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A home-visiting programme for disadvantaged young children: Final report for the feasibility study

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Preface

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Executive summary

The earliest years of life are a crucial period for children's development. Experiences during these years can shape a child's life chances; while many social problems (such as deprivation, poor health and economic inactivity) have their roots in the first few years of life, interventions during this period can also have long-lasting benefits. Research from around the world shows that well-designed early childhood programmes, particularly those that target disadvantaged children, can promote healthier long-term development and help to mitigate inequalities.

These programmes can deliver benefits not only to participants, but also to the public purse. Better development in childhood is linked to long-term benefits such as greater attainment in school and later education, higher earnings, better health and lower levels of crime. This in turn can benefit the government through higher tax revenues and lower spending on programmes such as remedial education or welfare. Equally, intervening 'late' to address problems such as hospitalisations or crime is often a costly approach. In some cases, these financial benefits of and prevented costs from early intervention programmes have more than compensated for public spending on these interventions.

In England, the preschool years have received increasing funding over the past two decades. But the bulk of these resources are still targeted at children aged 3 and 4. At the same time, there is increasingly strong evidence that inequalities – in child development and in health – are already obvious by age 2 or 3. This means that programmes for 3- and 4-year-olds need to compensate for the gaps that have already appeared, and current evidence suggests that they are only somewhat successful in this.

The evidence for early intervention

There is therefore both a social and an economic case for earlier intervention to help improve the life chances of vulnerable children and to level the playing field for children entering formal childcare in England. Existing research points to programmes that support parents' interactions with their child as a particularly effective way to promote child development, with benefits that can last into mid-life.

But as it stands, there are big limitations in the UK evidence base that leave open questions about effectiveness, scalability and long-run value for money. Policymakers, including the Department for Education and the Education Select Committee, have recently highlighted the need for better evidence on how to promote a richer 'home learning environment' in the early years.

The feasibility of a new intervention in England

We have established a new partnership between academics, local government and early years practitioners to develop, implement and evaluate a home-visiting programme for parents with very young children in England.

We take as our starting point the 'Reach Up and Learn' curriculum, which has been shown to benefit children's development in many low- and middle-income countries. Reach Up focuses on providing parents with practical information and support to enhance their interactions with their child. In turn, this richer and more stimulating home learning environment supports children's development.

While this curriculum has been notably successful at improving child development abroad and has proven itself adaptable to a wide range of cultural contexts, there is no guarantee that the programme would be appropriate or effective in an English context.

In this feasibility study, we research local priorities and existing services to evaluate the need for a new early childhood intervention in England. We also outline how our findings influence the design, implementation and evaluation plan that we would use in a future trial of this programme. This will ensure that any eventual trial evaluates the most promising version of the programme and therefore offers the greatest contribution to the English evidence base. We set out to answer five questions:

1. What is the need for a new early childhood intervention in England?
2. How should the curriculum be adapted to the English context?
3. Who should the intervention target?
4. How should the intervention be delivered?
5. How could we measure the benefits of the intervention for children, families and the public purse?

Importantly, we do not provide any quantitative evidence about the effectiveness of the programme.

One of our priorities throughout this feasibility work has been to ensure that the programme is designed in a way that is *scalable*, *sustainable* and *cost-effective*. Although these are not immediate concerns for this project, it is important that the evidence any future trial contributes is based on a realistic model that can – if effective – be adopted at scale and evaluated not just for its effectiveness, but for its value for money.

Peterborough as a case study

The goals of this feasibility study are ambitious and achieving them requires knowledge of and strong relationships with the local community. We therefore focus on a single local authority to assess the feasibility (and, in future work, the effectiveness) of this programme.

Peterborough is a particularly appropriate setting to develop and test this programme. A city of about 200,000 in East Anglia, it faces many of the socio-economic risk factors (such as poverty and low pay) that threaten children's healthy development in disadvantaged communities all around England. Moreover, Peterborough City Council's exemplary commitment to developing and evaluating this programme is critical to the project's success.

Key findings

We use a variety of techniques to gather information from parents, practitioners, policymakers and researchers to answer the questions for this feasibility study. We have reviewed the evidence on the factors that contribute to previous successful home-visiting programmes and have held discussions with current practitioners. We have analysed local demographics and existing programmes. Through focus groups and interviews with parents, we have built an understanding of the existing strengths of local parenting practices as well as parents' needs and priorities. We have assessed different implementation models and conducted a five-week pilot programme with 20 families to

test the feasibility of delivering the programme and its acceptability to parents. And we have worked with leading researchers to develop a plan to evaluate a future trial of the programme.

Based on these activities, the findings of our study are clear:

- **There is a gap in services that a home-visiting programme targeted at very young children's development might help to fill.** At the moment, early years services in England are primarily targeted at children aged 3 and older, while inequalities in child development open up earlier. Services that are available for younger children tend to have relatively low take-up rates (like Children's Centres), to target outcomes other than child development (like health visiting) or to focus on specialist intervention in families where children are at risk (like safeguarding programmes).
- **Parents and practitioners in Peterborough are eager for such a programme and strongly motivated to take part in it.** Parents in both focus groups and our pilot study strongly supported the rationale behind a programme to support them in interacting with their children. Practitioners felt that the programme offers something different from existing services and would help them to support vulnerable families more effectively.
- **There is promising qualitative evidence of the programme's effectiveness.** Many parents in the pilot sessions reported improvements in their child's focus and behaviour over just a few weeks, motivating them to continue. Practitioners reported significant changes in parents' behaviour over the course of the short pilot, and in one case an early years worker who was unaware of the pilot reported significant improvements in a pilot family's parent-child interactions during a group session.
- **Undertaking a rigorous evaluation of the intervention via a randomised controlled trial within Peterborough is feasible and has strong support among both the council and local practitioners.** Through the collection and linkage of adequate data, such a study would make a substantial contribution to the evidence base on early intervention in the UK and internationally, by providing a unique opportunity to understand whether and how such an intervention can lead to both private and social benefits even in the short run.

Next steps

This feasibility study sets out the conclusions of a careful process to explore, document and analyse the local context in Peterborough and how a new programme could be best designed to complement existing strengths, address parents' needs and priorities, and support the home learning environment and child development. But without an evaluation, the crucial question – whether the programme is actually effective at improving children's life chances – remains unanswered. The next crucial step, therefore, is to carry out a randomised controlled trial to evaluate the programme's effectiveness and to support analysis of its cost-effectiveness.

Such an evaluation of the intervention would not only add to the international evidence base about the potential of home-visiting interventions to strengthen the home learning environment, but also provide policymakers with robust evidence on a promising intervention that can reduce developmental gaps between children born into disadvantaged backgrounds and their more affluent peers in England.

1. Introduction

Many social problems, such as deprivation, poor health and economic inactivity, can be traced back to children's poor education and lack of social development at an early age (Almond and Currie, 2011). Neuroscientists have found that brain growth is at its peak in early childhood, making this period particularly important for setting the foundation for healthy development later in life (Knudsen, 2004; Knudsen et al., 2006). During this period, however, many children – particularly those living in disadvantaged families – grow up in environments that can prevent them from developing basic social, emotional and cognitive skills, hindering their progress in school and preventing them from realising their full potential in life.

While risks in early childhood can have long-lasting effects, so too can intervention programmes targeted at this age group. Research from around the world has shown that well-designed early childhood interventions that target disadvantaged children can promote healthier long-term development (Cunha et al., 2006). Programmes that focus on helping parents to interact with their child have been shown to be particularly effective (Almond and Currie, 2011).

Well-designed early years interventions can deliver benefits not only to participants, but also to the public purse. Better development in childhood has been linked to long-term benefits such as greater attainment in school and later education, higher earnings, better health and lower levels of crime (Karoly, Kilburn and Cannon, 2005). This in turn can benefit the government through higher tax revenues and lower spending on programmes such as remedial education or welfare. In some cases, these financial benefits more than compensate for spending on the early intervention programme (Barnett et al., 2006; Anderson, 2008; Heckman et al., 2010).

Reflecting these findings, spending on children under the age of 5 in the UK has increased dramatically since the 1990s. But the vast majority of the early years budget is spent on children aged 3 and 4, through the free entitlement to funded childcare. At the same time, evidence from England shows that gaps in children's development have already opened up by age 3 (Goodman and Gregg, 2010), with inequalities based on neighbourhood deprivation already evident in the 2-year-old child health check (NHS Digital and Ofsted, 2017). Current policies are only somewhat successful in closing these gaps in development (Smith et al., 2014; Blanden et al., 2019).

Failure to intervene early to reduce inequalities and mitigate the risks to vulnerable children has impacts not only on affected children and families, but on society as a whole. The Early Intervention Foundation has estimated the cost of 'late' intervention – spending on acute services such as hospitalisation or incarceration – at £17 billion for England and Wales (Chowdry and Fitzsimons, 2016). Spending on special educational needs – which cost £1.4 billion in 2017–18, or around 5% of local authority education spending¹ – is not included in this figure. Even if children avoid these serious outcomes, there are social costs to children failing to achieve their full potential in life, including lower tax revenues and higher benefit spending. Based partly on these costs to the public purse, previous studies suggest that parenting programmes have the potential to be cost-saving in the UK in the long run (Stevens, 2014).

¹ Based on 2017–18 education spending reported in Section 251 returns.

A new intervention

There is therefore both a social and an economic case for earlier intervention to reduce these gaps and help level the playing field for children entering formal childcare in England.

However, there are substantial challenges associated with designing a new programme in a way that is scalable and sustainable in the long run. Local authorities already offer a set of services to young disadvantaged children; any new programme needs to complement – rather than replicate or cannibalise – existing ones. Moreover, while there is substantial evidence suggesting that early intervention can be a cost-effective means of supporting children's development, it is far from a panacea. Many early intervention programmes have had limited impact; this can even be the case when a programme shown to be effective in one country is implemented in a new context. Added to this, there are significant practical challenges to overcome in testing any new intervention.

In this project, we therefore carefully assess the feasibility of developing and evaluating a new early intervention programme for England.

We take as our starting point the curriculum from the 'Reach Up and Learn' (Reach Up hereafter) programme. This programme has been extensively evaluated, with multiple trials in Jamaica, Colombia and Bangladesh finding significant – and often long-lasting – benefits for children's development (Grantham-McGregor et al., 1991; Hamadani et al., 2006; Gertler et al., 2014; Attanasio et al., 2014).

At the core of the Reach Up programme is a curriculum focused on promoting children's development. By building the parent's knowledge of child development and confidence in playing and interacting with the child, the programme supports stronger parent-child interactions and a more stimulating home environment, which in turn promote children's intellectual and social development. The curriculum is delivered by trained home visitors through regular visits to children under the age of 2 and lasting for around two years.

The strong evidence base for Reach Up in a variety of cultural contexts makes it a promising candidate for improving the outcomes of very young children in England. However, it is clear from other early interventions that programmes cannot simply be transplanted, unchanged, from one context to another. Instead, they must be adapted to local strengths and needs, and must complement the existing network of services. This is particularly important in our case, since the English context is characterised by both higher incomes and a much higher baseline level of services than the countries where Reach Up has previously been implemented.

The objective of this study is therefore to answer the following questions:

1. What is the need for a new early childhood intervention in England?
2. How should the curriculum be adapted to the English context?
3. Who should the intervention target?
4. How should the intervention be delivered?
5. How could we measure the benefits of the intervention for children, families and the public purse?

Why Peterborough?

Implementing and evaluating Reach Up in the UK context requires deep knowledge of the local community and strong relationships with policymakers and existing early years practitioners. We therefore focus on a single local authority to assess the feasibility (and, in future work, the effectiveness) of this programme.

Peterborough is a particularly appropriate setting to develop and test this programme. A city of about 200,000 in the East of England, it faces many of the socio-economic risk factors (such as poverty and low pay) that threaten children's healthy development in disadvantaged communities all around the UK. Peterborough stands out for the developmental challenges of its young children. In experimental statistics linking outcomes from the Ages and Stages Questionnaire (ASQ) conducted between ages 2 and 3 to the Early Years Foundation Stage Profile at the end of the Reception Year, Peterborough was eleventh-lowest of 121 local authorities for the proportion of children meeting their development goals on the ASQ, with just 71% of assessed children achieving a good level of development.²

Peterborough City Council has an exemplary commitment to both developing and evaluating a new early childhood intervention to help promote children's healthy development. The strong support of the local council has been critical to the success of the feasibility study, and will continue to be essential to further developing and trialling the programme.

Although we use Peterborough as a case study for this feasibility work, our aim is to ensure that our findings are relevant to local authorities across England. Our work gathering information on the local context and incorporating that into the programme design can serve as a blueprint for other councils interested in adapting a new intervention to their local context. Even within Peterborough, we pay careful attention to how the programme can be designed for different communities, such as the large Pakistani community living alongside white British families.

