to attend formal group care, but if they did, its quality tended to be superior to that used by more advantaged children. The authors were unclear whether the government's investment in ECEC services had improved the prospects for advantaged and disadvantaged children alike, however. While good-quality ECEC could make a difference to poor children, the most pervasive impact affecting their lives remained that of other aspects of their immediate environment.

In the MCS's poorest households, where children were experiencing multiple disadvantage, children's development started to lag behind their better-off peers, so that by age 5 their vocabulary scores were nearly a year behind those of better-off children, according to Blandon and Machin's (2010) analysis of the impact of family background factors. These authors reached the very important conclusion that poor children in the MCS were doing no better, as far as pre-school factors were concerned, than children in the 1970 or 1980 cohorts (p.167).

At age 5, MCS children from ethnic minority communities displayed a large gap in early cognitive development compared to White children. But they tended to live in poorer households than White children and have less-educated parents, so the impact of poverty also proved to be a major explanatory factor in relation to this particular gap (Dearden and Sibieta, 2010, p.183).

Although not directly related to the impact of ECEC, a study of multiple risk factors in family background, including parental or child ill health and single-parent family status during MCS children's first year of life (Sabates and Dex, 2012), usefully complements other Millennium Cohort Study evidence. Of the 10 separate risks that these authors identified, 28% of families were experiencing two or more, which was likely to lead to negative impacts for children's cognitive and behavioural development at ages 3 and 5. The impact of low family income, which was treated as a separate risk, was very similar. Special attention was paid to the prevalence of multiple risks among ethnic minority families. The highest rates were found among

Bangladeshi families, followed by Black African and Pakistani families, whereas Indian families in the MCS were least affected, even less than White families (Sabates and Dex, 2010, p.22).

Among other non-ECEC-focused analyses of Millennium Cohort children's early cognitive development, a study by Dickinson and Popli (2012) found that by age 7, consistently poor MCS children experienced a cumulative negative impact on their cognitive test scores which placed them 10% lower than other children, even when a wide range of background factors, including the home learning environment, were eliminated from the equation. Persistent poverty was also shown to undermine cognitive development of MCS children in another study; this effect proved even greater than that of family instability (Schoon et al, 2011).

Non-ECEC-related data from another, even earlier, survey similarly add to the body of evidence on the impact of poverty on young children's intellectual development and hence on the size and nature of the gap ECEC is expected to close. The authors of a comparison of data on household income and other aspects of family disadvantage from the Children of the Nineties (Avon Longitudinal Study of Parents and Children – ALSPAC) cohort study (Gregg et al, 2008, p.i) observed that 'poor children are disadvantaged at age 7 to 9 across the full spectrum of outcomes, the gradient being strongest for cognitive outcomes and weakest for physical health', and that this situation carried significant risks for later outcomes.

Gregg and his colleagues argued (p. i) that 'narrowly targeted interventions are unlikely to have a significant impact on intergenerational mobility'. Arguably, ECEC services are akin to a narrowly targeted intervention, unless delivered as part of a wider package of parenting and family support services such as may be delivered in Sure Start Children's Centres (Lloyd, 2012b). Waldfogel and Washbrook (2010), in a paper for the Sutton Trust, also argue forcefully that ECEC services will struggle to close the gaps in poor children's cognitive development that were identified in the Millennium Cohort Study. This paper includes an analysis of the impact of physical and mental maternal and child health factors.

In the light of these findings, coupled with the EPPE projects' findings about the impact of the home learning environment reported above, a case could be made for the importance of a two-generation approach in which ECEC provision is combined with support for parents, especially to help them improve the home learning environment. Just such an approach was adopted in the US in the initiative that came to be known as 'Early Head Start' (Love et al, 2005), which was aimed at 0 to 3 year olds and their families. Where the offer of centre-based care was complemented with home visits, the programme's evaluation found increased

interaction between parents and children, with positive developmental impacts (Melhuish et al, 2008, p.108).

## 2.4 The impact of poverty on ECEC uptake

There is evidence suggesting not only that poor children may be less well positioned to benefit from ECEC provision, but that family poverty may also interfere with its uptake. As noted in Chapter 1, since the late 1990s, comprehensive data on parents' take-up, views and experiences of using ECEC for their young children has been collected in England to monitor the effectiveness of the 1998 National Childcare Strategy (Department for Education and Employment, 1998) and to inform further ECEC policy developments. This has been achieved by means of the biannual series of representative parent surveys of which the 2011/12 survey (Huskinson et al, 2014) is the latest. From 1998, a biennial survey of childcare providers has complemented this parent survey series. The 2011 provider survey (Brind et al, 2012a) is the latest in this series.

These surveys in turn complement the quarterly statistical data on uptake of places in childcare and on early education published by the Office for National Statistics in partnership with the Department for Education. These statistics consistently confirm the success of the roll-out of free early education; already by January 2010, almost all eligible 4 year olds (98%) and the vast majority of eligible 3 year olds (92%) in England were benefiting from the entitlement to free early years provision (Speight et al, 2010a, p. 2). However, given the particular emphasis on improving access for children from disadvantaged backgrounds (HM Treasury, 2004a; HM Government, 2009), official concern was mounting about the lower and incomplete uptake of the free entitlement to early education among the poorest children.

Therefore the Government commissioned two secondary analyses of the combined data from the 2008 and 2009 surveys in the Childcare and Early Years Survey of Parents series. These were aimed at exploring possible reasons for this state of affairs. The first study (Speight et al, 2010a) focused on the barriers to taking up the free early education offer among disadvantaged families.

The focus of the second analysis (Speight et al, 2010b) was overall use of formal ECEC among families experiencing multiple disadvantage, this being a factor already identified as most likely to hamper children's social mobility. As with all surveys, it is likely that the most disadvantaged families are underrepresented, as these are the most difficult to reach with survey methods (Levitas et al, 2007). Such families might include those in temporary accommodation or where an adult is suffering from physical or mental illness.

Altogether, 13% of all 3- and 4-year-old children in the most disadvantaged families were missing out on their early education entitlement (Speight et al, 2010a). However, many 4 year olds were already attending primary reception classes and only 5% were missing out on early years provision altogether, whereas 24% of the most disadvantaged 3 year olds missed out. Children from lower-income families, including in certain ethnic minority communities, children in larger families (with three or more children), those with unemployed mothers and those with mothers without any academic qualifications were all less likely to receive the free entitlement.

Once differences in socio-economic status had been factored out, the effects of family ethnicity, a child's disability, special educational needs (SEN) or gender were no longer significant (Speight et al, 2010a, p. 3). Just as among the MCS cohort, children living in disadvantaged areas were also less likely to access the free provision. Most likely to do so were children in lone-parent families or with a mother in work. The three main reasons for lack of uptake identified in the report were:

- a low awareness of free early education entitlement, particularly among 50% of the most highly disadvantaged families.
- low knowledge of local providers and quality of provision among highly disadvantaged families.
- in highly disadvantaged families, more likelihood of general constraining factors such as lack of availability at local providers rather than choice or one-off circumstances.

Parents who appeared aware of their children's entitlement to free early education gave different reasons why they nevertheless did not take up a place:

*Parents of 47% of children mentioned personal preferences, parents of 33% of children reported various constraining factors such as lack of places at local providers, and parents of 20% of children mentioned one-off circumstances such as being on holiday in the week the survey asked about.*

(Speight et al, 2010a, p.5)

The conclusions of this study shed further light on several factors implicated in poor children's lower uptake, which would require a broad strategy to overcome them:

*In addition, the way the entitlement to free early years provision is delivered through a range of providers appeared to have an impact on its uptake by the disadvantaged families. Parents from disadvantaged families were more likely to mention lack of availability of places at local providers and other*

*constraining factors than those from families in better circumstances. There is some evidence to suggest that some types of providers (e.g. nursery classes attached to schools) might be more easily accessible by disadvantaged families than others (e.g. day nurseries), which means that there may be fewer options open to disadvantaged families with regard to where to take-up the entitlement to free early years provision than to families experiencing no or little disadvantage.*

(Speight et al, 2010a, p.5)

Given this evidence, the conclusion is warranted that addressing aspects of the delivery mechanism for ECEC provision, the mixed economy of childcare, may go some way towards promoting poor children's uptake of early education. There appears to be a preference among disadvantaged families for placing young children in maintained provision and it is less likely that they will use childcare services which are additional to the free entitlement.

Promoting the uptake of early education among poor children, to enable them to catch up with their peers by the time they started school and increase their social mobility, the Labour Government planned another major ECEC initiative in England: the early education for disadvantaged (now 'funded') 2 year olds programme (Smith et al, 2009a). In the light of an EPPE 3-7 project finding that starting ECEC at or before the age of 2 appeared beneficial, this was targeted at poor 2 year olds. This initiative remains the current Coalition Government's major child poverty initiative.

## **2.5 Extending early education to disadvantaged 2 year olds**

Before examining the findings of the evaluation of the education for disadvantaged 2 year old initiative, it is worth drawing attention to a re-analysis of the EPPE 3-11 study (Sylva et al, 2012). This concluded that there were no discernible longer-term outcomes for poor children who started ECEC at age 2:

*The findings showed that differential effects of attending pre-school at age 2 compared to age 3+ were not evident, in either academic or social-behavioural outcomes, for children eligible for Free School Meals (FSM), and for children whose mothers have low educational qualifications compared to those with mothers who have higher educational qualifications.*

(Sylva et al, 2012, p.5)

The early education for disadvantaged 2 year olds programme (Kazimirski et al, 2008; Smith et al, 2009a) was first piloted between 2006 and 2008. Between 7 and

10 hours of free early education during 38 weeks annually was made available for 13,500 disadvantaged 2 year olds in group settings and with childminders in 34 English local authorities. Even before the evaluation findings had been published, from 2009 onwards, early education for some 20,000 disadvantaged 2 year olds was rolled out in all 152 English local authorities (Gibb et al, 2011).

The Coalition Government elected in 2010 committed to continuing this programme of 7 to 10 hours of free early education for disadvantaged 2 year olds. In 2011/12 a trial was undertaken in 15 local authorities of new approaches to delivering instead 15 hours of free early education. Next came the roll-out of 15 hours of free early education for up to 130,000 disadvantaged 2 year olds from September 2013. This was followed by a commitment to extending this to up to 40% of 2 year olds, comprising some 250,000 children, by September 2014. But how strong was the evidence that this initiative made a difference to poor children's cognitive and social development?

Apart from collecting data direct from the children taking part in this early education pilot, the evaluation adopted a quasi-experimental approach to gathering different types of data on the initiative's impact. This was done via a survey of families, quality assessments of the early childhood settings used by these children and in-depth qualitative interviews with a sub-sample of parents (Smith et al, 2009a). Prior to the impact study, a mapping study (Kazimirski et al, 2008) was conducted to explore how the 34 local authorities went about implementing the programme by identifying eligible families, matching them with settings and encouraging them to use the available places.

The evaluation matched pilot children to a sub-sample of children selected via Child Benefit Records in disadvantaged areas of England where no pilot was running, to assess the impact of the early education experience. The initiative appeared to have been quite well targeted, since of the pilot families, 73% lived in the 20% most disadvantaged electoral wards in the country and 92% experienced one or more disadvantages.

While 90% of parents continued using the place for their child for the full 38 weeks that it was available, families disproportionately represented among the 10% who dropped out included low-income parents, parents of children with disabilities or SEN and non-working single parents. So the parents least likely to take up a free early education place for their child were in the very groups the initiative had targeted.

Psychometric tests were carried out on the children in the pilot and in the comparison groups during a first interview with a parent when the children had just turned 2 and then again when children finished the pilot at age 3. Overall, no

significant developmental differences could be discerned, until additional analyses revealed a significant relationship between vocabulary development and the quality of the setting that children had attended. But only about 20% of settings participating in the initiative were of high quality. This finding led the research team to a key conclusion about the unrealised potential of the initiative:

*For these children (who between them represent around two-thirds of all pilot children) the effect of the pilots was to significantly improve their language ability scores (from 45.8 to 49.4 on average). This is equivalent to moving a child from the 34th percentile for language development to the 46th percentile.<sup>4</sup> What this suggests is that, had the pilot local authorities been able to secure more places in relatively high quality settings, then the pilot would have had a considerably larger impact overall.*

(Smith et al, 2009a, p.4)

This conclusion was translated into a recommendation to the DFE that targeted 2 year olds should only be placed in settings that were rated 'good' or 'outstanding' by Ofsted. To date, local authorities still use settings which are 'working towards' this rating to deliver early education to 2 year olds, as not enough places are available in good or outstanding settings (Mathers et al, 2014).

Setting quality also played a role in the other significant finding, namely that in the pilot, parent-child relationships, as reported by parents, were significantly better than in the matched comparison group, but only where pilot children attended high-quality settings.

Parental experiences and views of the pilot were largely positive and only a minority reported any worries or difficulties. Parents were happy with the feedback they received from setting staff about their child's development and also happy with additional services and advice they received, for instance in Children's Centres. Having their child attend an early years setting provided respite, and did in some cases improve their physical and emotional health and wellbeing, they reported. It gave them a chance to attend classes and other opportunities for self-improvement. Some 40% of parents would have liked their child to attend for more hours, but couldn't afford to pay for them.

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<sup>4</sup> Percentiles represent the values below which a certain proportion of people fall e.g. here the 34th percentile illustrates that 34% of children have a language development score that is equal to or lower than 45.8 (the median is equivalent to the 50th percentile. (Smith et al, 2009a, p. 4)

The usual caveats apply to these findings, namely that they derive from parental self-reports. No observations were conducted as part of this study to examine any changes in the relationship between parents and children that could be related to the ECEC experience.

Promoting uptake required successful identification of eligible children. Successful strategies for reaching the parents of 1-year-old children who were considered eligible for the 2-year-old education offer were obviously also crucial to the success of the initiative. Admittedly, the next study reported on here does not fit neatly within the criteria employed in the selection of empirical studies for inclusion in this review. Its findings are nevertheless useful in setting the impact findings in context and in highlighting implementation issues which were key to ensuring positive impacts.

As an early part of the initial evaluation, six local authority case studies were undertaken to investigate how outreach approaches had been designed, managed and delivered. Their effectiveness in attracting parents to the scheme was also measured (Kazimirski et al, 2008). Three broad categories of parents experiencing disadvantage were targeted. For example, parents from black and minority ethnic communities or those living in temporary accommodation might be contacted on the basis of disadvantage related to broad family circumstances; lone parents or drug-using parents might be contacted on the basis of parental need; and children with additional needs or being looked after might be included on the basis of the child's specific needs (Kazimirski et al, 2008, pp.2-3).

Worth noting is that in the subsequent national scaling up of this initiative, local authorities were much more constrained in their ability to target on these grounds, as economic disadvantage became the lead factor determining eligibility. In the expansion mooted by the Coalition Government, eligibility for free school meals and 'looked after' status became the main eligibility criteria (Maisey et al, 2013, p.10). In the initial mapping study, outreach activities were either delegated to Children's Centre staff or tasked to specific officers by local authorities. Referrals, doorstep contacts and indirect marketing were all used:

*Generally the approaches felt to be most successful in reaching the most disadvantaged families were: where referral partners identified families, because of the use of discretion this allowed; door knocking in disadvantaged areas, which had the potential to reach families which were not in contact with services*

(Kazimirski et al, 2008, p.3)



The first of these two successful strategies, professional partner referral, was also identified as a cost-effective strategy to reach target numbers. The research team formulated seven recommendations for effective outreach on the basis of the six case studies. The first three proved of particular relevance to the wider implementation of this targeted initiative:

1. Build on pre-existing multi-agency relationships.
2. Build on existing experience of outreach work, or of working with target groups.
3. Engage in personalised and tailored approaches with families.

These recommendations are reflected in the strong case made by Moss (2012b, p.42) for the key role that universally provided Children's Centres ought to play within an integrated, inclusive and holistic system of services offering ECEC alongside a range of family support services.

None of the implementation study's findings suggested that a 'marketing' approach would be equally or more effective than the sensitive outreach strategies described in this report to put early education within reach of poor 2 year olds. Yet in the roll-out of this initiative, the role of local authorities was much reduced and it was primarily left up to providers to attract families to the free provision. The implementation study of the initiative's national roll-out discussed below discovered how important such strategies were to a successful uptake.

The impact of the pilot ECEC experience between ages 2 and 3 was measured when the children reached the end of their first year of compulsory schooling, at age 5. Few significant effects of the pilot study emerged (Maisey et al, 2013). The research instrument employed to measure outcomes was the profile scores obtained on the EYFSP. The findings did not suggest that the initiative had successfully achieved its first aim, namely that poor 2 year olds who had received free early education would do better at age 5 than those who had not. This also applied to those children who had experienced high-quality ECEC as part of the pilot.

However, a comparison within the pilot group of children, in which children attending high-quality settings were compared to those attending lower-quality settings, revealed some statistically significant results. These concerned two sub-scales of the EYFSP: communication, language and literacy; and creative development. However, the EYFSP (Standards & Testing Agency, 2012), is not a standardised and validated

psychometric tool, but is an assessment completed by Reception class teachers for up to 30 children at a fixed point in the summer term. This may affect its reliability.

The authors considered that methodological issues, namely the low numbers of children who had attended high-quality settings, were responsible for these effects not being more pronounced. Despite evidence that all pilot study children had attended settings generally of higher quality than those in the matched comparison group, there was no difference in outcomes as measured by the EYFS profile scores between the whole 'experimental' and the whole control group. This important finding proved hard to explain (Maisey et al, 2013, p.31).

Receiving free education at age 2 had not made enrolment more likely for free early education available at age 3, which was the initiative's second aim, except in the case of children in black and minority ethnic families, many of whom were among the most disadvantaged. For this group, the follow-up study's evidence suggested a positive effect on take-up. Meanwhile, the initiative had been rolled out across the country, without an opportunity to examine and if at all possible address these issues further in the interests of poor children's outcomes.

A case study approach was also adopted for yet another DFE-commissioned study of the initiative. The implementation study started when this initiative was rolled out in all 154 English local authorities from 2009 (Gibb et al, 2011). It is discussed here for the same reasons that the mapping study discussed earlier was included in this review, namely its relevance to the subject of this chapter, even though it does not strictly meet the methodological criteria applied in the rest of this review. This next study's focus was on the perspectives of local authorities, different types of childcare service providers and other key stakeholders, not on children and parents themselves. The eight case study areas included rural and urban settings and differed in levels of deprivation and other aspects.

In terms of managing the delivery process, local authorities had to balance the needs of families and children as they perceived them with what providers within the local childcare market were willing to offer (Gibb et al, 2011, p.6). For instance, some authorities only offered 10 free hours, in order to enable more families to benefit. Some providers, especially those who offered a full-time and year-round service, such as private day nurseries, were reluctant to participate in view of the fact that the offer was only for 10 to 15 hours and operated only during term time.

The acceptability of the subsidies offered also differed in line with prevailing costs and fees in any one area. All these issues were related to provider sustainability within particular local markets. In very disadvantaged areas, with low demand from parents for additional childcare services and correspondingly low childcare fees, the

2 year old funding made a key contribution to centre running costs, particularly in the case of Children's Centres.

In terms of targeting the offer, the research findings contradicted the government's preferred strategy of employing administrative datasets, which was mentioned above: 'Use of local knowledge and professionals' expertise was seen as a much more effective outreach strategy' (Gibb et al, 2011, p.6). Poor children living in temporary accommodation proved difficult to reach, as did those living in rural areas.

In view of the 'short shelf life' (Gibb et al, 2011, p.7) of quality assessments, which were typically valid for no more than around a year, local authorities were reluctant to rely entirely on Ofsted ratings in engaging with providers. The research team predicted future problems in recruiting sufficient numbers of suitable providers to the scheme when extended.

Childcare providers tried to be flexible to accommodate parents' and children's needs. They tended to view local authority support in a positive light, while also noting gaps (for example, they wished for more information on and resources for children with disabilities and additional needs). For many private providers, the initiative posed new challenges:

*In some cases they were made aware of families' needs and risks and had to use this knowledge to provide adequate support for the children, work with parents to improve their ability to engage with their children's learning, and refer parents to other agencies and professionals.*

(Gibb et al, 2011, p.8)

The research team recommended that local authorities offer appropriate support to such private providers in order to enable them to participate effectively or at all in the programme. Children's Centres proved the most adept at structuring care and support packages to deal with poor children's and families' diverse and often complex needs and ensure that they benefited optimally from the service. Given the key role they played in coordinating such family support in these local authorities, the research team concluded that the success of this aspect of the service would depend on their continuing availability to carry out this role (Gibb et al, 2011, p.9).

The findings echoed those of related research, such as further analyses of the EPPE project data (Hall et al, 2009, 2013), about the need for high-quality provision if the experience is to have an impact on cognitive and social development. High quality is closely related to practitioners' training, qualifications and employment conditions

(Nutbrown, 2012), but the initiative itself cannot be shown to have led to change in this area.

At least in the targeted initiative discussed in this section, the poor 2 year olds were often found places in provision also attended by more advantaged children; such a social mix has been shown as important to children's development in the EPPI study (Sylva et al, 2004a). However, in less-advantaged areas, this was more difficult to achieve than it was in more advantaged areas. In both cases, this was due to the operation of the local ECEC markets. In a more recent qualitative study of London working-and middle-class parents' use of ECEC for their young children Ball and Vincent (Ball and Vincent, 2005; Vincent and Ball, 2006) highlighted the different choices open to parents in different income brackets in two London areas and the resulting impact on the settings' social mix. Any policy recommendations will need to take account of the growing social segregation between the diverse settings delivering early education.

The 2 year old education initiative was very successful in terms of uptake and liked by parents, but the findings corroborated the conclusions from survey research (Speight et al, 2010a) that intensive and sensitive outreach was needed to promote uptake of free early education by most poor children. Taken together, these research findings warrant the conclusion that the government had little to go on in the way of clear evidence for the initiative's short-term impact on children's development, its main aim, when it committed to its major extension from 2012. Or rather, the evidence was clear that prevailing childcare market conditions would hamper the identification of sufficient places in settings rated good or outstanding by Ofsted. On the basis of these findings from a range of studies of the 2 year old initiative, it would be hard to predict any longer-term positive outcomes for social mobility unless major quality improvements were achieved among settings, including improving practitioner training levels. Indeed, in a recent report for the Sutton Trust, a team of Oxford academics recommended that the initiative be suspended until greater quality could be assured by the skilling up of practitioners (Mathers et al, 2014).

