

Fathers and Partners in Life Study: Groundwork, Outcomes and Lessons

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Background

In recognition of the importance of Fathers to children's development and well-being the Nuffield Foundation and the ESRC co-funded an Expert Advisory Group (EAG) on Fathers and Partners from the June 2013 to September 2014 to consider a number of questions relating to the inclusion of Fathers and Partners in Life Study the new UK cohort study and to provide advice to the Scientific Steering Committee of Life Study responsible for the scientific protocol. This included the identification of key scientific opportunities and questions, a consideration of the approaches to maximising recruitment, retention and tracking of fathers. The EAG reviewed and contributed to the revision of the extant questionnaires and discussed the best approaches for contacting fathers. Three reports were prepared for the Group which covered: (a) What could be learnt from relevant UK studies about maximising the involvement of fathers and partners; (b) a review of how national and international cohort studies had recruited and retained fathers and the type of information collected and (c) a synthesis of the literature of the concordance between partners in their responses to surveys. The reviews covered both resident and non-resident fathers. In March 2015 the Nuffield Foundation and the ESRC made a grant to UCL for a pilot study to collect data on fathers with a specific focus on contacting non-resident father; a neglected component in UK cohort studies. The EAG was reconstituted and a questionnaire for non-resident fathers was developed for a pilot survey to be carried out on families with a 6 month old baby in preparation for the Birth Component of Life Study. In addition other studies were proposed and executed, including a small scale study of lone mothers to enquire how best to approach non-resident fathers to assist in maximising the recruitment of this hard to reach group. This report provides a detailed account of the work done on Fathers and Partners for Life Study and draws out the lessons learnt up to the time the decision to close Life Study was announced in October 2015.

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Fathers and Partners in Life Study: Groundwork, Outcomes and Lessons

1: Introduction

The Nuffield Foundation and the ESRC co-funded preparatory and pilot work on the recruitment and retention of fathers and partners in order to enhance the new UK birth cohort Life Study in readiness for collecting data that would provide researchers with information on the role of fathers in children's well-being and development. Uniquely it was to augment recruitment of fathers by the inclusion of non-resident fathers, which is a neglected component in family research. This report provides an overview of the work carried out in relation to fathers both resident and non-resident in and for Life Study. It describes the project from its inception in June 2013 to its endpoint in October 2015 when Life Study closed.

1.1 The Role of Fathers

A "new era of fatherhood" has entered into both research and popular discourse (Gregory and Milner, 2011) whereby fathers are regarded as being more involved and engaged in their children's lives than was the case in earlier decades. Nowadays, fathers are more likely to be present at ante-natal visits, at the birth of their child, to take paternity leave following the birth, and play a greater part in the upbringing of their child and in contributing to the domestic domain. The most recent systematic review of longitudinal studies on fathers' involvement and children's development outcomes (Sarkadi et al 2008) concluded that there was evidence that father engagement had a positive effect on children's social and behavioural, psychological and cognitive development but also acknowledged that as yet we do not know what leads to these positive outcomes. Only a few studies have examined the role of fathers in child health but in the realm of childhood obesity, a crucial health and policy issue, one Australian study has shown that resident fathers have a unique influence (Wake et al, 2007).

Moreover, a father's financial contribution continues to be very important as without it children are more likely to grow up in poverty with its attendant poorer academic, behavioural and emotional outcomes (Field, 2010).

Nurturing and involved fatherhood is one theme in this new era of fatherhood but paralleling it have been changes in the demography of the family that have led to a reduction in father involvement in family life. The growth in parental separation and increases in the numbers of children born to parents who are living apart at the time of their birth has given rise to non-resident parenthood, and with this the potential for cross-household parenting, re-partnering and multi-partnered child bearing, all of which add to the complexity of family life and make it more challenging for fathers to be involved in their children's lives. Nevertheless, many non-resident fathers remain involved in their children's lives whilst others withdraw (Poole et al 2016). As yet there is a paucity of data on the role and importance of non-resident fathers in their children's' lives much beyond information on frequency of contact and financial support yet a research review on non-resident fathering and child well-being (Adamsons and Johnson, 2013) suggests that it is the quality rather than the quantity of fathering that matters and that time and money spent are less important for child well-being than positive father involvement.

Government policy has increasingly recognised the importance of engaging fathers in family life as exemplified in rights to paid paternity leave and the right of prospective fathers and mothers partners to take unpaid time off to attend antenatal appointments which came into force under the 2014 Children and Families Act. This Act is also designed to help people to achieve a better balance in their work and home life with provisions for shared parental leave and pay and the extension of the right to request flexible working to all employees. In the context of separated families the new policy ethos is on supporting separated families and this Act also sent a clear signal to separated parents that courts will take account of the principle that both should continue to be involved in their children's lives where that is safe and consistent with the child's welfare. With the increasing engagement of fathers there is now a presumption that both parents are involved and if separation occurs that courts are encouraged to recognise the role of each parent in a more equal way.

1.2 Nuffield- ESRC funding

In recognition of the crucial importance of fathers in family life and concern about the lack of relevant data, the Nuffield Foundation and the ESRC co-funded work relating to the new UK cohort study, Life Study. This had two phases. Phase 1 was a preparatory stage, which ran from June 2013 to September 2014. This Phase was concerned with assessing how best fathers might be recruited, retained and tracked and the identification of the key scientific questions and opportunities across the social, behavioural, environmental, and biological domains that Life Study might be best placed to address relating to fathers, partners and co-parents. In Phase 2 the Nuffield Foundation and the ESRC provided funding for a pilot study which enhanced the collection of data on resident fathers and partners and new data on non-resident fathers in Life Study. Phase 2 ran from March 2015 to the closure of Life Study. This report covers both Phases of the work.

1.3 Life Study

Life Study (LS) was a new birth cohort study, which planned to involve more than 80,000 UK babies and their families across England, Scotland, Wales and Northern Ireland. It was designed to advance understanding of the complex interplay between biology, behaviour, and the environment during early development, and its influence on children's future health and well-being in areas of major importance to children, their parents and society. It aimed to address five broad research themes: inequalities, diversity and social mobility; early life antecedents of school readiness and later educational performance; developmental origins of health and illness in childhood; social, emotional and cognitive development: the interplay between infant and parent; neighbourhoods and environment: effects on child and family.

A fuller account of Life Study can be found in the report "Life Study Scientific Protocol" located at <http://www.lifestudy.ac.uk/resources>. In summary, it comprised two integrated components: the Pregnancy Component which planned to recruit more than 60,000 pregnant women and their nominated partners via the maternity units in a set of English NHS Trusts.; and the Birth Component which was to be a national probability sample which planned to recruit mothers and their co-resident partners via birth

registration records. In the Pregnancy component, women and their nominated partners were to be invited to take part during the pregnancy and both were to be seen at Life Study Centres, from the 28th week of pregnancy onwards. The initial funding also provided for the mother to attend the Life Study Centre twice more with the baby when they were 6 and 12 months old. In the Birth Component, 20,000 mothers and their partners were to be interviewed in their own homes when the baby was aged 6 months with the mother completing a computer assisted web interview (CAWI) or telephone interview (CATI) when her baby was aged 12 months. The 6 and 12 month visits were planned to be aligned temporally across both components: thus recruitment to the birth component was planned to start approximately 9 months after recruitment to the pregnancy component with an interval between recruitment and the final 12 month visit of 15 months and 6 months in the pregnancy and birth components respectively. This was the totality of data collection included in the first round of Research Council funding for Life Study and is illustrated in Table 1.1.

Table 1.1: Summary of contacts with fathers and partners – baseline approach (as in original funding)

Timing of contact	Mothers	Fathers/Partners Resident	Fathers/Partners Non-resident
Pregnancy Component			
Pregnancy	<i>Interview</i>	<i>Interview</i>	<i>Some interviews</i>
6 months	<i>Interview</i>	<i>No</i>	<i>No</i>
12 months	<i>Interview</i>	<i>No</i>	<i>No</i>
Birth Component			
6 months	<i>Interview</i>	<i>Interview</i>	<i>No</i>
12 months	<i>CAWI/CATI*</i>	<i>No</i>	<i>No</i>

*CAWI Computer assisted Web Based Interview; CATI Computer assisted Telephone Interview

While Life Study planned to recruit fathers and partners in both the pregnancy and birth components, there was only one funded contact in pregnancy and one in the birth component when their child was aged 6 months compared with three and two contacts respectively with mothers. There was a potential opportunity to recruit non-residential

fathers in the pregnancy component depending on whether he attended with the mother but there were no plans to recruit non-resident fathers in the birth component.

As a result of the preparatory work in Phase 1, which is discussed in Sections 2 and 3, and the provision of additional funding the number of contacts with fathers and partners were to be increased as shown in Table 1.2. Thus, if Life Study had continued there would have been the opportunity to collect data on fathers and partners resident and non-resident when the child was six and twelve months old in both the birth and pregnancy components.

Table 1.2: Summary of contacts with fathers and partners: bold text indicates the additional contacts

Timing of contact	Mothers	Fathers/Partners Resident	Fathers/Partners Non-resident
Pregnancy Component			
Pregnancy	<i>Interview</i>	<i>Interview</i>	<i>Interview (enhanced)</i>
6 months	<i>Interview</i>	CAWI/CATI	CAWI/CATI
12 months	<i>Interview</i>	CAWI/CATI	CAWI/CATI
Birth Component			
6 months	<i>Interview</i>	<i>Interview</i>	Interview
12 months	<i>CAWI/CATI</i>	CAWI/CATI	CAWI/CATI

In this approach non-resident fathers originally not included in the birth component data collection would be recruited and offered an interview in their homes. Both resident and non-resident fathers/partners would be offered a CAWI/CATI at 6 and 12 months in the pregnancy component and a CAWI/CATI at 12 months in the birth component. It was hoped that such an approach would increase retention as a result of more frequent contact, provide additional opportunities to obtain consent to record linkage and document father/partner involvement with the baby in the context of a range of different family settings in the first year of life.

1.4 Advantages of Life Study for studying Fathers and Partners

Among the advantages of Life Study for studying fathers and partners was that it was to be the first national UK cohort study to commence in pregnancy and with the advent of additional funding to have a particular focus on non-resident fathers. Commencing in pregnancy provided the opportunity to collect data and consider factors before, as well as after, the birth of the child. The innovatory collection of biological samples from mothers, babies and fathers/partners would also provide a focus on the complex and dynamic links between children's biology, their environments and development in pregnancy and during the first year of life. Moreover starting a study in pregnancy as in the Pregnancy Component and as early as 6 months in the Birth Component would permit the recruitment of fathers in their own right from an early stage in their children's lives. Recruitment at such an early stage may increase the participation of non-resident fathers as are more of them are likely to be romantically involved with the mother, and resident fathers/partners who subsequently left the home might be more likely to remain involved post-separation.

The focus on non-resident fathers was especially important in the context of the UK as a significant minority of fathers do not live with the mother during the pregnancy and at the time of the birth. An approximation for this can be gleaned from birth registration statistics. Data for 2012 shows that 16.2% of fathers were not living with the mother of the baby at the time of the registration of the birth, comprising 10.6% where the father jointly registered the birth and 5.7% where the mother registered the baby on her own. This type of non-resident fatherhood from such an early stage in a child's life is more prevalent in Britain and the USA than in other Western European countries (5% or less). Yet, in the UK it is very rare - if not unprecedented - for non-resident fathers to be included in surveys during pregnancy or from the outset of their children's lives.

Very little is known about non-residential fatherhood that begins with parenthood rather than after the breakdown of a marriage or cohabiting union. Such fathers are largely statistically invisible and little is known about the extent to which they maintain a relationship with their children and the form it takes. Collecting information directly on these fathers would allow a greater understanding of these fathers and their lives and provide a resource to address such questions as to the extent to which lack of co-

residence or lack of involvement arises from choice, constraints or contingencies. It would also enable a clearer understanding of the role these fathers play over the first year of a child's life, including their reactions to fatherhood and what might help or prevent their positive involvement in their child's upbringing and how this impinges on the children's development and well-being.

1.5 Estimates of number of potential non-resident fathers

Another advantage of Life Study for the study of non-resident fathers was that the potential population of non-resident fathers would be significant. A 20,000 sample of births from birth registrations would give a potential population of non-resident fathers of 3260 on the assumption of 16% of births are to parents who are not likely to be living in a co-residential partnership. This 3260 is made up of 2120 fathers who jointly registered the birth with the mother but were living at a different address to her and 1140 fathers where the mother was the sole registrant. It would be expected that the likelihood of recruiting the fathers who jointly registered their child would be greater than where the mother has solely registered her baby. In the Pregnancy component if a 60,000 sample had been achieved then the potential population of non-resident fathers would have been substantial as the birth registration data for the localities in which the Life Study Centres were based or to be based suggested higher proportions of non-resident fathers ranging from 20-33% as opposed to 16% nationally.

2. Development Work on Fathers and Partners: Phase 1

2.1 Introduction

The Nuffield Foundation and the ESRC co-funded preparatory work on Life Study from June 2013 to September 2014, in order to assess how best fathers might be recruited, retained and tracked and to identify the key scientific questions and opportunities across the social, behavioural, environmental, and biological domains that Life Study might be best placed to address relating to fathers, partners and co-parents.

An Expert Advisory Group on Fathers and Partners chaired by Professor Kathleen Kiernan was set up to assist in this endeavour and had its first meeting in July 2013 (See Appendix 1 for Membership). At this juncture funding was only available for one contact with fathers and partners during the pregnancy in the Pregnancy Component of Life Study and one contact with co-resident fathers and partners in the Birth Component, which was planned to take place when the baby was 6 months old (as was shown in Table 1).

During Phase One the Expert Advisory Group (EAG) carried out a number of tasks.

- The group reviewed the pregnancy component questionnaire for gaps relating to fathers, co-parents and partners and commented and made suggestions for the improvement of the participant information for fathers and partners.
- The EAG held a mini workshop in the February 2014 meeting, which discussed the scientific research opportunities across the social and medical sciences afforded by the inclusion of fathers and partners in Life Study. This included invited participants from the biomedical sciences. The wider scientific community also contributed to these discussions at the Life Study's annual Scientific Researcher Investigator Network meeting held in June 2014 where Fathers and Partners were a key focus. This meeting included a keynote presentation by Kathleen Kiernan on the work on Fathers and Partners in Life Study and break out groups, which were facilitated by members of the EAG.
- Three reports were commissioned and considered by the group. These were: a review by Caroline Bryson entitled "Maximising the involvement of fathers and partners in Life Study: what can we learn from other relevant UK studies?"; a

report by Kathleen Kiernan entitled “National and International Birth Cohorts: father and partner involvement”; and a third by Stephanie Prady and Kathleen Kiernan on “The concordance between mothers’ and partners’ responses in surveys”.

More details on these EAG activities and other aspects of the Development Stage are provided below.

2.2 Identification of Gaps in the Pregnancy Questionnaire

The EAG spent a good deal of time reviewing the pregnancy questionnaire (which had been developed before the establishment of the group) and identified important additional topics for inclusion which included the following:

- Paternal Fetal Attachment; in terms of the fathers thoughts and feelings about the developing baby;
- Feelings about the pregnancy; whether it was planned and whether there was discussion and agreement about having a baby;
- Parental Relationships: information on the quality of the relationship and whether there was conflict and physical abuse;
- Preparation for fatherhood, attitudes to fatherhood and expectations about involvement after the baby is born.

These topics have rarely been included in pregnancy surveys in which families are followed up, yet they all have implications for the baby and the child they will become. Questions were sourced from tested questions and inventories in other surveys.