This feasibility study

The aim of this study is to lay the groundwork for adapting and evaluating the Reach Up programme in England. We gather qualitative and quantitative evidence to support the design of the intervention's curriculum, the delivery model for the intervention and the plan for an eventual evaluation of a full-scale trial.

Working with local partners and making use of the common early years infrastructure across local authorities in England, we develop a delivery model that is not only practical for a full-scale trial, but also likely to be scalable both within Peterborough and across England. We have also focused on developing a model that would be sustainable in a context of well-documented pressures on public spending (Emmerson, Pope and Zaranko, 2019). This means exploring options to reduce the cost of the intervention, but it also

² Based on an average over the first three quarters of 2018–19. These statistics are classed as 'experimental' by the Office for National Statistics. Not all local authorities have prepared complete and valid submissions, and the share of children receiving an assessment may differ between local authorities. See Public Health England (2019) for further information. Note that 'good level of development' is defined as meeting the threshold on all five of the ASQ subscales; since this tool is primarily intended to catch children with developmental delays, these thresholds do not provide detailed information about the development of children who are not assessed to be at risk.

means rigorously evaluating the potential benefits of the programme. By collecting data on outcomes that are linked to costly government interventions – such as remedial education or social services – a future trial will be able to assess not only whether the programme benefits children and families, but also whether it delivers savings to the wider public purse.

The rest of the report proceeds as follows. We first briefly describe the various activities and analyses we undertook as part of this study. We then summarise our learning on each of the questions we set out to answer in this study, and discuss its implications for the design and experimental evaluation of the programme.

2. Methodology

The questions we set out to answer in this feasibility study are multiple and diverse in nature, and our aim was to answer them comprehensively by understanding and balancing the perspectives of all stakeholders. To this end, we use a wide variety of techniques to gather information from parents, practitioners, policymakers and researchers. In this chapter, we describe these different activities.

2.1 Review of the evidence

We performed an extensive review of the literature on early interventions and home-visiting programmes in particular to identify what is known about the design and implementation of early childhood interventions, as well as which questions remain unanswered. We complemented our own reading of the literature by commissioning the Early Intervention Foundation (EIF) to produce a review of the literature with a focus on the implementation and evaluation of home-visiting interventions and highlight best practices. Given the time and resources available, a full systematic review was not possible, so instead the EIF drew on its existing reviews and the wider prevention and implementation sciences literatures.³

We also aimed to learn from the previous experiences of organisations that provide parenting and home-visiting programmes in England. We held extensive discussions with Action for Children (to discuss its *Family Partners* programme), Parents as First Teachers, and the Parent-Child Health Programme. Our discussions were wide-ranging: the organisations shared their experiences with recruiting families and keeping them engaged and with staffing an intervention team; they also discussed their experiences in scaling up their programmes and gave us insight into how commissioning priorities can shape the content of an intervention.

2.2 Analysis of the local context

To support the adaptation of the curriculum and the development of a delivery model, one of our priorities was to build a detailed understanding of the local context in Peterborough taking into account both the characteristics of its residents and the local services on offer.

Peterborough City Council provided us with a wide range of socio-economic data on its neighbourhoods, including information on local demographics, household composition, labour market outcomes, childcare availability and take-up, health and healthcare, material goods, safeguarding, and child outcomes.⁴ We analysed data both for the city as a whole and for its most disadvantaged neighbourhoods (defined as those in the bottom 25% of national deprivation rankings). A summary of this analysis is available in Appendix A.

³ This report is available from the authors on request.

⁴ Most of these data are aggregated at either the ward level (roughly 8,000 residents per ward) or the level of the lower layer super output area (LSOA; approximately 1,700 residents).

In order to design a programme that would integrate well within the existing network of services, it was important to develop a comprehensive overview of what is currently on offer. We engaged in extensive discussions with the staff at Peterborough City Council, local Children's Centre providers, schools, public health teams and parents to map out existing services for children, their target population, their aims and their take-up.

2.3 Focus groups with local parents

We held five focus groups (lasting around an hour each) as well as one interview with local parents to give us a stronger sense of local parenting practices, parents' knowledge about child development and their views on the proposed intervention. We asked about parents' desire for a home-visiting programme and what form would be most desirable (e.g. professional visitors versus volunteers; weekly visits versus fortnightly; home visits versus group visits; starting and ending ages for the intervention).

While always focusing on relatively disadvantaged families, we aimed to gather the views of a range of families and to reach out to parents from diverse ethnic backgrounds and to parents who are more or less engaged in early years activities in Peterborough (and hence may be more or less responsive to the proposed intervention). Two of the focus groups were held in local Children's Centres; one was conducted in a young parents' group; one was held with Pakistani mothers with children attending a preschool who also had younger siblings at home; and the last was for fathers. The individual interview was conducted with a father visiting the food bank.

2.4 Pilot sessions with local families

As a proof of concept of the curriculum adaptation, delivery model and data collection plan, we carried out a pilot of the programme in Autumn 2018. We aimed for this short pilot to offer five weeks of home visits to 20 families with children in one of four age groups: 7–9 months, 14–15 months, 20–22 months and 26–28 months.

Curriculum adaptation

For the feasibility stage, our primary interest was in remaining fairly faithful to the original curriculum (which has delivered benefits elsewhere) and testing how appropriate it is to the Peterborough context. Our adaptation focused on updating the language in the curriculum plan to fit in the UK early years context (e.g. changing 'mothers' to 'parents'; softening some of the language; and removing some 'Americanisms'). We also incorporated popular songs, especially those already used in Children's Centres.

We also adapted the resources to the local context – for example, by identifying the key developmental features of each toy and sourcing potential local versions. One of the goals of our feasibility study was to test whether bought or home-made toys would be more acceptable and cost-effective in the Peterborough context. Accordingly, for several of the resources, we developed both home-made and bought versions.

Delivery partners

For the pilot, we selected two delivery partners from the organisations that responded to our call for Expressions of Interest. These were Barnardo's and Spurgeons, two children's

charities with a national and a more local profile respectively. These two organisations are commissioned by Peterborough City Council to run the Children's Centres in Peterborough and have significant experience in delivering services for vulnerable families, including in some cases home-visiting programmes.

Recruitment

Due to the time and resource constraints of the pilot, the two delivery partners, Barnardo's and Spurgeons, primarily recruited families that were already known among their networks. This meant that several of the families were already accessing Children's Centres, though providers approached families where parents were not engaging fully in sessions or where they observed that there was limited interaction between parents and children during group visits. Other families were identified through family support workers based at the Children's Centres.

Families were told about the programme through an initial conversation with the delivery partners and were given materials such as the participant information sheet and privacy policies. If keen to participate, families then had an initial visit from their home visitor and one other trained staff member (usually another home visitor). Working with our delivery partners, we identified that this initial visit was essential to carry out a risk assessment of the family's home before a home visitor could visit alone. The parent also gave their consent for the pilot project at this stage.

Home visits

Following this initial risk assessment visit, families received weekly visits over the next five weeks from their designated home visitor. Each visit was intended to last for approximately an hour, though home visitors reported that most visits lasted closer to 45 minutes. At each visit, the visitor used one of the visit plans from the curriculum. Visits would start with a few minutes of chatting with the parent while the child explored one of the toys that the visitor had brought. The visitor would then introduce the activities for the visit, which often included language activities, songs and books. At the end of the visit, the visitor would ask the parent to recap the activities for the week to come and would confirm a time for the next visit. Prior to each visit, the home visitor would contact the families by phone or text (depending on their preferences) to reconfirm. Each family also received one visit that was supervised to assess fidelity to the curriculum, the quality of relationships between parents and home visitors, and the appropriateness of the supervision framework that has been adapted from previous interventions. The two supervisors were members of the project team based at Peterborough City Council.

Feedback

We collected feedback during and after the pilot sessions, with the aim to better understand families' and home visitors' experiences of the programme and to capture their suggestions to improve it going forward. We carried out three types of feedback activity:

- **A short survey with pilot session families.** This asked each family to rate their experience with the programme overall as well as with specific aspects such as toys.
- **A semi-structured interview with pilot session families.** The interviews covered topics such as the relationship between the parent and the home visitor, parents' use of the activities outside of the visits, and the acceptability and perceived usefulness of the

programme. We also asked questions on topics related to the programme delivery – for example, how straightforward it was to schedule the visits and which types of toys (bought, made or own toys) the families preferred.⁵

- **A semi-structured interview with each of the home visitors.** The debriefing interview gave each visitor a chance to share their feedback with the project team. Home visitors were encouraged to share their thoughts freely, but the interview also incorporated prompts on issues of particular interest to the project team (e.g. whether and how they had to adjust the curriculum to be appropriate for the child's level of development; what strategies they developed to help keep families engaged, and what risks they noticed for families disengaging; and what kinds of characteristics the more engaged or more resistant families had).

2.5 Developing an evaluation plan

Trial design

Our feasibility study is meant to lay the groundwork for a potential future randomised controlled trial of the intervention that evaluates its impacts on children and families. Using other home-visiting interventions as a benchmark to determine plausible impact sizes from our intervention, we performed power calculations to assess the minimum number of children that would need to participate in the trial to robustly assess the intervention impacts.

Data collection

The goal of this trial would be to measure the benefits of the intervention on children's and parents' outcomes, as well as any short-term social benefits realised from avoided costs on remedial educational and social services.

All of these questions impose substantial data collection requirements. For many of the concepts that we wish to evaluate – such as cognitive ability – there are many scales and instruments available, each of which draws on a slightly different set of respondents' skills. As part of the feasibility study, we consulted with experts within our team as well as with commissioners and other academics to put together a draft data collection plan (discussed in Section 6.2). In choosing instruments, we sought to balance academic experience of which instruments work particularly well (or less well), and a policy perspective on which measures are considered widely understood 'benchmarks' by commissioners and other practitioners. We also developed a draft plan for collecting implementation data, such as visit logs or referral data.

As part of the pilot, we also trialled our data collection plan. The purpose of this trial was not to seek evidence of impact from the pilot visits themselves; rather, we wanted to understand how time-consuming the different elements of the data collection plan are for home visitors and families, and how easily parents understand what data they are asked to provide.

We also asked the main carer for their consent in principle to take part in a direct assessment of their child (conducted by a trained psychologist or paediatrician) and to link

⁵ The topic guide for this interview is available from the authors on request.

their child's administrative records to their survey data. For the pilot, time and resource constraints meant we did not actually carry out either of these activities; however, it is informative to test the acceptability of them through collecting consent in principle.⁶

⁶ In line with ethical requirements, we informed participants that the linkage would not actually be carried out via a short paragraph in the privacy policy; otherwise, the documents stressed that we were asking families to 'agree to let us match your information to other data' and 'agree to let us link to your child's hospital and school records', which is in line with the wording that we would use in a full trial to obtain consent for a genuine linkage.

3. Assessing the need for a new early intervention

In this feasibility study, we gather information on the existing landscape of early years services in Peterborough. We also use focus groups with local parents to understand their needs and priorities, and whether there is demand for a new programme such as the one we are proposing.

We also draw on existing research on early intervention, home-visiting and parenting programmes to assess the existing evidence base for early years programmes in England.

3.1 A gap in early years service provision

Most early years education spending is targeted at children aged 3 and 4

England offers a range of health and education programmes for children under the age of 5. Midwifery services during pregnancy and shortly after birth, and health visiting services in the first few weeks of life, are available to all through the National Health Service (NHS). These programmes aim to support maternal perinatal and postnatal health and to screen for any development problems in the child, respectively.

Since the 1990s, England has strongly increased its level of spending on education services for the under-5s (OECD, 2015). However, within this age group, most spending has been targeted at children aged 3 and 4 through spending on free childcare places.⁷ Spending on services that target children under the age of 3 is a small share of the government budget for the early years. It includes funding for the 2-year-old entitlement for the 40% most disadvantaged, and funding for Children's Centres, which has fallen significantly over the last decade (Stewart and Obolenskaya, 2015; Belfield, Farquharson and Sibietta, 2018).

Children with additional or more complex needs can access targeted services and are offered an early help assessment to identify the services that can best offer support. The nature and intensity of such services are decided on a case-by-case basis. When there are more complex needs, a specialist assessment can help to identify specialist services, which are often summarised in a Child in Need (CIN) plan. Finally, safeguarding concerns – where there is reasonable cause to suspect that a child is suffering or likely to suffer significant harm – trigger a more intensive safeguarding process, which can result in a Child Protection Plan (CPP). In Peterborough in May 2019, for example, there were 87 children under 5 with CIN status and 78 on a CPP (this is approximately 5.4 CIN cases and 4.9 CPP cases per thousand children in this age group).