### **2.5 The role of UK Children's Centres**

Given the importance attached to the role of Children's Centres in both the pilot and the roll-out of the early education for disadvantaged 2 year olds initiative, we have chosen to discuss briefly here their current status, even though ECEC services themselves are only delivered in a minority of centres (Goff et al, 2013; House of Commons Education Select Committee, 2013).

Their presence is concentrated in disadvantaged areas, as confirmed by the 2011 DFE survey of childcare and early years providers (Brind et al, 2012a). This survey noted that while the provision in Children's Centres of in-site full daycare had continued to decrease compared to previous such surveys,

*...those that continued to operate remained heavily concentrated in the 30 per cent most deprived areas. Seven in ten children's centres offering on-site full day care were located in the 30 per cent most deprived areas (71 per cent), a proportion that has remained stable since 2008. The skew towards deprived areas stems from the historic requirement for centres in these areas to provide full day care, while children's centres outside the most deprived areas were under no such obligation.*

(Brind et al, 2012a, p.25)

This situation appears to be in conflict with the Coalition Government's stated requirement for Children's Centres to focus services more on the neediest families (DfE, 2011). To this end, the DFE also removed the 'ring fence' for Children's Centre funding in favour of early intervention grants. In a review of the early impact of this policy shift (Lord et al, 2011, p.ix), the authors recommended to policymakers that they 'continue to recognise the value of "universal" services as an opportunity for children's centres to engage with parents'.

This is evidence of an emerging consensus among official bodies (National Audit Office, 2006, 2009) and other researchers (National Children's Bureau, 2013; Waldegrave, 2013) that the operations, notably the financial ones, of Children's Centres are in need of improvement in order to ensure positive impacts for poor children and families. Their potential for playing an important role is not in doubt, however.

It is beyond the scope of this review, unfortunately, to explore their contribution to the wellbeing of poor children and their families further, not only since at present only a limited number of them offer ECEC, but also because robust research is lacking, though an evaluation of Children's Centres is currently underway (Goff et al, 2013). Next we discuss relevant international evidence of ECEC's impact on poor children.

## **2.6 ECEC's impact on poor children's development: international evidence**

The influential systematic review by Burger (2010) of recent empirical studies from Europe, the US and elsewhere in the industrialised world measuring ECEC's impact on the cognitive development of children aged 2 and over, was already mentioned at the start of this chapter. Notable were his findings on the poor reporting quality of

much ECEC research, possibly reflecting poor study design, and on the lack of external validity of many of the US longitudinal studies which have been highly influential in influencing policy in English-speaking countries.

Recent European research on the role that ECEC can play in closing the educational gap between poor and better-off children has also been summarised by Gambaro et al (2014), although the authors do not provide methodological details about the reviewed research. Again, the effects appear greater for disadvantaged children, though details are not given. The authors noted that the studies they identified mostly focused on universal systems of early education for 3 to 6 year olds, but that the effect of formal ECEC on children aged below 3 was much less frequently measured. If studied, however, quality was again found to be a precondition for any positive impact.

A major report on ECEC provision for poor children across Europe, including in non-European Union nations (Bennett et al, 2012), included an extensive literature review which applied transparent inclusion criteria. This noted how limited the information about these children actually was. Importantly, as well as identifying the barriers to poor children's participation, this report summarised best evidence for engaging poor children and families in good-quality ECEC. This was translated into six policy recommendations:

- *a universal entitlement to publicly funded, affordable ECEC provision from the end of parental leave or at least by the age of three or four years.*
- *the integration of ECEC systems (regulation, administration and funding) that promote more equitable access and a more unified approach to 0-6 provision.*
- *a combination of high-quality ECEC centre-based provision and parent support programmes (family health, parent education, counselling, adult education).*
- *a valued, well-qualified and adequately supported workforce.*
- *inter-agency cooperation between ECEC centres, health and social services, and local authorities.*
- *a political commitment toward democracy, equality and civil rights.*

(Bennett et al, 2012, p.7)

While recognising that few European nations have as yet incorporated every one of these policies into their ECEC systems, the report made a strong case for the realisation of such aspirations. It also drew attention to the need to link ECEC to

employment, health and other social policies aiming at resource redistribution if poor children are to benefit optimally (Bennett et al, 2012, p.48).

While the influence of European ECEC research has not been all that prominent, since the 1960s, major longitudinal studies of three US ECEC programmes have played a key role in informing ECEC policy rationales in the UK (Department for Education and Employment, 1998). These are the Chicago Child-Parents Centers programme, the Abecedarian project and the HighScope Perry Preschool Program (Lazar et al, 1982; Barnett, 1995; Karoly et al, 2005). In an EPPI-Centre systematic review, Penn and her early years systematic review group colleagues (Penn et al, 2006) provided a critique of this literature, reaching similar conclusions to those proposed by Burger (2010) in terms of their limited relevance to present-day ECEC policy making.

While bearing in mind Burger's (2010) conclusion regarding the limited external validity of these studies mentioned above, they will nevertheless be discussed here briefly. These studies explored ECEC's long-term economic impact. The first study was a matched-control study. Developmental progress on entry to kindergarten among a large sample of 5- to 6-year-old children with experience of the Chicago Child Parent Centers was compared to that of children without such experience across a number of schools. The children at whom demonstration programmes were aimed were almost all poor African-American children.

A remarkable characteristic, at least in the area of ECEC research, of the second and third of these three longitudinal studies was the employment of a fully experimental, randomised controlled trial design. Both were small-scale studies nevertheless. While all three were two-generation programmes offering activities and services to mothers and children, only the Abecedarian project offered full-time ECEC provision to children aged 0 to 5, so in principle enabling mothers to take employment. All three studies yielded a cost-benefit analysis which claimed that the programmes had clear long-term economic benefits in terms of children's social mobility:

*It is widely assumed, and widely quoted by politicians and policymakers, that early childhood interventions in particular are effective and bring returns in the order of seven dollars saved for every one dollar spent. These savings do not appear to be apparent until the children who received the intervention reach adulthood.*

(Penn et al, 2006, p.1)

The Abecedarian project provided the most extensive intervention and also showed the most marked results, but did not include impact on juvenile and adult crime ratings, the major cost saving in the other two longitudinal studies. It was those which generated the headline findings most intensively used to influence policy (Penn et al, 2006, p.3). The major cost associated with such crime was actually the victim compensation schemes and such findings are still not transferable directly to the UK situation.

This apparently robust evidence appeared particularly well suited to inform policy, and these US cohorts are still being followed up. Consequently, these studies spawned a substantial academic literature on the economics of early childhood interventions across the world. However, their approach has come in for serious criticism (Phipps, 2001). Even the Nobel Prize winning economist James Heckman, in a re-analysis of Perry Preschool Program data, concluded that the rate of return on its benefits had been overestimated (Heckman et al, 2010, p.127).

The role of gender in these three projects' outcomes was the subject of a number of contradictory analyses. Anderson (2008) concluded that the positive effects on cognitive outcomes and academic and other school-related outcomes were only valid for girls, but were non-existent for boys. In contrast, Kelchen et al (2011) came to the conclusion that gender made no difference to such outcomes in a meta-analysis of the three major longitudinal studies complemented by those from other ECEC impact studies. Overall, these studies suggest that paying attention to possible gender effects is an important component of measuring programme effectiveness.

In contrast to the small-scale targeted interventions explored in the three high-profile US longitudinal studies, the US Head Start early childhood programme took a more universal approach. Since 1965, the Head Start programme has been rolled out across the US for 3- and 4-year-old children in low-income families. The Head Start package includes early childhood education, health and family support services. In 1994, the original Head Start programme was complemented by the creation of the federal Early Head Start programme aimed at children aged under 3 and at pregnant women (Love et al, 2005; Ayoub et al, 2009).

In 1998, the US Department of Health and Human Services (DHHS) was mandated to conduct an evaluation of Head Start to determine its impact on child development. As part of the impact study, nearly 5,000 3 and 4 year olds who entered Head Start programmes from the autumn of 2002 onwards were tracked over time. The results of this evaluation, the 2010 Head Start Impact Study (HSIS or Impact Study), did not provide unequivocal evidence of its effectiveness in promoting positive longer-term



educational outcomes for poor children (Puma et al, 2010; Gelber and Isen, 2011). The academic debate about the extent of Head Start's impact on school performance and its pathways towards other longer-term impacts continues, and pertinent research findings are sometimes contradictory (Ludwig and Miller, 2007; Hyman, 2011).

Whereas Ruhm and Waldfogel (2011) found that any positive effects of Head Start and other similar programmes were largely confined to poor children and were conditional on ECEC provision being of high quality, other authors have argued that the longer-term beneficial impact of ECEC may be mediated by children's subsequent schooling experiences (Currie and Thomas, 2000), and that age at entry may also play a significant role in longer-term outcomes (Tarullo et al, 2010; Puma et al, 2012).

Duncan and Sojourner (2012) were optimistic about the potential of another intervention, the two-year-long and centre-based Infant Health and Development Program for low birth weight children from both low-income and better-off families. They considered this a worthwhile alternative programme to Early Head Start (Love et al, 2005), to close income-based gaps in cognitive ability and academic achievement. Its impact was measured by means of a randomised controlled trial, which found larger impacts among children in low-income families.

Burger's (2010, p.144) objections to generalising from the three experimental US longitudinal studies on the grounds of their limited external validity, remain the strongest argument against their uncritical use. This argument is also put forward by Baker (2011), who, like Cascio (2010) before him, also predicted that if a truly universal early childhood programme were to be implemented, its effect on disadvantaged children's longer-term outcomes might be slight. Essentially, the US debate continues to be about how to better target ECEC, in contrast to the European approach where the academic consensus points more towards universalism (Gambaro et al, 2014). The OECD (2011b) analysis of its 2009 PISA (Programme for International Student Assessment) data also established positive evidence for the impact of ECEC on later school achievements among OECD member states, but the issue of targeting versus universal provision did not receive a high profile.

In the view of the present report's authors, the US studies, as well as the Early Head Start evaluation (Love et al, 2005) do yield some worthwhile evidence on the positive impact of two-generation approaches to the promotion of social mobility, i.e., the delivery of family support services to parents and children alongside the provision of ECEC to children. They also highlight the intensive nature of the interventions needed to make the programmes work well for children and their parents. These

findings remain of interest in exploring the role that UK Children's Centres can play in facilitating children's access to ECEC provision and in relation to the wider debate around early intervention.

## 2.7 Summary and conclusions

The evidence summarised here strongly suggests that the provision of high-quality ECEC must be part of wider anti-poverty strategies to have optimal impact in promoting poor children's social mobility; this is a conclusion also arrived at in other studies (Lloyd, 2012b; Portes, 2012). The research explored here suggests the conclusion that wide-ranging support for poor families with young children alongside the provision of good-quality ECEC would seem to be indicated.

The kind of support provided in Children's Centres was briefly discussed in relation to this topic. Given the findings reported above on ECEC use among the Millennium Cohort and its prevailing quality, it is all the more concerning to find worse cognitive and social outcomes, likely to impede social mobility, among poor children in the MCS cohort as compared to their better-off peers. Survey research on uptake patterns among poor children plays an important role in the interpretation of such outcomes data.

The overall EPPSE 3–16 project findings on the importance of ECEC for poor children's development echoed those of the 1958 National Child Development Study. Since the collection of data for the first of the EPPE series of projects, the EPPE 3-7 study, ECEC attendance has increased dramatically, including that of children growing up in disadvantage. From these EPPE project findings follows the conclusion that supporting parents bringing up young children in difficult circumstances to create a beneficial home learning environment must be an absolute policy priority. Equally important is the need to promote ECEC quality if poor children are to benefit optimally. The fact that child poverty levels are rising (Brewer and Joyce, 2010; Judge, 2012) and living standards deteriorating (Cribb et al, 2013) makes public support to ensure high-quality provision even more urgent.

The roll-out of the Early Years Foundation Stage in 2008 and its revised version in 2012 appear to have made a difference to programme quality in registered formal settings, but in England there are serious concerns that the EYFS is not yet delivering the expected educational outcomes as measured by the Early Years Foundation Stage Profile at the end of Reception year, notably for poor children (Department for Education, 2014; Ofsted, 2014).

Targeting provision exclusively at poor children, as in the early education for 2 year olds initiative, is not a strategy that follows from the findings of the EPPE study

described in this section or by other research cited in Chapter 1. It certainly contradicts the conclusions of the influential EPPE project reviewed above in respect of the need for a 'social mix' in ECEC settings. Indeed, the European Commission, in the fifth of its recent set of recommendations on children and poverty notes that:

*The most successful strategies in addressing child poverty have proved to be those underpinned by policies improving the well-being of all children, whilst giving careful consideration to children in particularly vulnerable situations.*

(European Commission, 2013, p.2)

This position was informed by a major overview of the European literature which concluded that:

*a universal service providing good quality programmes for all, in which special attention is given to disadvantaged children, is preferred over separate provision focused exclusively on targeted populations.*

(Bennett et al, 2012, p.8)

As far as ECEC is concerned, a detailed discussion of differential impacts on children's outcomes related to targeted versus universal provision falls outside the remit of the present review. But this highly policy-relevant issue will be touched on again in chapter five. Moreover, another JRF review (Gugushvili and Hirsch, 2014) focuses on a detailed analysis of the benefits of targeted versus universal publicly funded provision in general.

### Chapter 3: Early childhood provision and economic wellbeing

In the UK, as in the rest of Europe, publicly supported ECEC has a history going back to the 19th century, while their development now tends to be viewed through a short-range social policy lens (Scheiwe and Willekens, 2009). The UK is not the only nation where there has been a strong compensatory aspect to ECEC throughout the 20th century, with provision originally aimed primarily at poor children (Lloyd, 2012a). In contrast, since World War II, the policy emphasis in the UK and elsewhere has gradually shifted to the promotion of publicly supported childcare to enable women's labour market participation and thus strengthen families' socio-economic position in modern welfare states.

This more recent economic wellbeing rationale for publicly supported ECEC provision is the facilitation of parental – notably maternal – access to the labour market. This can strengthen young families' socio-economic position, so helping them to avoid or escape present poverty (Duncan et al, 2001a; Brewer and Shaw, 2004; Waldfogel and Garnham, 2008; Lawton and Thompson, 2013). Therefore, we set out in this review to examine the availability of robust national and international evidence to answer three questions following from this rationale that refer to the prevailing UK system and context:

- Does research evidence suggest that parental labour market participation, especially of mothers in single- and dual-earner poor families, is facilitated and improved by ECEC provision?
- What ECEC features and which delivery conditions best promote maternal labour market participation?
- What evidence is there on the costs versus the benefits of promoting economic wellbeing through ECEC provision?

Compared to the size of the body of educational, social policy and psychological research available on ECEC's impact on achieving social mobility facilitated by ECEC provision, there are fewer economic studies grounded in empirical evidence which address such questions for the UK. This relationship has already been explored in depth in several important UK studies (Lewis, 2003; Brewer and Paull, 2004).

Unfortunately the poor and confusing reporting in some studies cited in Chapter 2, particularly the fact that papers are often not clear about different forms and amounts of ECEC provision studied, also applies to some of the literature discussed here. In this chapter, we restrict ourselves as much as possible to a discussion of empirical

studies, surveys and analyses of major administrative datasets that focus on the role of ECEC provision in enabling parental, particularly maternal, employment. Note that this means studies of provision for children aged from 0onwards, in many cases from the end of maternity leave. Included here are some studies which measure the developmental impacts of childcare provided with the express aim of enabling maternal employment. As most of the literature in this area discusses maternal employment, this will remain the focus in the chapter. However, there are considerable gender equality issues inherent in this approach. Moreover, an analysis of Family Resources Survey data (Ben-Galim and Thompson, 2013) indicated that in dual-earner families, 31% of mothers were by then earning at least as much if not more than fathers. They point out that:

*This has implications for many existing policies which perpetuate outdated gendered stereotypes of work and care, and which demonstrably fail to respond to the daily reality of people's lives in modern Britain.*

(Ben-Galim and Thompson, 2013, p.2)

Given that the present review is of existing research, the terminology and approach adopted in most research in this area will nevertheless, albeit reluctantly, be used throughout. To interpret the evidence for the role played by ECEC provision in enabling parental, notably maternal, employment in poor families, it is useful to first locate the current employment situation of mothers with young children in the UK within an international context.

### **3.1 Links between ECEC and maternal employment**

In a report on tackling in-work poverty by supporting dual-earner families, Lawton and Thompson (2013, p. 20) compared UK maternal employment rates to OECD figures, and found that, for mothers with a youngest child aged between 3 and 5, the UK maternal employment rate, at 58%, was lower than the OECD average of 64%. Of the UK's single mothers, only 52% were employed, the third lowest rate among OECD member states. In contrast, the 78% employment rate for UK mothers of school-age children exceeded the OECD average, which was 73%.

In their analysis, Lawton and Thompson (2013, p. 26) noted that the size of the effect of public ECEC funding on increased maternal employment rates depended on contextual factors and cited a study by Uunk et al (2005) in support of their argument. Uunk's comparative study among mothers of 2-year-old children in 13 European nations established that the provision of public childcare accounted for a third of the difference in their employment rates.

Two other important points raised by Lawton and Thompson (2013) concern poverty in working families and the awkward interface between childcare and the free early education entitlement. Low pay and weak wage increases are characteristic of the UK employment scene, and two-thirds of poor children live in working households. The risk of poverty is less in dual-earner households (Lawton and Thompson, 2013, p. 8). Regarding the present public funding system for childcare and early education and their interface, these authors concluded that:

*By itself, the current free offer is unlikely to provide enough affordable childcare to enable mothers to work except in part-time jobs with very few hours, particularly once travel time is factored in. Some families will be able to combine the free offer with informal or paid formal care to enable the mother to work more than 15 hours.*

(Lawton and Thompson, 2013, p.30)

It becomes apparent that in the UK at least, the supply-side funded system of early education does not meet even minimal parental childcare needs. The UK currently spends about £7 billion on a patchwork of free entitlement, tax credits and childcare vouchers, according to Lawton and Thompson (2013, p. 33), while £5 billion is quoted as the 'official' figure (Department for Education, 2013c), but this conflates figures for English early education with tax credit support within the UK as a whole. The precise amounts spent in each area of support for parents with young children in the individual countries making up the UK are very hard to verify, Moss and Lloyd (2013) have argued, so a large margin of error remains.

This problem was examined in greater depth in an economic analysis of the evidence of the impact of state support for ECEC provision restricted to England (Brewer et al, 2014). Its authors concluded that:

*...despite the obvious prima-facie case – the evidence that subsidised childcare is important in increasing parental labour supply is surprisingly thin.*

(Brewer et al, 2014, p.196)

This study formed part of the most recent 'Green Budget' analysis prepared by the Institute for Fiscal Studies. The authors examined the problematic interactions between continually and rapidly changing forms of benefits and tax credits and the free early education entitlement, suggesting some improvements. They noted the current lack of good-quality evidence for the positive impact of such policies on parental labour supply, particularly of the demand-side subsidies to parents such as

the UK system of tax credits, in adding to parental purchasing power in the childcare market.

The authors concluded that the nature of the mixed ECEC market meant that the government's employment of multiple instruments to achieve ECEC's multiple objectives was inefficient (Brewer et al, 2014, p.193). The lack of clarity about the stated aims and objectives of government policy in this area should be addressed as a matter of urgency, they recommended.

In the *Journal of the Institute of Economic Affairs*, a politically much more right-leaning organisation, Paull (2014) also argued some of these points, but from a different perspective. She summarised the effectiveness of UK government policies to promote parental employment, for instance through free early education and childcare tax credits, from the perspective of the current UK childcare market. While in her view, such government interventions might be justified in principle:

*...there is a lack of conclusive evidence on whether involvement is justified in the UK context and whether current childcare policies help to achieve better outcomes or are worth the cost.*

(Paull, 2014, p.31)

Having argued here and in previous work (Paull, 2012) that equity issues within the UK childcare market might be more effectively addressed through targeted approaches, Paull concluded this paper by recommending that the government's rationale for investment in ECEC services be further examined.

Paull (2014) is not alone in questioning the trade-off between investment and costs in the case of publicly supported childcare provision. But in this discussion, it is especially important to distinguish between early education and childcare, i.e. between the outcomes of two separate rationales, not the composite one she posits. The evidence for the longer-term pay-offs for social mobility from investment in early education is reasonably strong, as evidenced in Chapter 2 of this review. In contrast, the evidence for the positive impact on family economic wellbeing arising from investment in childcare appears weaker. However, this depends on the perspective taken.

An alternative argument against public investment in childcare, namely that investing in a universal publicly funded childcare system may exceed governments' resources, was strongly put forward by Baker (2011). The crux of his argument centred on the evidence base for targeted interventions being stronger than that for universal interventions, as it derives from experimental studies. But since this evidence is

largely confined to the USA longitudinal studies, the same counter-arguments apply as proffered by Burger (2010), cited in Chapter 2.

Paull's (2014) argument brings us to the heart of a conundrum within economic research in this area, the conflicting positions on the value of ECEC as a 'public good'. According to OECD's comparative study of 20 ECEC systems (2006, p. 249), international research evidence supports substantial public investment in such provision. Even from an economic perspective, it should be seen as a 'public good', with economic, fiscal and social benefits for children, families, governments and national economies, as Cleveland and Krashinski (2003) argued in a paper for OECD. Economic benefits derive from two sources. Firstly, they derive from children's improved educational performance, and secondly, from greater economic wellbeing within families with young children where both parents work, fiscal benefits accrue as a result of parental tax and national insurance contributions and social benefits are associated with children's wellbeing in good-quality ECEC provision and their improved social and cognitive development.

The concept of 'public good' is an economic concept justifying substantial public investment in both services themselves and in their infrastructure. In the case of ECEC, services and infrastructure are considered key to ensuring equitable and universal access for all children irrespective of their parents' socio-economic position, ethnic background, rural or urban location, or health status (Leseman, 2009; Bennett et al, 2012).

By and large, such arguments are heard more frequently in Europe (Ellingsaeter, 2014; Fagnani, 2014; Oberhuemer, 2014) than in English-speaking countries, where US economist Heckman's human capital theory (Heckman, 2000; Heckman et al, 2006) underpins policymaking in this area. Heckman's economic theory locates the early years as the most important stage in the life cycle, where interventions to promote cognitive and non-cognitive skills have the greatest impact in respect of the formation of adult skills which will benefit economies (Carneiro and Heckman, 2003). This leads him to advocate strongly for investment in early childhood provision.