2.3 Topics included in the Pregnancy Questionnaire

Table 2.1 provides an overview of the topics included in the final version of the pregnancy questionnaire which also formed the building block for the 6 month birth

component questionnaire. The full version of the pregnancy questionnaire can be found at <http://www.lifestudy.ac.uk/resources>

Table 2.1: Summary of the topics included in the pregnancy component for fathers and partners

Demographics	Number of babies in study, members of household, family structure, non-resident family members, distance to non-resident partner
Identity	Migration history, citizenship, language, religion
Parental & family health	General health, long-standing illness, problems, diabetes, hypertension, allergies, atopy, medications, weight, family history of vision and hearing problems
Parental mental health	Depression, anxiety, behavioural difficulties, life events, well-being, stress, self-efficacy, functional literacy and numeracy, cognition, personality
Parental behaviour & lifestyle	Smoking, alcohol, physical activity
Parental education	Time left full-time education, qualifications, reading
Parental employment	Occupation, employment status, working after baby born, working pattern, intention to return to work, grandparents occupation and qualifications
Financial situation	Income, benefits, managing financially, wealth
Pregnancy	Unplanned pregnancy
Diet and nutrition	Parental diet (food security, quality of diet)
Parenting	Feelings about being a parent, need for father involvement, paternal ante-natal attachment
Family relationships	Role of father/partner, quality of parental relationship, domestic violence
Social networks and support	Relationship with grandparents
Housing	Moved house, housing (tenure, type, composition), residential history
Neighbourhood	Area conditions, community cohesion.
Environment	Home environment, noise, water consumed and activities (parents and babies), chemicals in the environment, EMF
Physical measures and biosamples	Anthropometry, vision assessments, blood sample (or saliva if unable to attend), urine sample

2.4 Engagement and Recruitment of Fathers

It became clear from consideration of the work done by LS team on public involvement, including focus groups, and the EAG reports that a priority had to be maximising the

recruitment of fathers and to enrol them as early as possible. Moreover there needed to be a tailored approach to fathers and partners.

Highlights from the preparatory work, reports and discussions included the following.

- In great majority of studies of fathers and partners the mother is the gatekeeper to the initial contact with the father so it is very important that they are informed about the importance of the involvement of fathers in the study. However, the focus group work showed that in some ethnic groups it was the father who was the gatekeeper to the mother's participation.
- There should be personalised invitations addressed to father/partners.
- That interview times and modes of data collection should be father friendly. For example, interviews to be arranged for outside working hours.

In the pregnancy component in particular:

- That the use of male staff/ interviewers should be considered as this may increase the possibility of getting interviews from fathers and partners.
- Incentives for fathers/partners, for example a lottery-type approach with a small number of prizes to be considered.
- Consideration be given to setting up specific workshops for fathers and partners prior to the birth but this may need to be location-specific, depending on what is already in place and how fathers and partners are viewed locally.
- Maternity staff to focus on fathers as well as mothers. Fathers not to be treated or regarded as "the second parent".

2.5 Scientific opportunities from the inclusion of fathers and partners in Life Study

The scientific opportunities afforded by the inclusion of fathers and partners in Life Study, which were identified in the workshops are summarised below and covered a range of social and biosocial themes.

- **Intergenerational effects:** this area particularly unites the social and biomedical sciences, and encompasses pre-conception and pre-natal effects. There is a growing field of epigenetics looking at the effects of the health of the grandparents and how they might impact on future generations. Examples of emerging findings from other studies suggest that paternal pre-pubertal and/or adolescent exposures impact on the health outcomes of male offspring in particular. A number of promising opportunities have been identified for further exploration as potential enhancements for Life Study with a focus on epigenetics. A further opportunity concerns parenting and trans-generational effects to do with fathers' own experiences of parenting.
- **Mechanisms underlying biological embedding** of poverty and the socioeconomic and family environment, including the mechanisms by which poverty, deprivation, prematurity or family conflict are reflected in later child outcomes. This topic also provides an opportunity for interaction between social and biomedical scientists.
- **Social mobility** – enriching the data collected by Life Study on fathers, particularly on non-resident fathers to help tease out the factors involved in intergenerational social mobility across three generations (grandparents to parents to the Life Study children).
- **Paternal sensitivity** – the mechanisms underlying the impact that paternal involvement with their child can have on the outcomes for their children, eg involvement with feeding, bonding, paternity leave .
- **Blended and separated families** – for example, the impact on a child's development of non-resident fathers with a new family, or the inclusion in Life Study of new resident partners following changes in family structure, or the impact of absent fathers.
- **Gender patterning** – role of fathers and partners including their expectations and involvement

The enthusiasm portrayed by the participants at the workshops for examining such topics augured well for future cross-disciplinary research.

3. Commissioned Reports

Two of the reports commissioned and considered by the EAG provided information on what could be learnt from UK surveys both quantitative and qualitative and from national and international cohort studies on including fathers in Life Study.

3.1 Experience of engaging fathers / partners in UK studies

The review by Caroline Bryson (Bryson, 2014) drew on a range of surveys and qualitative studies carried out in the UK over the past 20 years. It reported on the methodologies used in these studies for identifying, approaching and engaging fathers and, in the case of longitudinal studies, retaining their involvement over time. It also covered the ways in which studies have sought consent from parents and children to access their administrative data with a view to enhancing their survey data. Here we provide some of the main findings. The full report entitled “Maximising the involvement of fathers and/or partners in Life Study: what can we learn from other relevant UK studies?” is available on the Nuffield Website.

The review provided some examples of successful practice on which Life Study could draw, but it also served to highlight a range of challenges that the new birth cohort would face in terms of involving fathers, in particular those who are non-resident.

A key finding from this review of UK studies is the paucity of data, particularly survey data, from fathers.

- It is the case that the majority of surveys and evaluations that focus on families or on children interview the main carers (almost always mothers), and sometimes the children. These studies usually collect limited proxy data on fathers. Some family or child-focused surveys include subsidiary interviews with the main carers’ partners (so, including resident fathers), but very rarely non-resident fathers.
- Understanding Society is perhaps the best example of a longitudinal survey in which mothers and fathers hold equal status (rather than as main and partner

respondents). It also continues to include either parent if they leave the household.

A limited number of surveys (e.g. on services for parents) randomly select one parent for interview. Whether non-resident parents are eligible for interview varies between surveys.

- A range of small-scale qualitative and (more rarely) quantitative studies have focused specifically on fathers, often without the inclusion of mothers or children.
- Studies of family separation often involve interviews with parents with care (usually mothers) and non-resident parents (fathers), but rarely involve attempting to interview both parents from the same family.

Where families have separated, few studies involve interviews with both mothers and fathers.

Most studies involving main carers (usually mothers) and children do not interview non-resident parents (usually fathers). Understanding Society is an exception, as it continues to involve parents who leave the household, provided they were resident at some point in the life of the survey. There are also a few examples of qualitative studies, which have sought to interview parents with care and non-resident parents from the same families.

Fewer resident fathers take part in surveys than resident mothers (i.e. the response rate is lower among fathers), and this differential is greater among unmarried couples. This is true when both fathers and mothers are approached to take part (e.g. Understanding Society) or when one parent is randomly selected to be approached for interview. When fathers are approached after the mother has completed the main carer interview (e.g. Families and Children Survey (FACS)), a fairly high proportion take part in the partner interview.

Studies rarely tailor their approach to mothers and to fathers. Regardless of whether the mother is the gatekeeper to the research team gaining access to the father (e.g. in studies using Child Benefit records or sampling during pregnancy) or whether fathers are approached directly (e.g. in Understanding Society), studies rarely tailor their approach to mothers and to fathers. It is most common to use the same introductory letters and information leaflets, rather than attempt to address any facilitators or barriers to participation pertinent to mothers or fathers.

Barriers to fathers' participation. Qualitative studies of fathers often 'sold' their research to participants on the basis that the research provided fathers with a 'voice' at a time when fathers were asked less often than mothers to be involved in services or in research. Some engaged reticent fathers early in the process by inviting them to participate in focus groups with other fathers. Other (qualitative and quantitative) studies focused on ensuring that any practical barriers to fathers' participation were removed: offering flexibility of times and locations for interviews, reminder text messages and flexibility of interview mode. For instance, FACS introduced the choice of a telephone or face-to-face interview for partners, to counter falling response rates.

Study designs often rely on the mother providing fathers' contact details to approach them for interview. The reviewed reports did not raise any ethical concerns about asking mothers for this information (either when fathers are resident or if they have left the household since the previous wave): it was not seen as problematic given that the mothers can choose whether or not to do so.

Comment: The Research Ethics Committee approved this approach but the need to consider refinements to this approach emerged in the Qualitative Study of Lone Mothers, which explored options for contacting non-resident fathers (discussed in Section 9).

Engaging non-resident fathers in research is particularly challenging. This is due in part to getting – and keeping – in touch with non-resident parents, and partly due to a reticence on the part of non-resident fathers to take part. A number of studies attempting to identify, contact and interview non-resident fathers (both through

screening processes or Child Support Agency administrative records) have resulted in low response rates and samples biased towards those more likely to be in contact with or have good relations with their children or ex-partner. Beyond the difficulties of not being able to contact non-resident parents (not identifying themselves as parents in survey screens, not providing up-to-date contact details, etc.), non-resident fathers can be reticent to participate in research for a number of reasons including: concerns about unsettling fragile relationships (even when they are currently good), confidentiality of their data from their ex-partner, and reticence to talk about their children when they themselves are not in contact.

3.2 Recruiting Fathers Experience of National and International Cohort Studies

Kathleen Kiernan's report (Kiernan, 2014) examined the ways in which national and international birth cohort studies have recruited and retained fathers and the types of information collected. The review focused on large scale studies started over the last two decades in the UK, Europe, the USA and the Antipodes and covered studies that started in pregnancy, at birth and in infancy. Again the full report entitled "Fathers and Partners in National and International Birth Cohort Studies" is available at the Nuffield website.

3.2.1 Studies started in Pregnancy

There are a limited number of studies that have started in pregnancy including: community based studies such as Born in Bradford and Avon Longitudinal Study of Parents and Children in the UK; Generation R in the Netherlands; and more nationally representative studies such as Growing up in New Zealand and the Norwegian Mother and Baby study (MoBa). In most pregnancy studies the mother is the focal respondent and she identifies who she regards as the father/father figure of her baby. At this stage in family formation the vast majority of partners are likely to be the biological father. As we see from Table 3.1, with one exception over two thirds of the fathers where the mother was included in the survey were recruited.

Table 3.1: Pregnancy Cohorts – Father recruitment

Pregnancy Cohorts	Year	Percentage of Fathers recruited	Number of Mothers in thousands
Norway –Mother and Baby (MoBa)	1999-2008	79%	90k
Netherlands Generation R	2002-2006	71%	10k
Growing up in New Zealand	2009-2010	65%	7k
Born in Bradford	2007-2010	25%	13k

The Norwegian Mother and Child Cohort Study (MoBa) www.fhi.no/moba-en

MoBa (Mother and Baby) is a nationally representative sample of Norwegian babies. Between 1999 and 2008 the study recruited more than 90,000 pregnant women at the first ultrasound scans in a hospital or maternity unit. Over 70,000 fathers have participated (almost 80% of the fathers). So far there have been eight self-completed postal questionnaires for the mothers and one for the fathers. The father's questionnaire was sent out in the 15th week of pregnancy and included questions on the father's physical and mental health, his lifestyle and working conditions. As far as can be ascertained the only other information collected on partners in later pregnancy and during the child's first year of life is some proxy information on smoking behaviour, which was included in the 30 week pregnancy questionnaire and in the 4-6 month questionnaire to the mother. Thus very limited information has been collected on the fathers of the cohort children.

Generation R (Netherlands) www.generationr.nl/

Generation R is a longitudinal study of 10,000 children growing up in Rotterdam who were born between 2002 and 2006. The study was designed to identify early biological and environmental determinants of growth, development and health in foetal life and childhood. The core research question is why some children develop optimally whilst other children do not. Enrolment occurred from 18 weeks of pregnancy to birth. Only fathers where the mother was enrolled during pregnancy were eligible to be included. The fathers were not approached directly by the study staff but the mothers were informed about the importance of involvement of the fathers in the study. Seventy one per cent of the fathers were enrolled in the study (n=6347). Mothers received four postal questionnaires and the father received one postal questionnaire in the prenatal

phase. The father's questionnaire collected information on occupation, education and income smoking, alcohol and substance use and mental and physical health. Biological samples included whole blood and purified DNA. All this information was collected during the pregnancy. Eighty-two per cent of the enrolled fathers answered the questionnaire and provided a blood sample. During the pre-school period mothers received a further 8 questionnaires and the father an additional one at 36 months. Additionally, observations of parent-child interaction and behaviour, such as executive function, heart rate variability, infant-parent attachment, moral development, and compliance with mother and child have been performed at the ages of 14, 36 and 48 months and with the father and the child at 48 months. Again it is noteworthy that much less information is collected from fathers than mothers.

Growing Up in New Zealand www.growingup.co.nz/

Growing Up in New Zealand is a longitudinal study of approximately 7,000 children and their families that began in pregnancy. Both mothers and their partners were recruited. The study follows a cohort of children born in 2009 and 2010 who are broadly representative of the population of new babies born in New Zealand. The ante-natal study collected information on health and well-being, psychosocial and cognitive development, education, family relationships and aspiration for the child, neighbourhoods and environment and culture and ethnicity. To date it has not collected any biomarker information. Multiple strategies were used to make contact with eligible mothers. The most common source of referrals were in order of magnitude the Lead Maternity Carers – referral (41%), Shopping Malls – direct referrals (39%) and 12% self-referral from the Web. Partners could only be recruited at baseline if the mothers provided their contact details to the recruitment team. Partners were defined as being the current social partners of the mothers at the time they enrolled in the study. Specifically, a partner was defined as the one she was in a “significant social relationship with”. If contact details were provided an independent interview with the partner was arranged. Antenatal interviews were completed with 6822 mothers, and 4401 (65%) of their partners consented to participate in the longitudinal study. In 99% of the cases partners were the biological fathers of the children. The antenatal contact consisted of a face- to-face with the pregnant mother and with her partner and the interviews mainly took place in their own homes. A

second face-to-face interview with the child's mother and her partner took place when the cohort children were nine months old. Of the 6846 children in the *Growing Up in New Zealand* cohort, information for 6470 (95%) was collected at the nine month old contact. Information from 4094 partners was collected when the babies were nine months old (93% of those responding in the antenatal period).

Born In Bradford www.borninbradford.nhs.uk/

The Born in Bradford (BiB) cohort study commenced in pregnancy and was set up to examine how genetic, environmental behavioural and social factors impact on children's health and development. Recruitment of the cohort ran from March 2007 to December 2010 with 13776 mothers recruited ante-natally. Fathers were approached individually at the Maternity Unit during the mothers' recruitment or they were approached on the wards post-natally. Recruitment was opportunistic in that a father was only included if he attended with the mother and agreed to participate in the study.

Table 3.2: Timing of recruitment of fathers in BiB

	N	%
Dating Scan	11	0.4
20 weeks scan	7	0.3
Glucose Tolerance Test (28 weeks)	1179	48.1
Delivery	120	4.9
Post natal ward	1043	42.6
Other	91	3.7
Total	2451	100.0

With a few exceptions (see Table 3.2) recruitment began with fathers who accompanied the mother for the oral Glucose Tolerance Test (GTT) and if not included at this time he was invited to participate when he accompanied his partner at other hospital visits, or after the birth. The great majority of mothers were recruited at the GTT clinic. The procedure was to invite the woman's current partner to participate regardless of whether or not he was the child's genetic father. If there was uncertainty about who was to be approached, the mother was asked who should be offered the opportunity to participate in the study. The fathers' recruitment interview consisted of registration; consent to use of medical records and use of and storage of the saliva sample ; taking a

saliva sample; height and weight and a short questionnaire which collected information on their education, employment, country of birth and when they came to the UK, smoking and drinking.