There are many domains of need that can trigger an early help or specialist assessment. In Peterborough, the most common triggers for families with children aged 0–5 are developmental delay, behavioural problems at home and concerns about parenting (such as difficulty setting routines or boundaries). Early help assessments are also required to access the Early Support Pathway for children with complex needs; triggers such as

⁷ All 3- and 4-year-olds in England are entitled to a funded part-time childcare place. In addition, since 2017, children with working households are entitled to a full-time place (30 hours per week). Two-year-olds in disadvantaged families have been entitled to a free part-time place since 2013.

seeking an ADHD or Autism Spectrum Disorder assessment are therefore important as well. Children's Centres in Peterborough offer a targeted family support service, with a large proportion of referrals coming through early help assessments or higher levels of safeguarding such as CPPs. When developmental delays and parenting concerns trigger an early help or specialist assessment, the local authority sometimes refers families for parenting support. These programmes can be intensive but they are usually very short in duration (a few weeks). An example is the Webster-Stratton Incredible Years programme, which involves one-hour positive parenting classes for five consecutive weeks.

Both practitioners and parents see a need for earlier intervention

Despite the comprehensive network of services for vulnerable children under the age of 5, gaps by socio-economic status in children's development are large by the time children enter school. In 2018, just 57% of children eligible for free school meals achieved a 'good level of development' on their Foundation Stage Profile assessment at age 5, compared with 74% of other children.⁸ In fact, there is much evidence suggesting that these gaps open up a lot earlier. Administrative data find that only 86% of children in the most disadvantaged 10% of neighbourhoods reach a good level of development by 2½, compared with 94% in the least deprived 10% (NHS Digital and Ofsted, 2017). Goodman and Gregg (2010) show that gaps in cognitive skills are already substantial by the age of 3; Black et al. (2017) show that deficits in cognition and executive function are present among poor infants well before the age of 1.

In England, the available evidence on existing early years programmes – to date, mostly on the free entitlement policy – suggests that the large increase in early years spending over the past 15 years has not been able to close the gaps in child development that open up in the earliest years: the provision of early education for 3- and 4-year-olds through the free entitlement policy is only marginally effective in overcoming these inequalities in England (Blanden et al., 2019). Sure Start can reduce hospitalisations among disadvantaged children during primary school (Cattan et al., 2019), but the existing evidence on the impacts it has on other domains of child development is limited and mixed.⁹ In any case, take-up of Sure Start services is low, limiting their potential effectiveness on a national scale (Smith et al., 2014).

This evidence reconciles well with the qualitative evidence we gathered on practitioners' and parents' views of the proposed intervention. Both council and local practitioners see a clear need for a programme that targets children well before they enter nursery. They are concerned with the fact that children growing up in the most disadvantaged families enter nursery with substantial developmental delays and are well aware of the challenges that nurseries, even high-quality nurseries (ranked Good or Outstanding by Ofsted), face to help these children catch up with their more affluent peers before they enter school.

⁸ See table 1 of the 'additional tables' accessed at <https://www.gov.uk/government/statistics/early-years-foundation-stage-profile-results-2017-to-2018>.

⁹ The National Evaluation of Sure Start conducted in the early 2000s suggested that living in an area with a Sure Start Local Programme (SSLP) had very small effects on child development at age 3 and no effect at all beyond age 5 (National Evaluation of Sure Start, 2008 and 2010). Since then, the programme has undergone important changes and the subsequent Evaluation of Children's Centres in England found that consistent or long-term use of Children's Centres is associated with benefits for some dimensions of child development, but also many null effects (Sammons et al., 2015).

Both parents and curriculum experts felt that the programme would deliver the most value a few months after birth. Existing services (such as health visiting) offer parents support with the first few months of life, and previous evaluations of Reach Up have (successfully) started at around six months.

***'[The programme would be most useful] when they get to a couple months old, because when they start doing things, that's when you need the guidance of what you can do with them.'* (Focus group mother)**

***'I think when they are about 6 months. Because then they start learning new things, don't they.'* (Focus group mother)**

In addition to discussing the need for a new intervention with practitioners, we also asked parents living in Peterborough whether they saw a need for additional parenting support. Throughout the feasibility study, parents have made it very clear that they believe that there is a real need for a parenting programme in Peterborough and that they would be highly motivated to engage with it.

The strongest motivation for parents seemed to be learning new activities – or getting reassurance about activities they are already doing – that would, through improving and supporting their parenting skills, help their child to develop. Parents felt that there was a lack of reliable information about child development and welcomed the opportunity to get support that they viewed as highly trustworthy and tailored to their own child's development. Some parents also valued having regular personalised support starting shortly after the birth of their child, a time when parents are particularly vulnerable to feeling lonely and overwhelmed.

Home visiting is a promising mode of delivery

There are several reasons to believe that home visiting is the most promising mode to deliver an early childhood intervention that addresses the gaps in current provision of early services described above and effectively promotes the development of vulnerable children.

In England, low take-up rates of services such as Sure Start Children's Centres, despite outreach efforts from the centres, suggest that there are communities of parents who are not comfortable attending a group-based setting. This has been confirmed through our focus groups and interviews with practitioners and parents. These harder-to-reach families might also be particularly vulnerable to isolation, poverty, mental ill health or other challenges. With some exceptions, the existing UK service offer focusing on child development generally operates on a more demand-led model. A home-visiting programme can help to break down some of the barriers these families might face to accessing services.

Even when the intervention involves a prescriptive curriculum, the home visitor maintains some leeway over the nature and difficulty of the educational activities she performs with

the child. Home visiting can therefore allow the intervention to be delivered in a more personalised or targeted manner than would be possible with a group session.

A final advantage is that home visiting is conducive to the formation of a relationship of trust with the family and has the added benefit that sessions can be more easily scheduled around the family's sometimes chaotic schedule. These are crucial to keep the family engaged in the programme for a long period of time, which in turn is key for the success of the intervention.

3.2 A gap in the evidence base

A large literature evaluates and discusses the effectiveness of home-visiting programmes (see reviews by Gomby, Culross and Behrman (1999), Kahn and Moore (2010), Axford et al. (2015) and Asmussen et al. (2017)). Collectively, the findings suggest that home-visiting interventions are a promising form of early intervention, but there is considerable variation in the benefits that they achieve. With the exception of a few model interventions, such as the Perry Preschool Program and the Abecedarian Project, which were implemented in the US over 30 years ago and for which both private and social benefits have been evaluated, evaluations of more recent interventions only rarely discuss the scalability and financial sustainability of the intervention. This is an important gap in the literature, if scientific evidence is to back policy action.

The EIF review commissioned for this feasibility study highlights that effective home-visiting programmes are distinguished by specific targeting, high fidelity, high intensity and a highly skilled workforce. The most effective programmes target the most vulnerable families and intervene for a year or longer, with visits occurring weekly or even more frequently. The EIF review also found that group interventions for disadvantaged families face a number of logistical challenges (which are discussed in greater detail in the Family Nurse Partnership group trial (Barnes and Stuart, 2016)).

Despite the growing number of high-quality evaluations of home-visiting interventions, the evidence base for programmes in the UK is still incomplete. Axford et al. (2015) recently highlighted a pressing need 'to determine the key features of effective practice [of home-visiting interventions] and how to deliver these in wide replication'. In 2018, the Department for Education listed the need to better understand how 'improvements in the home-learning environment [can] mitigate the effect of disadvantage on pupils' attainment' as a cross-cutting area of research interest. And in early 2019, the House of Commons Education Committee recommended that 'the Government commission research on interventions to support effective home learning environments'.

While there have been many evaluations of other home-visiting programmes in higher-income countries, much of the existing evidence is based in the US, which has a very different standard of care-as-usual. This means that extrapolating from the US to the British context is difficult. There have been a handful of home-visiting programmes evaluated by randomised trial in the UK and Western Europe.¹⁰ However, these

¹⁰ Randomised controlled trials are considered the most reliable method for evaluating new interventions, since they allow researchers to compare the outcomes of the group that receives the intervention with those of a control group that should, on average, be identical to the treatment group in all respects except the receipt of the intervention.

programmes differ from our proposed intervention in their age group, delivery model, targeting and/or curriculum. For example, the Family Nurse Partnership – one of the best-known and most rigorously evaluated home-visiting programmes – targets young, first-time mothers. By contrast, our proposed intervention will be targeted at a broader set of vulnerable families (we discuss eligibility in Section 5.1) and start after pregnancy.

To our knowledge, this project is the first to design and – in future work – implement and evaluate by randomised controlled trial a home-visiting intervention targeted at disadvantaged children starting at around 6 months. Although our proposed intervention differs in several dimensions from previously evaluated programmes, Appendix B emphasises that we are targeting an under-served age group: too old to benefit from regular visits through postnatal services such as health visiting, but not yet old enough to be eligible for childcare or preschool and associated support programmes.

As part of this feasibility work, we evaluated potential implementation models with an eye to how they would affect the scalability and sustainability of any eventual intervention. This included considering: the *replicability* of the curriculum and its implementation in other British communities; the *feasibility* of delivering it at scale across a range of local authorities; and the *cost-effectiveness* of the model, including how it leverages existing knowledge and resources in the early years. This focus on the scalability and sustainability of the eventual intervention is also reflected in our evaluation plan. As we discuss further in Chapter 6, the goal of the evaluation would be not only to measure the impact of the intervention on child development, but also to measure its impact on the public purse.

4. Developing the curriculum for the UK context

4.1 Why the Reach Up curriculum?

The programme that we are developing is adapted from the 'Reach Up' early childhood parenting programme. The intervention aims to support parent-child interactions and help parents to provide a happy, safe, stimulating home environment for their child to grow up in. During regular visits, home visitors follow a structured curriculum for each session, demonstrating activities and modelling appropriate language and play skills for the parents to follow.

Reach Up is based on the highly successful Jamaican home-visiting programme. Developed in the 1970s and 1980s, the programme has been shown to have large and persistent benefits for disadvantaged groups on a range of developmental and socio-economic outcomes. A number of evaluations all found short-term benefits to children's cognitive and language development with moderate to big effect sizes.¹¹ Furthermore, maternal knowledge of child development and the quality of stimulation provided in the home improved in almost all studies and symptoms of maternal depression improved in some.

More recently, longer-run follow-ups have found that the benefits from Reach Up can persist into adulthood. In one trial, stunted children in Jamaica aged between 9 and 24 months were randomised into the two-year programme and compared with both a stunted control group and a non-stunted matched comparison group.¹² The most recent follow-up, at age 22, found that the intervention had increased average earnings by 25% relative to the stunted control group, and the stunted children who received the intervention had caught up to the non-stunted comparison group in terms of earnings (Gertler et al., 2014). The programme participants were also less likely to be involved in violent behaviour and had a higher IQ and higher educational attainment, better social skills and general knowledge, and fewer symptoms of depression (Walker et al., 2011).

Given that the intervention has been developed and adapted to only developing country contexts, it is legitimate to raise the question of whether the intervention is suitable for a developed country such as England.

There are several reasons why we believe Reach Up is a particularly promising intervention to adapt to the UK context. First, Reach Up is a curriculum that has been designed to be primarily delivered through home visiting. As discussed in Chapter 3, home visiting seems more appropriate than group-based or centre-based interventions to address the particular gaps in early years services provision in England.

¹¹ See Grantham-McGregor and Desai (1975), Grantham-McGregor, Stewart and Schofield (1980), Powell and Grantham-McGregor (1989), McDonald, Grantham-McGregor and Chang (1989), Grantham-McGregor et al. (1991), Meeks Gardner et al. (2003), Hamadani et al. (2006) and Nahar et al. (2012).

¹² 'Stunted' is a medical term referring to impaired growth and development from poor childhood circumstances. Children are defined as stunted if their height-for-age is more than two standard deviations below the World Health Organisation's Child Growth Standards median.

Moreover, Reach Up has a very strong existing evidence base for improving children's development in both the short and longer runs. It shares some of the characteristics of the most successful home-based interventions in developed countries (Gomby, Culross and Behrman, 1999; Kahn and Moore, 2010): it is intensive, and implemented with frequent, regular visits over a sustained period.

The Reach Up and Learn programme

The Reach Up programme's ultimate aim is to improve child development – primarily cognitive or school-related, but also social and emotional. It does this by fostering a stronger relationship between parents and their children. The focus is on providing parents with support and information to help them incorporate activities that promote child development into their daily lives. For example, regular trips to the grocery store or doing the school run for older siblings provide a chance for parents to engage their child in conversation about the world around them and link them to other activities: 'Do you hear that dog barking? We saw a dog in our book last night!'.

Since parents are with their children for a much greater share of time than the home visitors, the impacts on child development will come mainly through parents' activities. This means that it is essential for parents to engage with the material in the home visits and apply it to their own routines with their child. During the visits, the home visitors offer support and encouragement not just to the child but also to the parents, and each visit includes time for the parent to do the activities with their child.