This does not mean that Europe has solved the issues surrounding participation of poor children, however. Van Lancker (2013, p. 13) has highlighted that across the EU, the poorest children aged under 3 participate much less in ECEC provision even where systems are universal. This suggests that the UK is not the only EU member state where there is still room for improvement in creating and maintaining an equitable ECEC model which promotes service uptake by poor children aged under 3. Van Lancker's evidence not only casts doubts on European Union member states' ability to fully deliver as yet on the third, social justice, rationale for publicly supported



ECEC provision, but also suggests that increasing economic austerity may make matters worse.

The case of Norway may be an exception, as there is reasonably strong evidence that increased childcare affordability and availability do play a role both in economic wellbeing and in children's longer-term educational outcomes. Since 2009, all Norwegian children aged 1 to 6 – the school starting age – have a legal right to a full-time place in kindergarten (Barnehage), while the first year of life is covered by parental leave policies (Jacobsen and Vollset, 2012). A study of the Norwegian ECEC system applying complex regression analyses to data from the longitudinal study of mothers and children (Black et al, 2010) produced evidence that attendance and maternal employment increased greatly when childcare costs were reduced via greater public funding and a stable universal system was created. In turn, these developments resulted in improved educational outcomes for children.

An analysis of the same Norwegian dataset by Havnes and Mogstad (2011) came to the opposite conclusion regarding the impact of increased public funding on maternal employment levels, however. These authors attempted to demonstrate that increased public funding had merely led to the substitution of informal care by formal care without affecting maternal employment levels, thus constituting a significant cost to government without a commensurate return in tax contributions. While issues around promoting ECEC uptake among poor families with young children have already been discussed in Chapter 2 on the role of ECEC in promoting social mobility, the Norwegian experience illustrates how all three ECEC policy rationales can be addressed successfully. Ellingsaeter (2014) illustrated this system's success in attracting poor children. The fastest increase in uptake of ECEC places between 2004 and 2008 was among low-income groups: 60% of 1-year-old children of unemployed mothers, 31% of 1-year-old children with two unemployed parents and 71% of minority ethnic community children attend. These uptake rates are among the highest for low-income groups anywhere. Nevertheless, proportionally more children from higher-income groups attended than children from less well-off families (Ellingsaeter, 2014).

Norway opened up its universal and integrated ECEC system to all children, irrespective of parental employment status, thereby creating a stable system which was not dependent on parental fees for its survival. Of the total 2008 costs, 17% were covered by parental fees, while 83% were covered by government supply-side subsidies. A breakdown of government expenditure revealed that 52% of the costs were covered by central state funding, while 31% was contributed directly by municipalities. Norway spends about 1% of GDP on these services (Naumann et al, 2013).

### 3.2 Parental perspectives on ECEC and maternal employment

So what does research tell us about the role played by ECEC in enabling and promoting maternal employment? As in Chapter 2, the primary focus here is on UK research, for the same reason that this is most pertinent for formulating recommendations regarding UK anti-poverty strategies. Much research explores parental views and attitudes in order to model the policy implications of prevailing views, coupled with information about living conditions, in relation to employment choices and decisions. In this context, it is important to remember factors emphasised in their comparative review of childcare systems in 30 European countries using EU statistics on Income and Living Conditions data by Plantenga and Remery (2009, p. 8), namely how cultural norms may influence demand for childcare services and parental employment decisions, and attitudes may vary depending on children's age.

For instance, a raft of economic and social policy studies, including several commissioned by the Department for Work and Pensions (Hales et al, 2007; Bashir et al, 2011; Chanfreau et al, 2011; Lane et al, 2011), examined factors considered preconditions for maternal employment, such as parental decision-making patterns, the nature of maternal jobs and patterns of return after maternity leave. An investigation of the role played by childcare in enabling such employment was not always a particularly prominent feature of these studies. Analyses of the DWP Families and Children (FACS) survey, on the other hand (D'Souza et al, 2008), do generate important additional information on attitudes and concerns determining parental employment and childcare choices among representative samples.

Indeed, effects may be different for different sectors of the population and at different stages of a child's development, making it difficult to generalise. An important study of lone mothers emanating from the Institute for Fiscal Studies (Brewer and Crawford, 2010) found a significant, if small, positive effect on lone mothers' welfare receipt and employment from their 4-year-old children taking up free full-time education, although not from the part-time early education entitlement alone. They concluded that:

*This suggests that the expansion of public education programmes to younger disadvantaged children may only encourage a small number of low income lone parents to return to work.*

(Brewer and Crawford, 2010, p.27)

Asking parents themselves, notably mothers, for their views on combining childcare and work is important, but the point at which such information is gathered, whether

before or after a return to employment, makes a difference. Actual decisions often differ considerably from the intentions expressed previously, as demonstrated in the Families, Children and Childcare Study. This was a longitudinal study following a sample of over 1,200 English children and their families from birth until school entry (Leach et al, 2006).

A recent non-representative survey for the Resolution Foundation undertaken in partnership with Mumsnet (Cory and Alakeson, 2014) explored maternal work preferences among employed mothers. The views expressed by these women, among whom poor women were underrepresented, were as follows:

*Mothers on lower earnings are more likely to want to work more hours. The average gross earnings of mothers who want to work more are less than half of those who do not want to work additional hours. This suggests that the focus of current childcare policy will do little to increase the employment of mothers.*

(Cory and Alakeson, 2014, p.22)

How does this information compare to the views expressed by employed mothers in the latest parental survey on this topic in England (Huskinson et al, 2014)?

*Over one-third (37%) of working mothers said they would prefer to stay at home and look after the children if they could afford it, while fifty-seven (57%) per cent said they would like to work fewer hours and spend more time looking after their children if they could afford it. Over one in five (23%) working mothers said they would like to increase their working hours if they could arrange good quality childcare which was convenient, reliable and affordable.*

(Huskinson et al, 2014, p.24)

Bearing in mind that poorer mothers were the ones less likely to be in paid employment, some other findings from this survey constitute important contextual information. First of all, 54% of non-working mothers stated that their preference would be to work if they could arrange good-quality childcare which was convenient, reliable and affordable (Huskinson et al, 2014, p. 24). But among parents who had not used any form of ECEC provision over the last year, its cost was cited significantly less frequently (13%) than their wish to look after their children themselves (71%) (Huskinson et al, 2014, p. 20).

The proposition that high public investment promotes maternal employment also received support from a review of the international evidence undertaken by the

British think tank, the Institute of Public Policy Research (Thompson and Ben-Galim, 2014). The authors concluded that the degree of public support for childcare appeared to be one of the most significant enablers of maternal employment, although the findings were not unequivocal:

*It does seem to be the case that in countries where maternal employment is relatively low and childcare is relatively expensive, reducing the cost that parents pay can significantly increase the number of mothers in paid work.*

(Thompson and Ben-Galim, 2014, p.3)

This research is cited here because, though not an empirical study or survey itself, it presents a good analysis of the wide range of sources consulted. This research also put figures on the income lost to the UK government by women's inability to make significant tax and national insurance contributions through adequate employment. The authors claim that increasing overall maternal employment by five percentage points (up to 62 per cent) would be worth around £750 million annually in increased tax revenue and reduced benefit spending. Increasing the proportion of mothers who are working full-time rather than part-time by five percentage points (up to 52 per cent) would be worth around £700 million a year.

In the present review, we treat these conclusions with caution, since they virtually ignore economic conditions that may negatively affect employment opportunities and hence reduce demand for childcare. Currently, employment patterns are rapidly changing, while job insecurity is increasing due to the economic recession affecting this country; while wages have remained largely static, prices have been rising (Browne, 2012; Cribb et al, 2013).

The perspectives of mothers and fathers reflected in recent surveys suggest that in many cases, the availability and nature of employment opportunities, coupled with childcare costs, does not render employment financially worthwhile in their eyes. Similar observations were made by Hirsch and Hartfree (2013) in a report for JRF on the likely impact of universal credit on parental employment decisions.

If the UK or any country is to create a stable and sustainable system of ECEC provision that serves the needs of both children and parents, it should not be open to the influence of such fluctuations in the labour market, but should be available regardless. As we shall discuss in Chapter 4, it is not just the level of public funding for ECEC systems that matters to a system's sustainability and equity, but also the way in which it is allocated.

### 3.3 Improving childcare affordability: the quality/cost conundrum

Exactly how to increase childcare availability and affordability in order to promote maternal employment, while maintaining quality, remains a problematic issue. Some interesting approaches have been trialled and documented that are worth reporting on here. Within London, where ECEC provision and uptake levels are low compared to other parts of the UK, there have been several attempts to try out different strategies and mechanisms for promoting maternal employment (Clarke et al, 2011). The three year Childcare Affordability Programme (CAP) was launched in 2005, initially as a pilot and subsequently evaluated (SQW Consulting, 2009). It had a clear child poverty eradication aim, to be achieved by the creation of up to 10,000 affordable childcare places with childminders and in group settings across 32 London boroughs.

Its main method was incentivising providers to offer up to 50% of their full daycare places to children from low income families for a minimum of 6 hours a day for 48 weeks of the year, alongside more flexible provision for parents working atypical hours. The CAP paid the difference. Creating provision for children with disabilities and transition to work-support schemes also formed part of this programme (London Development Agency, 2005). Lack of monitoring data made measuring CAP-05's impact virtually impossible. Nevertheless the evaluation concluded that supply-side subsidies did improve access within a diverse market. For example, when a sample of 603 participating parents was contacted again in 2010, 175 were found to be in work at that point. It is a matter for debate whether this proportion of parents in work reflected a good return on investment.

Despite the evaluation difficulties, in early 2009, the London Development Agency agreed a second two-year phase of the programme (Abery, 2011). This was designed to test different approaches to help 16,000 out-of-work and single-earner couples with household incomes of less than £20,000. The approaches were the 'supported' and the 'subsidised' offer. The supported offer consisted of training, employment and childcare advice to parents individually in three London boroughs, while the subsidised offer consisted of major tax credit contributions to the costs of flexible and quality childcare places in four London boroughs. These pilots were integrated into the wider programme of child poverty pilots organised by the then Inter-Departmental Child Poverty Unit in Whitehall and evaluated as part of that programme (Evans and Gardiner, 2011). Relevant findings from this evaluation include the conclusion that alleviating income poverty was a key factor in reducing child poverty in the pilots and that a range of resources was required to address poor families' diverse needs.

Some of the most interesting findings relating to the quality effect of subsidising childcare come from the province of Quebec in Canada and from the Netherlands. Using data from two major Canadian longitudinal surveys, two studies (Lefebvre and Merrigan, 2008; Lefebvre et al, 2011) examined longer-term impacts 10 years after the introduction of the universal childcare support programme rolled out by the Quebec government. Within this programme, from 2004 parents paid only up to \$C7 daily for a full-time childcare place in centres or in family daycare for children aged 1 to 4. The full cost was subsidised with public funding to the providers. This study found that the numbers of children entering childcare increased steadily, as well as the number of hours they attended. Children also entered at a younger and younger age, while the settings attended were found to be of medium to low quality (Lefebvre et al, 2011, p.24).

An influential Canadian study by Baker et al (2008) came to similar conclusions, namely that this childcare expansion had negatively influenced quality and hence children's outcomes. Compared to the situation in the rest of Canada, maternal labour force participation in Quebec definitely increased as a result, as did the number of weeks per year that they worked. But neither children's school readiness nor early literacy levels were improved by their ECEC experiences, while there were some significant negative effects on aspects of their development at ages 4 and 5. There was a perverse incentive for parents to use full-time care for very young children, as the subsidy was reduced in cases where part-time uptake was preferred.

Although Kottelenberg and Lehrer (2013) have questioned whether the negative developmental impacts of the Quebec programme affected all participants or only children who had entered childcare as an express response to its introduction, similar trends towards the uptake of more and lower-quality provision by poor families as a result of increased childcare subsidies were noted by Herbst and Tekin (2010) in an analysis of USA data from the Early Childhood Longitudinal Study. These authors, too, questioned the longer-term payoffs for government of subsidising childcare to promote maternal employment if child development and hence social mobility was adversely affected in this way. The concern expressed by Ofsted (2014) regarding childcare quality in England raises similar questions.

The Netherlands introduced significant parental childcare subsidies from 2005, coupled with serious attempts at deregulating the provision for 0-4 year olds, when Dutch children enter primary school for a two-year early education programme (Lloyd and Penn, 2010; Lloyd, 2012c, 2013). Childcare quality was found to have deteriorated sharply in the period 2006 to 2009 (de Kruif et al, 2009) and a process of reregulation was started. Following the onset of the 2008 economic recession, childcare subsidies were reduced; at the start of 2012 a further sharp reduction took

place. This not only led to a fall in childcare uptake, but also to a further reduction in childcare quality (Akgunduz et al, 2013). The Dutch government seriously and publicly questioned whether the modest increases in maternal labour market participation rates had been worth the investment (Bettendorf et al, 2012). Currently the Dutch government is steadily increasing childcare subsidies alongside the implementation of programmes promoting childcare quality.

Besides such political and economic considerations, actual cost-benefit analyses of returns to government from investment in ECEC programmes have also been undertaken. Although these may be very useful in informing ECEC policy, in practice they remain rare. The limitations of the USA studies that included such analyses have already been discussed in Chapter 2. There exists a raft of USA cost-benefit studies exploring the impact of ECEC policy decisions at state level, but these are less relevant to the present discussion and judging their accuracy is problematic. According to recent reviews (Fitzpatrick, 2012; Duncan and Magnuson, 2013), the evidence supports few unqualified conclusions. The first study identified fade-out among longer-term developmental impacts, while the second study questioned whether the returns on maternal labour market participation justified public investment in childcare costs.

By contrast, the evaluation of the Quebec childcare programme reached some unequivocal conclusions in a transparent manner. First of all, the impact of funding by the province of Quebec disproportionately benefited the Canadian federal, i.e. national, government:

*The main beneficiary of the larger tax base of a higher labour supply of mothers with young children is the federal government which does not support the significant public funding of the program. The policy has some drawbacks in terms of social efficiency and equity.*

(Lefebvre et al, 2011, p.1)

During the fiscal year 2009/10, parents paid approximately 16% of childcare costs and the costs of the policy quadrupled over the 10-year period (Lefebvre et al, 2011, p. 25). Subsidy levels increased in line with family income, for no clear reason, while the reverse would have been more equitable. The authors pointed out that the fact that the poorest children whose parents were unable to find work did not benefit from public childcare subsidies was not only an equity failure, but also limited their chances for improved social mobility through access to quality provision. While boosting maternal employment had been the primary policy rationale, positive outcomes for children became a real concern. Negative effects on young children might have long-term implications for their educational and employment attainments,

and this might therefore limit the benefits to government in the longer term, compared to any short-term gains from contributions such as tax and national insurance resulting from increased maternal employment.

The Quebec system informed the financial modelling of a number of different funding scenarios for the Australian ECEC system recently undertaken by Brennan and Adamson (2014). Key features necessary for a well-functioning and effective ECEC system identified in their research (p. 2) included high service quality, even if quality services cost more to deliver, and the elimination of fees for poor children, which must also be paired with specific outreach measures to include them. Although the report's models and recommendations are geared to the particular conditions prevailing in Australia, the approach adopted is interesting for a UK audience. For the option of a universal and low-fee ECEC system, the authors recommended (p. 50) a phased introduction over a period of up to 10 years, beginning with access for all children in the year prior to school entry and 'extending progressively down the age range' until full coverage was achieved.

Cost analyses applying to the UK have mainly been in the area of quality improvements and their costs, and are therefore discussed in Chapter 4. One cost analysis, though, is included here: a costing provided in a written Parliamentary answer in response to an MP's question inquiring what the cost would be of a universal childcare system (Hansard written answers *Official Report* 15 January 2014 column 579W childcare costs). Interestingly, the cost provided by the Department for Education was for a comprehensive system for England based on the free early education entitlement. No mention was made of changes to the current system of demand-side childcare subsidies across the UK, although the government is currently developing new policies in this area.

The DFE estimated that providing full-time child care for 50 hours per week for 50 weeks of the year for all children aged 1 to 4 in England would cost more than £21 billion per annum. The table supporting this answer is reproduced in full below, together with the assumptions made. It was pointed out in a note to the table that as government spending on the existing early education entitlement was due to rise to circa £3 billion in 2014-15, an additional cost of £18 billion per annum would be incurred if this extension were implemented.



**Table 4: Childcare costs (taken from Hansard *Official Report* 15 January 2014 column 579W childcare costs)**

Age	Size of cohort <sup>1</sup>	Hours per year <sup>2</sup>	Take-up of hours assumption <sup>3</sup> (percentage)	Hourly rate <sup>4</sup> (£)	Estimated cost <sup>5</sup> (£ billion)
One	665,000	2,500	65	6.00	6.5
Two	665,000	2,500	80	5.03	6.8
Three	665,000	2,500	90	4.00	6.0
Four	225,000	2,500	90	4.00	2.0
<b>Total</b>	—	—	—	—	<b>21.3</b>

<sup>1</sup> Estimate of size of eligible cohort, not referring to a specific year. The size of the four-year-old cohort is reduced to reflect that a substantial proportion of these children will, be in school reception classes.

<sup>2</sup> For the purpose of the estimate, a full-time offer is assumed to be 50 hours per week for 50 weeks of the year.

<sup>3</sup> Assumption of potential take-up of the offer. This incorporates an assumption of both numbers of parents who will take up the offer, and of how many hours they will use.

<sup>4</sup> Estimate of potential hourly rate, taking account of higher cost of provision for younger ages. Please note that these are intended as high level estimates and should not be taken as indicative of future funding levels.

<sup>5</sup> Shown to one decimal place.

From the evidence and arguments put forward in this review so far, it should be apparent that the assumptions presented here about the level of take-up are grossly inflated and take no account of research evidence concerning likely uptake. Bringing these estimates in line with survey findings discussed here and in Chapter 2 should reduce costs considerably, as take-up rates are likely to be for fewer hours. On the other hand, no allowance is made for the increase in supply-side subsidies which would appear necessary to assure service quality. Its relationship to staff qualifications and remuneration is entirely ignored in this model.

Nevertheless, an extension to the early education entitlement in all four countries making up the UK would be a good place to start for making ECEC address both the social mobility and economic wellbeing policy rationales. It is certainly one that was recommended in several recent ECEC policy reports (Lawton and Thompson, 2013; NEF, 2014; Thompson and Ben-Galim, 2014; Ben-Galim, 2014). The uptake of early education has been a significant success, despite problems remaining among poor families and quality problems impacting particularly in poor children (Ofsted, 2014). Such problems are being addressed and should in principle be remediable.

Uncoupling ECEC provision as much as possible from parental employment status would help to stabilise the ECEC system.

The evidence brought together here and in Chapter 2 suggests that the impact of such changes might well be positive for poor children, but only if provision quality was high and uptake was promoted by means of sensitive outreach programmes undertaken by Children's Centres among others and supported by local government on the basis of local intelligence. These issues will be discussed further in Chapter 4.

### **3.4 Summary and conclusion**

The conflicting national and international evidence reviewed in this chapter leads us to fully support the conclusion of Brewer et al (2014, p.194) that the evidence for an impact of reduced childcare costs on parental labour market participation in the UK is mixed. The failure of researchers to agree about the correct interpretation of the Norwegian data, described above, is particularly striking, as its current system is very simple, compared to that of the UK.

Employment opportunities, the operation of the tax and benefit systems, women's educational levels and parental attitudes all interact with childcare availability and affordability in determining maternal employment intentions and choices in the UK. The research reviewed here does highlight some of the difficulties facing policymakers in establishing an affordable, accessible and high-quality ECEC system that promotes and meets demand.

In the UK, employment-related parental intentions do not appear to closely match either eventual parental employment decisions or employment opportunities. Most research in this area does not yield unequivocal evidence for a positive impact of ECEC services on parental, notably maternal, employment. Across Europe, prevailing attitudes towards parents' roles in childrearing, coupled with the nature of any available jobs, influence employment decisions of mothers with young children. As children grow older, this becomes less important and more mothers take on paid work.

Uncoupling the provision of ECEC from parental employment status appears to be an important policy consideration if poor children, whose parents may be unemployed or in irregular or intermittent employment, are to benefit from stable and sustainable ECEC provision. In practice, this could involve extending the free early education entitlement. This might also simplify access and flexibility and could have a positive effect on provider sustainability, provided direct supply-side subsidies were generous enough.

Successful integrated systems like the Nordic systems (Lloyd and Penn, 2014) do in fact charge parents income-related fees and are not free at the point of delivery, though they involve much more generous direct subsidies to providers. One of the problems facing the British government is the fact that early education is free at the point of delivery, and it is hard to see the government revert to provision where parents have to pay income-related fees for integrated care and education, even if contributions are kept relatively small. Instead, the upfront costs for the additional childcare needed by many parents remain high.

This chapter has presented some evidence on the cost/quality conundrum, though an in-depth discussion of quality issues has been reserved for Chapter 4. There is substantial evidence that public support for a rapid expansion of childcare opportunities in order to promote maternal employment poses quality risks.

## Chapter 4: Quality in ECEC services and in ECEC service systems

In the preceding chapters, the issue of ECEC service quality has arisen repeatedly. As discussed in Chapter 2, the findings from several important UK longitudinal studies confirm the crucial part played by service quality in achieving a positive impact on disadvantaged children's wellbeing and their educational trajectories (Siraj-Blatchford et al, 2010; Sylva et al, 2011; Apps et al, 2012; Melhuish, 2012; Parker, 2013). However, the potential impact of ECEC delivery mechanisms on poor children's access, e.g. whether the system is a mixed market of private and state providers (Lloyd and Penn, 2012; Penn and Lloyd, 2013), should not be ignored either, even though the issue of ECEC service system quality features less frequently as a research topic than ECEC service quality. The level and way in which resources are invested in ECEC systems, though, appear to shape quality in practice.

This chapter explores both aspects of ECEC quality, namely service quality and service system quality and their interaction, with reference to the research discussed in previous chapters. This information is complemented here with evidence from other relevant studies which meet this review's inclusion criteria. ECEC quality is by no means an uncontested concept, as Penn (2011c) and others (Dahlberg et al, 2007) have argued. But rather than exploring the different approaches to understanding and measuring quality in depth, this chapter adopts the dominant and current concept of ECEC quality in the UK to further the argument and identify gaps in research. This is considered the most pragmatic approach in the light of this review's purpose, namely to inform the articulation of anti-poverty strategies for the UK.

### 4.1 Quality in ECEC services

In recent reviews of the ECEC service quality literature, it is acknowledged that much more is known about quality in services for children aged 3 and over than in services for younger children (Parker, 2013; Mathers et al, 2014), especially those aged below 2 (Dalli et al, 2011), and that it is therefore difficult to generalise. Findings from developmental psychology suggest that poor quality non-parental care in the first three years can have particularly unfortunate consequences (Mathers et al, 2014: p.13).