A subset of the cohort known as BiB 1000 included mothers recruited between August 2008 and March 2009 (n=1707) to study the patterns and aetiology of childhood obesity. This sample has been followed up at frequent intervals, at 6, 12, 18, 24 and 36 months postpartum. Telephone contact is made during the month before the child turns 6 months which is followed by a home visit at a time to suit the parents including evenings and weekends as necessary. At the 6 and 12 month visits the mother's resident partner was invited to complete a questionnaire that included information on employment, general health height and weight, parenting and the General Health Questionnaire (GHQ). This was given to the father to self-complete if he was present and then returned to the interviewer or left in the home to be returned by post.

Response Rates in BiB: Based on the recruitment over the period March 2007 to the end of January 2010, 10,683 mothers and 2601 fathers (25 per cent) were recruited. Of these fathers, 97.5% (2537) completed the questionnaire and 87.5% (2276) gave a saliva sample. At the 6 month visit on the smaller BIB 1000 sample 1273 mothers were interviewed and 441 partner questionnaires were returned which constituted a 35% response rate.

3.2.2 Studies started at Birth

Very few of the recent cohort studies have commenced at birth. Two examples are the Etude Longitudinale Francaise depuis L'Enfance (ELFE) in France and the more longstanding US Fragile Families and Child Wellbeing Study.

Etude Longitudinale Francaise depuis L'Enfance (ELFE) www.elfe-france.fr/

ELFE is a French longitudinal study of approximately 20,000 children born in metropolitan France in 2011. Mothers were recruited from a representative sample of French maternity hospitals. Whilst in the maternity hospitals a questionnaire was administered to the mother by the midwife, information was also collected on

pregnancy and childbirth from medical records, biological samples (cord blood, maternal urine, venous blood, hair and breast milk), and a self-completion questionnaire on diet and environmental exposures during pregnancy. Consents to participate in the study were obtained from the mother and father. Biological samples were collected for a sub-sample of 10,000 mothers. When the child was 6-8 weeks old there was a telephone interview with the mother lasting around 50-60 minutes and a shorter one with the father of around 20-30 minutes. This interview collected information on the children's living conditions, family circumstances, diet, education and environment. Between 3 and 12 months there were three self-completion questionnaires on infant feeding which were sent and returned by post. Around the child's first birthday there was another telephone interview with the mother and father.

The response rate to the individual parent questionnaire at two months after birth was 86% for mothers and 79% for fathers. First results for participation at the one year interview show that amongst the parents still in the cohort at this point 82% of mothers (corresponding to 77% of mothers contacted at 2 months) and 70% of fathers (corresponding to 65% of fathers contacted at 2 months) responded to the questionnaire. The response rate to the infant feeding questionnaire which was sent by post was much lower, at around 56 per cent.

Fathers are an espoused focus of ELFE and consequently, they planned that fathers would be contacted almost as frequently as the mother, and both resident and non-resident fathers were to be followed-up. They were to be asked about issues such as their relationship with their children, housing conditions and division of household and childcare tasks. As yet there is very limited information available in the public domain such as the questionnaires. A personal communication in relation to response rates for non-resident fathers indicated that only 16% of the non-resident fathers responded at the 2 month survey and 21% at the one year old survey.

The US Fragile Families Study www.fragilefamilies.princeton.edu

The Fragile Families Study (FFS) is one of the very few studies to have followed up non-resident fathers. The study was primarily designed to follow the lives of children born to unmarried parents, but the sample also included a comparison sample of children

born to married parents. The Study follows a cohort of nearly 5,000 children born in U.S. cities between 1998 and 2000 (roughly three-quarters of whom were born to unmarried parents). The cities were selected using a stratified random sample of all U.S. cities with a population of 200,000 or more. Cities were grouped according to their policy environments and labour market conditions in order to ensure diversity in policy environments.

Mothers were interviewed in the hospital soon after the child's birth and asked to identify the father of their child. Fathers were interviewed either in person at the hospital (66%) or by telephone (20%) (a few interviews occurred in the father's home). Eighty-nine per cent of the co-resident fathers were interviewed and 61% of the non-resident fathers. Response rates for the latter group were lower as a third of the fathers had not visited the hospital by the time the mother was interviewed and also sometimes due to mothers choosing not to provide the father's name. Both the parents were given a \$20 incentive and both parents were also given an additional \$5 if the father interview was completed at the hospital. At later waves (ages 1, 3 and 5) mothers and fathers who responded were given \$30 dollars each and at the age 9 survey \$75 each.

Interviewers were trained to deal sensitively with the situation of parents not living together. When attempting to contact fathers outside the hospital, they were required to keep the specific nature of the study confidential as some fathers might be living with extended family who may have no knowledge of the baby. In such cases the materials sent to the father's address made no reference to "parents".

As we see in Table 3.3 there was a decline in response rates overtime, but still 7 out of 10 of the Fathers resident at baseline responded, and many of these fathers would not have been co-resident at subsequent follow-ups. Amongst the fathers who were non-resident at birth one in two were still responding when the child was 5 years old which represents 87% of those who completed at baseline. Attrition rates are broadly similar for the two groups of fathers.

Table 3.3: Completion Rates for Fathers: Fragile Families Study

	Residential at Baseline	Non-Residential at Baseline
Baseline (Birth)	89%	61%
1-YR	79%	54%
3-YR	76%	53%
5-YR	72%	53%

Special tabulation made for the report by the Fragile Families Study Data Manager, Kate Jaeger

3.2.3 Studies started in Infancy

Studies that commence in infancy are somewhat more common and we reviewed relevant elements from the UK's Millennium Cohort Study (started at 9-11 months), Growing-up in Scotland (10 months), Growing up in Ireland (9 months), the Australian Longitudinal Study of children (6-12 months) and the US Early Childhood Longitudinal Study (9 months). Here we report on a selection of these.

The Millennium Birth Cohort Study www.cls.ioe.ac.uk/

The Millennium Birth Cohort Study (MCS) collects the majority of its 'parent' data from the main carer, who is usually the child's mother. Since the first wave when the child was 9-11 months, the study has also included a shorter interview with the main carer's resident partner. With the exception of a pilot in Wave 3 (when the child was age 5), no attempts have been made to interview non-resident parents.

Although fathers are eligible to be interviewed as the main carer, the number of cases where this happens is small. The initial contact in Wave 1 was with the Child Benefit recipient (in all but a minority of cases identified by health visitors), who was almost always the mother. And, at that wave, wherever possible, main carer data were collected from mothers, as the MCS team wanted to collect information on the pregnancy (and to ask for consent to data linkage to pregnancy records). In Wave 1, 21 fathers were interviewed as the main carer (18 of whom were lone fathers). Over time,

the number of cases where the main carer interview is conducted with a father has increased, but still (in Wave 4 when the child was 7 years old) only amounted to three per cent of the interviews – totalling 392 fathers (99 lone fathers, 293 couple fathers).

So, the vast majority of data on fathers comes through the partner interviews. At each wave, partner interviews are conducted with the current partner of the main carer, regardless of their relationship to the MCS child - although this relationship is recorded in the interview so fathers can be identified. Partners/fathers who leave the household in subsequent waves are no longer eligible to be interviewed as part of the MCS. Thus, at each wave the MCS provides data on resident (or partly resident) fathers, as well as step-fathers, but nothing is directly collected from non-resident fathers.

Partners are defined as resident – or at least eligible for interview – if they stay overnight at least one or two nights each week. So, in effect, the MCS collects data from partners whose permanent residence may be elsewhere, but who have a regular overnight presence in the child's home.

Response rates and representativeness in MCS

Wave 1 of the MCS included data on 72 per cent of natural fathers. In 17 per cent of households, there was no resident partner (i.e. the father was not resident for whatever reason) and in a further 10 per cent a resident partner did not complete the interview. In only 61 cases, was the interviewed partner not the MCS child's natural father.

Across the first five waves of fieldwork, the response rate to the partner interview has remained high and stable. For example, at wave 5 (child aged 11 years) 87 per cent of eligible partners were interviewed in households where the main carer participated.

The main carer is able to do the partner interview by proxy if the partner is unable to do the interview during the fieldwork period (through illness or absence). Proxy interviews are not allowed in cases where the partner refuses to participate in person or the main carer refuses on their behalf. Across the waves, the proportion of partner interviews conducted by proxy is only around one to two per cent.

An analysis of wave 1 data found that there were some non-response biases in terms of partner participation in the survey. Partners were less likely to be interviewed in households where the main respondent: was unmarried, Asian/Black, educated below degree level, had more children, or lived in high BME/disadvantaged wards.

Interviewing Fathers and partners in MCS

The MCS is a good example of a study that has given careful consideration to contacting the co-resident fathers and partners and the study team have included extensive details in their technical reports.

In the initial first wave, opt out and introductory letters were addressed to the mother alone (as hers were the only details available on the Child Benefit records). At that stage, the mother was the gatekeeper to accessing partner's contact details. More recently at each wave advance letters are addressed to both partners in households identified as couple households in the previous wave. This is done regardless of whether the partner participated in an interview in the previous wave.

Information leaflets also mention the fact that the interviewer would like to interview partners as well as main carers (often referred to as interviewing 'fathers' and 'father-figures'). Thank you letters sent out after the interviews are also addressed to both the main carer and their partner where both had participated.

When getting in touch, interviewers are briefed to firstly attempt contact with or trace the main carer interviewed in the previous wave. Initial contact with the previous partner respondent is only made if the interviewer is unable to get hold of the main carer respondent. Separate contact and details are collected from partners as well as main carers.

Interviewers are briefed to make sure that the survey is explained clearly to each respondent, and each gives fully informed consent - rather than proxy consent being given by the main carer on behalf of the partner, or the partner consenting without the full information.

Some technical documentation refers to the fact that interviewers (e.g. in pilot debriefings) reported finding it more difficult to contact fathers than mothers. Although not encouraged, interviewers were allowed to conduct the partner interview before the main carer interview if they felt it was the best opportunity of achieving the partner interview.

In wave 5, an introductory letter for partners was introduced into the documentation. Interviewers leave this letter for partners where they have interviewed the main carer but the partner was not available at that time. The aim of the 'partner specific' letter was to encourage their response.

In early piloting, interviewer feedback on partners' reaction to the interview led to the inclusion of more questions at the start of the partner interview on their involvement in their child's life. These were introduced to make the interview more interesting and engaging to fathers and partners.

A Non-resident fathers pilot in MCS

Non-resident parents are not eligible for interview within the MCS. However, in the piloting stage of wave 3 (at age 5 years), the MCS team tested whether it might be feasible to collect some data from non-resident parents. In situations where the non-resident parent was in contact with their child, interviewers asked the mother for the contact details of the non-resident father in order to send him a self-completion questionnaire. In cases where the mother was reticent to give out contact information, she was asked if she would be willing to pass on the questionnaire to the non-resident father. The pilot results were not encouraging, and the methodology was not pursued in the main stage. Among the 22 eligible households identified in the pilot, five mothers refused to provide details or pass the questionnaire to the non-resident father. Among the other 17 households, less than half of the mothers provided the non-resident father's address, with the others passing on the questionnaire directly (which counts out the possibility of sending reminders). Only three fathers returned the questionnaire (after a reminder in the case of those with addresses provided).

Growing Up in Scotland <http://growingupinscotland.org.uk/>

Growing up in Scotland (GUS) is a longitudinal cohort study funded by the Scottish Government and run by ScotCen Social Research. There have been three cohorts (each sampled from Child Benefit Records): two on going birth cohorts that began in 2004 and 2010, and a cohort of children that ran from 2002 to 2007, tracking them from age 3 to age 6. The following largely applies to the 2004 birth cohort.

Including fathers as partners

In all but one sweep (sweep 2), interviews have been conducted with the main carer (almost always the mother) with any information about partners/fathers collected by proxy. Proxy data is updated at each sweep which includes the household grid data, employment and educational qualifications. When a new partner enters the household information on their religion and ethnicity is recorded.

In sweep 2, when the children in the birth cohort were just under age 2 the mothers' resident partners were also interviewed. While 97 per cent of those interviewed were the GUS children's natural fathers, no attempts were made or have subsequently been made to contact or interview non-resident fathers.

The partner's interview included, for example, information on parenting, work, employment and income. One of the rationales for having a partner interview was to obtain accurate factual information on employment and education and to gauge different attitudes to parenting styles such as approaches to discipline and division of domestic responsibilities.

Response rates and representativeness of the partner questionnaire

Among households where the main carer was interviewed, 80 per cent of the partners were interviewed. There was a degree of non-response bias among the participating partners, which included, partners being more likely to respond when:

- Mothers were over 40;
- Mothers had fewer children (first time mothers);
- Mothers were educated to degree level;
- Children were white;

- Mother works full-time (sole earner fathers less likely to respond);
- Neither parent in work or worked short hours.

Contacting and interviewing resident fathers (partners)

- An advance letter was sent to the main carer, but mentioned the partner interview within it. There was no direct correspondence with the partner. Where possible, the partner interview was conducted when the interviewer visited the main carer. If not, they arranged to make a second visit. On rare occasions (e.g. remote addresses) the partner interview was conducted by telephone.
- The partner interview was arranged via the mother unless the partner was in the home at the time the mother interview was conducted. Partners (resident fathers) were given a 20-25 minute interview, including a subset of questions asked of the mother.
- Consent for data linkage was not sought from partners, nor were separate stable address or contact details requested.
- The Scottish Government has not funded further sweeps with fathers as there was little policy use of the data.

Growing up in Ireland <http://www.growingup.ie/>

Growing up in Ireland (GUI) is a national longitudinal study launched in 2007 and 2008 of two birth cohorts of children an infant cohort selected randomly from the Child Benefit Register and a cohort of 9 year old school children sampled from a random sample of schools. The first wave of face to face interviews with these families took place when the infants were aged nine months from September 2008 to April 2009. Of the 11134 households interviewed in wave 1 9,775 were two parent households (88%) and in these two parent households interviews were obtained with 8,629 father partners - a response rate of 88%. For the 8568 children in the 'child' cohort (9 year olds), 7,577 or 88% were two parent households and 7,118 interviews were obtained with fathers – a response rate of 94%. (Personal communication Richard Layte).

- A specially trained Study Researcher arranged a visit to the home of the infant at a time convenient for the family. The infant's parent(s) filled out separate questionnaires which covered areas such as the child's health and development,

daily routines and childcare arrangements. The parents were also asked questions about their own health and lifestyle and parental experiences.

- After each round of data collection with the infant cohort, the study team also carried out a Qualitative Study which involved collecting more in-depth information from 120 families selected from the original sample of 10,000. The Qualitative Study aimed to record in their own words the participants' views and experiences of their family lives, interests, aspirations etc. The two data sets are to be linked.

Non-resident parents

Where relevant, permission was sought from the infant's primary carer to contact a non-resident parent, with the latter then being sent a questionnaire to fill out and return by post. A third of the mothers (33%) gave contact details and permission and 32% of the non-resident fathers responded, which was an overall response rate of 10%.