Session plans

The Reach Up programme is structured around regular home visits, which in turn are structured by session plans. Each session plan outlines a set of activities for a visit, as well as the resources that are needed. Most visits involve just one or two toys and books, which can be rotated between families.

Each visit starts with a few minutes of chatting with the parent while the child explores one of the toys that the visitor has brought. The visitor then reviews the activities from the previous week, giving the child and parent a chance to 'show off' their progress and allowing the visitor to identify any remaining challenges. The visitor then introduces the activities for the visit, in each case giving the child time to explore the toy before doing the activity with the child and then encouraging the parent to take over. The visits often include language activities, songs and books. At the end of the visit, the visitor asks the parent to recap the activities for the week and, where possible, to demonstrate them with the child.

While the session plans themselves are quite structured, visitors are trained and encouraged to adapt the curriculum to the needs of the individual child. For example, if the visit plan calls for a child to stack three nesting cups, the visitor might bring along a fourth cup as well if the child is likely to find this too easy. Similarly, for a child who is struggling, the visitor might give the child only two cups to make the activity easier.

Reach Up also stands out for its history of adaptability: it has been successfully adapted to and evaluated in at least four different countries, and there are ongoing projects in several others.¹³ This strongly suggests that the programme is adaptable and relevant in a range of cultural contexts, not just the Jamaican setting it was originally conceived in.

Perhaps key to its success is the flexibility that the curriculum leaves to the implementers to design a delivery model that best fits the nature and needs of each new context. For example, Reach Up does not dictate who should deliver the intervention. In its history of adaptation, the programme has been successfully delivered by home visitors ranging from community leaders with no child development background to professionals with specialised qualifications.

While different models of Reach Up have been used successfully around the world, these have been carefully chosen with regard to the local context. For example, a decision on who should deliver the programme must take into account the local supply of potential visitors and their skills, as well as local preferences (e.g. in some contexts, families have greater respect for trained visitors; in others, parents find it easier to establish a trusting relationship with local community leaders who they already know). Similarly, starting age, visit frequency and the choice between home and/or group visits all depend on a nuanced understanding of the existing local programmes and parents' willingness to engage at different times and in different places.

Moreover, although the programme aims to help children at risk of developmental delays, Reach Up does not dictate a priori which children should be targeted (in contrast to, for example, the Family Nurse Partnership, which targets children of first-time, young mothers). This, again, is to be decided on a case-by-case basis in order to define the group of children who can benefit the most in the particular context.

4.2 Curriculum resources

The toys, books and resources that support the Reach Up curriculum activities are an essential part of the programme. These are not necessarily specialist resources – many of the toys, such as wooden blocks or plastic mirrors, are readily available. But the resources nevertheless have important features that are necessary for them to promote children's development. For example, stacking cups need to be shaped and sized so that a child can feasibly pick them up and complete the stacking activity.

One of the biggest adaptation decisions is where to source the programme's toys and play materials from. In previous trials, resources have often been made out of common materials such as plastic bottles and string; this helps to keep costs low in developing countries and affords the research team a great deal of control over the resources. As part of the feasibility study, we investigate whether these made resources would be adaptable, acceptable and feasible for use in the English context, or whether shop-bought toys might be more appropriate.

¹³ Reach Up has been evaluated in Jamaica, Bangladesh, Peru and Colombia. There is ongoing work to adapt it for and evaluate it in Brazil, Guatemala, Bolivia, Jordan refugee camps, Turkey, India, Madagascar, Zimbabwe and China.

Through the focus groups and the pilot sessions, we found mixed preferences over made versus bought toys. Some parents told us they liked the idea of making toys themselves (or with their children) as an arts and crafts project. Others felt that bought toys would be safer and more recognisable.

In the pilot sessions, we attempted to use a mixture of made and bought toys. However, we encountered several challenges with the made toys:

- Making toys was highly labour-intensive. Preparing home-made materials for the 20 pilot families took about 60 hours of work. For the pilot sessions, members of the project team and their friends volunteered to make the resources; however, in a full trial or at scale, this work would need to be paid.
- Made toys would require significant adaptation to meet British health and safety standards, and in many cases these standards might be impossible to meet. Risk assessments of the play materials and made toys conducted by our delivery partners found that many of the resources could not safely be left with families.
- Parents in the pilot sessions expressed some concerns about the made resources. Parents felt that their children had better shop-bought toys already available at home. For example, one pilot session parent found the made toys ‘a bit cheap or flimsy or not quite set for purpose ... the idea was there, it needs better materials’.

One major difference from the developing country contexts where Reach Up has previously been adapted is that families in Peterborough often have quite a few toys at home already. Table 4.1 presents data collected at the first visit of the pilot on the availability of different types of toys in families’ homes. Of the 20 pilot families, all or almost all have blocks, balls, teddies or dolls, noise-making toys and push-along toys at home already.

Table 4.1. Availability of different types of toys

Toy	Owns	Of which: favourite
Blocks	17	2
Balls	17	11
Teddies/dolls	20	10
Noisy toys/instruments	20	9
Action figures	9	2
Cars/trucks/push-along toys	17	5
Acting-out games	7	1
Puzzles	11	2
Nesting toys	10	3
Art materials	14	3

Note: Data were gathered from 20 pilot families during their first home visit. Excludes materials provided through the programme. ‘Favourite’ toys are reported by parents.

Not all of the toys that families already own will be suitable for the Reach Up activities. However, the project team has identified the key attributes of each type of toy. With thorough training on which attributes are most important, the home visitors may be able to work with families to identify opportunities to substitute their own toys for the existing resources. This would reduce costs and enable parents to continue the activities over a longer period (since they would not need to return the resources after a week) and might also be popular with parents. When deciding on a model for the programme resources, we will need to think carefully about balancing between cost, acceptability and programme fidelity.

***'I think it was easier to do our toys because her toys were taken back.... The idea of getting them used to toys and then having to take them is a bit crushing.'* (Pilot session parent)**

***'If parents [of toddlers] have appropriate resources I feel it is more beneficial to use their own toys as they seem to respond better to familiar toys. Babies seem happy to explore new resources.'* (Home visitor)**

Other supporting resources could help

Several home visitors used their own initiative to bring families additional resources and information sheets from the Children's Centres. For example, home visitors brought leaflets about child development (ages and stages). Several visitors also brought songbooks to help parents remember the words to songs throughout the week.

Several visitors felt that parents would benefit from having a written reminder of the materials and activities for each week – for example, a 'prompt card' that could be left with the family or text messages sent by the visitor to the family.

4.3 Visit content

The programme structure is effective

Home visitors commented that the overall structure of the curriculum worked well, with a good degree of (useful) repetition. However, home visitors suggested a greater role for books in each of the sessions. They also commented that songs seemed to be a highlight during the pilot sessions (especially with younger children).¹⁴

***'I feel the format works well – having an activity, talking about language, songs and a book.'* (Home visitor)**

¹⁴ Interestingly, parents in the focus groups were sometimes wary and unenthusiastic about the idea of including songs in the sessions. This contradiction highlights that preferences will differ, both between parents and – potentially – between different environments. Our adaptation work is based on common preferences and priorities of parents in Peterborough. At the same time, no curriculum can perfectly suit all families, so Reach Up home visitors are trained both to encourage parents to give new activities a try and to take a realistic view of what is appropriate for a given family. This point is discussed more in Section 5.3.

***'[There is] some repetition in some of the visits – bath time, language – but I don't feel this is a bad thing as it reinforces the learning for parents.'* (Home visitor)**

***'[It would be good to see] a book for every visit, preferably a board book.'* (Home visitor)**

Although visits were typically scheduled for an hour, in most cases – especially with younger children – they lasted closer to 45 minutes. The shorter visit time had a variety of causes, such as parents not being ready exactly at the scheduled start time. However, even when visits did start on time, the home visitors found that visiting for a full hour was often too long. If they pushed much longer than 45 minutes, they found that they struggled to keep the attention of the parent and child.

Going forward, the project team will need to develop guidance on how to navigate visits that seem to be coming to a natural end like this. It will also be important to consider how to prioritise activities within the visit to ensure that, if it is not possible to get through all of the activities planned, we are making an active decision on which activities are the most important.

The programme scheduling also seemed to work well. Because the home visitors during the pilot were employed by the delivery partners and had a set schedule of working hours, visits had to be set during their working day (not, for example, at weekends). However, this did not seem to be a problem – most of the parents in our pilot were at home during the day and were able to identify a day and time that worked for their schedule.¹⁵

Explicit links to the EYFS will help home visitors

One of the key aims of the curriculum adaptation is to tie the Reach Up programme into the existing network of early years practice in England. A key component of this is the Early Years Foundation Stage (EYFS) curriculum, which sets out developmental milestones for preschool-age children. Early years services in England explicitly aim to improve children's outcomes as assessed by the EYFS framework, and early years practitioners – for example, in Children's Centres and preschools – are well-versed in its aims.

Our Steering Group and our pilot home visitors strongly suggested that we make explicit the EYFS learning aims that each curriculum activity contributes to. Linking the activities in our curriculum to the EYFS outcomes that they support will boost the acceptability of our programme among the local community of service providers. It will also make it easier to tie our programme into evaluation mechanisms that already exist, such as a number of online assessment programmes and learning journals (e.g. Tapestry) that are already widely used.

Linking our activities to EYFS objectives will also help our home visitors to explain to parents the purpose behind specific activities. While our home visitors were knowledgeable about and experienced in child development, two commented that they

¹⁵ Because one of our targeting criteria is predicted eligibility for the 2-year-old free childcare offer – which is based on family income – most of the primary caregivers in our target populations are not likely to be in full-time work. Eligibility criteria are discussed in more detail in Section 5.1.

sometimes struggled to explain to families *why* and *how* a particular activity might benefit their child, and which aspects of development it targets. Our home visitors felt that having links to a well-understood set of outcomes would take the 'guesswork' out of these conversations.

The curriculum must be friendly to non-native English speakers

Peterborough is ethnically and linguistically diverse. Across the city, just 51% of children receiving the free entitlement to childcare are white British or Irish; a further 18% are from elsewhere in the EU, and 18% are Asian, predominantly Pakistani. Despite this, 86% of children aged 3–15 speak English as their main language (although this might not be the case for their parents), but the most vulnerable parents often have low levels of proficiency in English. From speaking to existing practitioners in health visiting and family support as well as researchers at the Early Intervention Foundation, it is clear that no one has developed a perfect solution to meet these families' needs.

One common practice, particularly among health visitors, is to use paid interpreters to translate the visits. However, this is costly, and health visitors report they struggle to make a connection with parents when communicating through a professional interpreter. There might be a role for paid or volunteer interpreters to attend visits, particularly towards the start of the programme when explaining the programme aims and obtaining families' consent. Other family members might also be suitable interpreters (since most of the information being discussed is not confidential); however, there is a tension between scheduling the visits at the most convenient times for parents and home visitors (which seem to be during the day) and scheduling them when other family members are home from work/school.

Obviously, combining skills in home visiting with skills in the home language is an ideal solution. However, existing organisations have found it difficult to identify enough staff meeting these criteria. Discussions with the council suggest that there may yet be an untapped group of immigrants who have substantial experience in early years services (and often qualifications from their home country), but are excluded from the UK early years workforce because of their lack of formal UK qualifications. Because there is no legal requirement for our intervention to be delivered by UK-qualified home visitors, we might have better success than other programmes in recruiting some of these people.

Where home visitors are not bilingual, it will be important to emphasise non-verbal ways of communicating in order to successfully reach families with limited English. For example, demonstrating a game or activity with very simple verbal explanations is clearer than providing a long verbal explanation. Much of this is already incorporated in the Reach Up curriculum – there is a strong emphasis on practising the activities, and 'sharing' rather than 'reading' books – but this will be an important principle to keep in mind as we further adapt the curriculum. During the pilot sessions, home visitors reported that they were able to deliver the programme effectively to families where the main caregiver spoke some English but had a different main language.

Families want fathers to be engaged

The original Reach Up curriculum is designed primarily to engage with the child's main caregiver. As discussed above, one of the aspects of adapting this curriculum to the UK context is to ensure that the language in the curriculum is gender-neutral, to avoid alienating families where the father is the main carer.

***'That's the assumption – mum and baby. Well, I would be involved. Because I'm the main carer.'* (Focus group father)**

However, our focus groups and Steering Group meetings have emphasised the importance of and the strong demand for the curriculum engaging with both parents, not just the main carer. The practitioners we met with were equally clear that, in their experience, parenting programmes need to engage with partners both as a way of helping both parents to contribute to a stimulating environment for the child, and in order to prevent the partner from undermining the main carer's efforts to improve the quality of the home environment.