Parker (2013) disaggregated relevant evidence for different age groups: children aged under twelve months, 8 to 22 months, 18 to 36 months and 36 to 50 months. She provided recommendations to policy makers based on that evidence. Parker's review did not specify the quality criteria employed in the selection of studies on

which these recommendations were based, but key points for each age group included stability of care and pertinent training. Low adult-child ratios were less important for children aged over 30 months, as long as staff qualifications were high.

Mathers et al (2014, p. 15) in their review of English language literature reviews in this area, took a different approach by first outlining seven key dimensions of ECEC quality about which there is general agreement and then exploring the strength of the evidence supporting each one in respect of provision for children aged under 3. It must be noted that this review did not specify its inclusion criteria either. These key dimensions were:

- relationships between practitioners and children
- pedagogical practices
- stability and continuity of care
- the physical environment
- family-practitioner partnerships
- adult-child ratios and group sizes
- practitioner qualifications and training.

These dimensions include both what are often referred to in research as structural factors characterising stable conditions within the early childhood setting, such as adult-child ratios, group size and available space, including outdoor space, and also process factors related to the delivery of care, such as staff-child communication patterns and planning for learning activities. Such factors have been related to ECEC service quality in both centre-based and home-based provision (with childminders) and thus poor children's ability to benefit from ECEC services is likely to depend on their presence (Montie et al, 2006; Mathers et al, 2013).

Every one of these factors is a precondition for beneficial impacts on the cognitive, social and emotional development of young children using early childhood provision and on their later achievements. These variables may in turn be interrelated or interdependent.

By way of illustration, Mathers et al (2014) summarised the evidence for the required positive nature of the first – process – factor's influence on the development of under 3s, namely practitioner/child relationships. The authors identified three components

that must be simultaneously present to secure service quality in this respect. These components are:

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

Maintaining both structural and process quality demands active and continuous investment of time, effort and resources, as evidenced by the findings of an important US longitudinal study. This was the evaluation of the Smart Start community support initiative aimed at ECEC centre quality improvements undertaken during the 1990s in the US state of North Carolina (Bryant et al, 2002). It demonstrated 'that quality improvement requires continuous efforts' (p.v). The authors pointed out that previous participation in quality enhancement programmes did not guarantee current quality and that maintaining service quality required continuous investment.

There are considerable challenges inherent in arriving at a best-evidence synthesis that is amenable to being translated into ECEC policy and practice. This becomes apparent when comparing the findings, conclusions and recommendations regarding service quality made in some of the studies reviewed in some depth in Chapters 2 and 3 of the present review. These findings and conclusions are not always compatible, and overall, the results may remain inconclusive. Take the case of optimal length of weekly attendance at centre-based settings. The EPPE 3-7 project's finding on the equivalent developmental impact of part-time versus full-time attendance has continued to prompt questions from academics, mostly in the light of findings from USA empirical (Belsky et al, 2007b) and longitudinal (Loeb et al, 2005) studies on possible adverse behavioural effects of lengthy, over 30 hours, ECEC attendance for very young children.

In Scotland, a longitudinal study of the experience of multiple childcare arrangements at the age of 34 months found evidence for a detrimental impact on behaviour at age 5, although overall the impact of non-parental care was found to be positive even where multiple arrangements of formal and informal care were present (Bradshaw and Wasoff, 2009, p. 31). The Growing Up in Scotland study has followed the development of two Scottish cohorts of 5,217 infants aged 0-1 (the birth cohort) and of 2,859 children aged between 2 and 3 (the child cohort) annually since 2005 (p.2).

A wide range of USA policy-oriented studies have compared full-time versus part-time ECEC attendance in terms of cognitive impact, but the results remain inconclusive (Cannon et al, 2006; DeCicca, 2007). However, an analysis of data from the Early Childhood Longitudinal Study, an important and representative US database (Chang and Singh, 2008) concluded that full-time attendance at kindergarten led to superior cognitive development compared to part-time attendance among 3 to 5 year olds. Another study of social and cognitive outcomes at age 15 among the USA cohort followed up by the National Institute of Child Health and Development (NICHD) Study of Early Child Care and Youth Development of ECEC impact (Vandell et al, 2010) found that both ECEC quality and quantity had an effect on developmental outcomes.

Also using NICHD data, Herbst and Tekin (2008) linked the growth of intensive use of poor-quality USA childcare provision as a result of increased childcare subsidies to parents on welfare to poor educational outcomes for their children when they reached primary school age. They recommended 'aligning the employment goals established by recent social policy reforms with the goal of ensuring child health and well-being' (Herbst and Tekin, 2008, p. 31). Indeed, the quality of USA ECEC provision and the continuing absence of an agreed national quality rating system continue to give rise to significant concern amongst USA researchers (Sosinsky, 2012; Magnuson and Waldfogel, 2014).

Perhaps even more importantly, data from a Norwegian longitudinal study of mothers and young children failed to replicate the findings of Belsky et al (2007) on adverse behavioural effects of lengthy attendance in centre-based care. Norwegian children tested at age 3 who had experienced over 41 hours of ECEC weekly from age 1 did not display adverse behavioural effects, suggesting strongly that other aspects of service quality are important mediating variables apart from length of attendance (Lekhal, 2012).

The studies just cited approached the issue of length of attendance from the perspective of children's development and did not explore its relationship with the issue of maternal full-time versus part-time employment. Some studies also explored potential benefits for mothers of working part-time. For instance, the positive effects of mothers' part-time working on mother and family wellbeing were explored with the help of survey data from the longitudinal National Institute of Child Health and Development (NICHD) Study of Early Child Care and Youth Development in the USA (Buehler and O'Brien, 2011). Although this study did not include direct measurements of child outcomes, some of the findings regarding increased maternal sensitivity and other positive behaviours linked to part-time employment might have

an impact on children's development. This study reached no firm conclusions about this, however.

So what is the evidence from other British studies? In the Millennium Cohort Study (MCS), too, the relationship between the quality of the early childhood settings and poor children's cognitive and socio-emotional outcomes turned out to be very important (Mathers et al, 2007). This relationship had already been demonstrated in the evaluation of the Neighbourhood Nurseries initiative (Mathers and Sylva, 2007). A supplementary study was conducted as part of the second sweep of the MCS in England in order to explore ECEC centre quality (Roberts et al, 2010). First of all, MCS setting quality, particularly in group settings, appeared to have improved compared to that in the EPPE study. This probably reflected enhanced public support and the impact of the funding programme that had been put in place with the express aim to raise qualifications among the early childhood workforce (Mathers et al, 2011). The issue of the impact on ECEC quality of practitioner training and qualifications is one of the key quality dimensions named by Mathers et al (2014) and will be further explored in section 4.3 below.

## 4.2 Measuring quality in ECEC services

Before moving on to a discussion of the relationship between practitioner qualifications and ECEC quality, it is worth drawing attention to the way in which any dimensions of quality are measured, as this may make a difference to the quality ratings achieved for any type of settings. Trying to establish what ECEC quality means involves setting priorities and making assumptions about childhood itself, besides provision and practice, and these differ between different countries (Penn, 2011c). In view of the present review's purpose, Penn's reminder makes sense that:

*...although standard measurements may be useful in highlighting broad variations across programmes or practice, they offer relatively limited information, which somebody else (a politician?) has to interpret if changes are to be made.*

(Penn, 2011c, p.5)

In a major report on ECEC, UNESCO (2006, p.191) listed five of the main international instruments used for assessing ECEC quality, but also pointed out associated risks associated with a standardised approach, given that it is feasible to achieve desirable learning outcomes via undesirable methods.

In the UK, different instruments are used by the official regulator, by quality assurance systems run by different agencies, such as the National Day Nurseries



Association (NDNA), and by academic researchers. The system which was used in the EPPE 3–7 project and in many national and international ECEC research projects since continues to be widely used. This is based around the Early Childhood Environment Rating Scale (ECERS) first developed and issued in a revised version in the USA (Harms et al, 2005). Higher scores on these measures have been shown to be predictive of better cognitive outcomes for children (Mathers et al, 2013, p.5). But Penn (2011c) argues that:

*Using an instrument such as the Early Childhood Environment Rating Scale will tell you little about the organisation of cohesion of the early education and care system, or the political claims that are being made for it – although you might legitimately infer that, given the lower end of the scale, what is being measured may sometimes be dire.*

(Penn, 2011c, p.5)

A useful study by Mathers et al (2013) compared the quality rating system used by Ofsted in England with the ECERS system of validated scales to measure the quality of the ECEC settings themselves and the interactions taking place within them. The researchers concluded not only that ‘while ECERS and Ofsted to some extent measure the same dimensions, they are largely assessing different constructs’ but also that ‘The Ofsted framework is not designed as a fine-grained quality measure and should not be relied upon as such’ (Mathers et al, 2013, p.90).

The validated research scales produced a more in-depth assessment of the different aspects of quality for different age groups associated with longer-term positive outcomes. Ofsted ratings focused more on the overall effectiveness of the setting, including in terms of management and leadership. This effect was most pronounced for the assessment of ECEC provision quality for children aged under 3, where settings rated ‘good’ or ‘outstanding’ by Ofsted were virtually never rated as high quality when measured by the appropriate validated research instrument for settings for under 3s (the Infant/Toddler Environment Rating Scale). A balance needs to be achieved between setting quality aspects measured by Ofsted and the more academic and validated measures of structural and process quality in ECEC settings; both are important.

This situation has important implications about UK policy decisions, such as those concerning the implementation of the disadvantaged 2 year old early education offer discussed in Chapter 2. While the pilot evaluation report (Smith et al, 2009a) originally recommended that children should only be placed in settings rated ‘good’ or ‘outstanding’ by Ofsted, these additional research findings cast doubt on the adequacy of relying only on these ratings in selecting settings for disadvantaged 2

year olds. In practice, though, such a selection appears to rely more on availability than on quality (Mathers et al, 2014) with all the risks to poor children's outcomes that this may entail.

This might especially be the case in disadvantaged areas, where good-quality provision is even harder to find. The 2012 report produced by the National Audit Office on value for public money invested in free early education for 3 and 4 year olds identified a gap of no less than 11 percentage points between the proportion of 'good' or 'outstanding' settings in the most deprived areas compared to those in the least deprived areas (National Audit Office, 2012). One of the respects in which poor-quality provision is likely to differ from good-quality settings is in the employment conditions and the spectrum of qualifications held by its staff, over and above the minimum requirements specified in the Early Years Foundation Stage regulatory framework.

### 4.3 Practitioner qualifications and ECEC quality

The role of appropriate training and working conditions for ECEC staff in ensuring quality, for instance by reducing staff turnover, is firmly supported by national and international research evidence (Sylva et al, 2004a; OECD, 2006, p. 157; Mathers et al, 2013). In the UK, the required qualification levels of the staff complement in different types of ECEC settings are regulated by means of the Early Years Foundation Stage statutory framework (Department for Education, 2014).

Much progress has been made in raising the qualifications profile of the ECEC workforce since the 1997 Labour Government took office, with for instance up to 59% of English childminders now qualified at level 3 of the National Vocational Qualifications (NVQ) system (Brind et al, 2012a, p.8). Progress slowed down under the Coalition Government; although it commissioned a major review in this area (Nutbrown, 2012), most of its recommendations are not being implemented or have been explicitly rejected. The failure to act on Nutbrown's main recommendation, that all practitioners working in ECEC settings should be qualified to vocational level 3 (equivalent to A-Levels) has caused particular concern among early years agencies and sector specialists. Since 1998, the policy emphasis has been on increasing the number of graduates working in ECEC as part of a 'professionalisation' of the ECEC workforce. During this period, various separate vocational qualifications have been created which do not offer a status equivalent to that of qualified teachers (Lloyd and Hallet, 2010).

A significant split remains between the qualifications of practitioners working in maintained schools and those working in the private sector, with qualification levels

in maintained nursery schools and all nursery classes in maintained primary schools typically higher, as a result of employing qualified teachers, than in any other form of childcare setting (Brind et al, 2012a, p. 8). This translates into higher ECEC quality in maintained nursery classes and nursery schools, at least in disadvantaged areas (Ofsted, 2014; Mathers and Smees, 2014). Apart from the role of provider aegis, i.e. whether a setting is maintained, for-profit or not-for-profit, the fragmentation of the ECEC workforce between and across different categories of settings is exacerbated by two other significant differences affecting practitioner roles and responsibilities: setting size and main purpose, i.e. childcare or early education (Jones, 2014).

Given the internationally recognised importance of ECEC quality and the role played in this by practitioner qualifications and training (Fukkink and Lont, 2007), several studies have calculated the costs of improving qualification levels as a first step in improving longer-term outcomes for children and for the system as a whole. Improved employment conditions can be shown to reduce staff turnover, which may have a negative impact on childcare quality and children's outcomes. In a study undertaken by the Daycare Trust in partnership with the Institute for Fiscal Studies and the Social Market Foundation (Goddard and Knights, 2009) the research team costed increased early education subsidies for providers if staff qualifications and pay were simultaneously improved. On this basis, they concluded that as a percentage of GDP, the additional costs to government would be in the region of another 0.5%, so a quite substantial increase.

This study unfortunately failed to address the way childcare market dynamics mediate such publicly funded improvements. These may paradoxically increase costs to parents and the study's findings are now becoming out of date, although it is still one of the most comprehensive analyses in this area undertaken so far. Improvements to ECEC practitioner qualification levels were also costed as part of a more recent study (Mathers et al, 2014). This explored the preconditions for high quality in early education provision for poor children; the current roll-out of this programme was discussed in Chapter 2.

Taking a very conservative approach, the authors calculated the cost at present-day rates of using only newly qualified level 3 practitioners for children aged under 3 in group settings. Such a development would contribute to promoting service quality and positive developmental outcomes for children taking up the early education for 2 year olds offer currently being rolled out. They found that doing so:

*...would bring their wages only just in line with average salaries for childcare workers within other European countries ... 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. [the potential cost for all sectors of an uplift to reflect achieving a Level 3 qualification] 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.*

(Mathers et al, 2014, p.56)

Ensuring that practitioner qualifications, pay and conditions and their deployment patterns are of a kind to ensure ECEC service quality is clearly beyond the ability of individual settings to achieve. Apart from falling within a policy-maker remit, this domain of quality is related more widely to the organisation of particular ECEC service systems. Quality at a systemic level may have a major influence on ECEC service level quality, and hence on the experience of young children, families and practitioners.

#### 4.4 Quality in ECEC service systems

Although the view that ECEC system quality is inextricably linked to service quality is quite widely shared, this relationship has only recently gained a higher profile among academic researchers and policymakers nationally and internationally. As Penn (2011c) points out:

*In the view of a number of international organizations who have taken an international overview of early education and care services – OECD (Organisation for Economic Cooperation and Development), UNICEF, UNESCO and the EU – the extent to which the system is coherent and extensive critically determines quality.*

(Penn, 2011c, p.2)

According to the OECD's comparative study of 20 ECEC systems (2006, p.249), international research evidence supports substantial public investment in ECEC provision and its infrastructure if such coherence and reach is to be achieved. Even from an economic perspective, it should be seen as a 'public good', with economic, fiscal and social benefits for children, families, governments and national economies (Cleveland and Krashinski, 2003).

The concept of 'public good', as noted in chapter 2, is an economic concept justifying substantial public investment in both the services themselves and in their infrastructure. Services and infrastructure are considered key to ensuring equitable

and universal access for all children irrespective of their parents' socio-economic position, ethnic background, rural or urban location, or health status (Leseman, 2009; Bennett et al, 2012). Indeed, according to the same OECD comparative study:

*Without strong state investment and steering of this field, the result will be an insufficient supply of services for those who need those most, leading to increased numbers of children with special needs and learning difficulties; a lack of equity for poorer families; and overall poor quality of provision.*

(OECD 2006, p.256)

Contrasting policy positions may produce different outcomes for ECEC systems, particularly as the economic environment changes (Penn and Lloyd, 2013; Lloyd and Penn, 2014). For instance, the way in which state support is allocated may lead to differences in impact. Van Lancker and Ghysels (2011) compared Sweden and Belgian Flanders and demonstrated that differences in the social distribution of publicly funded childcare exist despite identical per capita expenditure, Sweden having a more equal social distribution than Belgium. Such differences in distribution may affect disadvantaged children disproportionately. For instance, an analysis of OECD data confirms that in the UK, the richest quintile benefits disproportionately from ECEC provision (Penn and Lloyd, 2013).

However, according to an important analysis by Brewer et al (2014, p.194), their research failed to locate 'studies that have compared and contrasted the effect of different types of childcare subsidies'. Certainly this observation applies to the UK, though it could be argued that the evaluations of the London Childcare Affordability Project discussed in Chapter 3 form an exception. Coincidentally, a recent Resolution Foundation survey (Cory and Alakeson, 2014) did in fact ask mothers about their likely responses to hypothetical changes in the way childcare support is currently delivered, namely through a mix of the free education entitlement and parental tax breaks (p. 20). The survey found no maternal preference between strategies, as long as any ECEC provision was of good quality. Arguably, these policy options are difficult to explore within a survey context, but this finding is nevertheless worth noting.

Governmental steering and intervention is not compatible with marketised systems. In Europe and elsewhere, there is a growing trend towards the introduction of market principles in ECEC systems (Lloyd and Penn, 2012; Penn, 2013). Market forces are said to be more efficient and more effective than public bodies in securing the distribution and funding of ECEC. In European ECEC systems, private and state provision may co-exist within a mixed economy, often referred to as a 'childcare market' (Lloyd and Penn, 2012). Early education may form part of such a market, as

in the UK (Lloyd 2012c), or not, as in the Netherlands (Lloyd and Penn, 2010; Plantenga, 2012).

Among the private-for-profit childcare providers that operate in such markets may be corporate businesses, whose primary commercial interest is getting shareholders a good return on capital invested (Moss, 2009; Penn, 2011b). Different geographic and socio-economic contexts, such as rural versus urban locations, may lead to a variety of childcare markets within the same country, as in England (Harries et al, 2004; Dickens et al, 2005).

A mapping exercise commissioned by the European Commission (European Commission/NESSE, 2010) revealed the distribution of private, for-profit and not-for-profit provision (the latter including social enterprises, church and charitable services), and the regulations and public funding mechanisms governing ECEC and other social services in selected European countries. The UK turned out to have one of the most privatised and marketised ECEC systems, after an 'exceptional swing towards the private-for-profit market' (Penn 2013, p. 8), encouraged under the Labour and current governments.

Since 2000, there has been a considerable increase in the size of the UK private-for-profit ECEC sector, particularly in the number of places delivered by corporate businesses (Penn 2007; Penn 2011b). In only three European nations, the UK (for children 0 to 5), Ireland (for children 0 to 5) and the Netherlands (for children 0 to 3), are parents offered income-related public subsidies such as tax credits or vouchers, to help them buy early childhood provision in such a market (Penn 2013, p. 3). The examples from Norway and France provided below will illustrate how governments can intervene to limit the costs paid by parents and set a maximum fee level that households could be expected to contribute to the full costs of childcare.

Whereas across OECD member states, average formal childcare costs for families with two children are about 13% of overall family net income (OECD, 2011a, p.4) upfront costs to UK parents may be as much as 30% and have been steadily rising. According to Penn and Lloyd's analysis of the OECD family database (2013, p.7):

*In the UK, a low income lone parent household is estimated to pay approximately 14% of household income, but dual earner households receive less government support. At 167% of average earnings the childcare fees paid by a dual earner household typically amount to approximately 43% of household income.*

International evidence arising from empirical research in Canada (Cleveland et al, 2007), the USA (Sosinsky, 2012) and New Zealand (Mitchell, 2012), coupled with

evidence from the UK (Mathers et al, 2007), confirms that provider aegis matters to quality as well as to costs. Within childcare markets, the quality of private-for-profit provision tends to be worse than that in public and not-for-profit services. Equally, Lloyd and Penn (2014) argue that guaranteeing children equitable and universal access to quality ECEC services becomes particularly problematic if a substantial proportion of providers are for-profit businesses, including corporations, as in the UK. Paull (2014) produced evidence that such private sector involvement in the UK drove up parental fee levels.

The dynamics of competition and parental choice may drive provision into economically more prosperous areas, as in the Netherlands (Noailly and Visser, 2009). It may also put pressure on staff pay, conditions and in-service training, the largest cost in any business (Bennett and Moss, 2010). Within the English childcare market, the mainly small private providers struggle to maintain minimum quality (Brind et al, 2012b) or to exceed the minimum standards set by Ofsted.

Competition may generate business consolidation, affecting parental choice by eliminating smaller or not-for-profit competitors, as highlighted by the case of Australia (Sumsion, 2012). Parental fees may be set by providers in order to maximise profitability, while parent subsidies will reduce governments' abilities to intervene in such markets to promote provision quality, e.g. to prevent 'schoolification' (OECD, 2006, p. 62) and other negative outcomes (Penn, 2012). Yet in the present global economic climate, childcare marketisation continues to be promoted by the UK government, with a certain amount of deregulation in the areas of staff/child ratios, access to outdoor space and group size within ECEC centres, being part of the measures that are supposed to enable the childcare market to flourish (Department for Education, 2013c, d).

The problematic role that mixed economies of childcare may play in ensuring poor children's access to affordable and high-quality provision has been highlighted in several of the UK studies discussed earlier. For example, although poor children in the MSC cohort were less likely to attend centre-based provision, those who did, more often attended local authority supported and higher-quality provision such as in Children's Centres (Roberts et al, 2010). Overall, there were marked differences in quality between maintained and private-for-profit and not-for profit provision, with more advantaged children more often finding places in the second and third types of service (Mathers et al, 2007). In disadvantaged areas overall, the quality of provision still tends to be lower (Ofsted, 2011; Mathers and Smees, 2014; Ofsted, 2014).

The implementation study (Gibb et al, 2011) of the disadvantaged 2 year old education offer concluded that the funding formula in operation when this research

was carried out made it unlikely that in areas with high demand and high childcare costs, the initiative would work well when expanded. Therefore, poor children living in these areas were more likely to miss out on places or on places in high-quality settings. The study's recommendations for reducing this childcare market effect included increasing the supply-side subsidy to providers, i.e. the rate paid. However, given the way markets operate, this would more likely lead to spiralling costs rather than any improvement to availability and access.

The market, too, was found to be the main barrier to local authorities providing sufficient ECEC places and promoting provider sustainability in a government-commissioned report focusing on disadvantaged areas in England (Dickens et al, 2012). These authors warned that the government would fail to reach its ECEC policy objectives in these areas, unless substantial additional public funding was provided.