The Longitudinal Study of Australian Children (LSAC)

<http://www.growingupinaustralia.gov.au/>

The Longitudinal Study of Australian Children (LSAC) also referred to, as Growing up in Australia, is a national longitudinal survey on children's development. LSAC aims to investigate the contribution of the children's social, economic and cultural environments to their adjustment and wellbeing. The study is using an accelerated cross-sequential design in which two cohorts of children are being followed, starting from when the children were aged 0–1 years and 4–5 years. The 0–1 year old cohort is often described as the B (baby) cohort and the 4–5 year old cohort as the K (kindergarten) cohort (or alternatively they can be identified by the years of their birth: 1999–2000 birth cohort and 2003–2004 birth cohort).

Face-to-face interviews are conducted every two years, with the first wave of data collected in 2004. In addition, postal surveys are conducted between waves. The two cohorts will be able to be compared at overlapping ages, to gauge the effect of growing up in differing social conditions and policy settings.

A total of 10,090 children and their families participated in Wave 1. The sample is broadly representative of all Australian children in each of the two selected age cohorts. Information is collected from the parents who live with the child (biological, adoptive or step-parents), the child (using physical measurement, cognitive testing and interview depending upon the age of the child), home-based and centre-based carers for pre-school children who are regularly in non-parental care, and teachers (for school-aged children). Reports from multiple informants are sought in order to obtain information about the child's behaviour across differing contexts and to reduce the effects of respondent bias.

The sampling frame was created from the Health Insurance Commissions Medicare data base. For each family parents were asked to nominate one parent as the primary carer, with most families nominating the mother. This parent provides extensive information on their child and about themselves and also some items about the other parent (proxy). Face to face interviews and self-completion are used. In couple families, the other resident parent is also asked to complete a questionnaire relating to parenting practices and wellbeing.

Response rates for resident fathers/partners

Of the secondary carers (in the main fathers) 85% responded at wave 1 in infancy and 88% at wave 2 at ages 2-3 years. Of the mothers interviewed at wave 1 90% responded at wave 2.

Non-resident fathers

From wave 2, information has been collected from parents who live apart from their child but still have contact with the child.

The inclusion of non-resident fathers is a particular strength of the LSAC data. Their inclusion was explicitly made to provide a more complete picture of the family environments within which children are being raised in Australia.

In Waves 2 and 3, (ages 2-3 years and ages 4-5 years) when the child had a father living elsewhere whom they had seen in the last year, the mother was asked if she would provide contact details for the father. In Wave 2 these contact details were used to send

the father a postal questionnaire which captured various socio-demographic characteristics, as well as information about involvement with the study child and various aspects of co-parenting and child support. The response rate in Wave 2 was quite low (24 per cent for the B cohort (Baxter et al, 2012)). At Wave 3, computer-assisted telephone interviewing was used instead, in order to increase the response rate. The non-resident fathers who were contacted tended to be positive about being asked to be involved in LSAC, and this was reflected in a refusal rate of only 6 per cent of those contacted in Wave 3, The remainder of the non-response was due to an inability to make contact with the non-resident fathers. Almost 80 per cent (78.2%) of fathers for whom contact details were provided responded to this survey which represented just less than half (47.3%) of all families with fathers living elsewhere (Baxter et al, 2012) .

3.3 Report on Proxy Reporting on Fathers and Partners

In its original format Life Study was only due to collect information on fathers and partners once during pregnancy in the Pregnancy Sample and once in the Birth Component at 6 months (as shown in Table 1.1). Consequently very little information was to be collected directly from fathers and partners, thus, the Life Study team had invested a good deal of effort in developing proxy questions across a range of domains so that the information on fathers and partners was maximised. As part of the Expert Advisory Group on Fathers and Partners deliberations, a special report by Stephanie Prady and Kathleen Kiernan on “The concordance between mothers’ and partners’ responses in surveys” was produced so that we had insights into the subjects that are more likely to be reliably reported.

The report synthesised the existing literature on couple agreement on responses to a range of questions both factual and evaluative (such as opinions, thoughts and feelings). The review showed that correspondence was good on factual questions relating to marital status and dates of marriage and cohabitation. There was also good correspondence in relation to income (if banded), smoking status and drinking status but less good responses in relation to quantities and frequency. The correspondence on questions to do with height are good but not so good for weight. Information on salient life events tended also to be in in accord. On the more evaluative side there was reasonable correspondence on the extent of physical activity, aggressive behaviour and

paternal depression. Across all topics, there was some evidence that complex phrasing of questions could lower observed concordance.

Enhancing non-resident fathers' participation is particularly important as there are known discrepancies between mother's and father's reports of engagement with their children with information based on answers from both parents providing a more accurate picture of father-child contact than those based on reporting from one parent only (Kitterod and Lyngstad, 2014).

4. Development Work on Fathers and Partners: Phase 2

4.1 Introduction

Based on the above preparatory work and an appraisal of Life Study planned contacts with fathers and partners, the Expert Advisory Group recommended augmenting strategies to recruit and retain fathers from pregnancy and through the first year of life, with a particular emphasis on non-resident fathers. These recommendations were reviewed and endorsed by the Life Study Executive, Scientific Steering and Strategic Advisory Committees and an application for funding was made in October 2014. Phase 2 commenced in March 2015 when the Nuffield Foundation and the ESRC provided funding for a pilot study to collect data on fathers with a specific focus on non-resident fathers. The EAG was reconstituted and a questionnaire for non-resident fathers was developed for the 6 month Birth Component Pilot study and various additional studies were proposed to assist in maximising recruitment of this hard to reach group.

4.2 Questionnaire Development

The Life Study questionnaires had been developed by a number of scientific working groups (but not one on fathers and partners *per se*) and were the subject of a consultative conference and a web based survey carried out in 2012. As described earlier, in 2013/4 the Expert Advisory Group on fathers and partners had provided important input into the questionnaires for the Pregnancy Component. In Phase 2 the development of the non-resident father questionnaire for the 6 month old interview in the Birth Component was the major focus.

In this section we provide an overview of the topics that Life Study had included in the resident partners questionnaire and the questions asked of mothers about their resident partners (proxy questions) as well as the questions asked about non-resident fathers where they were living apart, which is followed by a more extensive elaboration of the development of the non-resident fathers questionnaire. The complete questionnaires for mothers, resident fathers/partners and non-resident fathers for the 6 month old contact can be found at the following

<http://www.lifestudy.ac.uk/resources>

4.3 The Resident Fathers and Partners Questionnaire

The following tables have the same topic headings as those in the full questionnaires. Table 4.1 provides a summary of the topics and measures included in the birth component at 6 months for resident partners. Some of these topics and the questions developed for this questionnaire were also included in the non-resident father's questionnaire: such as demographic questions, housing, identity, health and lifestyle employment, income and parenting.

Table 4.1 Topics and measures included in the LS birth component at 6 months for resident partners

Demographics	Details of cohort baby (name, sex, date of birth), all other household members, whether respondent's parents are still alive, non-resident children details
Identity	Ethnicity, place of birth and respondent's parent's place of birth, citizenship, language and fluency in English, religion
Parental & family health	Eye conditions, general health, longstanding illnesses, allergies, hearing problems
Parental mental health	Depression, behavioural difficulties (ADHD, autism), well-being, functional literacy and numeracy, cognition, personality
Parental behaviour & lifestyle	Current smoking, alcohol, hangovers, physical activity
Parental education	Age left full-time education, highest educational and vocational qualifications, reading behaviours
Parental employment	Occupation, employment status, working patterns (hours and travel times), paternity leave (length and pay), respondent's parent's occupation and qualifications
Financial situation	Income, benefits received, how managing financially
Pregnancy and birth	Unplanned pregnancy measure
Diet and nutrition	Diet (quality and frequency of food groups)
Parenting	Parent-child relationship
Family relationships	Divisions of household chores and finances, quality of parental relationship, domestic discord
Social networks and support	Relationship with respondent's parents, friendship networks (relatives, friends, neighbours)
Housing	Whether moved house since last interview, housing (tenure, type, composition, address)
Neighbourhood	Area conditions, community cohesion
Environment	Exposure to x-rays/MRI in three months before pregnancy

Mothers were also asked a number of questions about the resident partner if he was not in the home at the time of the interview or the mother responded that her partner was not capable of doing an interview. The topics covered are shown below.

Table 4.2 Proxy questions asked of the mother about the resident father

Identity	Partner's ethnicity
Parental Education	Partner's highest educational and vocational qualifications
Parental Employment	Partner's occupation, employment status, working patterns (hours and travel times), paternity leave (length and pay).

Mothers who were not living with the child's father were asked for a few details about the non-resident father which are summarised below.

Table 4.3: Mothers report on non-resident fathers characteristics

Demographics	Non-resident partner details (name, sex, date of birth, relationship to baby, travel time to partner's home)
Family Relationships	Partnership status when baby born, details of contact and relationship with cohort baby's natural father (if non-resident), interest shown in the baby, whether pays maintenance , friendliness of parental relationship

4.4 Development of the Non-Resident Fathers Questionnaire

The time frame for the development of the Non-Resident Father (NRF) questionnaire was very tight. The grant was awarded in late March 2015 and Ipsos MORI required the questionnaire by the beginning of May. The topics for inclusion in the NRF questionnaire were discussed at the meeting of the reconstituted EAG held on March 25th 2015. The development of the content of the questionnaire was delegated to two members of the EAG Kathleen Kiernan and Caroline Bryson. Suzanne Walton and Nicola Foster of the Life Study Team at UCL were responsible, under the overall supervision of Carol Dezateux, for preparing the questionnaire for scripting including combining the selected questions from the resident fathers/partners questionnaire and the questions developed for the non-resident fathers questionnaire. The target was a 45 minute long interview which involved careful prioritisation of questions. We worked to the principle that the questions relating to NRF's should take priority and this involved the

slimming down of the resident fathers/partners questionnaire which was already 45 minutes long. This involved substantial cuts to, for example, the employment, income and health and social networks sections. The questionnaire content was commented on by the members of the EAG and the Life Study Executive and Scientific Steering Committee, and the final version was approved by the latter Committee.

4.4.1 Sources of questions

Questions were sourced and adapted from a range of studies particularly other cohort and longitudinal studies including MCS, Growing up in Ireland, Growing up in New Zealand, the Longitudinal Study of Australian Children, the US Fragile Families Study, the European Gender and Generations Surveys, and the UK Household Longitudinal Study (Understanding Society). The strategy of including questions, from other cohort and longitudinal studies would in due course permit comparative analyses across generations and countries.

We also drew on more bespoke studies that had looked at issues such as contact and maintenance including: Trinder et al (2011) Building Bridges: an evaluation of the cost and effectiveness of the Separated Parents' Information Programme, a report which had been prepared for the Department for Education and DfE; Peacey and Hunt (2008) Problematic contact after separation and divorce? A national survey of parents; and Bryson et al (2012) "Kids aren't free" The child maintenance arrangements of single parents on benefit in 2012.

4.4.2 Questionnaire Topics on Parents Living Apart

Topics relating to parents living apart deemed important for inclusion in the questionnaire included: demographic behaviours around partnership and fertility; contact with the child and contact arrangements; communication and relations with the mother; feelings about being a parent, engagement in activities and involvement in the child's life including decision making; financial maintenance and other types of contributions.

Demographic topics regarded as important for inclusion in the questionnaire related to information for why and in what circumstances parents were living apart as some

would still be in a relationship whilst for others this would not be the case. Information on whether there are differences between the parents on why they want to live apart would further illuminate this issue. Multi-partnered childbearing is a growing trend thus information on how many children the father has with the mother of cohort child and the number of children by other partners would provide insights into these more complex families, as would his and the mothers current living arrangements.

Pregnancy and Birth: Questions on whether the baby was intended along with presence at the birth and being on the birth certificate provides information on the closeness of the relationship and the addition of whether the child has the fathers surname and whether it was discussed added another dimension.

Partnership Information: Having information on the partnership status of the parents whether they are married, cohabiting, living together part of the time, separated, divorced, being in a couple but not living together, dating (going out) but not living together, and not in a relationship at the time of the birth and at the time of the interview provides detailed information on the closeness of the relationship and changes that have occurred over time. For those who are separated or no longer in a relationship it is important to know why the relationship broke up such as: financial reasons (work or money), distance (not living close enough), relationship reasons, health reasons (e.g depression or sickness), alcohol or drug problems, violent or abusive behaviour or other reasons.

Contact: The extent of contact between fathers and their children is a key issue. Information on this topic included a range of questions including: how often the father sees the child, whether they overnight together and the location in terms of the baby's home, their home or the grandparents' home. The frequency with which the father communicates with the mother and the friendliness of the relationship between the parents was also covered. In terms of contact arrangements questions included: whether the contact arrangements have a set pattern and how they were determined; whether it developed with time, it was decided in court, it was mainly the father's decision, mainly mother's decision, or they sorted it out together. The reliability of the mother and father in keeping to the arrangements, whether the arrangements were a

cause of major, minor or no tension and overall satisfaction with the arrangements was also included.

Parenting topics included how the father felt about being a parent in terms of whether they thought they were very good, better than average, average, has some trouble and not very good at being a parent. More detailed questions were posed on how he regarded his role and importance in his child's life and the activities in which they engaged and their frequency including; bathing, singing, looking at picture books, reading stories, playing with toys, cuddling, taking for walks (it was agreed that this could be included for resident fathers too). On the more practical side the frequency with which they prepared food for the baby, put to bed and change nappies was also included.

Other questions included whether the father would like to be more involved in the child's life and if so what he saw as the main obstacle: for example mother does not want it, more frequent contact would be disruptive to the baby's routine, contact causes distress to the baby, contact causes distress to the father, lives too far away for more frequent contact, travel is too expensive, prevented by illness or disability, living arrangements not suitable, demands of work, new partner or family, court order arrangement prevents, financially better-off living apart, other reason. This list is repeated so that the father can choose any of these options that apply. Questions were also posed about whether the father is involved with important decisions concerning the child such as childcare or health and whether it is mainly the mother who makes the decisions, mainly the father or more equal. Additionally, whether the father is happy with the balance of this decision making and how easy or difficult it is to discuss important decisions about the baby with the mother.

Maintenance arrangements is a key topic in the realm of parents who live apart. Topics covered in the questionnaire which were derived from questions included in Understanding Society and the Bryson et al's (2012) study of single parents on benefits included: type of maintenance arrangement; how much the father is supposed to pay and how long it covers (weeks, months etc.); whether it is paid when due and the full amount is paid. If it is not paid in full the reason for this: such as cannot afford, has another partner and child to support, wants more contact with child, there are bad

feelings between him and the mother, he doesn't think he should have to support the child, the mother has enough money, I help out informally e.g. buying clothes, toys etc., I am equally involved in looking after the child. If no maintenance arrangement is in place they are asked the reasons for this. They are also asked about all types of help they give in other ways such as: paying bills, paying for urgent repairs, paying for household goods, children's clothes/shoes, toys, or holidays, paying for childcare, making mortgage or rent payments, paying off debts and other things.

Table 4.4 provides a summary of all the topics included in the Non-Resident Father questionnaire including those developed specifically for the non-resident fathers and those developed for the resident fathers, which were also to be asked of non-resident fathers.

Table 4.4 Summary of topics included in the Non-Resident Fathers Questionnaire

Demographics	Household members' sex, date of birth, and their relationship to the Non-Resident Father, whether paternal parents still alive. Whether living apart through choice or circumstances prevent the parents living together. Reasons why father wants to live apart and his report of why mother wants to live apart. Circumstances which stop them living together?
Housing	Tenure, type, level and number of rooms.
Identity	Ethnicity, place of birth, when came to UK, citizenship, language and fluency in English, religion and religiosity.
Parental education	Age left full-time education, highest educational and vocational qualifications, reading behaviours
Parental & family health	General health, longstanding illnesses, disabilities, height and weight
Parental mental health	Depression (Edinburgh Depression Scale), mental well-being (Warwick-Edinburgh Mental Well-Being Scale), functional literacy and numeracy, cognition (UK Biobank Fluid Intelligence Test), and personality (Big Five personality dimensions).
Parental behaviour & lifestyle	Ever smoked, current smoking and alcohol intake.
Parental employment	Occupation, employment status, working hours, paternity leave (length and whether paid leave).
Pregnancy and birth	Unplanned pregnancy measure, present at birth, whether on child's birth certificate, whether child has the father's surname and whether this was discussed.