'I go to a lot of these groups to get out of the house. I've had mums in groups in my face, saying "what are you doing here?"' (Focus group father)

Offering visits at home might be one way to help to engage fathers; in focus groups, fathers identified hostility from other mothers as a key barrier to participating in group settings. During our pilot sessions, in some families, fathers were able to participate in some of the visits. However, scheduling the visits around the father's availability appears to be difficult: of the 12 families in the pilot where the father lived with the child, all but two fathers worked. Focus groups and conversations with the Steering Group indicate that much of the employment in Peterborough is shift work or zero-hours contracts, so work schedules do not necessarily correspond to typical working patterns and often change at short notice.

More positively, several of the mothers in our pilot reported that their partners were keen to learn about the visit content and to take part in playing with their children. We might be able to use existing local provision such as the 'Saturdays' groups at the Children's Centres to engage with parents who are not the main carer. Incorporating 'reminder' materials such as prompt cards in the intervention could also help these parents to explain the activities to their partners.

***'I would get my partner to do [the activities] on the days when I was at work.'* (Pilot session mother)**

***'They've shared the weekly activities with family members, so like with the dads or grandparents or older siblings. So when we've been going round it's not just been the main parent doing the activity, it's been the extended family as well.'* (Home visitor)**

5. Delivery model for the intervention

Along with adapting the Reach Up curriculum to the local context (as discussed in Chapter 4), it is also important to adapt the delivery model to the context in Peterborough. In previous countries, Reach Up has been implemented as a standalone programme in a trial context, alongside existing programmes such as health centres or cash transfer programmes, and as a national programme in its own right. It has also been delivered to children starting at different ages, mostly between 6 and 24 months old.

In the UK, one major task for the feasibility study is to define the eligible population, decide on the length of the intervention and the frequency of the home visits, and determine who should deliver the home visits – whether the programme should rely on volunteers, paid community leaders or professional early years staff. This has clear implications both for programme cost and for the effectiveness of the programme. We trialled this model on a small scale through our pilot visits, but the main purpose of this work is to inform a future trial of the programme in Peterborough.

The feasibility study offers the opportunity to work with service providers and the council in Peterborough to develop a delivery model for the intervention. In line with the ambition that a successful trial of the programme would provide a blueprint that could be used across England, our work focuses on developing a delivery model that is feasible, scalable and sustainable.

5.1 Defining the target population

Targeting the most vulnerable means considering a range of vulnerabilities

For the programme to deliver impact, it is crucial that it targets the children that can benefit most from it. In a context of decreased public funding for this type of intervention, appropriate targeting is also key to the scalability and financial sustainability of the programme.

However, identifying ‘vulnerable’ children is not straightforward, and there is no agreed-upon definition of who would benefit most. Previous research on making parenting programmes work in disadvantaged areas notes that area-based targeting is an inefficient way to meet need (Scott, O’Connor and Futh, 2006). The Steering Group and local practitioners have all emphasised that this is a particularly important consideration in Peterborough, where neighbourhoods typically have a mixture of levels of vulnerability. Through these conversations, we have designed a two-stage set of eligibility criteria (borrowing from the model, though not the precise criteria, used in the Family Nurse Partnership).

In the first stage, families are screened against three inclusion criteria (living in Peterborough with a child the appropriate age, and receiving some form of income support or benefit) and four exclusion criteria (planning to leave Peterborough in the next six months, on a Child Protection Plan (or above) or in proceedings for it, unable to speak any English, or engaged in the Family Nurse Partnership or another intensive parenting programme).

The inclusion criteria capture local families who are likely to be eligible for the 2-year-old funded childcare offer when their child is old enough. This is important both because it captures financial vulnerabilities and because our delivery model is designed to transition families into funded childcare at age 2. The exclusion criteria reflect what we believe to be the limits of our intervention: it is unlikely to have any meaningful impact with fewer than six months of visits; it does not offer the specialist support that families with serious safeguarding concerns require; we cannot effectively or practically deliver the programme to families where the main parent speaks no English at all; and we cannot easily disentangle the effects of Reach Up from the Family Nurse Partnership or other intensive parenting services in an evaluation.

Families who are 'potentially eligible' under these inclusion and exclusion criteria are then referred to the delivery partners, who assess whether a range of additional vulnerabilities are present. These vulnerabilities (listed in Appendix B) come from extensive discussions with the council, the Steering Group and local service providers and aim to capture different dimensions of disadvantage beyond poverty, such as mental ill health, criminality or housing instability. Families with two or more of these risk factors will be considered eligible for the programme.

Identifying known risk factors allows us to more precisely target the intervention at families who are likely to be particularly vulnerable. From an evaluation point of view, identifying the precise vulnerabilities of participants in a future trial may also help us to pinpoint the types of families who benefit most from the intervention, which would be important information for policymakers interested in rolling it out at scale.

5.2 Length and frequency of the intervention

Frequency of visits and programme duration are key to a successful intervention

The EIF's and our own review of the literature provide a clear message: for the intervention to be successful and make a lasting impact on the lives of children and their families, the home visits need to happen frequently (ideally weekly) and over a long period of time (at least two years). This is a key difference between the proposed intervention and many existing services in Peterborough and the rest of the UK.

Two-year-old childcare offers a transition out of the programme

Take-up of the 2-year-old free entitlement in Peterborough is reasonably high, with around 70% of eligible children taking up a place. Most of these children take up the full 15 hours available to them.

By integrating the tail end of our intervention with existing local childcare services, we would provide parents and children with an effective pathway out of our home-visiting intervention. This is in line with best practice, which emphasises the need to support families with transitions into and out of programmes while ensuring that they do not become overly dependent on one particular service.

Keeping families engaged is an ongoing process

A long and intensive intervention may create more risks that families disengage from the programme and eventually drop out. Discussions with existing service providers have

emphasised that it will be very important to create a 'hook' for families to start building a trusting relationship with the home visitors. By engaging families straightaway with an activity or support that has immediate value for them, home visitors can quickly establish a positive relationship with parents.¹⁶

There are also logistical challenges to maintaining engagement. Given the concerns that our focus group families had about feeling too busy and overwhelmed, it will be important that the home visitors are able to work flexibly around families' schedules when organising visits.

5.3 Staffing

Retention of home visitors is important

While a frequent and long intervention is more likely to generate impacts on child development, it also poses increased challenges with respect to its delivery and sustainability in the long run. In particular, home-visiting programmes work best when families have a strong relationship with their home visitor, so minimising staff turnover will be important when delivering a multi-year intervention.

One way to mitigate this risk is to partner with organisations and people who are experienced in working with early years interventions. Organisations with a long track record of delivering services for families have strategies in place to recruit, train, supervise and retain their staff and volunteers. The people who work in this area have already self-selected to be interested in early intervention, and so there is a lower risk that they find that our programme is a poor fit for their personality or career goals. Supervisors could also easily be identified amongst the more senior staff of these organisations. By using the organisations' internal supervision structures to provide support to our home visitors, we are also making sure that home visitors have a familiar source of guidance and mentorship as they take on a new programme.

A volunteer-led programme would bring several challenges

As part of this feasibility study, we were particularly interested in the relative advantages of having volunteers or paid staff deliver the home visits.

From a theoretical perspective, it is not clear whether volunteers or professional staff are preferable. On the one hand, families might be more receptive to information from a home visitor who seems 'like them'. Equally, a volunteer-led model would clearly reduce the cost of the intervention significantly. On the other hand, professional staff might be seen as a more authoritative source of information and might be more practised in building relationships with parents, as well as more able to make a long-term commitment to the programme.

In focus groups, we asked parents whether they would prefer visits from professionals or local parents. Feedback was very mixed: some parents wanted the reassurance of a professional, while others felt that a volunteer community member would be more approachable. Local service providers emphasised the additional challenge of keeping

¹⁶ For example, other programmes use the initial visit to identify an area where extra support can quickly make a big difference to a family, such as a referral to the housing office or short-term support with establishing a morning routine.

volunteers engaged in such an intensive programme over such a long period of time, though some programmes have successfully built up a committed group of volunteers, typically with a professional background (e.g. teaching, nursing or social work).

Within the pilot study, we tried to compare the experience of using paid staff and volunteers. Since it uses volunteers throughout its programmes, we asked Barnardo's to assign half of its families to a paid home visitor and use volunteers to deliver the programme to the other five families. However, this ended up being infeasible: of the three long-term volunteers that Barnardo's had identified and recruited to take part in the programme, two dropped out after the training, citing busy schedules. The third was not confident in her ability to deliver the programme alone and so asked to be paired with a paid staff member.

We also spoke to the home visitors and asked them about what they thought were the most important characteristics of a visitor to deliver this programme. Several of them mentioned unprompted that they felt this would be logistically difficult for a volunteer to deliver, for several reasons:

- Although most of the families scheduled a set time each week for visits, circumstances often intervened (e.g. the child or parent was ill). The home visitors in the pilot reported that it was already sometimes a struggle to be flexible to deliver the programme with these families around their other work commitments; a volunteer with only limited availability might find this even more challenging.
- The home visitors commented that this programme is fairly intensive to deliver, requiring a good deal of preparation in advance (reviewing the visit plan, gathering together the resources, updating paperwork and familiarising themselves with any changes in the family's circumstances). The visitors felt that the level of engagement that is needed to do a good job of delivering the visits might be hard to get from volunteers.

Our delivery partners noted that they have a big pool of volunteers who are important for delivering programmes through the Children's Centres. However, they had reservations that the volunteers would have the training, confidence and experience necessary to deliver such an intensive and long-lasting programme in a context where they would primarily be on their own with families.

Home visitors brought valuable experience to the programme

The home visitors we worked with during the pilot were knowledgeable professionals with significant experience of early years programme delivery. This enriched the pilot in many ways: the visitors were experienced and capable in building relationships with the families and in keeping the visits on track; they were knowledgeable in answering parents' questions about child development even when the answers were not directly found in the curriculum or training they had received; and they were able to confidently signpost parents to other services. They were also creative and thoughtful about drawing on the resources of the Children's Centres to support families – for example, by leaving song booklets with the families to help them remember the words.

Because of the substantial experience and professional judgement that the home visitors have, we will need to carefully consider how to balance their instincts about how best to

deliver the programme with the need for fidelity to the curriculum during a trial to evaluate its effectiveness. For example, several home visitors mentioned that they would 'select' the most appropriate lesson plans given what they know about the family, including changing the order of some of the visits (within the envelope of each age group). In other cases, supervisors encouraged the visitors to use their own judgement about whether a home-made toy was safe and appropriate to leave with the family. This meant that different visitors had very different approaches to delivering the curriculum.

Home visitor training should take account of existing skills

The home visitors in our pilot had a strong foundation of training as early years professionals. This was in many ways a tremendous advantage: it meant that they were knowledgeable and experienced in delivering early years programmes with vulnerable families.

However, this knowledge base also means that the home visitors have specific ways of working, such as an emphasis on 'following the child' or 'child-led play'. In many ways, these are compatible with the curriculum, but there can sometimes be a difference of degree; for example, while Reach Up does encourage giving the child time to explore the play materials, the home visitor is meant to start trying to introduce the more formal activities after around 5–10 minutes. Early years professionals who have been trained to follow the child are less likely to feel that it is appropriate to intervene when the child is still enjoying discovering the toy on his/her own.

It will therefore be very important for us to work with the early years community to understand these aspects of their training. The experience and knowledge of the home visitors who delivered the pilot sessions was a tremendous asset to the programme. Going forward, we need to think about how we can best use these skills while also explicitly highlighting any areas where the delivery of our programme might require a slightly different approach.

For example, a full delivery model will need to carefully consider and specify where (with appropriate training) home visitors can use their own initiative (e.g. in modifying a visit plan) and where doing so would compromise the research by undermining fidelity (e.g. some visitors substituted toys that were not appropriate for the planned activity, and so had to make significant changes to the curriculum activity).

Families were very positive about their home visitors

While feedback from the focus groups about paid versus volunteer home visitors was mixed, following the pilot sessions families were extremely enthusiastic about their home visitors. When asked to describe their ideal home visitor, most parents told us that the person who had been visiting them was it. This speaks to the home visitors' skills at developing a trusting and respectful relationship with families, even in a short five-week intervention.

***'I got on with my home visitor really well. I trusted her ...,
I know she doesn't judge us.'* (Pilot session parent)**

***'She encouraged me to join in and didn't take over.'* (Pilot session parent)**

'I can ask her anything and she always answers, especially if I am worried. She would be the perfect home visitor.'
(Pilot session parent)

Families valued the professionalism, competence and knowledge of their home visitors, as well as their kindness. Many parents commented that they were grateful that their home visitors were able to answer their questions about child development in terms that they understood, and they felt that their home visitors were not judgemental and were supportive of them and their children.