Both the 2006 OECD thematic survey and a more recent analysis of OECD data (Penn and Lloyd, 2013, p.7) concluded that among the most successful forms of government intervention appear to be the promotion of supply-led systems and parental fee capping regulations. Where these operated, the growth of the private-for-profit childcare market was contained in favour of an increased reliance on voluntary, co-operative and state provision. The case of Norway illustrates these dynamics (Jacobsen and Vollset, 2012; Naumann et al, 2013).

An economic study of children's academic outcomes in relation to increased public subsidies for the Norwegian childcare system (Black et al, 2010) highlighted that reducing the cost of childcare for children aged 3 to 6 had a demonstrable impact on children's outcomes. Children's achievements in junior high school improved as a result of such changes. Black et al pointed out that reductions in childcare costs were likely to raise family household income. It would be useful to explore whether any positive longer-term effects might be due, at least in part, to the altered financial dynamics within families, for instance enabling better nutrition and leisure opportunities. This could thus be construed as an income effect on children's outcomes rather than an effect due to ECEC per se.

France is another nation that has attempted to intervene in childcare markets (Fagnani, 2014; Lloyd and Penn, 2014). Mechanisms employed for intervening in childcare markets in order to promote desirable outcomes include national agreements regarding the proportion of household income to be spent on early childhood provision via income-related parental fees, a cap on parental fees and the implementation of stringent quality criteria to be met by all types of providers in order to qualify for public subsidies. Essential, however, is that such regulatory and



financial measures are matched by substantial public funding direct to providers. Since 2001, the private-for-profit sector has been allowed to run day nurseries as part of the French ECEC system and is now responsible for about 5% of places for under 3s (Prentice, 2014). This marketisation, Prentice argues (p. 1), 'signals a marked departure from longstanding norms in France 'and poses real risks to quality and equality within services and the system as a whole.'

The relevance of this last observation to poor children's access to quality ECEC is supported by findings from an OECD discussion paper on ECEC fiscal policy across the OECD (Förster and Verbist, 2012). The authors suggested that the direct funding and provision of ECEC services could be a useful tool in poverty reduction and more equitable take-up of services, although direct cash benefits might also be used to reduce child poverty.

These country case examples suggest that any change to ECEC systems to achieve more positive outcomes for children, families and the economy depend on political decisions and thus on the nature of the political climate.

### 4.5 Summary and conclusions

In this chapter, we have argued that ECEC service quality is inextricably linked to the quality of the ECEC service system in which provision is embedded. This quality depends not only on the level of any government subsidies, but also on the way such subsidies are distributed and on the proportion of costs borne by governments, parents and providers (Lloyd and Penn, 2012; Penn and Lloyd, 2013).

There is direct and indirect national and international research evidence for the impact of different types of public subsidies and ways of distributing these on poor children's access to affordable and high-quality provision. This relates primarily to OECD member states (Penn and Lloyd, 2013).

The OECD thematic survey of childcare systems in 20 countries (OECD, 2006) made a compelling case concerning the limitations and tensions inherent in the childcare market model. In an earlier paper for the OECD, economists Cleveland and Krashinski (2003) argued that marketising ECEC systems was simply inappropriate, even from an economic perspective. They again made the case for non-profit provision in a later study focusing on the situation in Canada (Cleveland et al, 2007).

It follows that there are implications for this review, namely that an analysis of research on the relationship between poverty and ECEC should take account of structural variables such as ECEC delivery mechanisms. Where studies included in this review do not reveal such structural and contextual factors surrounding a

particular form of provision and its impact on poor children, it becomes difficult to apply any lessons to the UK situation, or indeed to use such research as evidence underpinning any recommendations for UK anti-poverty strategies in this area.

It also follows that in making recommendations on how to achieve access to quality and affordable ECEC provision for poor children, ECEC delivery mechanisms and the wider UK childcare market context ought to be considered. Instead of such a debate being centred on the perfection of a system based on competition and individual choice, as Moss argues strongly in his latest book (2014), this should form part of a much wider examination of the values and principles underpinning the present ECEC system. Such an examination would go well beyond the three policy rationales examined in the present paper.

## Chapter 5: Conclusions and recommendations

In this review, we have examined robust research on the relationship between ECEC provision and child and family poverty, paying attention to the policies underpinning the ECEC service system, their outcomes and the wider socio-economic contexts in which they are embedded. Some attention was also paid to the values and principles that in the last resort underlie any economic decisions regarding ECEC services and the ECEC service system. It is along these lines that we have arrived at the evidence-informed policy recommendations that we make in the present chapter. This approach has been defined by Mahon (2006), cited by Gambaro et al (2014, p.3) as contextualised policy learning.

### 5.1 Conclusions

National and international research evidence suggests that the publicly supported provision of good-quality, affordable and accessible ECEC services creates three potential pathways for impact on child poverty prevention and elimination. It promotes young children's intellectual development, leading to better educational outcomes and life chances overall. It may facilitate parental – notably maternal – access to the labour market, thereby strengthening young families' economic wellbeing. By eliminating social and cultural inequalities and underachievement and including children from minority communities or with additional physical or learning needs, ECEC can also promote social justice.

As far as social mobility is concerned, only good-quality ECEC may have short-term and possibly longer-term beneficial educational effects for poor children, while the impact of poor quality is proportionally greater for them. The research findings regarding social and emotional development as a function of ECEC are less strong and harder to interpret. There is good evidence that interactions between children's home learning environments, including parental mental and physical health, and service quality, influence socio-emotional outcomes at the individual level.

A synthesis of what is known about ways of promoting economic wellbeing through ECEC provision is even harder to achieve, at least on the basis of the research reviewed here. The availability of sufficient and affordable early childhood provision interacts with local job opportunities and the tax and benefits system in determining whether dual- or single-earner families with young children can escape or avoid family poverty through paid work. The research evidence presents a confusing picture and is hard to interpret. What is clear is that while the free early education offer in the UK reduces childcare costs for parents of 3 and 4 year olds using additional childcare for their children, for low-earning families, the current free

entitlement is not sufficient to make a real difference to household income. Local and national socio-economic contexts appear to play a major role in influencing parental employment decisions when children are young. As the UK government pursues a dual social mobility and economic rationale for investment in ECEC, it is important that service quality is maintained. There can be no trade-off between quality and quantity. Strong research evidence, notably from the USA and Norway, suggests that the promotion of maternal employment via a rapid expansion of childcare may only deliver good educational outcomes for young children if quality is adequately controlled.

Whereas the overall uptake in the UK of free early education since 2004 has been high, it remains lowest among the poorest children, notably children from certain minority ethnic communities. Their families appear to need more direct outreach contact and good local information to choose to access early education services for their children. Lack of parental awareness appears to be the main reason for lack of uptake of the free entitlement. The fact that early education is so positively viewed by parents, even those who do not work or wish to work while their children are very young, provides a very strong foundation for policymakers to build on.

Now that free ECEC is also offered to disadvantaged 2 year olds, addressing its quality and availability has become even more urgent. UK survey research also confirms that the complex and diverse ECEC service system in which early education is free at the point of delivery, while childcare has to be paid for direct by parents, even if both are delivered within the same type of ECEC setting, appears confusing and challenging for parents.

This research review has presented evidence that in the UK, family poverty may limit not only children's access to and uptake of good-quality ECEC, affecting longer-term educational outcomes, but also their ability to benefit fully from the ECEC experience. Important Millennium Cohort Study findings, for instance, suggest limited longer-term educational impacts on the poorest children. These findings, coupled with recent survey research findings, suggest that poor children are not yet benefiting fully from ECEC. Overall, it appears more difficult for poor children to access high-quality provision, even in the case of targeted provision such as the offer of early education for 2 year olds.

The developmental progress data collected via the Early Years Foundation Stage Profile in England, suggest that currently only just over half of all children achieve a good level of development at the end of Reception year and that the gap in achievement is most pronounced for poor children receiving ECEC (Department for Education, 2013b; Ofsted, 2014). This suggests a continuing problem with the quality

of ECEC received in any settings, including that in maintained provision. This situation may pose a problem for the Coalition Government's major anti-poverty initiative, the offer of free education to up to 40% of disadvantaged 2 year olds by September 2014. Not only may this initiative not contribute as much to improved educational performance as intended, but this review has argued that the evidence base underpinning this initiative is slight anyway.

While much is known about structural and process factors responsible for service quality for the 3-and 4-year-old age groups, the evidence gap about this aspect of services for under 3s is only slowly being closed. International evidence confirms that practitioner qualifications and training play a key role, while the home learning environment also influences ECEC take-up and impact. Upgrading UK childcare practitioner qualifications, pay and conditions for reasons of fairness and to improve service quality, may lead to long-term pay-offs for the government, even if an initial investment of public funding might be high. The government's broad aspiration for a graduate ECEC workforce should be translated into a specific, measurable, attainable, relevant and time-scaled strategy as soon as possible.

The way in which state support is allocated between parents and ECEC providers may lead to differences in impact on different population groups, with disadvantaged children at risk of losing out. But very few studies place their findings within their wider policy context, for instance examining the delivery mechanisms' impact on service quality and hence impact.

The UK has one of the most privatised and marketised ECEC systems in Europe; since 2000, there has been a significant increase in the UK private-for-profit ECEC sector. The UK is one of only three EU nations where parents are offered income-related public subsidies such as tax credits or vouchers, to help them buy early childhood provision in a 'childcare market'. As UK parents' childcare costs are reimbursed retrospectively through the tax and benefits system, paying childcare costs up front can form a real barrier to its use and hence to parental employment. Moreover, about two-thirds of parents who pay for formal childcare do not receive any government help with costs from employer vouchers or tax credits. This situation improves only slightly when children reach school age. For early childhood providers themselves this marketised system may also create sustainability problems; it may reduce the likelihood of employing highly qualified staff and negatively affect staff pay and conditions, with consequences for quality, particularly in disadvantaged areas.

Even market operations can be improved, though, as the case of Norway illustrates, by means of national agreements regarding a reasonable proportion of household

income to be spent on early childhood provision via income-related parental fees, a cap on the maximum amount parents are expected to contribute annually to the actual costs and the implementation of stringent quality criteria to be met by all types of providers in order to qualify for public subsidies. Local government in Norway has a major role in system maintenance and supervision, while there is a wide variety of private and public provider types. All children are entitled to full time provision; the system is uncoupled from parental employment status and is also seen as quite separate from compulsory schooling, which starts at six. Strong research evidence indicates positive and equitable outcomes for children's social mobility as well as for families' economic wellbeing.

International research that continues to inform UK early childhood policymaking relies heavily on positive evidence from three USA studies of two-generation demonstration programmes, which offer high-quality ECEC alongside practical family and parenting support. Where similar programmes have been scaled up in the USA, fade-out effects have become apparent as children have progressed through school. Although the benefits and generalisability of the more strictly targeted and high-quality USA programmes may have been overestimated, the present UK system may fall short in respect of whole-family approaches related to early childhood provision. Child poverty may co-exist with health and housing problems, including homelessness, and targeted family support from Children's Centres has helped families access ECEC, research suggests. They can function successfully as community hubs offering ECEC alongside a range of family support services, though in recent years, there has been a considerable consolidation and reduction among such centres.

The economic recession and subsequent austerity measures may well magnify the risks associated with childcare markets identified in this review. For a start, from a theoretical perspective, austerity should lead to shrinking provision within childcare markets, as their consumer base is affected by growing parental job insecurity and stagnant wages. As the UK market delivers not just childcare, but also universal early education, there is a consequent risk that both forms of provision may become unavailable to poor children (Lloyd 2012b).

In interpreting ECEC research, it is worth noting that serious concerns have been raised about the quality of much reporting in early childhood research, and this in turn may reflect the quality of the research design itself. It is frequently difficult to disentangle issues around children's usage patterns and age at entry, both factors associated with impact. These reporting deficiencies may be partly responsible for the contradictory nature of many studies. There is a strong need for increased attention to ECEC research quality.

On the policy side, economic analysts frequently point out that achieving major ECEC system change may exceed the capabilities of countries such as the UK, where income tax rates are unlikely to be raised substantially in the near future. Changes to the funding and regulation of the UK ECEC system may promote social justice for poor children by improving their access to good-quality provision, leading to short- and longer-term positive outcomes for their social mobility and for their families' economic wellbeing. The marketisation of ECEC services poses significant barriers to achieving these goals.

Gaps in our existing knowledge were noted in the different chapters of this review. Overall, there is insufficient high-quality research to strengthen the evidence base needed to underpin the quality of ECEC provision in the UK in all types of setting. Since a lack of quality may well be related to ECEC's lack of demonstrable impact on poor children's progress and economic wellbeing in the UK, it should therefore be urgently further investigated. The interaction between ECEC service quality and service system quality also needs exploring further, as it currently receives relatively little policy and research attention. Finally, both survey and qualitative research is needed to illuminate the issues around parental employment decisions further and help policymakers predict levels of uptake of fiscal support. The way in which childcare support through the tax and benefits system is organised in the UK generates serious affordability problems for parents and contrasts with the way in which most other European countries support their ECEC systems.

Finally, we are well aware that many important areas of provision have not been explored here, such as ECEC provision for children with disabilities and/or special educational needs. These areas deserve separate investigation, as exploring them in detail was not feasible as part of this review.

## 5.2 Recommendations

Currently the UK spends around £7 billion per year on a patchwork of free entitlement, tax credits and childcare vouchers. It is estimated that an additional 0.5% of UK GDP would need to be spent to deliver high-quality, accessible and affordable ECEC in the UK, making it an unlikely option in the short to medium term. Nonetheless, changes to the UK's ECEC funding and support systems could still promote social justice for poor children by improving their access to good-quality provision, promoting short- and possibly longer-term positive outcomes both for their social mobility and for their families' economic wellbeing.

Building on the evidence summarised here, we have tried in our recommendations to indicate broad areas where we think the most productive policy changes might be

made in order to make early childhood provision more accessible and affordable for poor children and to improve its quality. The areas in which we recommend changes are interlinked and interdependent.

**1. Review the current structure of government intervention in ECEC**

The UK early childhood education and care system is overly complex. It needs to be simplified and made more transparent to deliver both social mobility and economic well-being. Aspects that need to be reviewed include the promotion of socially mixed provision, the role of local government, the qualifications, pay and employment conditions of the ECEC workforce and levels of direct support for providers, in order to ensure a high quality, flexible, accessible, affordable and sustainable ECEC service.

**2. Government support for parental childcare costs should be simplified**

The level of upfront parental contributions to childcare costs needs to be reviewed as well as the current multiple support strategies through the tax and benefit systems. The availability of sufficient and affordable early childhood provision interacts with local job opportunities and the tax and benefits system in determining whether dual or single earner families with young children can escape or avoid family poverty through paid work.

**3. There should be no trade-off in quality between publicly supported ECEC driven primarily by social mobility and that driven primarily by economic well-being**

Maintaining and improving quality in ECEC is especially vital if its dual purpose is to be realised and harm avoided to the life chances of poor children, who suffer more as a result of poor quality provision.

**4. Support for Children's Centres should be increased**

Children's Centres should be hubs of whole-family support, including more of them offering ECEC alongside other services. In parallel, local government should play a more prominent role in supporting service quality and access to ECEC, especially for poor children.

**5. Support for parents to maintain a good home learning environment should be strengthened**

A good home learning environment is more important for young children's development than parental education or socio-economic status. Reducing the



burden of family poverty helps parents create or maintain a good home learning environment. This is another area in which Children's Centres could provide practical support to parents within their communities.

In summary, these recommendations are broad and in need of further refinement. Improving quality, affordability and access to provision for poor children all pose major challenges. A refocusing of policy on the rationales for public support for ECEC is urgently needed, as the reality does not seem to match the government's stated intention of promoting social mobility, economic wellbeing and social justice through public support for ECEC. Perhaps most of all, the workings of the UK's ECEC market need reconsidering from a principled as well as from a pragmatic perspective if ECEC is to make a serious contribution to lifting poor children out of poverty and improving their life chances.

Several major factors that affect poor children's ability to benefit from good-quality and affordable ECEC have not been discussed in this review. They relate primarily to the current nature of the UK employment market and parents' working patterns. Designing an ECEC service system that meets the needs of parents on zero hours contracts, working atypical hours, or coping with high levels of job insecurity, may well prove impossible. Instead society as a whole should consider alternative solutions to these issues (NEF, 2014). It is not only poor families with young children who are affected in this way; these issues are in fact faced by all families with children and other dependent members, irrespective of their employment status.

It is not surprising that the conclusions and recommendations underpinned by this research evidence review bear similarities to those from an important earlier review for the Joseph Rowntree Foundation (Waldfogel and Garnham, 2008), who stated that:

*It is not a simple matter to project the effect that childcare improvements could have on reducing child poverty. For most families in poverty, problems with childcare are not the sole or even most important barrier to moving out of poverty. Thus, we should not expect childcare reforms alone to move substantial numbers of children out of poverty. A more extensive analysis is required to produce precise projections as to how many children might be moved out of poverty by particular reforms. At the same time, the data just discussed on the distribution and characteristics of children in poverty do suggest that childcare reforms could play a useful role for at least some families in poverty.*

(Waldfogel and Garnham, 2008, p.22)

By itself, even universal good-quality ECEC does not 'inoculate' against the adverse effects of child poverty. Research confirms that multiple approaches are needed for reducing poverty and addressing its consequences for poor children's (and their parents') educational achievements, health and safety, nutrition, housing and access to public services.

## References

- Abery, M. (2011) *Childcare affordability pilots (CAP09): 100% costs, disabled children and actual costs pilots evaluation*. Research Report DFE-RR117. London: DFE.  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/182669/DFE-RR117.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182669/DFE-RR117.pdf) (accessed 4 September 2014).
- Akgunduz, Y. E., Jongen, E., Leseman, P. and Plantenga, J. (2013) *Cutting from the future? Impact of a subsidy reduction on child care quality in the Netherlands*. Tjalling C. Koopmans Research Institute Discussion Paper Series 13-18. Utrecht: Utrecht School of Economics.
- Anderson, M. (2008) 'Multiple inference and gender differences in the effects of early intervention: A re-evaluation of the Abecedarian, Perry Preschool, and Early Training projects', *Journal of the American Statistical Association*, 103 (484) pp. 1481-1495.
- Apps, A., Mendolia, S. and Walker, I. (2012) The impact of pre-school and adolescents' outcomes: evidence from a recent English cohort. Discussion Paper No 6921. Bonn: IZA.
- Ayoub, C., O'Connor, E., Rappolt-Schlichtmann, G., Vallotton, C., Raikes, H. and Chazan-Cohen, R. (2009) 'Cognitive skill performance among young children living in poverty: Risk, change, and the promotive effects of Early Head Start', *Early Childhood Research Quarterly*, 24 (3) pp. 289-305.
- Baker, M. (2011) 'Innis Lecture: Universal early childhood interventions: what is the evidence base?' *Canadian Journal of Economics*, 44 (4) pp. 1069-1105.
- Baker, M., Gruber, J. and Milligan, K. (2008) 'Universal child care, maternal labour supply and family wellbeing', *Journal of Political Economy*, 116 pp. 709-745.
- Baldock, P., Fitzgerald, D. and Kay, J. (2009) *Understanding early years policy*. 3rd edition. London: Sage.
- Ball, S.J. and Vincent, C. (2005) 'The 'childcare champion'? New Labour, social justice and the childcare market', *British Educational Research Journal*, 31 (5) pp. 557-570.
- Barnett, W. S. (1995) 'Long-term effects of early childhood programs on cognitive and school outcomes,' *The Future of Children*, 5 (3) pp. 25–50.

Bashir, N., Crisp, R., Gore, T., Reeve, K. and Robinson, D. (2011) *Families and work: Revisiting barriers to employment*. Department for Work and Pensions Research Report No 729. London: DWP.

Becker, B. (2011) 'Social disparities in children's vocabulary in early childhood: Does pre-school education help to close the gap?' *British Journal of Sociology*, 62 (1) pp. 69-88.

Belsky, J., Barnes, J. and Melhuish, E. (eds) (2007a) *The national evaluation of Sure Start: Does area-based early intervention work?* Bristol: The Policy Press.

Belsky J., Vandell, D. L., Burchinal, M., Clarke-Stewart. A., McCartney, K., Owen, M.T. and NICHD Early Child Care Research Network (2007b) 'Are there long-term effects of early child care?' *Child Development*, 78 (2) pp.681–701.

Ben-Galim, G. (2014) *No more baby steps: A strategy for revolutionising childcare*. London: Institute for Public Policy Research.

Ben-Galim, D. and Thompson, S. (2013) *Who's breadwinning? Working mothers and the new face of family support*. London: IPPR.

Bennett, J. (2008) *Benchmarks for early childhood services in OECD countries*. Innocenti Working Paper-2008-02. Florence: UNICEF.

Bennett, J. and Moss, P. (2010) *Working for inclusion: An overview of European early years services and their workforce*. Edinburgh: Children in Scotland.

Bennett, J., Gordon, J. and Edelmann, J. (2012) *Early childhood education and care (ECEC) for children from disadvantaged backgrounds: findings from a European literature review and two case studies: Final report*. Brussels: European Commission.

Black, S.E., Devereux, P.J., Løken, K. and Salvanes, K.J. (2010) *The Perils of pre-school? The effect of child care on academic performance*. Oslo: Norwegian School of Economics.

Blanden, J. and Machin, S. (2010) 'Intergenerational inequality in early years assessments', in Hansen, K., Joshi, H. and Dex, S. (Eds) *Children of the 21st century: The first five years*. Bristol: The Policy Press, pp. 153 -168.

Blow, L., Goodman, A., Walker, I. and Windmeijer, F. (2005) *Parental background and child outcomes: How much does money matter and what else matters?* Research Report RR660. London: Department for Education and Skills.

Bradshaw, P. and Wasoff, F. (2009) *Growing up in Scotland: multiple childcare provision and its effect on child outcomes.* Edinburgh: The Scottish Office.

Brannen, J. and Moss, P. (eds) (2003) *Rethinking children's care.* Maidenhead: Open University Press.

Brennan, D. and Adamson, E. (2014) *Financing the future: An equitable and sustainable approach to early childhood education and care.* SPRC Report 01/14. Sydney: University of New South Wales, Social Policy Research Centre.

Brewer, M. and Crawford, C. (2010) *Starting school and leaving welfare: The impact of public education on lone parents' welfare receipt.* IFS Working Paper W10/19. London: Institute for Fiscal Studies.

Brewer, M. and Joyce, R. (2010) *Child and working-age poverty from 2010 to 2013.* IFS Briefing Note 115. London: Institute for Fiscal Studies.