Family Relationships	Partnership status at time of pregnancy, birth and current status. Reasons relationship ended. Contact with child – frequency, whether stays overnight and frequency, whether there is a set pattern to contact. How often communicates with the mother and whether relations are friendly or not.
Parenting	Feelings about being a parent; things that are important for you as a parent to do for your child, activities with baby, responsibilities for taking child to nursery/child minders, doctors etc. Father child relations (based on Mothers Object Relations Scales MORS-SF –MY baby) and activities with the baby. Quality of time spent with baby. Whether or not would like to be more involved in the child’s life. What stops them being more involved? Extent of involvement with important decisions concerning the child and whether he is happy with the balance. How easy is it to discuss decisions with the mother?
Social networks and support	Frequency of child’s contact with paternal grandparents.
Financial situation	Income, benefits received, how managing financially. Maintenance arrangements, amounts, periodicity, whether pay when due and all of it, reasons for why does not always pay full amount. If no maintenance arrangement why this is the case. Forms of other help both monetary and non-monetary
Contact details	Home address, telephone numbers – land and mobile, email addresses

4.5 Interview Timings on the Non-Resident Father Questionnaire

The interview itself was estimated to take around 45 minutes on average but would vary depending on the responses. The interview comprised three sections a Computer Assisted Personal Interview (CAPI) estimated to take around 22 minutes where the interviewer asked the questions; a Computer Assisted Self Completion Interview (CASI) of around 11 minutes where the respondent completes the questions using a tablet and a second CAPI of around 12 minutes in length.

The first CAPI included the following sections in the questionnaire: Demographics; Housing; Identity and Education.

The CASI included: Parental and Family Health; Pregnancy and Birth; Family Relationships; Social Networks and Support; Parenting; Parental Mental Health; Parental Behaviour and Life Style and Financial Situation (only one question on how they are managing nowadays).

The second CAPI included: Parental Employment; Financial Situation (detailed information on income, benefits and maintenance payments) and Contact Information.

5. Development Work on the Birth Component Non-resident Father Interview

5.1 Defining the non-resident father

The non-resident father is defined as the baby's natural father and is not living with the mother. In the mother's interview she is asked about people who live with her and this determines the status of the father as being resident or non-resident. For the resident partner the key question is the relationship question (**RelResp**) in the household grid which is found in the Demographics module and is also the first module. This question ascertains how each household member is related to the mother and cohort baby. If another household member is a husband/wife or partner/cohabitee, then that person is defined as being a resident partner. A person was defined as being part of the same household as the mother if they shared at least one meal together a day or shared living accommodation. If they have been away or are likely to be away for 6 months or more, they were classified as resident only if they intend returning.

5.2 Identifying the non-resident father

Three questions in the demographic module of the mother's questionnaire were used to identify non-resident fathers.

NResPart

If the mother does not answer husband/wife or partner/cohabitee for any household member at **RelResp** then this question is asked:

I have already asked about people living in your household. Is there anyone living outside your household who you consider to be your partner?

1	Yes
2	No
3	No, my partner died

If mother replies "Yes" the name and sex of the partner is asked followed by their relationship to the cohort baby. If the partner is the natural father he is identified as a non-resident father.

NResPreB

What is ^[Partner's name]'s relationship to [Cohort baby name(s)]?

1	Natural parent
2	Partner of parent

3	Adoptive parent
4	Foster parent
5	Step parent
6	Other relative
7	Non-relative

The remainder of the non-resident fathers were identified from the following question.

NatFaRel

You haven't told us about anyone who is the natural father of ^[Cohort baby name(s)]. Can I just ask, which of these best describes your relationship with your baby's natural father?

1	Married, but separated
2	Divorced
3	Lived together then separated
4	Closely involved but living apart
5	Living together part of the time
6	Dating
7	Not in a relationship together
8	Widowed / he died
9	Don't know who natural father is

If the father is known to the mother and alive then he is defined as a non-resident father.

5.3 Approaching the non-resident father via the mother

At the end of the mother's interview those mothers where there was a non-resident father who was a partner or otherwise were asked about whether they would be happy that he be approached to take part in the study.

The text for those with a partner was as follows. "You told me earlier that ^[Cohort baby name]'s father is your **partner**, but that he does not live with you. It would be very useful if I could talk to him, as there is a lot of interest in the role of fathers whether or not they live in the same home as their baby. Would you be happy for us to approach him to see if he would like to take part?" Yes or No

For those who were not in a partnership the text was as follows. "As well as talking to mothers about their baby, we are also interested to talk to fathers as there is a lot of interest in the role of fathers whether or not they live with in the same home as their baby. So, even though you don't live with ^[Cohort baby name]'s father we would still

like to involve him in Life Study if possible. Would you be happy for us to approach him to see if he would like to take part?" Yes or No

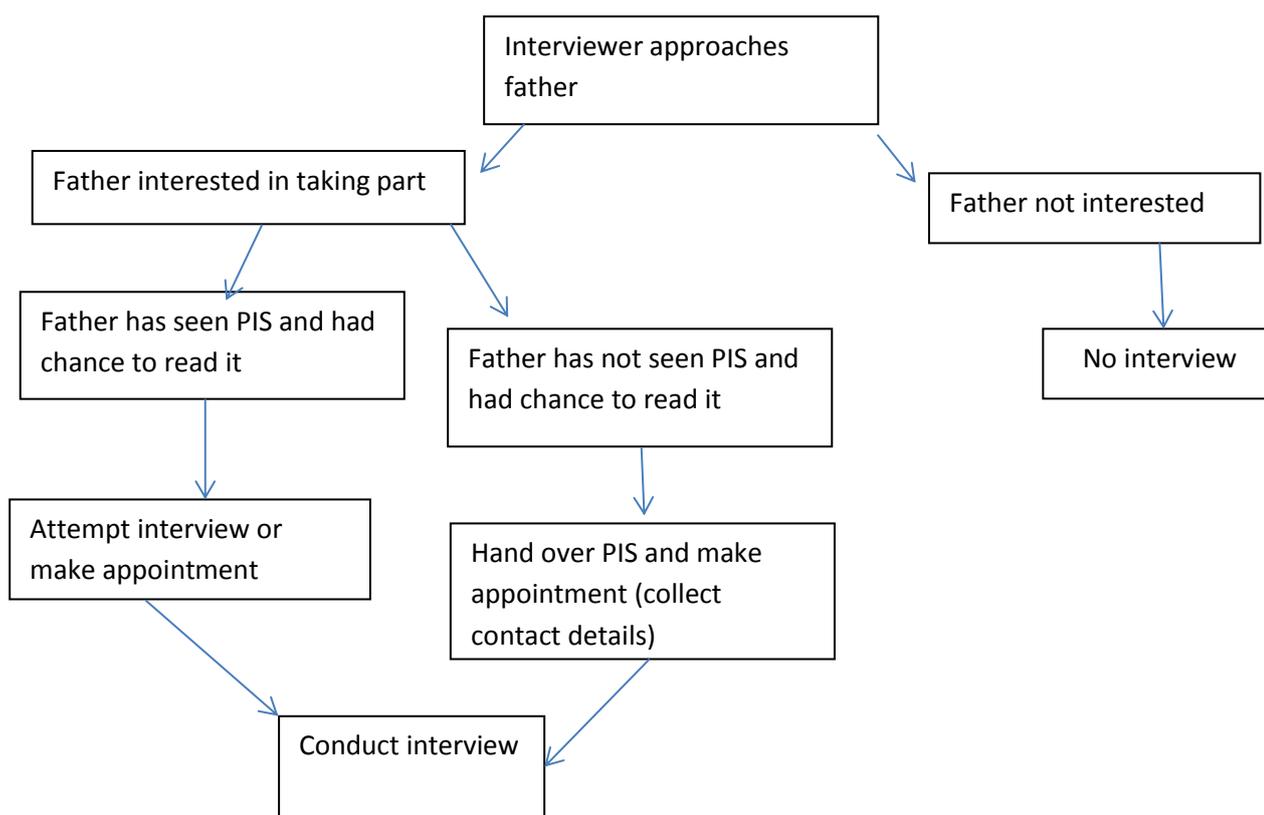
5.4 Pathways to a non-resident father interview

There were three potential pathways to the non-resident father:

1. The non-resident father is present at time of mother interview and interviewer is able to talk to the father at that point.
2. The mother provides contact details for the non-resident father to the interviewer. The details requested are his name, surname, postal address, phone numbers and email addresses.
3. The mother agrees to pass on information to the non-resident father.

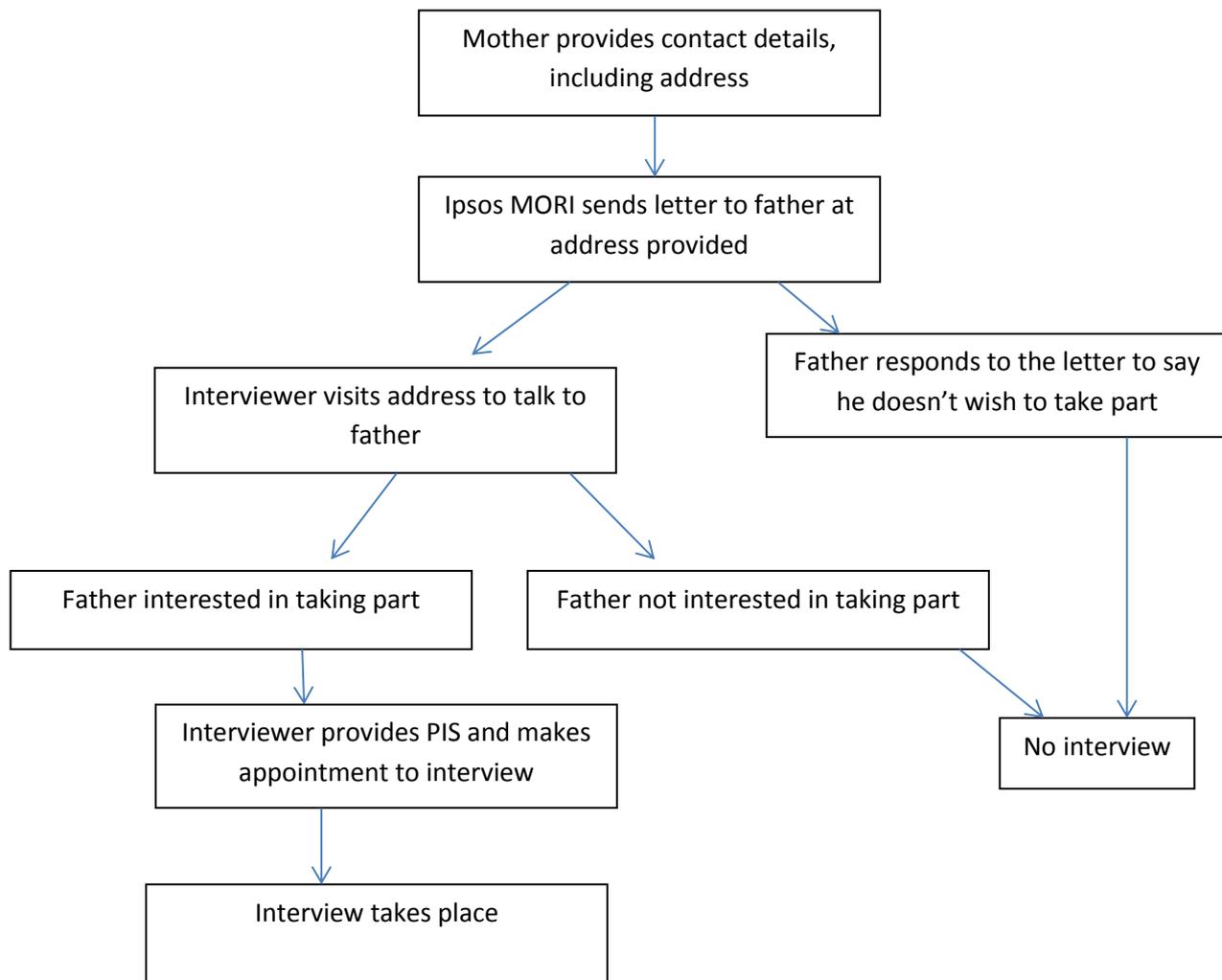
The following flow charts, created by the survey company Ipsos MORI, show the approaches taken for each of these pathways. They also identified potential risks in these approaches and made suggestions on how they might be mitigated. Before any interview it was a condition that the respondent had read the Participant Information Sheet (PIS) which gave details on Life Study and is available at <http://www.lifestudy.ac.uk/resources>

APPROACH 1: Non-resident father is present at time of the mother interview and interviewer is able to talk to the father at that point



This approach to non-resident fathers has minimal risk, as the father is fully involved in providing his contact details and agreeing (or not) to the interview. Further, the fact the non-resident father has taken part in Life Study will be kept confidential from anyone in the non-resident father's household (unless they are visiting the mother's household with him).

APPROACH 2: The mother provides contact details for the non-resident father to the interviewer



Potential Risks with APPROACH 2

There is a risk that the letter sent to the father is seen by someone else in his household and discloses that he is the father of a young child, which could be problematic.

Mitigation: The letter was worded so that it did not refer to a new baby, and also included a sentence to imply that the letter may have been sent in error. It was not planned to include the PIS with the letter, as this would give more information as to why we are writing to the father.

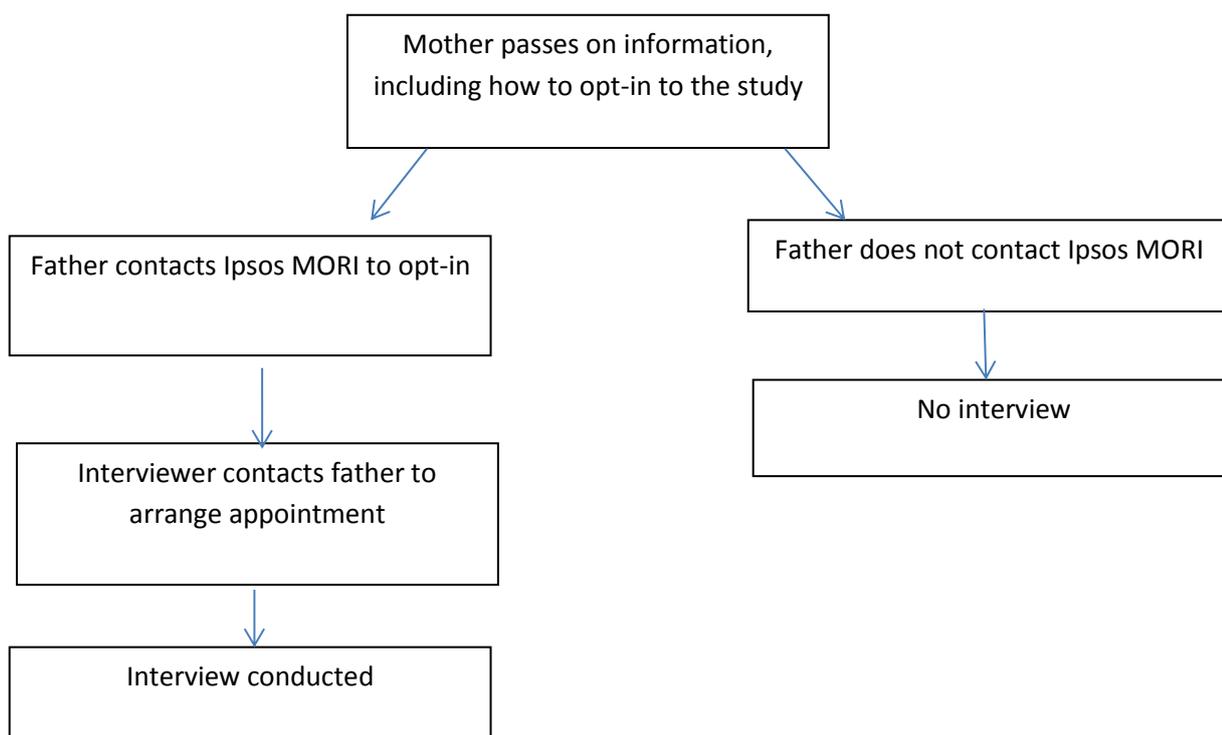
The interviewer could disclose to another household member that they are seeking to interview the named person as they are a father of a 6 month old baby, again disclosing personal information.