5.4 Qualitative evidence of the intervention's effectiveness

Some parents, particularly with younger children, reported that they saw improvements in their child's behaviour and development even after only a few weeks of pilot visits. Where this happened, this was an important motivation for parents to continue with the programme and become even more engaged. (It should be emphasised that the short programme of pilot sessions was not designed with the goal of having any impact, and the research team has not carried out any analysis of child outcomes since the intervention was likely too short to make a difference that would be picked up by standard child development tests. However, the immediate benefits that are perceived by parents and home visitors seem to have been a powerful motivator.)

'I was surprised by how long [my child] seemed to concentrate, I think that kind of raised my expectations a little bit.' (Pilot session parent)

'Because [the parents] are seeing the impact on their babies, and how their babies are developing, and they're amazed at how quick their babies pick up on the skills that we're showing them, ... they can see the progression of their child and they want their children to learn.' (Home visitor)

'One family comes to one of the sessions now. And even the practitioner that was in there ... was like, "Oh my goodness, you could really see how much the parent was so confident, the child was so engaged, the language the parent was using", it was like you could tell that she'd been doing the project.... So it's not just been noticed by me, but by other practitioners as well.... And she didn't know they'd been doing this.' (Home visitor)

Parents' enthusiasm for the programme was reflected in the low dropout rate and very positive feedback from the pilot sessions. Of the 20 pilot families, only one dropped out by choice (others were forced to leave the pilot because they became homeless or moved

abroad, or had their children taken into care). Many of the parents were sad that the pilot visits ended after five weeks, and in at least three cases the home visitor will continue to work with that family on a regular but less frequent basis to provide support around parents' knowledge of child development.

***'Really enjoyed it and it's a shame we can't continue to do it.'* (Pilot session parent)**

***'[The parents] are all so empowered. A lot of them have said they don't want the project to end.'* (Home visitor)**

Feedback from both parents and home visitors suggests that many parents were receptive to the key messages of the programme, such as the importance of interacting with their child even with simple toys and games.

***'Even as far as the talking and communicating with, I learned that if I make sounds back at [my child] he's going to make sounds right back.'* (Pilot session parent)**

***'You buy him all these toys, and [my home visitor] was trying to say that sometimes you don't have to, ... it's just stuff you've got inside anyway.'* (Pilot session parent)**

***'I think [my home visitor] played with stuff differently than I would, which is like a new way of looking at it.'* (Pilot session parent)**

***'Sometimes with babies you do just get them to play by themselves, so learning to play with them as well.'* (Pilot session parent)**

6. Evaluating the intervention

The work that we have done on adapting the curriculum and developing a delivery model demonstrates that there is substantial appetite within Peterborough – among parents, providers and the local council – for a version of the Reach Up curriculum. Equally, the partnerships that we have built have allowed us to draw up a feasible delivery model.

The final pillar of the feasibility study is to design a plan for evaluating the implementation of the adapted curriculum. Since our primary objective is to contribute to the UK evidence base on early intervention, evaluation is at the centre of this project.

Our preferred method of evaluation is a randomised controlled trial (RCT), for which we have the strong support of Peterborough City Council. In this chapter, we outline our analysis of some of the options for evaluation, including the number of children who would need to be involved and the level of randomisation. We also outline our plan for data collection to support an optimally informative evaluation. Finally, we describe some of the risks and challenges facing the evaluation, and the mitigations we have developed through this feasibility study.

6.1 Designing a randomised controlled trial

Individual-based randomisation is possible

There are many different forms of randomised controlled trial. One of the most important distinctions is between individual- and area-level randomisation. With individual randomisation, individual families are randomly assigned to the treatment group or not. This means that some of the families might have friends or neighbours who receive the treatment, and so might hear about the activities from them. Area-based randomisation attempts to reduce this risk by randomly allocating treatment or control status to all eligible children in a particular neighbourhood. Families who have friends in a different neighbourhood might still hear about the intervention through these networks.

In the past, trials of information and stimulation programmes have tended to use area-based randomisation to reduce the risk of this control group ‘contamination’. However, more recently, several studies have found limited or no evidence of contamination in trials with individual randomisation. Most notably, the Preparing for Life trial in Dublin used a series of ‘blue-dye’ questions, asking control group families about their knowledge of the principles of child development. They found that there was a significant risk of contamination as participants were often in contact with one another and with control group families and would discuss the material of the intervention. However, these practices did not seem to translate into improved parenting knowledge among the control group, suggesting that contamination was in actuality quite low (Doyle, 2013).

This suggests that the risk of contamination in a trial with individual-level randomisation is manageable. Individual randomisation has several practical benefits for a trial, chief among them its efficiency. Individual-level trials are able to detect effects with a much smaller sample size, which in turn means that they are less costly to implement.

Recruitment is also easier to implement in individual-level trials, since participants can be enrolled and randomised on a rolling basis. In a cluster-randomised trial, all participants

must be recruited before randomisation. Given the relatively small size of the birth cohorts in Peterborough – around 3,500 children per year, of which fewer than 1,000 are likely to be sufficiently vulnerable to participate in our trial – there is a clear attraction to being able to enrol children at similar ages but different times.

A trial of the intervention is feasible within Peterborough

The next step in assessing the feasibility of trialling the intervention in Peterborough is to calculate the minimum number of children that should be involved in the trial to robustly evaluate the intervention impacts and assess whether there are enough children living there to support the implementation of the trial. To do so, we need to make some assumptions about its likely effects on children's development. The smaller the effect sizes, the more children we need in the control and treatment groups to detect effects with high enough levels of statistical confidence.

We inform our choice of a minimum detectable effect based on reported effects of other home-visiting programmes for children below age 2 evaluated by randomised controlled trials. The initial trial of the Jamaican home-visiting programme intervention evaluated in Grantham-McGregor et al. (1991) found an effect size of 0.98 of a standard deviation (SD) on cognitive development. Its adaptation in Colombia, however, obtained an effect of 0.26 SD on a similar outcome (Attanasio et al., 2014). Furthermore, we also looked at reported effects of other home-visiting programmes evaluated by randomised controlled trials in England. Amongst others, the trial of the Family Nurse Partnership ('Building Blocks') found that cognitive development concerns at 24 months significantly went down by 0.61 SD and language development concerns by 0.50 SD at 12 months and 0.61 SD at 24 months (Robling et al., 2016).

Based on these results, we adopt what would qualify as a conservative approach and use as benchmark relatively modest-sized impacts between 0.2 and 0.3 SD. Table 6.1 reports the sample size that would be required to detect such effect sizes given a trial 'powered' at 80% and with a 5% significance level.¹⁷ In calculating a realistic sample size, we also need to take into account the fact that families might drop out of the sample between the beginning and end of the intervention. While we would be able to include these families in our assessment of some outcomes drawn from administrative data (such as school and hospital records), other outcomes will be drawn from surveys of the families (discussed in more detail in Section 6.2). The latter outcomes would not be available for families who are not willing to participate in the endline survey or who we cannot contact. We show the sample size that would be required to start the intervention under various assumptions about attrition.

As Table 6.1 shows, even under the most conservative assumptions about effect size and attrition, an individual-level randomised controlled trial of the intervention would be feasible in Peterborough, as the trial would need to recruit fewer than 600 children, split into two equally sized control and treatment groups.

¹⁷ An 80% power level means that the trial is big enough that there is at most a $(100-80=)$ 20% chance of failing to detect a statistically significant effect when the effect is in fact different from zero. In other words, this allows for a 20% chance of a false negative. A 5% significance level refers to the tolerance for a false positive: in order to claim that there is an effect, there can be at most a 5% chance that such an extreme result would be seen even if the true effect is zero.

Table 6.1. Sample size requirements for an individual-level RCT

	Minimum detectable effect (SD):		
	0.2	0.25	0.3
No attrition	398	256	180
10% sample loss	442	284	200
20% sample loss	553	356	250

6.2 Data collection plan

As part of preparing for an optimally informative evaluation of the programme, we developed and piloted a data collection plan. This includes both implementation data (which are needed to facilitate the delivery of the programme) and evaluation data (which would be used to evaluate the effectiveness of the programme following a full trial).

Evaluation data should support both policy and academic research

The primary outcome of this programme is children's cognitive development. There are many assessments available to measure cognitive ability. Some of these are reported by parents; these are typically relatively quick and cheap to administer, but may be less accurate for comparing children from different families. Other measures have a psychologist or another trained assessor directly observe the child completing tasks. In the academic community, these assessments are considered to be higher quality.

As our primary measure of child development, we have chosen to administer the Griffiths III test. This assessment is conducted by a trained psychologist or paediatrician, who evaluates a child's development in language and communication, hand-eye coordination, socio-emotional skills, gross motor skills and early learning. This assessment has many advantages: it can be used from birth up to age 6 (so can be used both at baseline and at the end of the intervention); it was standardised in 2015 on a representative sample from the UK and Ireland, so its performance in a British context is well understood; and it has been widely used in the academic literature, facilitating comparisons across studies.

However, one disadvantage of the Griffiths test is that it is less familiar to policymakers. Instead, programmes such as health visiting typically use the Ages and Stages Questionnaire (ASQ-3), which is based on parent reports of things their child can and cannot do. Although, in part for this reason, it may be less reliable than the Griffiths, we have decided to also collect the ASQ-3.¹⁸ This will not be a primary outcome for our trial but will make it easier to compare the effectiveness of the Reach Up intervention against existing early years programmes.

¹⁸ Public Health England is currently working to improve the collection of ASQ-3 data at the 2- to 2½-year health visiting check, raising the possibility of linking to these administrative data. However, at the moment, coverage remains patchy and the data set has not been made available to researchers for evaluating child development. Equally important is the validity of the measure for research; researchers would ideally collect the data in a consistent way (e.g. at the same age and with the same set of staff) for each child. Since the ASQ-3 is not very time-consuming or expensive to collect, we are therefore planning to collect this as part of the data collection process; however, we will reassess the potential for linking to administrative data at the start of the trial.

Evaluation data should incorporate information on potential mechanisms

To build the evidence base on early intervention as much as possible, any evaluation should provide information not just on whether the programme works but also on how and for whom it is most effective. This will benefit the research community seeking to understand how government intervention can support children's development, but it will also support policymakers making decisions about where and how to target this intervention.

This means that an evaluation should collect high-quality information not just on children's outcomes, but also on the family's circumstances and other aspects of the child development process. Based on discussions with other researchers, we have developed a draft data collection survey that asks about: household characteristics; child well-being and development; the home environment and parenting; parental well-being; health and health behaviours; and the use of childcare and other services. (See Appendix C for a more detailed overview of this draft data collection plan.)

Evaluation data should support estimates of cost-effectiveness

One of the central goals of the evaluation is to understand the cost-effectiveness of this programme. On the cost side, this means working with our delivery partners to gather data on the costs associated with delivering the programme (and, separately, the costs incurred in evaluating it via a randomised trial). This is both essential to sound financial management of the trial itself and a crucial input to later cost-effectiveness calculations.

Capturing and monetising the potential benefits is more challenging. There are many potential channels through which the programme could benefit the public purse; in the shorter term, these include reducing the need for costly social care services or remedial education, and reducing health spending on hospitalisations (if children's health improves). In the longer run, improved school readiness could benefit children's attainment, which in turn is linked to earnings, taxes and benefit spending.

Administrative data will be an important source of information for many of these outcomes (as discussed below). However, it will also be important to collect a range of data in the shorter term that will provide early indications of what the potential longer-term effects of the programme might be. For example, measures of children's health and behaviour at the end of the trial can help to predict later development (though these calculations are by definition based on associations over the life cycle, and so are only imperfect indicators of potential future outcomes).

Administrative data are an important source of outcomes data

In addition to the survey data collected at the end of the trial, we can use administrative data to gather both short- and long-run data on outcomes such as educational attainment, safeguarding, special educational needs and hospitalisations. In the shorter run, administrative data on schooling, social care and hospitalisations provide accurate information on the use of these services and reduce the data collection burden on parents. Links to administrative data also provide an important way to continue to collect data in the longer term, including from families who might otherwise have attrited from the sample.

As part of the feasibility study, we asked parents for their consent in principle to link their child's administrative records to their survey data. Although we did not carry out this

linkage for the pilot session families, asking for consent in principle gives us information about how acceptable administrative data linkage is likely to be in this community. All of the 17 families who participated in the pilot data collection process agreed to have their responses linked to both their child's school and health records.

These administrative data links will also be important for longer-run evaluations of the programme and will help to reduce the data collection burden on families. They also provide an opportunity to partially minimise attrition from the sample, since with consent at baseline we will be able to analyse administrative data outcomes even for families who drop out of the study (assuming they do not revoke their consent explicitly).

Data on implementation can support evaluation

In a full trial, data collection must extend beyond formal surveys of the participants. Data on the implementation of the programme can also be an important source of information for an evaluation to understand how the intervention works – for example, the importance of fidelity to the curriculum or the influence of an individual home visitor's characteristics on the success of the programme.

