Issues emerging from the first 10 pilot sites implementing the Nurse-Family Partnership home-visiting programme in England

Prepared by Mog Ball, Professor Jacqueline Barnes and Pamela Meadows
Institute for the Study of Children, Families and Social Issues, Birkbeck, University of London

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Contact Details	Sam Mason FNP National Unit G17, 133-155 Waterloo Road London SE1 8UG 0207 972 4167
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Foreword

The value of a formative evaluation is the contribution it makes to shaping what is done next. In the five years since we started implementing the Family Nurse Partnership (FNP) programme in England we have had three evaluation reports from Birkbeck and all three have influenced how FNP has been delivered. Along with other sources of learning, we have taken the findings, explored them further and adapted our implementation of the programme accordingly. This means that programme implementation looks very different today from the first ten sites that were the subject of this evaluation between 2007 and 2010. Many of the issues, usefully brought together here in this 'issues report', have been addressed in the 70 plus sites that followed the first ten. We are grateful to Professor Jacqueline Barnes and her colleagues at Birkbeck and those pioneering sites for all they have taught us and the benefits they have passed on to FNP across England.

The context is also different from when this evaluation was undertaken. Today we see FNP included in the NHS Operating Framework[1] and in the Government's policy statement 'Supporting Families in the Foundation Years'[2]. FNP has taken its place alongside Sure Start Children's Centres and the expansion of health visiting, providing a more coherent framework of preventive services in pregnancy and early life.

Replication of this well proven US programme in another country with established public services was never going to be straightforward. The overall message from this evaluation has been that we can replicate FNP well in this country, that it has made a deep and positive connection with some of our most vulnerable families and inspired a new group of nurses and their supervisors. Early evaluation looks promising and the Government has used the findings from the evaluation by Birkbeck to lead the expansion of FNP in England with a commitment to double the number of places to 13,000 by April 2015. We are well on our way to achieving this with 9,100 places at April 2012 and an FNP presence in 80 local authority areas across England.

There are many aspects of the programme that we have strengthened and adapted in the light of the findings from this evaluation. Those that are key are:
Strengthening the replication of FNP with quality is a core goal for the FNP teams and the DH FNP National Unit. We are using the learning from the evaluation to improve our use of the data with real time feedback for local teams so they can monitor their own programme delivery. We have also introduced a stronger focus on data in our national systems. We are pleased to see improvements in delivery in subsequent waves of new sites.
Our experience continues to support Birkbeck's finding that where organisational support is good, FNP implementation is good and vice versa. We are therefore doing

[1] The Operating Framework for the NHS in England 2012-13, Department of Health, London. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_131360

[2] Supporting Families in the Foundation Years (2011) Department for Education and Department for Health
http://www.education.gov.uk/childrenandyoungpeople/earlylearningandchildcare/early/a00192398/supporting-families-in-the-foundation-years

more to support local areas to understand and prepare for FNP, making sure that commissioners and provider leads champion FNP before they can become an FNP site. In addition, we are continuing to develop a programme of ongoing support for site implementation, focusing on continuous quality improvement as sites move from their initial learning to the maintenance and expansion phases of FNP replication. We have a national programme to share the learning with universal services. We have published two new products, PREview and Preparing for Birth and Beyond and led a Healthy Child Programme development programme for the Health Visitor Early Implementer Sites.[3,4]
We have also looked at eligibility criteria in greater detail in a specific study[5] and have welcomed Birkbeck's support with projects in a number of our early sites. Our updated guidance to sites reflects this learning, keeping the core universal offer to first time mothers under 20 during the learning phase for sites. As they learn, experienced FNP supervisors in well established sites have become skilled in capturing the most vulnerable whilst being fair and non-stigmatising in who is offered the programme.

There remain some significant challenges to delivering FNP well and realising the benefits for vulnerable young families in this country. We still have much to learn. FNP will always be a work in progress, continually being shaped by new research from here and the US, by analysis of the data in the FNP Information System and by our experience and that of local sites, clients and family nurses. Building the evidence and improving quality will continue to be informed by research, including the research trial which is well under way in 18 sites and due to report in 2014.