Mitigation: Interviewers will be trained not to disclose the reason for the interview to anyone other than the named person, and to be discreet. To other household members they will state that they are doing an Ipsos MORI interview, but will not disclose the subject matter.

The father could be annoyed that his contact details have been provided to Ipsos MORI without his express permission, which could cause friction between him and the mother of the child.

Mitigation: We would have to explain to the father how his details were obtained if he asks, so it is difficult to mitigate for this risk.

APPROACH 3: Mother agrees to pass on information to the non-resident father



Potential risks with APPROACH 3

This approach to non-resident fathers has minimal risk, as the father is fully involved in providing his contact details and agreeing (or not) to the interview. There is a risk to the research in that this approach may not generate many responses. A further risk is that,

if the mother passes on information in the post, the letter sent to the father is seen by someone else in his household and discloses that he is the father of a young child, which could be problematic.

Mitigation: The interviewers to be instructed to ask the mother to pass the information to the father when she next sees him, and only to use the post if the next time she sees him is some weeks in the future. The letter has been worded so that it does not refer to a new baby, and also includes a sentence to imply that the letter may have been sent in error. It is not planned to include the PIS with the letter, as this would give more information as to why we are writing to the father.

5.5 The non-resident father survey materials

Interviewers were instructed that any approach to the non-resident father should only be made with the informed consent of the mother. Once contact with the father has been made in person, the interviewer had to ensure that the father had read and understood the Participant Information Sheet which gives details on Life Study and complies with the undertakings given in Life Study's Ethics and Information Governance Framework and that the consent to interview form is signed. The PIS was specifically designed for participating fathers but drew on the mother's PIS to a large extent, as there were many topics relevant to all participants see <http://www.lifestudy.ac.uk/resources>

5.5.1 Participation Information Sheet

Topics in the Participant Information Sheet included:

What is Life Study?

What are birth cohort studies?

Why am I being asked to take part?

What sorts of questions will I be asked?

Who are Ipsos MORI?

How will my information be used?

How can I be sure that my information is properly protected?

Are there any benefits for me if I take part?

Who do I contact if I have any concerns?

Do I have to take part?

Information linkage

Where can I find results of Life Study research?

Who is organising and funding the study?

Who has reviewed the study?

Who is directing Life Study?

5.5.2 Other survey documents

All the survey materials relating to non-resident fathers are listed in the following table, along with their purpose. All the survey documents had been submitted to and approved by the NHS London – City and East Research Ethics Committee.

Table 5.1 Survey materials relating to non-resident fathers

Document	Purpose
Mother	
Non-resident father opt-in letter	This was to be left behind if the mother agreed to forward information about Life Study to the non-resident father.
Non-resident father opt-in form	This was to be left behind if the mother agreed to forward information about Life Study to the non-resident father.
Non-resident partner	
Advance letters for the non-resident fathers	These advance letters were to be posted to the non-resident father if the interviewer intended to visit him.
Advance letter for the non-resident father (Laminated)	This advance letter could be used on the doorstep to show the non-resident father.
Participant Information Sheet	This information for non-resident fathers taking part was sent with the advance letter for the non-resident father to read before he consented to the interview.
Consent form	This consent form was to be used to gain consent for the non-resident father's interview and for information linkage.
GP Letter	To leave with respondents who may wish to inform their GP they have taken part in Life Study.
HFEA Form	To leave with respondents who have had help conceiving the cohort baby and consent to this being known.
Leave behind sheet	A sheet containing information about organisations which might be able to help fathers who might be facing difficulties touched on in the interview. This was a list of potential support services was left behind so that non-resident fathers could access them if they felt they needed to.

Thank you letter	This was to be left behind at the end of the non-resident father interview
Change of address card	This was to be left behind at the end of the non-resident father interview

Post Script

Unfortunately after all of this extensive work, no non-resident fathers were interviewed in the Pilot Study, which is discussed in detail in the next section, so we were unable to evaluate the questionnaire content, timings and mode of the questionnaire and whether the survey materials were satisfactory.

6. The Pilot Study – Recruiting the Sample

6.1 Introduction

The Pilot Study had two main elements with two separate reports prepared by Ipsos MORI; one focusing on recruiting the sample via birth registration records and requesting mothers to opt-in to participating in Life Study, and the second focusing on the fieldwork operations for the interviewing of the mothers recruited from the opting-in procedure along with fathers and partners. The reports *Life Study: Birth Component Pilot: Opt-in fieldwork* and *Life Study: Birth Component Pilot: Face-to-face fieldwork* can be found at <http://www.lifestudy.ac.uk/resources>. This section and the following one draws on these reports.

6.2 Recruiting the sample: the sampling frame

The sampling frame for the Pilot and subsequently the Main study was to come from birth registrations. According to law, all births in England and Wales and Northern Ireland must be registered within 42 days of the child being born. Births can be registered at a Registry Office or at the hospital before the mother leaves. In England and Wales the General Register Office is responsible for collating birth registrations and it shares birth registration information with the Office of National Statistics (ONS) on the basis that it is not disclosed to anybody in an identifiable format without the individual's permission. In Scotland births have to be registered within 21 days by a Registrar of Births, Deaths and Marriages and the National Records of Scotland (NRS) are responsible for collating the data. In Northern Ireland the responsibility rests with the Northern Ireland Statistics and Research Agency (NISRA).

If parents are married to each other both names automatically appear on the certificate and either parent can register the birth. When a child is born to an unmarried mother, the birth certificate only lists the name of the father if he either attends the registration or submits a form declaring his paternity and the mother agrees to his name going on the certificate. This is referred to as a joint registration of a birth. These joint registrations can be further subdivided into those where the father lives at the same address as the mother and those who live at a different address to the mother. Where an unmarried mother is the only registrant then it is referred to as sole registration.

The birth records have information on the age, address, name, occupation and country of birth of the mother and also for the father if he is married to the mother or has jointly registered the birth. In England and Wales the records also contain linked information provided when registering the baby to obtain their NHS number (including birth weight, gestational age and ethnicity of the baby).

6.3 Drawing the sample

The sample was drawn by the Statistical Offices for a set of pilot areas that had been supplied by Ipsos MORI. It was planned initially to cover a two month period of birth registrations. The Statistical Offices mailed out an invitation pack to mothers in the selected sample using addresses given at birth registration in order to recruit mothers via an opt-in approach (discussed below), and then subsequently mothers who opted-in would be interviewed by Ipsos MORI.

With the advent of funding to include non-resident fathers in Life Study, the pilot was extended for another two months, as two months of births were unlikely to provide sufficient number of mothers where the natural father of the child was non-resident. The second two month period was to have an explicit focus on the procedures for piloting for non-resident fathers notwithstanding that it was necessary to interview mothers in order to establish the identity of non-resident fathers. The target number of interviews for the pilot was 480 mothers (400 mothers in the first two months; 80 in the final two months), 220 partners (first two months only) and 80 non-resident fathers (across all four months). This was composed of 20 non-resident fathers in the first two months and 60 in the following two-month period, as in this second period it was planned to target pilot areas that had high numbers of joint different address registrations and sole registrations.

6.4 The opt-in process

In surveys that use Child Benefit Records such as the Millennium Cohort Study, an “opt-out” procedure was used. This is typically carried out by post and provides an opportunity for parents to remove themselves from the sample. For reasons relating to the 2007 Statistics and Registration Service Act (<http://www.legislation.gov.uk/ukpga/2007/18/section/42> birth records at the present time can only be used if an “opt-in” process is used. An “opt-in” process is where potential participants are notified that a particular study, in this case Life Study, is taking place and they have to give consent to their contact details being passed to a survey agency, such as Ipsos MORI, before they can be approached.

The “opt-in” process for Life Study was administered by the ONS for babies born in England and Wales and the NRS for babies born in Scotland. The mothers were sent an invitation pack to “opt-in” to Life Study, which contained a covering letter, a short questionnaire, a leaflet explaining Life Study and a reply paid envelope. Mothers who returned the questionnaire and did not explicitly state they wanted no further contact were deemed to have “opted-in” to Life Study. Two mail outs were sent to non-responders.

6.5 Response rates to the opt-in procedure

Table 6.1, which is derived from Tables 5.1 and 5.3 in the Ipsos MORI report on the Opt-in Fieldwork, shows that in total 4778 questionnaires were issued and 904 were returned, a response rate of 18.9%. The vast majority of the sample were non-responders 78.7% (3762) with only 0.2% refusing (n=9) and a further 2.2 per cent (103) were returned “gone away” by the postal authorities. Of the 904 returned questionnaires 791 of the mothers opted into the survey representing 16.6% of the issued sample. The questionnaire included a question on whether they were living as a couple or not. Of the 735 mothers who opted-in and provided the full name and address for the baby and herself 648 (88%) were living as a couple, 62 (8%) were not living as a couple, and for 25 mothers the information was missing. The proportion of mothers not living as a couple at 8% was much lower than the national figure of 16% known to be living at different addresses at the time of the birth, which as a consequence reduced the potential supply of non-resident fathers available for inclusion in the pilot study.

Table 6.1 Opt-in Survey Response

Questionnaires Issued	Number	Percentage
Received	904	18.9
No response	3762	78.7
Refused	9	0.2
Gone away	103	2.2
Total Issued	4778	100

Questionnaires Returned	Number	Percentage
Agreed to participate	791	87.5
Refusal	111	12.2
Baby no longer with mother	2	0.2
Total Received	904	100

7. The Pilot Study Fieldwork

In this section we distil and summarise the main elements from the Ipsos MORI report on the Face-to-face fieldwork focusing in particular on the parts relating to resident fathers and partners and non-resident fathers.

7.1 The Pilot interview sample

The main objective of the pilot was to test response rates and all the survey processes. The 735 mothers who had opted in and provided usable details were spread across 32 pilot areas. To aid interviewing and to limit costs it was decided to concentrate on six of the 32 pilot areas where there were higher opt-in response rates. In the event the details of 154 cases were issued to interviewers. This elicited 100 complete interviews and two partial interviews with mothers (where not all elements had been completed). Of these 102 mothers, 99 had a resident partner and 49 of these partners (49%) were interviewed. The other three mothers included one with a partner who was the natural father but lived elsewhere and the other two were lone mothers. None of the three non-resident fathers were interviewed by the time the fieldwork period was closed. More details on these fathers is provided below in the section on contacting non-resident fathers.

7.2 Resident fathers/ partners interview Interviewing was to be completed within 8 weeks, which was to be the requirement for the Main Stage of the survey so that the babies were all of a comparable age for the scientific research.

To be eligible for the pilot a resident partner had to:

- Be aged 16+ at date of birth of the selected baby;
- Be living with the mother or *resident*. The resident partner had to consider the mother's address as their main residence. If the mother's partner considered both the mother's address and another address to be main residences, the interviewer was instructed to consider the mother's partner as the resident partner.

Interviewers were asked to interview the resident partner straight after completing the mother interview, if at all possible. If this was not possible interviewers were requested to make an appointment with the resident partner to interview them at a later date or ask the mother about the best time to call back to obtain an interview. If interviewers were unable to obtain an interview at the time of the mother's interview, or could not make an appointment, interviewers were allowed to telephone to make an appointment for the resident partner interview. For the purposes of the pilot study only, interviewers were instructed that where the mother had a resident partner and there was also a non-resident father, only a resident partner interview was permitted. This

was for practical reasons, but in the Main Stage the intention was to include both resident partners and non-resident fathers.

7.3 Non-resident father interview

To be eligible for the pilot a non-resident father had to:

- Be the biological father of the selected baby;
- Be aged 16+ at date of birth of the selected baby;
- Be living at a different address from the mother.

As some non-resident fathers will only live a short distance from the mother while others may live much further away, the interviewers were instructed to attempt an interview with a non-resident father only if they considered he lived locally. In the Main stage of Life Study non-resident fathers who did not live locally would be re-allocated to another interviewer, but this was not going to be possible for the pilot exercise due to the limited scale of the pilot.

The different approaches to contacting non-resident fathers were discussed in detail in Section 5. To recap the Interviewers were given three permitted ways to approach the non-resident father:

- Some non-resident fathers may visit the mother's household regularly to see their baby whether or not they are still in a relationship with the mother. Ideally the interview with the non-resident father would take place at such a visit (this was the recommended approach), but it was recognised this would not be possible in all situations. Interviewers were instructed to attempt to interview the non-resident father if he was present at the end of the mother interview. If he was not present interviewers were instructed to ask the mother if they could approach him during a future visit to the mother.
- The mother might agree to forward on an invitation letter and form to take part in Life Study to the non-resident father. The non-resident father would then hopefully contact Ipsos to participate and they would then provide the interviewer with his contact details.
- The mother might pass the contact details of the non-resident father to the interviewer enabling them to approach the non-resident father directly, using an advance letter followed by a personal visit.

The computer programme guided the interviewer through these options.

Interviewers were instructed to make no assumptions about who knew about the identity of the baby's natural father, nor of the relationship status of the non-resident father, nor of the state of knowledge of anyone living with the non-resident father and in particular any partner.

7.4 The Proxy interview

If the resident partner or non-resident father identified in the mother interview was not physically present in the household, or they were not capable of doing an interview, interviewers collected information about the resident partner/non-resident father in the partner proxy module. If there was both a resident partner and non-resident father eligible for that household, the partner proxy module was asked about the resident partner only. This approach taken for the pilot was to be revisited for the Main Stage Study.

7.5 Response rates mothers and resident fathers/partners

As we see in Table 7.1 the refusal rates, conditional on acceptance of a home visit, were low. Amongst the set of mothers it was 5% and amongst the resident partners 10%. Within the constraint of contacting and completion within the time frame for data collection the percentage of productive interviews was 66 per cent for the mothers and nearly 50 per cent for the fathers/partners. Ipsos estimated that if the time constraints on the duration of the fieldwork had been less a response rate of 80% or more might have been achieved for mothers. Fathers in particular were more difficult to secure for interview as many were working long hours.

Table 7.1 Response rates mothers and resident partners

	Mothers		Resident Partners	
	Number	Percentage	Number	Percentage
Response				
Interviewed	102	66	49	49
Refusal	8	5	10	10
No Contact	27	18	37	37
Other	9	7	3	3
Moved	5	4	-	
Total	154	100	99	100

7.6 Response Rates for Lone Mothers in the opt-in sample and the interviewed sample

From Table 7.2 we see that, amongst the 154 mothers who provided the pilot sample for interview, nine had responded that they were not living as a couple on the opt-in questionnaire returned via the Statistical Offices. Seven of these nine mothers were interviewed. When it came to the interview, four of the mothers reported they were living with the natural father; in one case the father was non-resident but still regarded as their partner, and in two cases they were a lone mother.