Conversations with practitioners and with other academics have underlined the importance of designing the ongoing 'monitoring' data carefully so as to support both effective delivery of the intervention and a thorough evaluation.

Drawing on the monitoring data forms used by the Family Nurse Partnership and those used by Reach Up programmes in other countries, we have developed a framework for ongoing implementation data collection. It includes:

- Data collected at referral: contact information, information on the family's eligibility and risk factors;
- Data collected at the initial risk assessment visit: scheduling information, household members and basic demographics, toys in the household, information on the child's daily routine;
- Log sheet for each visit: duration of the visit, activities planned and delivered, who has played with the child during the week, home visitor's rating of parent's level of engagement with the material;
- Supervised visits: supervisor's assessment of the home visitor's preparation, fidelity to the visit plan and relationship with the parent and child.

Taken together, these implementation data support the evaluation in several ways. Some of the information being collected – such as the demographics of other members of the household – is directly relevant to the data that would otherwise need to be collected. Feeding this information into the data collection process will help to save time and reduce the burden on families.

6.3 Risks to and challenges for the evaluation

In laying the groundwork for an informative trial of the intervention, one of our primary goals in this feasibility study was to identify potential risks to the implementation and evaluation of the programme and develop mitigations for them. In Table 6.2, we outline some of these risks to and challenges for the evaluation. We also summarise how the evidence collected during this feasibility study will allow us to mitigate them (and what the limits to these mitigations might be).

Table 6.2. Summary of risks to and challenges for the intervention

Risk or challenge	Description	Mitigations
Poor targeting	<p>Targeting an insufficiently disadvantaged population means there will be less scope to make a difference.</p> <p>The programme might not be appropriate for children with highly complex needs (e.g. on Child Protection Plans) and these children have access to a rich and individualised set of services.</p> <p>Income is unlikely to be a perfect proxy for the vulnerabilities (e.g. limited parent-child relationships) that our intervention is able to address.</p>	<p>Develop a two-step targeting process that uses both income and a wider set of vulnerabilities to identify eligible children.</p> <p>Exclude children with serious safeguarding concerns at the outset of the trial.</p> <p>Choose targeting criteria that map onto data that are already collected by, for example, Children's Centres and health visitors to facilitate recruitment.</p>
Struggle to recruit hard-to-reach families	<p>Struggling to recruit the vulnerable families that are eligible will reduce the available sample size.</p>	<p>Work with local partners (e.g. in Children's Centres; health visitors) to identify potentially eligible families.</p> <p>Allow sufficient time for trial recruitment.</p> <p>Individual randomisation makes it easier to randomise families and start the intervention on a rolling basis.</p>

Risk or challenge	Description	Mitigations
Families dropping out of the trial	<p>Attrition is one of the main risks to experimental evaluations (Martin et al., 2018). It can affect both statistical power and the validity of the research (e.g. if families who perceive themselves to gain less from the programme are more likely to drop out).</p> <p>Attrition might be a particular risk in this case since the programme lasts for a relatively long time and is being implemented within a mobile population.</p> <p>Attrition from the control group is an especially big risk since families in this group will not be in regular contact with a home visitor.</p>	<p>Account for potential attrition in power calculations.</p> <p>Obtain consent to link to administrative data at the outset of the trial (so we can analyse a subset of outcomes even for participants who drop out, as well as describing the nature of attrition).</p> <p>Follow best practice to keep families engaged. For example, the Preparing for Life evaluation used incentives such as annual professional photographs of the child to maintain links with the control group. (Preparing for Life, 2016)</p>
Parents not engaging with the curriculum	<p>Since parents' participation is central to the curriculum, a lack of engagement will reduce its effectiveness.</p>	<p>Undertake thorough work during the feasibility study to identify parents' motivations; learn strategies for engaging parents from other successful programmes; and adapt the curriculum so that it is meaningful.</p> <p>Provide training to home visitors on how best to engage different types of parents.</p> <p>Perform subgroup analysis using the implementation data to understand the role that parents' engagement plays in the programme's effectiveness (as well as the role of individual home visitors in fostering engagement).</p>

Risk or challenge	Description	Mitigations
Home visitors dropping out of the trial	Practitioners have emphasised that a long-term, trusting relationship between home visitors and parents is critical. Staff turnover means some parents would have to be reassigned to a new home visitor.	<p>On advice from other practitioners, focus on a model with paid visitors.</p> <p>Set up supervision structures that help home visitors to feel supported in their development.</p> <p>Identify home visitors' motivations for participating (from the feasibility study, seeing a child improve is a major motivation).</p>
Lack of fidelity to the curriculum	<p>A lack of fidelity will make it more difficult to evaluate the programme (since it becomes less clear what the treatment is).</p> <p>A lack of fidelity could also reduce the programme's effectiveness.</p>	<p>Identify aspects of the programme where it is important that the curriculum is delivered 'by the book' and places where home visitors are able to use their professional judgement.</p> <p>Adapt the training programme to highlight the need for fidelity (the focus is on generating evidence rather than delivering an intervention).</p> <p>Use implementation data from supervision visits to offer extra support to home visitors who are not following the curriculum to the necessary extent.</p> <p>Use implementation data to analyse how the programme's effectiveness differed based on the level of fidelity.</p>

Risk or challenge	Description	Mitigations
Families becoming dependent on the programme	Families might become dependent on the programme and/or on their home visitors.	Use the 2-year-old free entitlement as a way to transition families out of the home-visiting programme and into other existing services.
Legal/ethical challenges	<p>Failure to obtain ethical approval for the trial.</p> <p>Legal challenges around data privacy/GDPR.</p> <p>Legal/regulatory challenges around curriculum materials.</p>	<p>We have obtained ethical approval for the pilot sessions in this study, which was based on a package of documentation that will be very similar to that needed for a full trial.</p> <p>The project team contains experts on large-scale data collection, and we will consult with IFS's Data Officer to ensure compliance with all laws, regulations and best practices.</p> <p>We will continue to consult with local partners (e.g. Children's Centres) to risk-assess curriculum materials, and in many cases we will use bought rather than made toys to ensure compliance with safety standards.</p>

Risk or challenge	Description	Mitigations
Serious safeguarding incidents	<p>Home visitors might identify serious safeguarding issues through the course of the visits.</p> <p>There might be safeguarding concerns raised about a participant from other sources.</p> <p>Identifying under what circumstances it is appropriate for a family to continue with the programme, and what modifications are necessary, will be important for the trial.</p>	<p>Develop detailed safeguarding protocols (or adopt the safeguarding protocol of partner organisations).</p> <p>Clearly inform families of the duty of disclosure if safeguarding risks are observed.</p> <p>Develop a protocol for continued trial participation.</p>
Duty of care to home visitors	<p>It will be important to ensure that home visitors have a good working environment to support them in delivering the programme effectively.</p>	<p>Initial risk assessment visit with two home visitors.</p> <p>Regular feedback structures, e.g. observations by and meetings with supervisors.</p> <p>Insurance policy to cover off-site working.</p>

7. Conclusion

This feasibility study has laid the groundwork for adapting and evaluating the Reach Up programme in England. The evidence we have gathered generates key lessons for adapting the curriculum to the UK context and designing a delivery model that fits with the existing context of early years services not only in Peterborough but also across England. The study has generated invaluable learning about the risks to the success of the intervention and of its evaluation, as well as concrete solutions to mitigate them.

The qualitative evidence we have collected throughout the feasibility study reveals great enthusiasm amongst both parents and practitioners about the intervention. Even though local authorities already offer and commission a number of programmes for vulnerable young children, a home-visiting intervention focused on child development for children aged around 6 months at baseline and following children and their families for about two years would significantly complement the existing service offer.

The feedback from our pilot suggests that the delivery model we have developed is well accepted amongst families and home visitors and, because it involves partnering with well-established charities providing early years and education services, it has the potential to be scaled up beyond Peterborough. Both our discussions with existing service providers and our experiences in the pilot study suggest that a volunteer-led model is unlikely to be as practical or successful.

Even though the pilot only involved up to five visits, the overwhelming positive feedback we received is evidence that the intervention holds potential to benefit children's cognitive and behavioural development. The next step is to evaluate the intervention via a randomised controlled trial. We have shown that even under conservative assumptions about how large we expect the effect size to be and on how much of the sample we expect to lose between the beginning and the end of the intervention, it is possible to implement such a trial amongst children living in Peterborough. The fact that there is a strong commitment across the council and local practitioners to undertake such a rigorous evaluation gives us confidence that many of the risks to the success of the evaluation can be mitigated effectively.

Such an evaluation of the intervention would not only add to the international evidence base about the potential of home-visiting interventions to strengthen the home learning environment, but also provide policymakers with robust evidence on a promising intervention that can reduce developmental gaps between children born into disadvantaged backgrounds and their more affluent peers in England.

Appendix A. Local area data

We can use local data on the demographics and existing services in Peterborough to help inform the programme adaptation (e.g. understanding local needs) and implementation (e.g. understanding when parents are likely to be at home to receive visits).

We analyse a wide range of socio-economic data (drawn from existing statistics) on Peterborough's neighbourhoods. Most of these data are aggregated at either the ward level (roughly 8,000 residents per ward) or the level of the lower layer super output area (LSOA; approximately 1,700 residents).¹⁹ The data include information on:

- ethnic and linguistic breakdown of children aged 3–15;
- household composition: numbers of parents, children and grandparents; age of mother at birth;
- labour market: employment rates of men, women and lone parents; earnings; working hours; qualifications; children in out-of-work households;
- childcare: location of providers, take-up rates, weekly hours and types of childcare settings used;
- health and healthcare: immunisation rates, low birthweight, breastfeeding;
- material goods: car ownership, persons per bedroom;
- safeguarding: Child in Need plans and Child Protection Plans by age;
- child outcomes: Ages and Stages Questionnaire (ASQ) scores at between 24 and 30 months; Early Years Foundation Stage Profile scores at the end of Reception Year.

Peterborough is a disadvantaged local authority: 41% of its neighbourhoods (defined at the LSOA level) are among the 25% most disadvantaged areas nationally according to the 2015 Income Deprivation Affecting Children Index (IDACI). As discussed in the main report, the city also stands out for the developmental challenges of its young children; Peterborough was eleventh-lowest of 121 local authorities for the proportion of children meeting their development goals on the ASQ.²⁰

Peterborough is ethnically and linguistically diverse. Across the city, just 51% of children receiving the free entitlement to childcare are white British or Irish; a further 18% are from

¹⁹ In general, data at lower levels of geographic aggregation (such as wards and LSOAs) are only made available when there are sufficiently many people 'captured' in each statistic. In practice, this means that much of the data we analyse in this appendix are only available from the most recent census in 2011 (since censuses cover many more respondents than regular household surveys). In the interests of presenting the most up-to-date picture of Peterborough possible, we present the most recent data available throughout this appendix. This means that we often present city-wide statistics from the late 2010s alongside neighbourhood-level data from 2011.

²⁰ Based on an average over the first three quarters of 2018–19.

elsewhere in the EU, and 18% are Asian, predominantly Pakistani.²¹ In January 2018, 41% of students in state-funded primary schools spoke English as an additional language.²² However, this does not mean that these pupils are not familiar with English; in the 2011 census, 86% of children between the ages of 3 and 15 spoke English as their main language. Beyond this, there is significant linguistic diversity: 3% of the children in this age group spoke Polish as their main language, 2% Portuguese, 4% another EU language (excluding French and Spanish) and 1% each Panjabi and Urdu. Of course, the main language used by school-age children might not reflect the language abilities of their parents.

Most children in Peterborough live in two-parent households;²³ this is still the case even in the most disadvantaged neighbourhoods. However, a large minority of children live in households that are either headed by a lone parent (22% city-wide; 25% in the most disadvantaged areas²⁴) or contain multiple families (13% and 16% respectively).²⁵ Further, siblings are common: just 41% of households containing a child aged 0–4 have only the one child, and a quarter have three or more children. Households with children typically do not live with an older person aged 65–74, suggesting that live-in elderly grandparents are relatively rare (though grandparents might be younger than 65).

Employment rates in Peterborough are broadly in line with the national average: across the city, roughly 75% of people aged 16–64 were in work in 2018.²⁶ However, this masks significant differences at the local level; in one ward, the employment rate is just 56%.²⁷ Men are more likely to be in work than women (80% versus 70% in 2018), and employment rates among lone parents with dependent children are lower still (58% in 2011, with the majority of these working part-time). Across the city, around 70% of employees worked full-time in 2017.²⁸

Take-up of universal health services such as immunisations is high (though often below the national average). 90% of children receive their first MMR (measles, mumps and rubella) vaccination dose by age 2, and 95% complete their Dtap/IPV/Hib vaccinations (for diphtheria, tetanus, polio, pertussis and Hib) by age 2,²⁹ with the city meeting or nearly meeting its 95% target in most quarters. A large majority of children also receive all their

²¹ Figures from Spring 2017. As of January 2018, 48% of pupils in state-funded primary schools were white British or Irish, 20% had any other white background and 17% were Asian, again mainly Pakistani.