Brewer, M. and Paull, G. (2004) *Childcare use and parents' employment: reviewing approaches to understanding the link between childcare use and maternal employment.* Working Paper No. 14. London: DWP.

Brewer, M. and Shaw, J. (2004) *Childcare use and mothers' employment: a review of British data sources,* London: Department of Work and Pensions.

Brewer, M., Browne, J. Joyce, R. and Sibieta, L. (2010) *Child poverty in the UK since 1998/99: Lessons from the past decade.* IFS Working Paper 10/23. London: Institute for Fiscal Studies.

Brewer, M., Cattan, S. and Crawford, C. (2014) 'State support for early childhood education and care in England', in Emmerson, C., Johnson, P. and Miller, H. (eds) *The green budget.* London: Institute for Fiscal Studies, pp. 171-197.

Brind, R., Norden, O., McGinival, S., Oseman, D., Simon, A. and LaValle, I. (2012a) *Childcare and early years providers survey 2011.* Official Statistics OSR18/2012 Research Report DfE RR240. London: Department for Education.

Brind, R., Norden, O. and Oseman, D. (2012b) *Childcare provider finances survey.* Research Report DfE-RR213. London: Department for Education.

- Browne, J. (2012) *The impact of austerity measures on households with children*. London: Institute for Fiscal Studies in association with Family and Parenting Institute.
- Bryant, D., Bernier, K., Peisner-Feinberg, E. and Maxwell, K. (2002) *Smart Start and child care in North Carolina: Effects on quality and changes over time*. Chapel Hill: University of North Carolina, FPG Child Development Institute.
- Bryson, C., Brewer, M., Sibieta, L. and Butt, S. (2011) *The role of informal childcare: A synthesis and critical review of the evidence*. London: Nuffield Foundation.
- Buehler, C. and O'Brien, M. (2011) 'Mothers' part-time employment: associations with mother and family well-being, *Journal of Family Psychology*, 25 (6) pp. 895-906.
- Burger, K. (2010) 'How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds,' *Early Childhood Research Quarterly*, 25 (2) pp. 140-165.
- Butler, A., Lugton, D. and Rutter, J. (2014) *Where next for childcare? Learning from the last ten years of childcare policy*. London: Family and Childcare Trust.
- Campbell-Barr, V. and Garnham, A. (2010) *Childcare: A review of what parents want*. Manchester: The Equality and Human Rights Commission.
- Cannon, J.S., Jackowitz, A. and Painter, G. (2006) 'Is full better than half? Examining the longitudinal effects of full-day kindergarten attendance,' *Journal of Policy Analysis and Management*, 25 (2) pp. 299-321.
- Carneiro, P. and Heckman, J. (2003) *Human capital policy*. NBER Working Paper 9495. Cambridge, MA: National Bureau of Economic Research.  
<http://www.nber.org/papers/w9495> (accessed 4 September 2014).
- Cascio, E.U. (2010) 'What happened when kindergarten went universal?' *Education Next*, 10 (2) pp.62-69.
- Chanfreau, J., Gowland, S., Lancaster, Z., Poole, E., Tipping, S. and Toomse, M. (2011) *Maternity and paternity rights and women returners survey 2009/10*. Research Report No 777. London: DWP.

Chang, M. and Singh, K. (2008) 'Is all-day kindergarten better for children's academic performance? Evidence from the early childhood longitudinal study,' *Australian Journal of Early Childhood*, 33 (4) pp. 35-42.

Clark, M. M. and Waller, T. (eds) (2007) *Early childhood education and care: Policy and practice*. London Sage.

Clarke, A., Lawrence, D., Lloyd, E., Penn, H. and Blackburn, P. (2011) *The London childcare market*. Labour Market Research Series Number 5. London: London Development Agency.

Cleveland, G. and Krashinski, M. (2003) *Starting strong: Financing ECEC services in OECD countries*. Paris: OECD.

Cleveland, G., Forer, B., Hyatt, D., Japel, C. and Krashinsky, M. (2007) *An economic perspective on the current and future role of non-profit provision of early learning and childcare services in Canada: Final report*. Toronto: University of Toronto.

Cohen, B., Moss, P., Petrie, P. and Wallace, J. (2004) *A new deal for children? Reforming education and care in England, Scotland and Sweden*. Bristol: The Policy Press.

Cooper, K. and Stewart, K. (2013) *Does money affect children's outcomes? A systematic review*. York: Joseph Rowntree Foundation.

Cory, G. and Alakeson, V. (2014) *Careers and carers: Childcare and maternal labour supply*. London: Resolution Foundation and Mumsnet.

Cotzias, E., Whitehorn, T. and STA Teacher Assessment and Moderation Team (2013) *Topic note: Results of the Early Years Foundation Stage Profile (EYFSP) pilot*. research report DFE RR-291. London: DFE.

Cribb, J., Hood, A., Joyce, R. and Phillips, D. (2013) *Living standards, poverty and inequality in the UK: 2013*. London: Institute for Fiscal Studies.

Currie, J. and Thomas, D. (2000) 'School quality and the longer-term effects of Head Start,' *Journal of Human Resources*, 35 (4) pp. 755-774.

Dahlberg, G., Moss, P. and Pence, A. (2007) *Beyond quality in early childhood education and care: Languages of evaluation*. 2nd edn. London and New York: Routledge.

Dalli, C., White, E.J., Rockel, J., Duhn, I., Buchanan, E., Davidson, S., Ganly, S., Kus, L. and Wang, B. (2011) Quality early childhood education for under-two-year-olds: What should it look like? A literature review: Report to the Ministry of Education. Wellington: New Zealand Ministry of Education. <http://eceaonline.core-ed.org/file/download/95762> (accessed 4 September 2014).

De Kruijf, R.E.L., Riksen-Walraven, J.M.A., Gevers Deynoot-Schaub, M.J.J.M., Helmerhorst, K.O.W., Tavecchio, L.W.C. and Fukkink, R.G. (2009) *Pedagogische kwaliteit van de opvang voor 0- tot 4-jarigen in Nederlandse kinderdagverblijven in 2008*. Amsterdam/Nijmegen: NCKO.

Dearden, L. and Sibieta, L. (2010) 'Ethnic inequalities in child outcomes', in Hansen, K., Joshi, H. and Dex, S. (Eds) *Children of the 21st century: The first five years*. Bristol: The Policy Press, pp. 169-184.

DeCicca, P. (2007) 'Does full-day kindergarten matter? Evidence from the first two years of schooling', *Economics of Education Review*, 26 (1) pp. 67-82.

Department for Education (2013a) *Provision for children under 5 years of age in England: January 2013*. London: DFE. <https://www.gov.uk/government/publications/provision-for-children-under-5-years-of-age-in-england-january-2013> (accessed 4 September 2014).

Department for Education (2013b) *Early Years Foundation Stage Profile results in England, 2012/13*. Statistical First Release SFR43/2013. London: Department for Education and National Statistics.

Department for Education (2013c) *More great childcare: Raising quality and giving parents more choice*. London: Department for Education.

Department for Education (2013d) *More affordable childcare*. London: DFE.

Department for Education (2014) *Statutory framework for the Early Years Foundation Stage: Setting the standards for learning, development and care for children from birth to five*. London: DFE.

Department for Education and Employment (1998) *The national childcare strategy*. London: DfEE.

Department of Education (NI) (2013) *Learning to learn: A framework for early years education and learning*. Belfast: Department of Education Northern Ireland



Dex, S. (2003) *Families and work in the twenty-first century*, Bristol: The Policy Press and York: Joseph Rowntree Foundation.

Dex, S. and Joshi, H. (eds) (2005) *Children of the 21st century: From birth to nine months*. Bristol: The Policy Press.

Dex, S., Joshi, H., Smith, K., Ward, K. and Plewis, I. (2005) 'Introduction' in Dex, S. and Joshi, H. (Eds) *Children of the 21st century: From birth to nine months*. Bristol: The Policy Press, pp. 1-23.

Dickens, S., Taylor, J. and LaValle, I. (2005) *Local childcare markets: A longitudinal study*. SSU Research Report 016. London: Department for Education and Skills.

Dickens, S., Wollny, Y. and Ireland, E. (2012) *Childcare sufficiency and sustainability in disadvantaged areas*. Research Report DFE-RR246. London: DFE.

Dickinson, A. and Popli, G. (2012) *Persistent poverty and children's cognitive development: Evidence from the UK Millennium Cohort Study*. CLS Cohort Studies Working paper 2012/2. London: Centre for Longitudinal Studies.

Doyle, O., Harmon, C.P., Heckman, J.J. and Tremblay, R.E. (2009) 'Investing in early human development: timing and economic efficiency', *Economics & Human Biology*, 7(1) pp. 1-6.

D'Souza, J., Connolly, A. and Purdon, S. (2008) *Analysis of the choices and constraints questions on the Families and Children Study*. DWP Research Report No 481. London: Department for Work and Pensions

Duncan, A., Paull, G. and Taylor, J. (2001a) *Mothers' employment and the use of childcare in the UK*. IFS Working Papers, W01/23. London: Institute for Fiscal Studies.

Duncan, A., Paull, G. and Taylor, J. (2001b) *Price and quality in the UK childcare market*. IFS Working Papers, WO01/14. London: Institute for Fiscal Studies.

Duncan, G.J. and Magnuson, K. (2013) 'Investing in preschool programs', *Journal of Economic Perspectives*, 27 (2) pp. 109-132.

Duncan, G.J. and Sojourner, A. J. (2012) *Can intensive early childhood intervention programs eliminate income-based cognitive and achievement gaps?* IZA Discussion Paper No. 7087. Bonn: IZA, Institute for the Study of Labour.

Ellingsaeter, A.-L. (2014) 'Towards universal quality early childhood education and care: the Norwegian model', in Gambaro, L., Stewart, K. and Waldfogel, J. (eds) *An equal start? Providing quality early education and care for disadvantaged children*. Bristol: The Policy Press in association with the University of Chicago Press, pp. 53-76.

Elliott, J. and Vaitilingam, R. (eds) (2008) *Now we are 50: Key findings from the National Child Development Study*. London: The Centre for Longitudinal Studies.

Engle, P.L., Black, M.M., Bergman, J.R., Cabral de Mello, M., Gertler, P.J., Kapiri, L., Martorell, R., Eming Young, M. and the International Child Development Steering Group (2007) 'Strategies to avoid the loss of developmental potential in more than 2000 million children in the developing world', *The Lancet*, 369, pp. 229-242.

European Commission (2011) *Early childhood education and care: Providing all our children with the best start for the world of tomorrow*. COM (2011) 66 final. Brussels: European Commission. Education and Culture DG. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0066&from=EN> (accessed 4 September 2014).

European Commission (2013) *Investing in children: Breaking the cycle of disadvantage*. Commission Recommendation of 20.02.2013. Brussels: European Commission.

European Commission/NESSE (2010) *Early childhood education and care: Key lessons from research for policy makers*. Brussels: European Commission. Education and Culture DG. <http://www.nesse.fr/nesse/activities/reports/activities/reports/ecec-report-pdf> (accessed 4 September 2014).

Evans, M. and Gardiner, F. (2011) *CPU child poverty pilots: Interim synthesis report*. Research Report no 730. London: Department of Work and Pensions.

Fagnani, J. (2014) 'Equal access to quality care: Lessons from France on providing high-quality and affordable early childhood education and care', in Gambaro, L., Stewart, K. and Waldfogel, J. (eds) *An equal start? Providing quality early education and care for disadvantaged children*. Bristol: The Policy Press in association with the University of Chicago Press, pp. 77-99.

Family and Childcare Trust (2013) *The 2013 Scottish childcare report*. London: Family and Childcare Trust.

Faulkner, D. and Coates, E. A. (2013) 'Early childhood policy and practice in England: Twenty years of change,' *International Journal of Early Years Education*, 21 (2/3) pp. 244-263.

Feinstein, L. (2003) 'Inequality in the early cognitive development of British children in the 1970 cohort', *Economica*, 70 (277) pp. 73–98.

Feinstein L., Robertson, D. and Symons, J.(1998) *Pre-school education and attainment in the NCDS and BCS*. Human Resources Programme Paper no. 382. London: Centre for Economic Performance.

Fitzpatrick, M.D. (2012) 'Revising our thinking about the relationship between maternal labor supply and preschool', *Journal of Human Resources*, 47 (3) pp. 583-612.

Förster, M and Verbist, G. (2012) *Money or kindergartens*. Paris: OECD.  
[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM\(2012\)6&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/ELSA/WD/SEM(2012)6&docLanguage=En) (accessed 4 September 2014).

Fukkink, R. G. and Lont, A. (2007)'Does training matter? A meta-analysis and review of caregiver training studies,' *Early Childhood Research Quarterly*, 22 (3) pp. 294-311.

Gambaro, L., Stewart, K. and Waldfogel, J. (2013) A question of quality: Do children from disadvantaged backgrounds receive lower quality early years education and care in England? CASE paper 171. London: London School of Economics,  
<http://sticerd.lse.ac.uk/dps/case/cp/CASEpaper171.pdf> (accessed 4 September 2014).

Gambaro, L., Stewart, K. and Waldfogel, J. (eds) (2014) *An equal start? Providing quality early education and care for disadvantaged children*. Bristol: The Policy Press in association with the University of Chicago Press.

Garcia, M., Pence, A. and Evans, J.L. (eds) (2010) *Africa's future, Africa's challenge: Early childhood care and development in Sub-Saharan Africa*. Washington DC: The World Bank.

Gelber, A.M. and Isen, A. (2011) *Children's schooling and parents' investment in children: Evidence from the Head Start impact study*. NBER working paper no. 17704. Cambridge, MA: National Bureau of Economic Research.

George, A., Stokes, L. and Wilkinson, D. (2012) 'Does early education influence key stage 1 attainment? Evidence for England from the Millennium Cohort Study', *National Institute Economic Review*, 222 (1) pp R67-R80.

Gibb, J., Jelacic, H., LaValle, I., Gowland, S., Kinsella, R., Jessiman, P. and Ormston, R. (2011) *Rolling out free early education for disadvantaged two-year-olds: An implementation study for local authorities and providers*, Research Report DFERR131. London: Department for Education.

Goddard, K. and Knights, E. (2009) *Quality costs: Paying for early childhood education and care: Final report*. London: Daycare Trust.

Goff, J., Hall, J., Sylva, K., Smith, T., Smith, G., Eisenstadt, N., Sammons, P., Evangelou, M., Smees, R. and Chu, K. (2013) *Evaluation of children's centres in England: Strand 3*. DfE Research Report RR 297. London: DfE.

Goodman, A. and Sianesi, B. (2005) 'Early education and children's outcomes: How long do the impacts last?' *Fiscal Studies*, 26 (4) pp. 513-548.

Gough, D., Oliver, S. and Thomas, J. (2012) *An introduction to systematic reviews*. London: Sage.

Government Social Research Service (2013) *Rapid evidence assessment toolkit*. <http://www.civilservice.gov.uk/networks/gsr/resources-and-guidance> (accessed 4 September 2014).

Gregg, P., Washbrook, E., Propper, C. and Burgess, S. (2005) 'The effects of a mother's return to work decision on child development in the UK,' *The Economic Journal*, 115 (501) pp. 45-80.

Gregg, P. Propper, C. and Washbrook, E. (2008) *Understanding the relationship between parental income and multiple child outcomes: A decomposition analysis*. Working Paper Series No. 08/193. Bristol: University of Bristol CMPO and Department of Economics.

Gugushvili, D. and Hirsch, D. (2014) *Means testing or universalism? What strategies best address poverty?* Loughborough: Loughborough University.

Hales, J., Tipping, S. and Lyon, N. (2007) *Mothers' participation in paid work: The role of 'mini jobs.'* Research Report No 467. London: DWP.

Hall, J., Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2009) 'The role of pre-school quality in promoting resilience in the cognitive development of young children,' *Oxford Review of Education*, 35 (3) pp.331-352.

Hall, J., Sylva, K., Sammons, P., Melhuish, E., Siraj-Blatchford, I. and Taggart, B. (2013) 'Can preschool protect young children's cognitive and social development? Variation by center quality and duration of attendance', *School Effectiveness and School Improvement*, 24 (2) pp. 155-176.

Hansen, K. (2010) 'Teacher assessment of the first year at school', in Hansen, K., Joshi, H. and Dex, S, (Eds) *Children of the 21st century: The first five years*. Bristol: The Policy Press, pp. 201-216.

Hansen, K. and Hawkes, D. (2009) 'Early childcare and child development', *Journal of Social Policy*, 38 (2) pp. 211-239.

Harms, T., Clifford, R. M. and Cryer, D. (2005) *Early childhood environment rating scale*. Revised Edition. New York, NY: Teachers College Press.

Harries, T., La Valle, I. and Dickens, S. (2004) *Childcare: How local markets respond to national initiatives*. SSU Research Report 526. London: Department for Education and Skills.

Havness, T. and Mogsted, M (2011) 'Money for nothing? Universal childcare and maternal employment,' *Journal of Public Economics*, 95 (11-12) pp. 1455-1465.

Hay, J, (2007) Parents' access to and demand for childcare survey 2006: Final report. Edinburgh: Scottish Social Research.

Heckman, J. (2000) 'Policies to foster human capital', *Research in Economics*, 54 (1) pp. 3-56.

Heckman, J., Grunewald, R. and Reynolds, A. (2006) 'The dollars and cents of investing early: Cost-benefit analysis in early care and education', *Zero to Three*, 26 (6) pp.10-17.

Heckman, J., Moon, S. H., Pinto, R., Savelyev, P. and Yavitz, A. (2010) 'The rate of return to the HighScope Perry Preschool Program', *Journal of Public Economics*, 94 (1-2) pp. 114-128.

Hemerijck, A. (2012) 'Two or three waves of welfare state transformation?' in Morel, N., Palier, B. and Palme, J. (Eds) *Towards a social investment welfare state? Ideas, policies and challenges*. Bristol: The Policy Press, pp. 33-69.

Herbst, C. M. and Tekin, E. (2008) *Child care subsidies and child development*. Working Paper no. 14474. Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w14474.pdf> (accessed 4 September 2014).

Herbst, C.M. and Tekin, E. (2010) 'Child care subsidies and child development', *Economics of Education Review*, 29 (4) pp. 5-39.

Hirsch, D. and Hartfree, Y. (2013) Does universal credit enable households to reach a minimum income standard? York: Joseph Rowntree Foundation.

HM Government (2009) Next steps for early learning and childcare: Building on the 10-year strategy. Nottingham: DCSF.

HM Treasury (2004) Choice for parents, the best start for children: A ten year strategy for childcare. London: The Stationery Office.

House of Commons Education Select Committee (2013) *Foundation years: Sure Start Children's Centres*. Fifth Report Session 2013/14. London: House of Commons.

Huskinson, T., Kostadintcheva, K., Greevy, H., Salmon, C., Dobie, S., Medien, K., Gilby, N., Littlewood, M. and D'Souza, J. (2014) *Childcare and early years survey of parents 2012-2013*. SFR06. London: Department for Education.

Hyman, J. (2011) *Identifying the channels through which Head Start affects long-term outcomes*. Evanston, IL: Society for Research on Educational Effectiveness.

Jacobsen, K. and Vollset, G. (2012) 'Publicly available and supported early education and care for all in Norway', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 105 -130.

Jerrim, J. and Vignoles, A. (2011) The use (and misuse) of statistics in understanding social mobility: Regression to the mean and the cognitive development of high ability children from disadvantaged homes. Working Paper No. 11-01. London: Institute of Education, Department of Quantitative Social Science.

Jones, P. (2014) 'Training and workforce issues in the early years', in Pugh, G. and Duffy, B. (eds) *Contemporary issues in the early years*. 6th edition. London: Sage, pp. 255-272.

Joseph Rowntree Foundation (2013) *Child poverty data: Visualisation and analysis of poverty, housing and care data*. York: JRF. <http://data.jrf.org.uk/> (accessed 4 September 2014).

Judge, L. (ed.) (2012) *Ending child poverty by 2020: Progress made and lessons learned*. London: Child Poverty Action Group.

Kamerman, S. and Moss, P. (eds) (2009) *The politics of parental leave policies: Children, gender, parenting and the labour market*. Bristol: The Policy Press.

Karoly, L.A., Kilburn, M.R. and Cannon, J.S. (2005) *Early childhood interventions: Proven results, future promises*. Santa Monica, CA: Rand Corporation.

Kazimirski, A., Dickens, S. and White, C. (2008) *Pilot scheme for two year old children: Evaluation of outreach approaches*. Research Report No. DCSF-RR-021. London: DCSF.

Kelchen, R., Magnuson, K., Duncan, G., Schindler, H., Shager, H., and Yoshikawa, H. (2011) *Do the effects of early childhood programs on academic outcomes vary by gender? A meta-analysis*. Evanston, IL: Society for Research on Educational Effectiveness.

Kiernan, K.E. and Mensah, F.K. (2011) 'Poverty, family resources and children's early educational attainment: The mediating role of parenting', *British Educational Research Journal*, 37 (2) pp. 317-336.

Kottelenberg, M.J. and Lehrer, S.F. (2013) 'New evidence on the impacts of access to and attending universal child-care in Canada', *Canadian Public Policy*, 39 (2) pp. 263-86.

Lane, P., Casebourne, J., Lanceley, L. and Davies, M. (2011) *Lone parent obligations: Work, childcare and the Jobseeker's Allowance regime*. Research Report No 782. London: DWP.

Lawton, K. and Thompson, S. (2013) *Tackling in-work poverty by supporting dual-earning families*. York: Joseph Rowntree Foundation.

Lazar, I., Darlington, R., Murray, H., Royce, J. and Snipper, A. (1982) Lasting effects of early education: A report from the consortium for longitudinal studies. *Monographs of the Society for Research in Child Development*, 47(2-3).

Leach, P., Barnes, J., Nichols, M., Goldin, J., Stein, A., Sylva, K. and Malmberg, L.-E. (2006) 'Child care before 6 months of age: A qualitative study of mothers' decisions and feelings about employment and non-maternal care,' *Infant and Child Development*, 15 (5) pp. 471-502.

Lefebvre, P. and Merrigan, P. (2008) 'Child-care policy and the labor supply of mothers with young children: A natural experiment from Canada,' *Journal of Labor Economics*, 26 (3) pp. 519-598.

Lefebvre, P., Merrigan, P. and Roy-Desrosiers, F. (2011) *Québec's childcare universal low fees policy 10 years after: Effects, costs and benefits*. CIRPEE Working Paper 11-01. Montreal, Canada: Centre Interuniversitaire sur le Risque, les Politiques Économiques et l'Emploi.