Table 7.2 Comparison of relationship information collected at the opt-in stage from the mother, compared with the field work outcomes (Table 8.11 in the report)

	Information collected at opt-in stage from the mother			
	Total	Living with someone as a couple	Lone parent	Missing information
		N		N
Total	154	139	9	6
<i>Of which</i>				
Some interviewing took place	102	92	7	3
Mother has partner	100	92	5	3
Mother has no partner	2	0	2	0
Mother has resident partner (natural father of baby)	99	92	4	3
Mother has non-resident partner (natural father of baby)	1	0	1	0
Mother has no partner	2	0	2	0
Total non-resident fathers identified	3	0	3	0

On our querying the discrepancy across the two contacts, Ipsos MORI carried out a special investigation of the four mothers who reported they had a resident partner at the time of the interview but not at the opt-in stage.

We quote here directly from the report (pages 55 and 56 of the report)

- “Two mothers said they were married at the time of birth of the baby and were still married at time of interview. Theoretically it is possible that at the time the opt-in questionnaire was completed, their husband had temporarily moved out (subsequently moving back in), but we judge this to be very unlikely. We believe that in these two cases the mother must have misinterpreted the question on the opt-in questionnaire or ticked the wrong box by mistake.
- One mother said she was cohabiting with her partner at the time of the birth, but that she was now married. Again, it is theoretically possible that the partner/husband had temporarily moved out at the time of the opt-in (subsequently moving back in) but we judge this to be very unlikely. We believe the mother must have misinterpreted the question on the opt-in questionnaire or ticked the wrong box by mistake.
- One mother said that at the time of the birth she was living together with the partner part of the time, and now they are living together (but are still unmarried). In this instance it is possible that, if at the time of the opt-in questionnaire the partner was living there only “part of the time”, the mother might (reasonably) not have considered herself to be living with him as a couple.” *End of direct quote*

Ipsos were able to interview the resident partners of two of the mothers who said they were lone mothers at the opt-in stage but said when interviewed they had a resident partner, which provided further insights. Both of the resident partners reported moving in with the mother before the opt-in fieldwork had begun, which supports the conclusion that some mothers either misinterpreted the question on the opt-in questionnaire or ticked the wrong box by mistake or that they moved in between the response to the opt-in questionnaire and the home visit by the interviewer.

The one mother who had a non-resident partner but not living together at the time of birth was still not living together at the time of the interview. Therefore the mother’s answer to the opt-in questionnaire was likely to be correct.

7.7 Contacting non-resident fathers

Ipsos MORI also provided details in their report on mothers’ responses to contacting non-resident parents and the outcome drawing on answers to the interview questions and interviewer experience. Again we quote directly from the report (see pages 56 and 57).

“The mother who had a non-resident partner (who was the natural father of the cohort baby) said we could approach the father of her baby to secure an interview, but that she would approach him on our behalf and she would not hand over contact details. The interviewer was not able to establish whether the non-resident father had agreed to participate or refused.

Two lone mothers were interviewed. One said we could approach the father of her baby to secure an interview, but that she would approach him on our behalf and she would not hand over contact details. She was not in a relationship with the father, nor had been at the time of the baby’s birth. At the de-brief the interviewer reported that the mother said the father does not visit the child and she only saw the father at his mother’s house at the weekend (she does not stay with them). The interviewer said:

I only had one non-resident father and the mum said he wouldn't be interested. I asked if I could contact him but she said she didn't have his number or address. I left materials for him and she said she would give them to him. When I called her two weeks later, she said she had given him the materials but that he was not interested at all.

Later, the mother informed the interviewer that the non-resident father had refused to take part.

The other refused to let us approach the father. She had been living with the father at the time of the baby’s birth, but they had since separated. The interviewer reported:

She said repeatedly “he won't do it. He won't do it!” I stressed we would only ask him if he'd like to take part and of course it was up to him if he did, and how important his views were, but she still wouldn't give his name or address. Don't think it was “Life Study” she was worried about or its impact. She just seemed to view him as out of the picture.

For the two mothers interviewed who had no current partner, the survey data confirms the feedback from the interviewers described above. We do not know whether these two mothers have ever lived with the baby’s father, as this question is asked only of those saying they are married but separated, divorced, or closely involved but living apart.” *End of direct quote*

Comment: This latter quote highlights the importance of including a direct question on whether the mother had ever lived with the father. More details on issues surrounding contacting non-resident Fathers will be discussed later in Section 9 which reports on the Qualitative Study of Lone Mothers.

7.8 Characteristics of the interviewed sample

The lack of non-resident fathers identified in the pilot was disappointing which may be due in part to the types of mothers who selected into an opt-in study via birth registration records. The 102 mothers successfully interviewed were undoubtedly a

highly skewed sample. From Table 4.4 we see that they were disproportionately married mothers with 76% responding that they were married at the time of the birth compared with a national average of 53%. The mothers were typically older mothers, 55 % were over age 35. Perhaps most noteworthy 85% of the mothers had a first degree or higher, and they belonged to affluent households with 39% having joint net incomes of £57,000 or more and 15% having a joint net incomes of £81,000 or more which translates to incomes of over £100,000 or more. The sample of mothers were predominantly white 6% were non-white, 10% of the babies were non-white and in 94 % of the cases the main language spoken at home was English. Undoubtedly, the set of mothers who opted in and agreed to be interviewed were far from being the representative sample required for a new cohort that was nationally representative. Ideally one would have liked to compare this sample of mothers with all the mothers in the birth records from which the sample was drawn but this was not available.

Table 7.3 Characteristics of Mothers in the Interviewed Sample

Marital Status at birth	Percentage
Married	76
Cohabiting	20
Other	4
Age at birth	
Under 30	14
30-34	31
35-39	41
40 and older	14
Ethnicity of Mother	
White	94
Non-White	6
Ethnicity of Baby	
White	90
Non-White	10

Main Language Spoken at home	
English	94
Other	6
Highest level of qualification	
Higher Degree	37
First Degree or equivalent	48
Other below degree level	15
Joint net income in £'s	
0 to 38,400	16
38,401-46,900	16
46,901-57,800	11
57,801-81,300	25
81,301 or more	15
Refused/don't know /not applicable	17
Number in sample	102

7.9 Proposed additional study of joint registrant fathers living at a different address at birth

Given that no interviews with non-resident fathers were achieved in the Birth Component Pilot Study it had not been possible to evaluate the questionnaire or the participant information materials. Just prior to the closure of Life Study an option to do this had been under consideration. In this option we aimed to achieve interviews with 30 non-resident fathers who had jointly registered the birth with the mother but were living at a different address. These fathers would have been contacted directly rather than through the mother with ONS sending opt-in letters, which would include an offer

of a financial incentive for participation. This exercise would have targeted areas with the highest numbers of jointly registered births (such as, Birmingham, Leeds, Liverpool, Manchester and Croydon). It was anticipated that this exercise would have taken about 6 months from submitting REC approval to receiving the final report (middle of 2016), which would have been in time to inform the Main study, if Life Study had continued. This approach had some salience for Life Study, and potentially it is a way of accessing and studying this largely undocumented set of non-resident fathers with young babies, but the low response rates we have seen for the opt-in procedure for mothers, which are likely to be even lower for fathers, may make it problematic.

7.10 Proposed Longitudinal Pilot

As well as the face-to-face pilot at 6 months, there was a planned longitudinal pilot of mothers, fathers and non-resident fathers at the time the child was 12 months old which was to collect information via a combination of computer-assisted web interviewing (CAWI) and computer-assisted telephone interview (CATI) methods. The sample was to be the mothers, fathers, both resident and non-resident, and partners who had completed interviews in the 6-month pilot.

Based on the findings from the longitudinal pilot study, the Life Study team and the survey agency were to conduct a detailed evaluation of methods for data collection at the 12-month interview (CAWI plus CATI). This evaluation was to consider, for example, the comparability of information collected by these types of mixed methods, the costs of data collection and the likely effects upon response rates. This pilot was not executed due to the closure of Life Study.

8. Data Linkage Consents

8.1 Consents to Data Linkage in the Questionnaire

If Fathers/Partners provided consent when they were interviewed, the intention was to link a range of administrative records including health, benefit and employment records, mobile phone records and flagging for tracing via the NHS and potentially National Insurance Numbers which participants were asked to provide.

Non-resident fathers, alongside their resident counterparts and mothers, were asked for consent to information linkage which included the following.

Education records: schools, further education and higher education.

Health records: Health Registration records, NHS and Department of Health Records, Family Doctor or GP records, Dentist and optician records, Birth/death and cancer register records.

Economic Consents: Department of Work and Pension Records, HM Revenue and customs Records. They were also asked for their National Insurance Number so that records could be more easily identified.

Environment Consents: Use of mobile communication technologies.

For all the consents excepting the IVF consents the respondent had to initial a form to show that they had given permission and to initial against each type of record that they were happy to have Life Study access their records. They were provided with a copy of the signed consent forms. These linkage consents were collected at relevant points in the interview, for example, linkage to education records were asked after the education questions and those to health records after the questions on health.

IVF Consents: Human Fertilisation and Embryology Authority Records.

These consents were requested of mothers and natural fathers (resident or non-resident) who said that they had help with conceiving the cohort baby. This information was provided in the self-completion section and had to be kept strictly confidential so the interviewer was requested to hand the respondent the HFEA form in an envelope which included a business reply envelope but were not at liberty to mention what the form was about.

8.2 Response rates to record linkage

The proportion of non-resident fathers consenting to record linkage is an unknown but information from the MCS provides some insights for co-resident fathers and partners.

At wave 4 of MCS (when the child was aged 7) the main carer (typically the mother) and the partner respondent (resident father or partner) was asked to provide consent for information from their routine health and economic records to be released. A higher percentage of mothers than fathers/partners agreed and consents were higher for health records than economic records. Amongst partners 74% agreed to the linking of their health records (87% of mothers consented) and 68% to the linking of their economic records (81% of mothers consented) see Mostafa, 2014. Similarly in the Life Study pilot study, which was much less representative than the MCS in that it included high proportions of high socio-economic status families, very high proportions gave consent to data linkage as can be seen in Table 8.1 which comes from the Field Work Report Page 32 and can be found at <http://www.lifestudy.ac.uk/resources>.

Mothers were asked for a number of information linkage consents. They were asked to give consent both for their own records to be linked to their survey data, and those of the cohort baby. Resident partners were also asked to give consent for linking of their own records to the survey data. As we see in Table 8.1 in general the proportion of respondents giving consent to information linkage was high. Respondents were most likely to agree to linkage of education records, with 98 per cent or more agreeing to linkage of school, further and higher education records. Ninety-four per cent of mothers and 96 per cent of partners consented to linkage of mobile phone records. The proportion agreeing to linkage of health records was lower but still very high. Just over nine in ten mothers consented to health records linkage, with all partners consenting. Respondents were least likely to give favourable answers to questions asking for linkage of tax or benefit records; however, the proportion consenting was still high.

Table 8.1: Consents by type and response from the interview

	Mother's records		Baby's records		Partner's records	
	n	%	N	%		
Total	102		103		49	
Environment consents						
Electromagnetic fields and radio waves records ¹	96	94%	N/A	N/A	47	96%
Education consents						
Schools	100	98%	101	98%	48	98%
Further education	100	98%	101	98%	49	100%
Higher education	100	98%	101	98%	49	100%
None of these	1	1%	2	2%	0	0%
Health registration consents						
Health Registration records	93	91%	92	89%	49	100%
Health records consents						
NHS and Department of Health records	94	92%	93	90%	49	100%
Family doctor or GP records	94	92%	93	90%	49	100%
Dentist and optician records	94	92%	93	90%	49	100%
Birth/death registration and cancer register records	94	92%	94	91%	49	100%
None of these	7	7%	9	9%	0	0%
Economic consents						
Department for Work and Pensions records	87	85%	N/A	N/A	45	92%
HM Revenue and Customs records	86	84%	84	82%	45	92%
None of these	13	13%	16	16%	4	8%

¹ Respondents were asked for access to records of their use of past, current and future mobile communication to assess the extent of their exposure to electromagnetic fields from these devices in the months before and during the mother's pregnancy. Respondents were told information relating to the frequency and duration of their use of mobile devices would be accessed.

8.3 Data linkage available from birth records

If the sampling via birth registration records had been successful there was the potential for linking birth record information. The birth records have information on the age, address, name, occupation and country of birth of the mother and also for the father if he is married to the mother or jointly registers the birth. In England and Wales the records also contain linked information provided when registering the baby to obtain their NHS number (including birth weight, gestational age and ethnicity of the mother).

Before the closure of Life Study the ONS had approved an application made by the Life Study team to its Microdata Release Panel to provide de-identified records providing information from data linkage on:

- Birth weight
- Age of mother (and father/partner if jointly registered)
- Social class of mother (and father/partner if jointly registered)
- Area of residence of mother and father
- Ethnicity of mother
- Gestational age of the child

8.4 Conclusion

Successful data linkage across the range domains described in this section has the potential to enrich cohort studies substantially and substantively, to enhance interdisciplinary research, as well as helping to deal with problems of non-response and attrition that can befall longitudinal studies (for example, by enhancing imputation methods and adding omitted data).

9. Qualitative work with lone mothers

As part of the intelligence gathering on how best to include non-resident fathers in the birth component of Life Study a qualitative study of a small number of mothers where the father was non-resident were recruited to seek their views on how we might approach mothers in their situation to obtain interviews with the non-resident fathers. Other cohort studies have included fathers and partners who were living with the cohort baby but as we saw earlier no UK studies had explicitly included non-resident fathers. Moreover, the very few other cohort studies in which the mother was the gatekeeper to non-resident fathers, such as in *Growing Up in Ireland*, found that mothers can be reticent about providing contact details, but we have little insight as to why this might be the case. Thus a qualitative survey was carried out with the aim of providing information on the kinds of approaches that might be made to contact non-resident fathers. This piece of work was too late to inform the Pilot study owing to fieldwork timing constraints but was to be used to inform the Main Stage Study. The full report entitled *Life Study: Qualitative work with lone mothers: exploring options for contacting non-resident fathers* can be found on <http://www.lifestudy.ac.uk/resources>. Here we provide some summary information on the methodology and findings.

9.1 Methodology

ONS drew a targeted sample of birth records where the baby had been either solely registered by the mother or jointly registered but the father was living at a different address. The sample was drawn from a set of postcodes within four local authority areas selected for having a relatively high number of these types of births. The areas were not disclosed for data protection reasons. A sample of 75 mothers was drawn in each area. These mothers were sent an invitation letter and a reply form that invited them to take part in the research, with the offer of £30 worth of high street shopping vouchers as a token of appreciation for taking part. In addition a reminder letter was sent to all mothers.

In total, only 28 of the 300 sampled mothers opted into the research (a 9% response rate), and from this group the Ipsos interviewers managed to interview 10 mothers by the end date of interviewing. There were a number of difficulties in engaging these

mothers: relating to incorrect telephone numbers, broken appointments, change of mind, and difficult personal circumstances.

9.2 The Interview Study Topics

The interview was unstructured and designed to provide a framework for discussion. The topic guide covered the current circumstances of the mother and her household; her current and past relationship with the father and the father's involvement with the child. The interviewer then explained more about Life Study to provide some context, and asked the mother for her views on the various ways an interviewer might ask about contacting the father, her thoughts on how likely the father would be to take part, and what might encourage him to do so.

The mothers were presented with three possible options to contacting the non-resident father of their child.