²² Data source: Department for Education, 'Schools, pupils and their characteristics: January 2018'.

²³ Data source: 2011 census. 51% of children aged 0–15 live in a one-family household with a couple who are married or in a civil partnership, and a further 14% live in a one-family household with a cohabiting couple.

²⁴ 'The most disadvantaged areas' are those in the bottom 25% of the national 2015 IDACI ranking.

²⁵ These can include living in a house in multiple occupation or other arrangements (e.g. a family living with its landlord).

²⁶ Data source: ONS Annual Population Survey; aggregates produced by NOMIS for January–December 2018.

²⁷ Ward-level statistics are only available from the 2011 census data. The corresponding employment rate for Peterborough as a whole in 2011 was 72%.

²⁸ Data source: ONS Business Register and Employment Survey (open access); aggregates produced by NOMIS for Peterborough's Labour Market Profile: <https://www.nomisweb.co.uk/reports/lmp/la/1946157202/printable.aspx>.

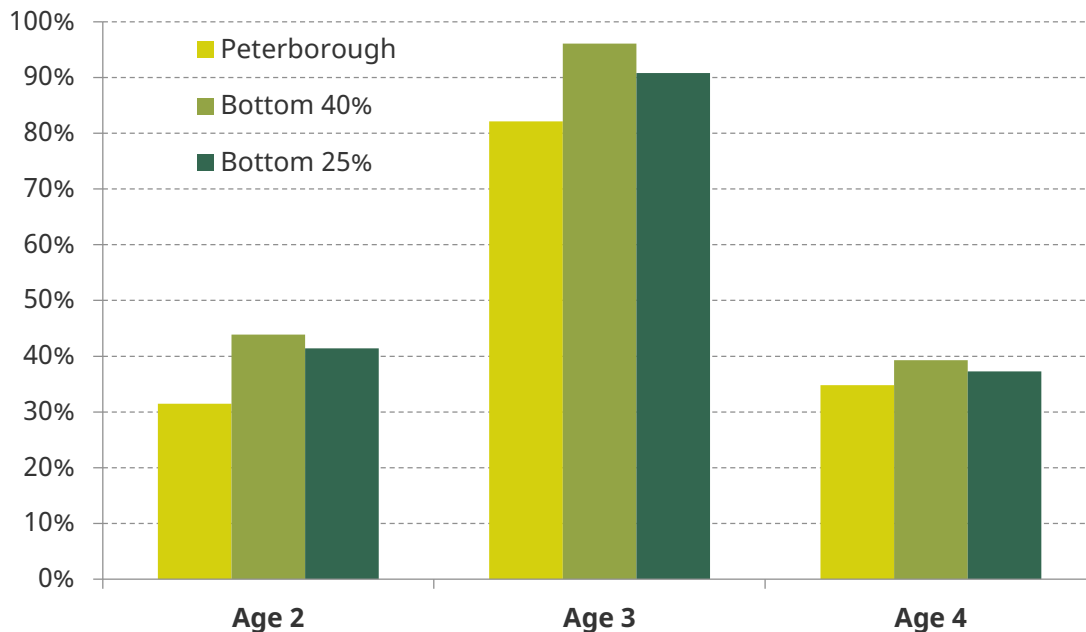
²⁹ In 2017–18. Data source: Public Health England, 'Peterborough child health profile', March 2019.

scheduled health visitor visits, with 91% receiving a newborn visit, 94% having a 6- to 8-week visit, and 80–90% receiving subsequent visits at 1 and 2 years old.³⁰

We have also explored the take-up of the free entitlement to early education for disadvantaged 2-year-olds. Across Peterborough, around 55% of 2-year-olds are using formal childcare.³¹ As Figure A.1 shows, the majority but by no means all of this is free childcare under the free entitlement programme; around 32% of 2-year-olds (41% in the most disadvantaged neighbourhoods) are using a free entitlement place. Take-up of the 2-year-old free entitlement is around 70% among eligible families.³²

Among 2-year-olds in childcare (funded or not), around 40% attend childcare for exactly 15 hours a week (the amount of childcare that is covered by the free entitlement). As Figure A.2 shows, most other children use between 5 and 20 hours, with only around 20% of 2-year-olds using childcare using more than 20 hours a week. As Figure A.3 shows, there is significant geographic concentration of childcare providers in the centre of the city, which is both more densely populated and more disadvantaged.

Figure A.1. Share of children using a free childcare place, by age (Spring 2017)



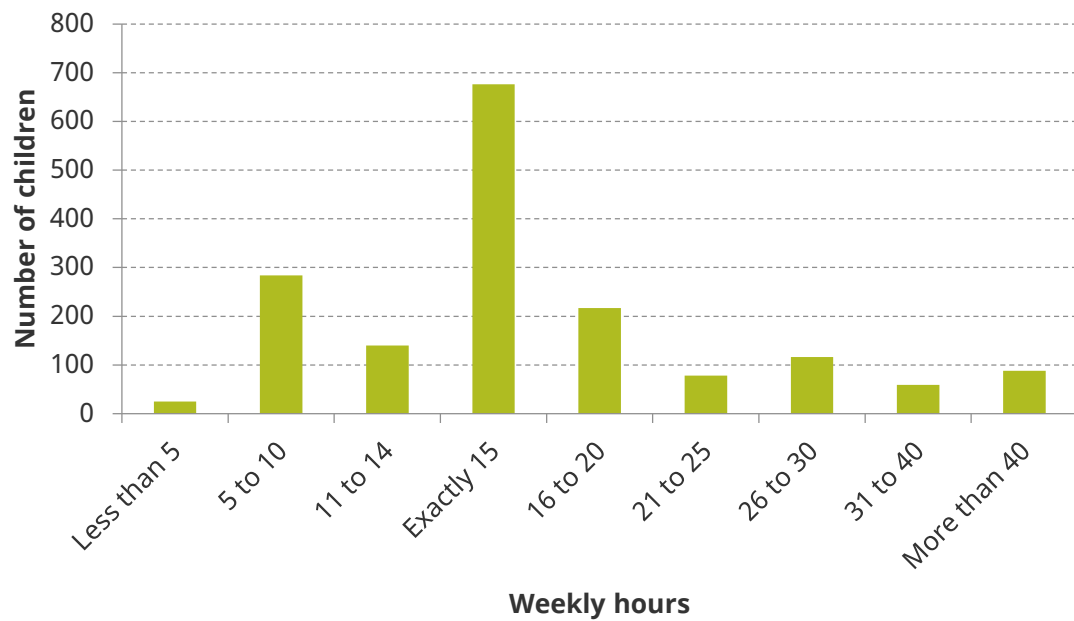
Note: Childcare usage is based on a census of children taking up the free entitlement and Office for National Statistics (ONS) estimates of population by single year of age. Not all 2-year-olds are eligible for a free entitlement place (these are only offered to children in the poorest 40% of families across England).

³⁰ Data from April 2017 to March 2018. Data source: Peterborough City Council, private correspondence.

³¹ Data from Spring 2017.

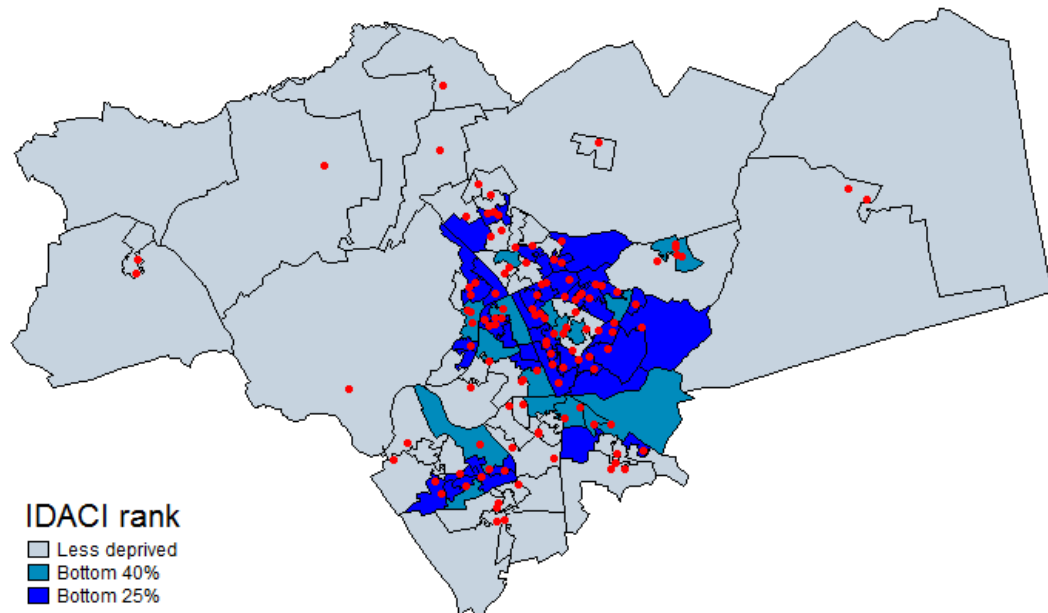
³² Data source: Department for Education, 'Education provision: children under 5 years of age, January 2018'.

Figure A.2. Weekly hours of childcare among 2-year-olds (Spring 2017)



Note: Includes all 2-year-olds accessing formal childcare, whether or not it is funded under the free entitlement. Data are based on a census of children in formal childcare settings conducted in Spring 2017.

Figure A.3. Location of childcare settings providing 2-year-old free childcare (Spring 2017)



Note: 'Bottom 40%' neighbourhoods are LSOAs in the bottom 40% of national rankings of the 2015 Income Deprivation Affecting Children Index. 'Bottom 25%' neighbourhoods are similarly defined. Childcare providers are shown in red based on a Spring 2017 list of all 2-year-olds accessing a funded childcare place in Peterborough.

Appendix B. Eligibility criteria

Following the new recruitment strategy of programmes such as the Family Nurse Partnership, we are proposing to use a two-step recruitment strategy for the home-visiting programme.

Step 1 – potentially eligible population

In Step 1, we propose a small set of eligibility and exclusion criteria to identify a wide range of potentially eligible families.

Eligibility criteria

- Lives in Peterborough
- Has a child or will have a child in the appropriate age range during the enrolment period
- Receives some form of income support/benefit

Exclusion criteria

- On Child Protection Plan (or above) or in proceedings
- Planning to move out of the city in the next six months
- No English at all
- Engaged in the Family Nurse Partnership programme or receiving other intensive parenting support programmes

Step 2 – additional risk factors

Families who meet the eligibility criteria will be assessed for additional risk factors. This assessment could be carried out (in full or in part) by the same person who completes Step 1, when the information is known. Otherwise it can be carried out by a member of the project team (e.g. the home visitors' supervisor). Families with two or more of these risk factors will be invited to join the trial.

Potential risk factors

- Family has ever received family support or children's social care input, or has been referred for an early help assessment (excluding access to the Early Support Pathway)
- Primary caregiver has poor mental health (diagnosed or self-reported mental health condition)
- Primary caregiver does not have a stable and supported relationship with baby's other parent or own partner
- No engagement with other groups
- Ever a young parent (aged less than 19 at first child's birth)
- Workless household
- Temporary accommodation or housing instability (has moved house more than three times in past two years)
- Primary caregiver has English as an additional language
- Either parent has history of criminal activity or incarceration

Appendix C. Overview of data collection survey plan

Section A. Household module [main carer only]

Household grid

Section B. Child well-being and assessments [main carer only]

Short scales

- MacArthur-Bates Communicative Development Inventories
- Ages and Stages Questionnaire (ASQ-3): only communication, fine motor skills, problem solving

Emotions, temperament, behaviour

- Rothbart Temperament Questionnaire (Early Childhood Behaviour Questionnaire version): attentional focusing, inhibitory control, sociability
- Child Behaviour Checklist (preschool version)
- Carey Infant Temperament Scale

Mental health and well-being

- Strengths and Difficulties Questionnaire

Section C. Home environment and parenting [main carer and partner]

Family Care Indicators

Self-Efficacy for Parenting Tasks Index (Toddler Scale)

Knowledge of Infant Development Inventory

Section D. Parent well-being [main carer and partner]

Warwick-Edinburgh Mental Well-Being Scale (short version)

Rosenberg Self-Esteem Scale

ONS subjective well-being questions

Section E. Employment, income and education [main carer and partner]

Education

Income

Employment

Socio-economic status

Housing

Section F. Health and health behaviours [main carer only; birth and breastfeeding only if main carer is natural mother]

Birthweight

Gestational age

Breastfeeding

General health

Child health behaviours

Section G. Childcare and other services [main carer only]

Childcare

Other services

Social networks

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