Lekhal, R. (2012) 'Do type of childcare and age of entry predict behavior problems during early childhood? Evidence from a large Norwegian longitudinal study', *International Journal of Behavioral Development*, 36 (3)pp. 197-120.

Leseman, P. (2009) *Tackling social and educational inequalities through early childhood education and care in Europe*. A Eurydice report. Brussels: European Commission.

Levitas, R. Pantazis, C. Fahmy, E., Gordon, D., Lloyd, E. and Patsios, D. (2007) *The multi-dimensional analysis of social exclusion*. London: The Social Exclusion Task Force, Cabinet Office. <http://roar.uel.ac.uk/1781/1/multidimensional.pdf> (accessed 4 September 2014).

Lewis, J. (2003) 'Developing early years childcare in England, 1997-2002: The choices for (working) mothers', *Social Policy & Administration*, 37 (3) pp. 219-238.

Lloyd, E. (2006) 'Children, poverty and social exclusion', in Pantazis, C., Gordon, D. and Levitas, R. (eds) *Poverty and social exclusion in Britain: The Millennium Survey*. Bristol: The Policy Press, pp. 315–346.

Lloyd, E. (2012a) 'Poor children's future access to early years provision', in Judge, L. (ed.) *Ending child poverty by 2020: Progress made and lessons learned*. London: Child Poverty Action Group, pp. 50–54.



- Lloyd, E. (2012b) 'Centre-based services in the early years', in Hill, M., Head, G., Lockyer, A., Reid, B. and Taylor, R. (eds) *Children's services: working together*. London: Longman Pearson, pp. 104-115.
- Lloyd, E. (2012c) 'The marketisation of early years education and care in England', in Miller L. and Hevey D. (Eds) *Policy issues in the early years*. London: Sage, pp. 107-121.
- Lloyd, E. (2013) 'Parental childcare costs in the Netherlands after the Childcare Act 2005: A case study', in Penn, H. and Lloyd, E. *Costs of childcare: A report for DFE*. London: Childhood Wellbeing Research Centre, Annex A.
- Lloyd, E. and Hallet, E. (2010) 'Professionalising the early childhood workforce in England: Work in progress or missed opportunity?' *Contemporary Issues in Early Childhood*, 11 (1) pp. 75-88.
- Lloyd, E. and Penn, H. (2010) 'Why do childcare markets fail? Comparing England and the Netherlands,' *Public Policy Research*, 17 (1) pp. 42-48.
- Lloyd, E. and Penn, H. (eds) (2012) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press.
- Lloyd, E. and Penn, H. (2014) 'Childcare markets in an age of austerity', *European Early Childhood Education Research Journal*, 22 (3) pp 386-396.
- Loeb, S., Bridges, M., Fuller, B., Rumberger, R. and Bassok, D. (2005) *How much is too much? The influence of preschool centers on children's social and cognitive development*. Working paper no. 11812. Cambridge, MA: National Bureau of Economic Research.
- London Development Agency (2005) *The Childcare Affordability Programme*. London: London Development Agency.
- Lord, P., Southcott, C., and Sharp, C. (2011) *Targeting children's centre services on the neediest families*. LGA Research Report. Slough: NFER.
- Love, J.M., Kisker, E. E., Ross, C., Constantine, J., Boller, K., Brooks-Gunn, J., Chazan-Cohen, R., Tarullo, L.B., Brady-Smith, C., Fuligni, A.S., Schochet, P.Z., Ludwig, J. and Miller, D. (2007) 'Does Head Start improve children's life chances? Evidence from a regression discontinuity design,' *Quarterly Journal of Economics*, 122 (1) pp. 159-208.

Magnuson, K. and Waldfogel, J. (2014) 'Delivering high-quality early education and care to low-income children: How well is the USA doing?', in Gambaro, L., Stewart, K. and Waldfogel, J. (eds) *An equal start? Providing quality early education and care for disadvantaged children*. Bristol: The Policy Press in association with the University of Chicago Press, pp. 193-217.

Mahon, R (2006) 'The OECD and the work/family reconciliation agenda: Competing frames', in Lewis, J. (ed.) *Children, changing families and welfare states*. Cheltenham and Northampton, MA: Edward Elgar, pp. 173-197.

Maisey, R., Speight, S., Marsh, V. and Philo, D. (2013) *The early education pilot for 2 year old children: Age 5 follow-up*. London: Department for Education.

Mathers, S. and Smees, R. (2014) Quality and inequality: Do three and four year olds in disadvantaged areas receive lower quality early years provision? London: Nuffield Foundation.

Mathers, S. and Sylva, K. (2007) National evaluation of the Neighbourhood Nurseries Initiative: The relationship between quality and children's behavioural development. Research Report SSU/2007/FR/022. London: Department for Education and Skills.

Mathers, S., Sylva, K. and Joshi, H. (2007) *Quality of childcare settings in the Millennium Cohort Study*. Research Report SSU/2007/FR/025. London: Department for Education and Skills.

Mathers, S., Ranns, H., Karemaker, A., Moody, A., Sylva, K., Graham, J. and Siraj-Blatchford, I. (2011) *Evaluation of the Graduate Leader Fund: Final report*. Research Report DFE-RR144. London: Department for Education.

Mathers, S., Singler, R. and Karemaker, A. (2013) *Improving quality in the early years: A comparison of perspectives and measures*. London: The Nuffield Foundation.

Mathers, S., Eisenstadt, N., Sylva, K., Soukakou, E. and Ereky-Stevens, K. (2014) *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*. London: The Sutton Trust.

McCormick, J. (2013) *Devolved approaches to child poverty*. A JRF Programme Paper. York: Joseph Rowntree Foundation.

Melhuish, E. (2004) A literature review of the impact of early years provision on young children, with emphasis given to children from disadvantaged backgrounds: Report prepared for the National Audit Office. London: Birkbeck, University of London. [http://www.nao.org.uk/wp-content/uploads/2004/02/268\\_literaturereview.pdf](http://www.nao.org.uk/wp-content/uploads/2004/02/268_literaturereview.pdf) (accessed 30 November 2013)

Melhuish, E. (2012) 'The impact of poverty on child developments and adult outcomes: the importance of early years education', in Judge, L. (ed.) *Ending child poverty by 2020: Progress made and lessons learned*. London: Child Poverty Action Group, pp. 36-43.

Melhuish, E. C., Phan, M. B., Sylva, K., Sammons, P., Siraj-Blatchford, I. And Taggart, B. (2008) 'Effects of the home learning environment and preschool center experience upon literacy and numeracy development in early primary school', *Journal of Social Issues*, 64 (1) pp. 95-114.

Melhuish, E., Belsky, J., MacPherson, K. and Cullis, A. (2010) The quality of group childcare settings used by 3-4 year old children in Sure Start Local Programme areas and the relationship with child outcomes. Research report DFE-RR068. London: Department for Education.

Melhuish, E.C., Quinn, L., Sylva, K., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2013) 'Preschool affects longer term literacy and numeracy: Results from a general population longitudinal study in Northern Ireland,' *School Effectiveness and School Improvement*, 24 (2) pp. 234-250.

Michel, S. and Mahon, R. (2002) *Childcare policy at the crossroads: Gender and welfare state restructuring*. New York/London: Routledge.

Miller, L. and Cable, C. (eds) (2008) *Professionalism in the early years*. London: Hodder Education.

Mistry, R.S., Biesanz, J.C., Taylor, L.C., Burchinal, M. and Cox, M.J. (2004) 'Family income and its relation to preschool children's adjustment for families in the NICHD study of early child care,' *Developmental Psychology*, 40 (5) pp. 727-745.

Mitchell, L. (2012) 'Markets and childcare provision in New Zealand: Towards a fairer alternative', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 97-114.

Montie, J.E., Xiang, Z. and Schweinhart, L.J. (2006) 'Preschool experience in 10 countries: Cognitive and language performance at age 7', *Early Childhood Research Quarterly*, 21 (3) pp. 313-331.

Moss, P. (2009) *There are alternatives! Markets and democratic experimentalism in early childhood education and care*. The Hague: Bernard van Leer Foundation.

Moss, P. (2012a) 'Need markets be the only game in town?' in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 191-207.

Moss, P. (2012b) 'Early childhood education and care and child poverty: A case study of England under the Labour government 1997-2010', in Bennett, J. (ed.) *Early childhood education and care (ECEC) for children from disadvantaged backgrounds: Findings from a literature review and two case studies*. Brussels: European Commission, Appendix II.

Moss, P. (2014) *Transformative change and real utopias in early childhood education: A story of democracy, experimentation and potentiality*. London: Routledge.

Moss, P. and Lloyd, E. (2013) 'Is England really near the top of the league?' *Nursery World*, 8-12 April, pp. 14-15.

National Audit Office (2006) *Sure Start Children's Centres*. London: NAO.

National Audit Office (2009) *Sure Start Children's Centres: Memorandum for the Children, Schools and Families Committee*. London: NAO.

National Audit Office (2012) *Department for Education: Delivering the free entitlement to education to three- and four-year-olds*. London: National Audit Office.

National Children's Bureau (2013) *Partnerships for a better start: Perspectives on the role of Children's Centres*. London: National Children's Bureau.

National Institute of Child Health and Development (2005) 'Duration and developmental timing of poverty and children's cognitive and social development from birth through third grade,' *Child Development*, 76(4) pp. 795-810.

National Institute of Child Health and Development, Early Child Care Research Network (2006) 'Child care effect sizes for the NICHD study of early child care and youth development', *American Psychologist*, 61 (2) pp. 99-116.

Naumann, I., McLean, C., Koslowski, A., Tisdall, K. and Lloyd, E. (2013) Early childhood education and care provision: International review of policy, delivery and funding: Final report to the Scottish Office. Edinburgh: University of Edinburgh Centre for Research on Families and Relationships.

<http://www.scotland.gov.uk/Publications/2013/03/4564> (accessed 4 September 2014).

NEF (2014) *The value of childcare: Quality, cost and time*. London: New Economics Foundation.

NICE (2012) *Social and emotional wellbeing: Early years*. NICE public health guidance 40. <http://www.nice.org.uk/Guidance/ph40> (accessed 4 September 2014).

Noailly, J. and Visser, S. (2009) 'The impact of market forces on the provision of childcare: Insights from the 2005 Childcare Act in the Netherlands,' *Journal of Social Policy*, 38 (3) pp. 477-498.

Nutbrown, C. (2012) *Foundations for quality: The independent review of early education and childcare qualifications: Final report*. London: Department for Education.

Oberhuemer, P. (2014) 'Access and quality issues in early childhood education and care: The case of Germany', in Gambaro, L., Stewart, K. and Waldfogel, J. (eds) *An equal start? Providing quality early education and care for disadvantaged children*. Bristol: The Policy Press in association with the University of Chicago Press, pp. 121-146.

OECD (2006) *Starting Strong II*. Paris: Organisation for Economic Co-operation and Development.

OECD (2011a) *How can we do better for our families?* Paris: Organisation for Economic Co-operation and Development.

OECD (2011b) Does participation in pre-primary education translate into better learning outcomes at school? *Pisa in Focus*. No. 1. Paris: OECD.

Ofsted (2011) *Annual report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2010/11*. London: Ofsted.

Ofsted (2014) *Early years: The report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2012/13*. London: Ofsted.

Parker, I. (2013) *Early developments: Bridging the gap between evidence and policy in early education*. London: Institute for Public Policy Research.

Paull, G. (2012) 'Childcare markets and government intervention', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy press in association with the University of Chicago Press, pp. 227-246.

Paull, G. (2014) 'Can government intervention in childcare be justified?' *Economic Affairs*, 34 (1) pp. 14-34.

Paulsell, D., and Vogel, C. (2005) 'The effectiveness of Early Head Start for 3-year-old children and their parents: Lessons for policy and programs,' *Developmental Psychology*, 41 (6) pp. 885- 901.

Penn, H. (2005) *Unequal childhoods: Young children's lives in poor countries*. London: Routledge.

Penn, H. (2007) 'Childcare market management: How the United Kingdom Government has reshaped its role in developing early childhood education and care', *Contemporary Issues in Early Childhood*, 8 (3) pp. 192-207.

Penn, H. (2009) *Early childhood education and care: Key lessons from research for policy makers*. Brussels: European Commission.

Penn, H. (2011a) 'Policy rationales for early childhood services', *International Journal of Childcare Care and Education Policy*, 5 (1) pp. 1-16.

Penn, H. (2011b) 'Gambling on the market: The role of for-profit provision in early childhood education and care', *Journal of Early Childhood Research* 9 (2) pp. 150-161.

Penn, H. (2011c) *Quality in early childhood services: an international perspective*. Maidenhead: Open University Press.

Penn, H. (2012) 'Childcare markets, do they work?' in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp.19-42.

Penn, H. (2013) 'The business of childcare in Europe', *European Early Childhood Research Journal*, online first.

Penn, H. and Lloyd, E. (2013) *Costs of childcare*. London: Childhood Wellbeing Research Centre.

- Penn, H., Barreau, L., Butterworth, L., Lloyd, E., Moyles, J., Potter, S. and Sayeed, Z. (2004) *What is the impact of out-of-home integrated care and education settings on children aged 0-6 and their parents?* London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Penn, H., Burton, V., Lloyd, E., Mugford, M., Potter, S. and Sayeed, Z. (2006) *What is known about the long-term economic impact of centre-based early childhood interventions?* London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Phipps, S. (2001) 'Values, policies and the well-being of young children in Canada, Norway and the United States', in Vleminckx, K. and Smeeding, T. (eds) *Child well-being, child poverty and child policy in modern nations: What do we know?* Bristol: The Policy Press.
- Plantenga, J. (2012) 'Local providers and loyal parents: competition and choice in the Dutch childcare market', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 63-77.
- Plantenga, J. and Remery, C. (2009) *The provision of childcare services: A comparative review of 30 European countries.* Brussels: European Commission.
- Portes, J. (2012) 'Social mobility, poverty and inequality: policies and prospects', in Judge, L. (ed.) *Ending child poverty by 2020: Progress made and lessons learned.* London: Child Poverty Action Group, pp. 22-27.
- Prentice, S. (2014) *Dangerous liaisons: Marketization and commercial childcare in France.* Department of Sociology Working Paper. Manitoba: University of Manitoba.
- Puma, M., Bell, S., Cook, R., Heid, C., Shapiro, G., Broene, P., Jenkins, F., Fletcher, P., Quinn, L., Friedman, J., Rohacek, M., Adams, G. and Spier, E. (2010) *Head Start impact study technical report.* Washington, DC: U.S. Department of Health and Human Services.
- Puma, M., Bell, S., Cook, R., Heid, C., Broene, P., Jenkins, F., Mashburn, A. and Downer, J. (2012) *Third grade follow-up to the Head Start impact study: Final report.* Washington, DC: Administration for Children & Families, US Department of Health and Human Services.
- Qualifications and Curriculum Authority (2008) *Early Years Foundation Stage Profile handbook 2008.* London: QCA.

- Roberts, F., Mathers, S., Joshi, H., Sylva, K. and Jones, E. (2010) 'Childcare in the pre-school years', in Hansen, K., Joshi, H. and Dex, S. (eds) *Children of the 21st century: The first five years*. Bristol: The Policy Press, pp. 131-152.
- Ruhm, C. and Waldfogel, J. (2011) *Long-term effects of early childhood care and education*. IZA Discussion Paper No. 6149. Bonn, Germany: IZA, Institute for the Study of Labour.
- Rutter, J. and Evans, B. (2011a) *Listening to grandparents*. London: Daycare Trust.
- Rutter, J. and Evans, B. (2011b) *Informal childcare: Choice or chance? A literature review*. London: Daycare Trust.
- Rutter, J. and Stocker, K. (2014) *Childcare costs survey 2014*. London: Family and Childcare Trust.
- Sabates, R. and Dex, S. (2012) *Multiple risk factors in young children's development*. Working Paper 2012/1. London: Centre for Longitudinal Studies.
- Sammons, P., Taggart, B., Smees, R., Sylva, K., Melhuish, E., Siraj-Blatchford, I. and Elliot, K. (2003) *The Early Years Transition & Special Educational Needs (EYTSSEN) Project*. Research Report RR431. London: Department for Education and Skills.
- Scheiwe, K. and Willekens, H. (eds) (2009) *Childcare care and preschool development in Europe: Institutional perspectives*. Aldershot: Palgrave Macmillan.
- Schoon, I., Hope, S., Ross, A. and Duckworth, K. (2010) 'Family hardship and children's development: the early years', *Longitudinal and Life Course Studies*, 1 (3) pp. 209-222.
- Schoon, I., Jones, E., Cheng, H., and Maughan, B. (2011) 'Family hardship, family instability and children's cognitive development,' *Journal of Epidemiology and Community Health*, 66 (8) pp. 716-722.
- Siraj-Blatchford, I. (2010) 'Learning in the home and in school: How working class children succeed against the odds', *British Educational Research Journal*, 36 (3) pp. 463-482.



Siraj-Blatchford, I. and Siraj-Blatchford, J. (2010) *Improving children's attainment through a better quality of family-based support for early learning*. London: C4EO. [http://archive.c4eo.org.uk/themes/earlyyears/familybasedsupport/files/c4eo\\_family\\_based\\_support\\_full\\_knowledge\\_review.pdf](http://archive.c4eo.org.uk/themes/earlyyears/familybasedsupport/files/c4eo_family_based_support_full_knowledge_review.pdf) (accessed 4 September 2014).

Siraj-Blatchford, I., Mayo, A., Melhuish, E., Taggart, B., Sammons, P. and Sylva, K. (2010) *Performing against the odds: Developmental trajectories of children in the EPPSI 3-16 study*. Research Report DFE-RR128. London: Department for Education.

Skinner, C. (2011) 'Childcare and early years', in Bradshaw, J. (ed.) *The well-being of children in the UK*. Third edition. Bristol: The Policy Press, pp. 213-223.

Smith, R., Schneider, V., Purdon, S., La Valle, I., Wollny, Y., Owen, R., Bryson, C., Mathers, S., Sylva, K. and Lloyd, E. (2009a) *Early education pilot for two year old children: Evaluation*. Research Report DCSF-RR134, London: Department for Children, Schools and Families.

Smith, R., Speight, S. and LaValle, I., (2009b) *Fitting it all together: How families arrange their childcare and the influence on children's home learning*. Research Report DCSF-RR090. London: Department for Children, Schools and Families.

Sosinsky, L. (2012) 'Childcare markets in the US: Supply and demand, quality and cost, and public policy', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 131-151.

Speight, S., Smith, R., Coshall, C. and Lloyd, E. (2010a) *Towards universal early years provision: Analysis of take-up by disadvantaged families from recent annual childcare Surveys*. FE-RR066. London: DFE.

Speight, S., Smith, R. and Lloyd, E., Coshall, C. (2010b) *Families experiencing multiple deprivation: Their use of and views on childcare provision*. Research Report DCSF-RR191. London: DCSF.

SQW Consulting (2009) *Childcare Affordability Programme 2005 pilot review*. Research Report No DCSF-RR174. London: Department for Children, Schools and Families.

Standards & Testing Agency (2012) *EYFS Profile handbook 2013*. London: Standards & Testing Agency.

- Sumsion, J. (2012) 'ABC Learning and Australian early childhood education and care: A retrospective ethical audit of a radical experiment', in Lloyd, E. and Penn, H. (eds) *Childcare markets: Can they deliver an equitable service?* Bristol: The Policy Press in association with the University of Chicago Press, pp. 209-225.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2004a) *The Effective Provision of Pre-School Education (EPPE) project: the final report*. Technical paper 12. London: DfES / Institute of Education, University of London.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2004b) *The Effective Provision of Pre-School Education (EPPE) Project: findings from the early primary years*. London: DfES.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2008) *Effective pre-school and primary education 3 -11 project: Final report from the primary phase: pre-school, school and family influences on children's development during Key Stage 2 (Age 7-11)*. Research Report No DCSF- RR061. London: Department for Children, Schools and Families.
- Sylva, K., Stein, A., Leach, P., Barnes, J., Malmberg, L.-E. and the FCCC team (2011) 'Effects of early child-care on cognition, language and task-related behaviours at 18 months: An English study,' *British Journal of Developmental Psychology*, 29 (1) pp. 18-45.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B., Hunt, S. and Jellicic, H. (2012) *The effect of starting pre-school at age 2 on long term academic and social-behavioural outcomes in Year 6 for more deprived children: Analyses conducted for the Strategy Unit*. London: Institute of Education with the Department for Education.
- Taggart, B, Sylva, K., Siraj-Blatchford, I., Melhuish, E., Sammons, P. and Walker-Hall, J. (2000) *Characteristics of the centres in the EPPE study: Interviews*. Technical Paper 5. London: Institute of Education.
- Tarullo, L., Aikens, N., Moiduddin, E. and West, J. (2010) *A second year in Head Start: Characteristics and outcomes of children who entered the program at age three*. Washington, DC: Administration for Children & Families, US Department of Health and Human Services.
- Thompson, S. and Ben-Galim (D. (2014) *Childmind the gap: Reforming childcare to support mothers into work*. London: Institute for Public Policy Research.

- Tisdall, E.K.M. and Hill, M. (2011) 'Policy change under devolution: The prism of children's policy', *Social Policy & Society*, 10 (1) pp. 29–40.
- Toroyan, T., Roberts, I., Oakley, A., Laing, G., Mugford, M. (2003) 'Effectiveness of out-of-home day care for disadvantaged families: Randomised controlled trial', *British Medical Journal*, 327, pp.906-910.
- UK National Statistics (2013) *Children at childcare*. London: Office for National Statistics. <http://www.statistics.gov.uk/hub/children-education-skills/children-and-early-years-education/children-at-childcare> (accessed 4 September 2014).
- UNESCO (2006) *Strong foundations: Early childhood care and education*. Paris: UNESCO.
- UNICEF and WHO (2010) *Promoting early childhood development in South East Asia*. New Delhi: World Health Organization. [http](http://www.who.int) (accessed 4 September 2014).
- Uunk, W., Kalmijn, M. and Muffels, R. (2005) 'The impact of young children on mother's labour supply: A reassessment of institutional effects in Europe,' *Acta Sociologica*, 48 (1) pp. 41-62.
- Van Lancker, W. (2013) *Putting the child-centred investment strategy to the test: Evidence for the EU27*. CSB Working Paper NO 13/01. Antwerp: University of Antwerp.
- Van Lancker, W. and Ghysels, J. (2011) *Who reaps the benefits? The social distribution of public childcare in Belgium and Flanders*. GINI Discussion Paper 10. Amsterdam: AIAS.
- Vandell, D.L., Belsky, J., Burchinal, M., Steinberg, L., Vandergrift, N. and National Institute of Child Health and Development Child Care Research Network(2010) 'Do effects of early child care extend to age 15 years? Results from the NICHD study of early child care and youth development', *Child Development*, 81 (3) pp. 737-756.
- Vincent, C. and Ball, S. J. (2006) *Childcare, choice and class practices: middle class parents and their children*. London: Routledge.
- Waldegrave, H. (2013) *Centres of excellence? The role of children's centres in early intervention*. London: Policy Exchange.
- Waldfoegel, J. and Garnham, S. (2008) *Childcare and child poverty*. York: Joseph Rowntree Foundation.