Option 1: The mother is asked to provide the contact details of the non-resident father to the interviewer so that the interviewer can approach the non-resident father directly, using an advance letter followed by a personal visit.

Option 2: The mother is asked to pass on an invitation letter to take part in Life Study to the non-resident father. The non-resident father can then contact the survey agency to participate.

Option 3: Some non-resident fathers visit the mother's household regularly to see their baby whether or not they are still in a relationship with the mother. Ideally the interview with the non-resident father would take place at such a visit. If the non-resident father is present at the time of the mother's interview, the interviewer is prompted to attempt an interview with him. If he is not, the interviewer tries to get the mother to agree to him being approached during a future visit.

9.3 Findings from the Qualitative Study:

This was a very small-scale study with a poor response rate, which affects the generalizability of the findings and they should be interpreted with caution.

Nevertheless there was some consistency in the responses of the mothers who were in contact with the fathers of their children. In situations where there was an on-going,

friendly relationship between the mother and father, the mother thought it would be feasible to try to invite the father to take part in an interview, and that in some, if not all, cases the father would take part. The responses of the two mothers who were not in contact with the fathers also indicated some of the potential risks around the involvement of non-resident fathers, both to mothers, interviewers and potentially even to the integrity of the research study itself.

The research highlighted a number of issues and Ipsos made a number of recommendations to which we have added some comments.

Issue 1: Reconsider the option of asking the mother directly for the father's contact details

Mothers in contact with the father were almost unanimously against the idea of handing over his contact details without checking with him first.

Comment: This was the approach taken by Life Study and many other studies and which had gained ethics approval as the mother could decline to give details.

One of the mothers not in contact with the father was more than happy to hand over his contact details, but almost as an act of provocation. This could potentially create a harmful situation: for the mother if the father reacted angrily and for the interviewer who could find themselves involved in private relationship disputes.

Methodologically, the option of asking the mother directly for the father's contact details has the benefit of potentially leading to a better response among fathers rather than allowing them to "opt in" via the mothers. It would also enable potential contact with fathers who have less contact with the mother of their child (where the mother is unable or unwilling to pass on the survey information). However, if very few mothers are willing to pass on contact details without consent; this reduces the effectiveness of this approach. In addition, this approach also has the potential to cause harm where details are provided without consent.

Issue 2: How best to approach mothers to engage non-resident fathers in the research

a) Mothers on friendly terms with the father

Options 2 and 3 were less problematic, and gave an element of control to both the mother and the father. Where there is friendly contact between the mother and father, there seems to be little problem in asking the mother to pass on information about the survey to the father and to discuss it with him. However, if information is passed on, and the father is then left to opt-in if he is interested, it is likely that there will be a low take up.

Comment: This was clearly the case in the Growing Up in Ireland Study where only 30% of the mothers passed on the information.

Using the mother as a survey “advocate” could help with response. As one mother explained, by leaving it solely in the hands of the father of her child to decide would make the interview hard to arrange. In contrast, she was quite confident that if it was left to her to speak to him and to arrange a suitable time when she knew he would be round at her flat, then it would be much more likely to work.

b) Mothers not on friendly terms with the father

Where the mother and father are on less friendly terms, this approach still has some risks. One mother had no contact details for the father and so would be unable to pass on this information, but she said that if she did have contact details she would contact him (but possibly as a way for her to provoke some contact). This could cause problems (for example, if the information was sent to a father who is living with another partner who may not know about his child) and could provoke anger or irritation.

The interviewer will have no way to make a judgement about the motives of the mother in saying she will pass on information as the interviewer has no knowledge of what the relationship is like. Potentially, the materials that are passed on could be designed to be vague, and so not alert anyone that the research is about an existing child. However, this would be difficult to do in practice as they would have to be extremely vague which would appear odd to fathers who are on friendly terms with the mother and have

contact with their child, as well as not providing the level of information needed for informed consent.

Comment: Other studies such as the Fragile Families Study are sensitive to this issue of the new partners or family and friends not knowing about the baby and have devised correspondence accordingly. Additionally in section 5.4 of this report on **Pathways to a non-resident father interview** the risks associated with approaching these fathers and how risks might be mitigated were discussed.

One possible option is that where the mother has, in the self-completion element of the questionnaire, recorded that her relationship with the father is “very unfriendly” that no attempt is made to make any contact with the non-resident father. This would reduce the number of situations, which are likely to be higher risk.

9.4 Conclusions

This small piece of qualitative work suggests that in many cases, where there is an on-going, friendly relationship between the mother and father, it would be feasible to try and invite the father to take part in an interview, and that in some cases the father would take part. However, this study provided no insights into what the likely response rates among non-resident fathers would be. This would require further piloting on a larger scale.

Overall this work suggests, not surprisingly, that the fathers who are the most likely to participate will be fathers who are on friendly terms with the mother and has some on-going contact with their child.

10. Going forward: Lessons Learnt from the Life Study Work

10.1 Introduction

Life Study uniquely combined community based pregnancy studies and a nationally representative sample of births. Potentially it would have been amongst one of the largest in the world as large scale studies which start in pregnancy are still relatively rare. A major strength was that it was to collect data across the socio-economic, behavioural, environmental, biological and medical domains, which is a growing trend in studies both nationally and internationally and there is a growing appetite and enthusiasm for cross-disciplinary research in these areas, as portrayed in the Life Study workshops. However, collecting data across this range of domains on fathers is very rare. Only a few studies have collected, for example, biomedical data on fathers with the Dutch Generation R study being the best example. Moreover uniquely it was planned to collect data on non-resident fathers. Non-resident fatherhood that commences with the birth of the child is much more common in Britain than in other European countries, and the role of these fathers in their children's lives is largely undocumented. If the recruitment of mothers and response rates had gone to plan this would have provided a large sample of fathers on which to collect data to study this group of families.

10.2 Low response rates in Life Study

The low response rates in the Pregnancy Component emanated from very slow recruitment of mothers in the first six months of operation of the Life Study Centre based in the Barking, Havering and Redbridge University Hospitals NHS Trust. This may have been a particularly challenging area or setting. The second Life Study centre based at the University Hospitals of Leicester NHS Trust was opened three weeks before the closure of Life Study was announced: whilst attracting a higher level of interest and appointments from mothers than was the case in the Essex centre at the same stage, the closure of Life Study meant that recruitment in another setting could not be evaluated. There is evidence of successful recruitment in pregnancy in other areas of the country such as Bradford (The Born in Bradford study recruited almost 14 thousand mothers over a period of 43 months from 2007-10) and internationally, such as Growing up in

New Zealand. In the nine months of operations in Essex 336 mothers were interviewed and 105 fathers, a response rate for fathers of 31 per cent, which was similar to that achieved in Born in Bradford. Six of the 105 fathers were non-resident. It was difficult to ascertain the numbers of non-resident fathers interviewed in the reports of other studies that started in pregnancy, so we have no points of comparison for this group.

The low response rate in the Birth Component is likely in large part to have arisen from the mothers having to opt-in which is known to have lower response rates than an opt-out procedure. Other studies we reviewed have successfully recruited mothers into cohort studies. Locating a sampling frame that permits opt-out is paramount for the future of nationally and locally representative cohort studies in the UK that commence beyond pregnancy.

10.3 Birth registers as a sampling frame

In principle, the use of birth registration as a sampling frame was an excellent approach for studying non-resident fathers in that parents in different partnership settings could be identified at the outset, which would clearly identify parents who were living apart at the time of the birth. Moreover a range of additional data which is collected at birth registration could be linked to the cohort child's record. Unfortunately due to constraints relating to the legal framework for official statistics only an opt-in approach was permitted and the Life Study experience shows that an opt-in approach is not a viable way of constructing a nationally representative sample of mothers. At the time of closure an alternative approach was being explored to secure access on an "opt-out" basis to the database which holds the NHS numbers of the population (the Personal Demographics Service) and generates the numbers for all new births. ONS is renewing its Section 251 approval to enable an opt-out approach using NHS records, however this exemption under the NHS Health and Social Care Act applies to England and Wales only. If successful this hopefully would provide a sounder basis for constructing a sample of mothers for any new birth cohort study. However, the mechanism for accessing linked birth registration records remains to be clarified.

10.4 Recruitment of mothers

In all the studies the mother is the primary contact or gatekeeper for the initial contact with the father whether he is resident or non-resident so it is crucial that mothers are informed about the importance of the involvement of fathers in the study so that they can act as an advocate for their participation. The recruitment of a representative sample of mothers is the keystone to any national cohort study of children and their families.

10.5 Recruitment of resident fathers and partners

Given the importance of fathers to children's development and their greater engagement the inclusion of fathers and partners should no longer be viewed as an add-on but regarded, as is the case in a growing number of studies, as an integral part of the study. However the amount of information collected on fathers and the frequency of contact tends still to be less for fathers than mothers.

The response rates for resident fathers in surveys are typically high with around 80 per cent of co-resident fathers and partners being interviewed. But these are typically face-to-face interviews. This proportion appears to be reasonably stable across time periods and nations. Additionally the family characteristics of the non-responders can be identified.

10.6 Recruitment of non-resident fathers

The preparatory work for Life Study enumerated the gaps in knowledge about non-resident fathers and highlighted the scientific value of including these fathers from the outset of the study. Recruiting and interviewing non-resident fathers is undoubtedly challenging. But few studies have included a bespoke approach to non-resident fathers. The US Fragile Families and Well-Being Study is one exception. This study was of mainly unmarried families (only 12 per cent were married) in which the fathers were a fully integrated from the outset and the non-resident fathers were followed up in their own right. To recap, at birth 89% of co-resident fathers completed the survey compared with 61% of the non-resident fathers. At subsequent sweeps attrition was

similar for these two groups of fathers. However, this study spent very substantial amounts of money on financial incentives and in tracing the fathers after the birth. The amounts of money and resources dedicated to fathers in the Fragile Families Study are unlikely to be available to a UK study.

Where there is a less bespoke approach to the recruitment of non-resident fathers the response rates tend to be very low. So for example in the Growing up in Ireland Study a third (33%) of the mothers provided contact details and permission to contact the father and postal questionnaires were sent to these fathers. Thirty-two per cent of them responded which gave an overall response rate of 10 per cent for this group of non-resident fathers. Similarly the French Longitudinal Study ELFE had very low response rates. Sixteen per cent of non-resident fathers who had been recruited at their baby's birth responded to a telephone interview when the baby was two months old and 21 per cent to a survey when their baby was one year old. Again no special incentives or approach was taken to contacting these fathers. The bespoke approach of the Fragile Families Study and the more minimalist approach of the Irish and French studies are two extremes, as yet we have little evidence from studies that have invested in targeting these fathers but with more resource constraints than in the Fragile Families Study.

The fathers in the Fragile Families Study were largely recruited in the hospital at the time of the birth (two thirds were) which was referred to as a "Magic Moment" by the study director Sara McLanahan. It is possible that the fetal anomaly scan also is a golden moment for recruitment, as several of the pregnancy studies recruit fathers at this time.

10.7 Mothers providing contact details on non-resident fathers

Most of the study designs in this area rely on the mother providing fathers' contact details to approach them for interview. The reviewed reports did not raise any ethical concerns about asking mothers for this information. It was not regarded as problematic largely because the mothers can choose whether or not to provide the information. The Research Ethics Committee approved this approach but some insights into the issues involved in this approach emerged in the Qualitative Study of Lone Mothers, which

explored options for contacting non-resident fathers. This small-scale study showed that there is a need to be sensitive to different arrangements and relationships and motivations for providing or not providing contact details.

10.8 Proxy reporting on fathers

Most of the more recent birth cohort studies have included both mothers and fathers in their survey contacts and given the importance of fathers in family life this should become normal practice. Exceptions included Growing up in Scotland (GUS) and the more medical studies that tend to have much fewer contacts with fathers. Inclusion of fathers and partners means that proxy reporting is required less, which is important given that the concordance between mother and fathers reports can vary substantially.

10.9 Administrative Data and Record Linkage

Asking for consent from family members to access their administrative records such as health, education, economic (income, employment and benefits) data is an increasingly common practice in surveys with typically high proportions of mothers and fathers providing consent either on their own behalf or on behalf of their young children; as was the case in Life Study for mothers and resident fathers. We lack information on this topic for non-resident fathers. Successful data linkage across a range of domains has the potential to enrich the studies substantively and enhance the potential for cross-disciplinary research. Such linkage can also help in dealing with problems of non-response and attrition that can and do befall longitudinal studies.

10.10 Modes of data collection

It was planned to consider using Computer Assisted Telephone Interviewing (CATI) and Computer Assisted Web based Interviewing (CAWI) in later waves of Life Study as face to face interviews are very expensive. The experience of other studies have shown that telephone interviewing has been successful in the ELFE study with 86% of mothers and 79% of fathers/partners responding at the 6-8 week old post birth survey and telephone interviewing is a major mode of data collection in US studies, including the

Fragile Families Study. Postal surveys tend to have lower response rates and decline over time. For example, the Norwegian Mother and Baby Study had response rates of 85% when the child was 6 months old which fell to 73% at the 18 month contact and was 53% by the time the children were 5 years old. It may be that the mode of data collection matters more for fathers and more flexibility in the mode of data collection may be required. For example when telephone interviews were used to contact non-resident fathers in the Longitudinal Study of Australian Children 78% responded as compared with 35% who had responded to an earlier postal questionnaire and the British Family and Children's Survey (FACS) introduced the choice of a telephone or face-to-face interview for partners, to counter falling response rates.

10.11 Conclusion

Life Study was to have provided an important opportunity for the collection of data on children who had separated parents from the outset of their lives and for those who were to experience parental separation across their childhoods. Over 4 in 10 children are likely to have such an experience before reaching age 16 (DWP, 2015) and we have substantial evidence from our other British birth cohort studies that, on average, these children fare less well cognitively and emotionally than those whose parents live together. Yet our knowledge on these families and particularly the roles and impact of separated fathers and social fathers on their children's lives is scant. It is hoped that the work reported here and the other reviews being carried out for the Nuffield Foundation (Bryson et al and Burgess et al forthcoming) will provide the basis for implementing longitudinal surveys that redress our lack of knowledge about this family dynamic and all its implications for the children, mothers, fathers and partners involved.

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Appendix A

Membership of Expert Advisory Group on Fathers and Partners

Phase 1: June 2013- September 2104

Professor Kathleen Kiernan (Chair), University of York
 Professor Carol Dezateux, Director of Life Study, UCL
 Professor Peter Elias, Deputy Director Life Study
 Professor Bren Neale, University of Leeds
 Professor Margaret O'Brien, Thomas Coram, IOE, UCL
 Professor Paul Ramchandani , Imperial College
 Dr Maggie Redshaw, Oxford Perinatal Epidemiology Unit
 Professor Wendy Sigle LSE
 Kate Smith, Centre for Longitudinal Studies, IOE, UCL

Observer: Teresa Williams, Nuffield Foundation

Members Life Study team UCL: Dr Debbie Colson and Dr Suzanne Walton

Phase 2: March 2015 – December 2015

Professor Kathleen Kiernan (Chair) University of York
 Caroline Bryson, Bryson Purdon Social Research
 Dr Jon Burton ISER, University of Essex
 Professor Carol Dezateux, Director of Life Study, UCL
 Professor Margaret O'Brien Thomas Coram, IOE, UCL
 Dr Maggie Redshaw, Oxford Perinatal Epidemiology Unit
 Professor Wendy Sigle LSE
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Observers Teresa Williams Nuffield Foundation and Sam Clemens Ipsos MORI

Members of the Life Study Team UCL: Dr Debbie Colson, Dr Suzanne Walton and Nicola Foster