Waldfogel, J. and Washbrook, E. (2010) *Low income and early cognitive development in the UK*. London: Sutton Trust.

Welsh Government (2013) *Building a brighter future: Early years and childcare plan*. Cardiff: Department for Education and Skills and Department for Communities and Tackling Poverty.

## Annexes

### Annex 1: Database search strategy

#### ERIC and BEI search (Proquest)

##### 1. Service categories

nurser\* or NNI or family N/1 cent\* or integrated N/1 cent\* or sessional or prekindergarten\* or kindergarten\* or playschool\* or play N/1 school\* or play N/1 group\* or playgroup\* or 'early education' or childmind\* or child N/1 mind\*

or

'early years' NEAR (education or program\* or provision or setting) or 'early childhood' NEAR (education or program\* or provision or setting) or preschool NEAR (education or program\* or provision or setting) or 'pre-school' NEAR (education or program\* or provision or setting)

or

educare or High/Scope or High?Scope or Perry or Headstart or 'Head start' or Montessori or 'reggio emilia' or 'sure start' or early N/1 excellence N/1 centre\* or Elmira or 'Chicago Child Parent' or 'Chicago Child-Parent' or Abecedarian

##### 2. Outcomes

Poverty or income or employment or saving\* or tax or taxes or taxation or welfare or 'social security' or 'income support' or 'state support' or 'social justice' or 'social mobility' or 'cognitive development' or (academic or educational) N/1 (achievement or development) or (emotional or economic or social) N/1 (development or wellbeing or well-being or 'well being' or exclusion) or delinquen\* or crime\* or crimin\* or 'youth justice' or prosocial or 'pro-social' or antisocial or 'anti-social' or felon\*

##### 3. Research type categories

Evaluat\* or Outcome\* or effectiveness or effect\* or random\* or longitud\* or cohort\* or control\* or comparison\* or comparative or 'time series' or 'time-series' or time series or pretest or 'pre-test' or 'pre test' or posttest or 'post-test' or 'post test' or impact\* OR correlat\* OR predict\* or impact\* or experiment\* or research\* or 'follow up' or 'follow-up' or followup or prospective or retrospective or meta N/1 analy\* or meta-analy\* or metaanaly\* or review\* or empiric\* or quantitative or qualitative

#### 4. Exclusions

Horticultur\* or agricultur\*

Eric: NOT (150 Speeches/meeting Papers AND 120 Opinion Papers AND 055 Guides – Non-classroom AND 070 Information Analyses AND 052 Guides – Classroom – Teacher AND 160 Tests/questionnaires AND 131 Reference Materials – Bibliographies AND 022 Collected Works – Serials AND 020 Collected Works – General AND 050 Guides – General AND 090 Legal/legislative/regulatory Materials AND 132 Reference Materials – Directories/catalogs AND 051 Guides – Classroom – Learner AND 072 Book/product Reviews AND 130 Reference Materials – General AND 134 Reference Materials – Vocabularies/classifications AND 101 Computer Programs AND 133 Reference Materials – Geographic AND 022 Collected Works – Serial)

Theses

1 and 3 not 4

#### **Business Source Complete (EBSCO)**

##### **1. Service categories**

nurser\* or NNI or family N1 centre or family N1 centres or prekindergarten\* or kindergarten\* or playschool\* or play N1 school\* or play N1 group\* or playgroup\* or 'early education' or childminding or childminder\* or child N1 minding or child N1 minder\* or 'early years' N1 education or 'early childhood' N1 education or 'early childhood' N1 program\* or 'early childhood' N1 provision or 'early childhood' N1 setting or preschool N1 education or preschool N1 program\* or preschool N1 provision or preschool N1 setting or 'pre-school' N1 education or 'pre-school' N1 program\* or 'pre-school' N1 provision or 'pre-school' N1 setting or educare or HighScope or 'High/Scope' or Perry or Montessori or 'reggio emilia' or early N1 excellence N1 centre\* or Elmira or 'Chicago Child Parent' or 'Chicago Child-Parent' or Abecedarian

Not

Horticultur\* or agricultur\*

## 2. Outcomes

Poverty or income or employment or saving\* or tax or taxes or taxation or welfare or 'social security' or 'income support' or 'state support' or 'social justice' or 'social mobility' or 'cognitive development' or (academic or educational) N1 (achievement or development) or (emotional or economic or social) N1 (development or wellbeing or well-being or 'well being' or exclusion) or delinquent\* or crime\* or crimin\* or 'youth justice' or prosocial or 'pro-social' or antisocial or 'anti-social' or felon\* or costs or costings or cost-benefit\* or cost\* n2 benefit\* or financial N1 provision\*

## 3. Research type categories

Evaluat\* or Outcome\* or effectiveness or effect\* or random\* or longitud\* or cohort\* or control\* or comparison\* or comparative or 'time series' or 'time-series' or time series or pretest or 'pre-test' or 'pre test' or posttest or 'post-test' or 'post test' or impact\* OR correlat\* OR predict\* or impact\* or experiment\* or research\* or 'follow up' or 'follow-up' or followup or prospective or retrospective or meta N1 analy\* or meta-analy\* or metaanaly\* or review\* or empiric\* or quantitative or qualitative

## Limiters

Published Date: 20080101-20131231; Publication Type: Academic Journal, Book, Case Study, Conference Paper, Conference Proceeding, Government Documents, Grey Literature, Periodical, Report, Working Paper; Document Type: Article, Case Study, Proceeding, Report, Working Paper; Language: English

## Annex 2: Sources selected from database searches for JRF childcare and poverty review

(1998) Head start programs: Participant characteristics, services, and funding: Report to congressional requesters, Washington, DC: U.S. General Accounting Office.

(1999) *CQO children go to school*. NCEDL spotlights, no. 11, Chapel Hill, NC: Frank Porter Graham Child Development Center, University of North Carolina.

(2000) *Early education and care: Overlap indicates need to assess crosscutting programs*. Hehs-00-78. Washington, DC: Department of Education, Department Of Health and Human Services.

(2007) *Poverty and early childhood intervention*. FPG snapshot #42, Chapel Hill, NC: FPG Child Development Institute. University of North Carolina.

(2010) Early Head Start: Research findings. *Early Childhood Highlights* 1 (2).

(2010) *Understanding the Head Start impact study*. Evaluation science brief, Cambridge, MA: National Forum on Early Childhood Policy and Programs.

(2010) *Administration for children and families: Early Head Start*, Washington, DC: US Department of Health and Human Services.

(2011) Does participation in pre-primary education translate into better learning outcomes at school? Pisa in focus. No. 1, Paris: OECD Publishing.

(2011) Research-based responses to key questions about the 2010 Head Start impact study. *Early Childhood Highlight*. 2(1).

Aber, L.J., Grannis, K.S., Owen, S. and Sawhill, I.V. (2013) *Middle childhood success and economic mobility: The social genome project*, Washington, DC: Brookings Institution.

Anderson, B. (2006) *Colorado Even Start 2005-2006 progress report*, Denver, CO: Colorado Department of Education.

Anderson, M.L. (2008) 'Multiple inference and gender differences in the effects of early intervention: A re-evaluation of the Abecedarian, Perry Preschool, and early training projects', *Journal of the American Statistical Association*, 103 (484): 1481-95.



- Ayoub, C., O'Connor, E., Rappolt-Schlichtmann, G., Vallotton, C., Raikes, H. and Chazan-Cohen, R. (2009) 'Cognitive skill performance among young children living in poverty: Risk, change, and the promotive effects of Early Head Start', *Early Childhood Research Quarterly*, 24 (3): 289-305.
- Barnett, S.W. and Nores, M. (2012) *Investing in early childhood education: A global perspective*, New Brunswick, NJ: National Institute for Early Education Research.
- Barnett, S.W. and Yarosz, D.J. (2007) *Who goes to preschool and why does it matter?* Preschool policy brief. Issue 15, New Brunswick, NJ: National Institute for Early Education Research.
- Barnett, W.S. and Masse, L.N. (2007) 'Comparative benefit–cost analysis of the Abecedarian program and its policy implications', *Economics of Education Review*, 26 (1): 113-25.
- Bartik, T.J. (2009) *Distributional effects of early childhood programs and business incentives and their implications for policy*. Upjohn institute staff working paper no. 09-151, Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Belfield, C. and Schwartz, H. (2007) *The cost of high-quality pre-school education in New Jersey*, Newark, NJ: Education Law Center.
- Belfield, C.R., Nores, M., Barnett, S. and Schweinhart, L. (2006) 'The High/Scope Perry Preschool program: Cost-benefit analysis using data from the age-40 followup', *Journal of Human Resources*, 41 (1): 162-90.
- Besharov, D.J., Morrow, J.S. and Myers, J.A. (2007) *Costs per child for early childhood education and care: Comparing Head Start, CCDF child care, and prekindergarten/preschool programs (2003/2004)*, Washington, DC: American Enterprise Institute for Public Policy Research.
- Blow, L., Goodman, A., Walker, I. and Windmeijer, F. (2005) *Parental background and child outcomes: How much does money matter and what else matters?* London: Department for Education and Skills.
- Boyd, W. (2012) 'Maternal employment and childcare in Australia: Achievements and barriers to satisfying employment', *Australian Bulletin of Labour*, 38 (3): 199-213.
- Carey, K. (2002) *Education funding and low-income children: A review of current research*, Washington, DC: Center on Budget and Policy Priorities.

Carroll, J. (2001) *How to pay for child care? Local innovations help working families*. Pace policy brief, Early education series, PACE, Berkeley, CA: University of California.

Cascio, E.U. (2009) Do investments in universal early education pay off? Long-term effects of introducing kindergartens into public schools. NBER working paper no. 14951, Cambridge, MA: National Bureau of Economic Research.

Chang, M. and Singh, K. (2008) 'Is all-day kindergarten better for children's academic performance? Evidence from the early childhood longitudinal study', *Australian Journal of Early Childhood*, 33 (4): 35-42.

Chetty, R., Friedman, J.N., Hilger, N., Saez, E., Schanzenbach, D.W. and Yagan, D. (2010) *How does your kindergarten classroom affect your earnings? Evidence from Project Star*. NBER working paper no. 16381, Cambridge, MA: National Bureau of Economic Research.

Cleveland, G. and Krashinsky, M. (1998) The benefits and costs of good child care: The economic rationale for public investment in young children: A policy study. Toronto: Childcare Canada.

Cunningham-Burley, S., Jamieson, L., Morton, S., Adam, R. and McFarlane, V. (2002) *Mapping Sure Start Scotland*, Edinburgh: SEED Research Unit, Scottish Executive Education Department.

Darrow, C.L. (2009) *Language and literacy effects of curriculum interventions for preschools serving economically disadvantaged children: A meta analysis*, Evanston, IL: Society for Research on Educational Effectiveness.

Duncan, G.J., Ludwig, J. and Magnuson, K.A. (2007) 'Reducing poverty through preschool interventions', *Future of Children*, 17 (2): 143-60.

Duncan, G.J. and Magnuson, K. (2013) 'Investing in preschool programs', *Journal of Economic Perspectives*, 27 (2): 109-32.

George, A., Stokes, L. and Wilkinson, D. (2012) 'Does early education influence key stage 1 attainment? Evidence for England from the Millennium Cohort Study', *National Institute Economic Review*, 222 (1): R67-R80.

Gormley, W.T., Phillips, D., Adelstein, S. and Shaw, C. (2010) 'Head Start's comparative advantage: Myth or reality?' *Policy Studies Journal*, 38 (3): 397-418.

- Green, E. and Knight, G. (2007) Evaluation of the Childcare Taster Pilot and Extended Schools Childcare Pilot programmes: further qualitative research into implementation. SSU/2007/FR/026, London: Institute of Education, University of London.
- Heckman, J., Grunewald, R. and Reynolds, A. (2006) 'The dollars and cents of investing early: Cost-benefit analysis in early care and education', *Zero to Three*, 26 (6): 10-17.
- Heckman, J.J., Moon, S.H., Pinto, R., Savelyev, P.A. and Yavitz, A. (2010) 'The rate of return to the Highscope Perry Preschool Program', *Journal of Public Economics*, 94 (1/2): 114-28.
- Herbst, C.M. and Tekin, E. (2010) 'Child care subsidies and child development', *Economics of Education Review*, 29 (4): 618-38.
- Herbst, C.M. and Tekin, E. (2011) 'Do child care subsidies influence single mothers' decision to invest in human capital?' *Economics of Education Review*, 30 (5): 901-12.
- Huang, F.L., Invernizzi, M.A. and Drake, A.E. (2012) 'The differential effects of preschool: Evidence from Virginia', *Early Childhood Research Quarterly*, 27 (1): 33-45.
- Hyman, J. (2011) *Identifying the channels through which Head Start affects long-term outcomes*, Evanston, IL: Society for Research on Educational Effectiveness.
- Johnson, A.D., Ryan, R.M. and Brooks-Gunn, J. (2012) 'Child-care subsidies: Do they impact the quality of care children experience?' *Child Development*, 83 (4): 1444-61.
- Kelchen, R., Magnuson, K., Duncan, G., Schindler, H., Shager, H. and Yoshikawa, H. (2011) *Do the effects of early childhood programs on academic outcomes vary by gender? A meta-analysis*, Evanston, IL: Society for Research on Educational Effectiveness.
- Kesting, S. and Fargher, S. (2008) 'The effect of early childhood education and care (ECE) costs on the labour force participation of parents in New Zealand', *New Zealand Journal of Employment Relations*, 33 (3): 16-33.

Kiernan, K.E. and Mensah, F.K. (2011) 'Poverty, family resources and children's early educational attainment: The mediating role of parenting', *British Educational Research Journal*, 37 (2): 317-36.

Kottelenberg, M.J. and Lehrer, S.F. (2013) 'New evidence on the impacts of access to and attending universal child-care in Canada', *Canadian Public Policy*, 39 (2): 263-86.

Kovach, M., Lam, E. and Dickman, A. (2009) *The economic impact of the child care industry in southeast Wisconsin*, Milwaukee, WI: Public Policy Forum.

Lefebvre, P. and Merrigan, P. (2008) 'Child-care policy and the labor supply of mothers with young children: A natural experiment from Canada', *Journal of Labor Economics*, 26 (3): 519-48.

Lefebvre, P., Merrigan, P. and Verstraete, M. (2009) 'Dynamic labour supply effects of childcare subsidies: Evidence from a Canadian natural experiment on low-fee universal child care', *Labour Economics*, 16 (5): 490-502.

Loeb, S., Bridges, M., Bassok, D., Fuller, B. and Rumberger, R.W. (2007) 'How much is too much? The influence of preschool centers on children's social and cognitive development', *Economics of Education Review*, 26 (1): 52-66.

Loeb, S., Bridges, M., Fuller, B., Rumberger, R. and Bassok, D. (2005) *How much is too much? The influence of preschool centers on children's social and cognitive development*. NBER working paper no. 11812, Cambridge, MA: National Bureau of Economic Research.

Love, J.M., Constantine, J., Paulsell, D., Boller, K., Ross, C., Raikes, H., Brady-Smith, C. and Brooks-Gunn, J. (2004) *The role of Early Head Start programs in addressing the child care needs of low-income families with infants and toddlers: Influences on child care use and quality*. Washington, DC: Office of Planning, Research, and Evaluation Administration for Children and Families.

Love, J.M., Kisker, E.E., Ross, C.M., Schochet, P.Z., Brooks-Gunn, J., Boller, K., Paulsell, D., Fuligni, A.S. and Berlin, L.J. (2001) *Building their futures: How early head start programs are enhancing the lives of infants and toddlers in low-income families. Volume I: Technical report*. Washington, DC: Office of Planning, Research, and Evaluation Administration for Children and Families.

Meadows, P. (2006) *Cost effectiveness of implementing SSLPS: An interim report*, London: Department for Education and Skills.

Melhuish, E., Belsky, J., Anning, A., Ball, M., Barnes, J., Romaniuk, H. and Leyland, A. (2007) 'Variation in community intervention programmes and consequences for children and families: The example of Sure Start Local Programmes', *Journal of Child Psychology and Psychiatry*, 48 (6): 543-51.

Melhuish, E.C., Quinn, L., Sylva, K., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2013) 'Preschool affects longer term literacy and numeracy: Results from a general population longitudinal study in Northern Ireland', *School Effectiveness and School Improvement*, 24 (2): 234-50.

Muennig, P., Schweinhart, L., Montie, J. and Neidell, M. (2009) 'Effects of a prekindergarten educational intervention on adult health: 37-year follow-up results of a randomized controlled trial', *American Journal of Public Health*, 99 (8): 1431-7.

Nasim, B. (2010) The interdependence and determinants of childhood outcomes: The relevance for policy. Report to the department of children, schools and families. Cee special report 003, London: Centre for the Economics of Education, London School of Economics and Political Science.

Noboa-Hidalgo, G.E. and Urzúa, S.S. (2012) 'The effects of participation in public child care centers: Evidence from Chile', *Journal of Human Capital*, 6 (1): 1-34.

Nores, M., Belfield, C.R., Barnett, S.W. and Schweinhart, L. (2005) 'Updating the economic impacts of the High/Scope Perry Preschool Program', *Educational Evaluation and Policy Analysis*, 27 (3): 245-61.

Ou, S.-R. (2005) 'Pathways of long-term effects of an early intervention program on educational attainment: Findings from the Chicago longitudinal study', *Journal of Applied Developmental Psychology: An International Lifespan Journal*, 26 (5): 578-611.

Picus, L.O., Odden, A. and Goetz, M. (2009) *An evidence-based approach to estimating the national and state costs of prek-3rd*. New York: Foundation for Child Development.

Potter, C.A. (2007) 'Developments in UK early years policy and practice: Can they improve outcomes for disadvantaged children?' *International Journal of Early Years Education*, 15 (2): 171-80.

Puma, M., Bell, S., Cook, R., Heid, C., Broene, P., Jenkins, F., Mashburn, A. and Downer, J. (2012) *Third grade follow-up to the Head Start impact study: Final report*.

OPRE report 2012-45, Washington, DC: Administration for Children & Families, US Department of Health and Human Services.

Puma, M., Bell, S., Cook, R., Heid, C., Shapiro, G., Broene, P., Jenkins, F., Fletcher, P., Quinn, L., Friedman, J., Ciarico, J., Rohacek, M., Adams, G. and Spier, E. (2010) *Head start impact study: Technical report*, Washington, DC: Administration for Children & Families, US Department of Health and Human Services.

Reynolds, A.J., Ou, S.-R. and Topitzes, J.W. (2004) 'Paths of effects of early childhood intervention on educational attainment and delinquency: A confirmatory analysis of the Chicago Child-Parent Centers,' *Child Development*, 75 (5): 1299-328.

Ross, J.A., Barkaoui, K. and Scott, G. (2007) 'Evaluations that consider the cost of educational programs: The contribution of high-quality studies', *American Journal of Evaluation*, 28 (4) 477-92.

Ruppanner, L. (2013) 'Conflict between work and family: An investigation of four policy measures', *Social Indicators Research*, 110 (1): 327-47.

Ruzek, E., Burchinal, M., Farkas, G., Duncan, G., Dang, T. and Lee, W. (2011) *Does high quality childcare narrow the achievement gap at two years of age?* Evanston, IL: Society for Research on Educational Effectiveness.

Schumacher, R., Hamm, K. and Ewen, D. (2007) *Making pre-kindergarten work for low-income working families*. Clasp child care and early education series, Policy paper no. 1, Washington, DC: Center for Law and Social Policy.

Scrivner, S. and Wolfe, B. (2002) *Universal preschool: Much to gain but who will pay?* New York: Foundation for Child Development.

Shaul, M.S. (2000) 'Preschool education: Federal investment for low-income children significant but effectiveness unclear. GAO/T-HEHS-00-83, Washington, DC: GAO.

Shaul, M.S. (2003) Education and care: Head Start key among array of early childhood programs, but national research on effectiveness not completed. Gao-03-840T, Washington, DC: GAO.

Shore, R. (2009) *Prek-3rd: What is the price tag?* Policy to action brief No. 2, New York: Foundation for Child Development.

Shucksmith, M., Shucksmith, J. and Watt, J. (2006) 'Rurality and social inclusion: A case of preschool education', *Social Policy & Administration*, 40 (6): 678-91.

Shumow, L. (2008) *Academic effects of after-school programs*. Eric digest, Champaign, IL: ERIC Clearinghouse on Elementary and Early Childhood Education.

Soriano, D., Duenas, M. and LeBlanc, P. (2006) The short-term and long-term effects of Head Start education and No Child Left Behind. Paper presented at the *Annual Meeting of the Association of Teacher Educators*, Philadelphia, PA, August 2006.

Sylva, K., Melhuish, E.C., Sammons, P., Siraj-Blatchford, I. and Taggart, B. (2011) The Effective Pre-School, Primary and Secondary Education Project (EPPSE): A mixed-methods, longitudinal programme of research (1997-2013) Paper presented at the *British Educational Research Association Annual Conference*, Institute of Education, University of London, 6-8 September 2011.

Tarullo, L., Aikens, N., Moiduddin, E. and West, J. (2010) *A second year in Head Start: Characteristics and outcomes of children who entered the program at age three*. Washington, DC: Administration for Children & Families.

Taylor, B.A., Dearing, E. and McCartney, K. (2004) 'Incomes and outcomes in early childhood', *Journal of Human Resources*, 39 (4): 980.

Temple, J.A. and Reynolds, A.J. (2007) 'Benefits and costs of investments in preschool education: Evidence from the child-parent centers and related programs', *Economics of Education Review*, 26 (1): 126-44.

Wat, A. (2007) *Dollars and sense: A review of economic analyses of Pre-K*. Washington, DC: Pre-K Now, State and Consumer Initiatives.

White, L.A. (2011) 'The internationalization of early childhood education and care issues: Framing gender justice and child well-being', *Governance*, 24 (2): 285-309.

Willan, J. (2007) 'Delivering Sure Start in rural communities', *Early Years: An International Journal of Research and Development*, 27 (1): 19-31.