For the DH FNP National Unit, continuous learning how about how to implement FNP well to achieve the best possible outcomes for young mothers and their children is one of our highest priorities. This evaluation has contributed enormously to that learning.

Ailsa Swarbrick
FNP Project Director

[3] http://www.dh.gov.uk/health/2011/10/preparation-for-birth-and-beyond-resource-pack-to-help-parenthood-groups/
[4] http://www.chimat.org.uk/preview
[5] Barnes et al (2012) Testing Alternative Eligibility Criteria in the FNP Programme in England

1. Background

a. Introduction of NFP into England

In late 2006, as part of the "*Reaching Out*" programme of the "*Action Plan on Social Exclusion*", the Labour government announced that the evidence-based and licensed Nurse-Family Partnership (NFP) intervention programme would be provided in10 demonstration sites to test whether it could be implemented in England (Cabinet Office, 2006, pp. 51-52). Since that time the current government is committed to expanding provision of the programme so that the number of places will be expanded from currently around 7,000 to 13,000 by 2015, as specified in the NHS Operating Framework 2010-11 (DH, 2011c). The NFP, developed in the USA by Professor David Olds (Olds et al., 1986a), is an intensive nurse home visiting programme designed to improve the health, well-being and self-sufficiency of first-time parents and their children. Visits start early in pregnancy and continue until the child reaches 24 months. The specially trained nurse home-visitor's attention is focused on the social, emotional and economic context of her client's life, and her activities are based on understanding human interactions. The cornerstone of the home-visits and one of the distinguishing characteristics of the NFP model is the therapeutic relationship that develops between the nurse and the client. Nurse-home visitors build clients' skills, confidence and hope in a paradigm that values the clients' ability to determine their own futures.

Local authorities and Primary Care Trusts (PCTs) in areas that wished to be in this first wave to provide the programme were asked to demonstrate strong partnerships. They were asked to demonstrate working with a high degree of National Health Service (NHS)/Local Authority (LA) service integration, community engagement, commitment to progressive universalism, workforce capacity and capability, and with effective local leadership. A relevant demographic profile was required with demonstrated capacity to identify families, IT capacity, a record of successful innovation and a plan that demonstrated the capacity to deliver according to the proposed timetable. They were offered funding for one year with the condition that the PCTs/LAs continued to support the service until the clients' children were 24 months old.

b. Aims of the report

This report first summarises some of the evaluation findings about the programme's implementation in England in the first 10 pilot sites, described in detail in published reports covering the programme's three phases: pregnancy (starting at around 16 weeks gestation; Barnes et al., 2008), infancy (birth up to 12 months; Barnes et al., 2009) and toddlerhood (the second year, up to 24 months; Barnes et al., 2011). The programme in England has been re-named the Family–Nurse Partnership (FNP) but is the same programme as NFP. The nurses in England trained to provide the programme decided on the title Family Nurse (FN). To add to the detailed evaluation findings about implementation, this report then provides an analysis of cross-cutting themes that have emerged over the course of the evaluation. While this report draws predominantly from the research activities summarised in the previous three reports, additional information was collected by interviewing the local professionals in each of the sites who were charged with being the 'project lead' to make it work. Interviews were also conducted with members of the FNP National Unit within the Department of Health responsible for overseeing the whole process. Finally interviews and focus

groups were conducted in four of the ten pilot sites, selected to represent a range in terms of their experiences of implementing the programme

The over-arching aim of the implementation evaluation was to find out whether it was possible to provide the NFP programme within the context of the NHS in England. Specific questions included:

- Would the nurses take to the training and the materials?
- Would they be able to learn how to use the materials?
- Would they like this way of working, which would be very different from previous roles?
- What would their workload be like?
- How would they relate to NHS colleagues outside the programme?
- Once trained would they stay?
- In relation to the clients, the first big question was who should be the target group? Once defined how would they be identified and then recruited?
- When approached would any young pregnant mothers accept?
- What would they think about being offered the programme, would they perceive it to be stigmatising?
- What would their partners and other family members think?
- If mothers-to-be did accept the offer would they continue for the entire programme period? If not why would they drop-out?
- At the end, what would the programme have achieved for their well-being or that of their children?
- Finally, if all these aspects were successful and both clients and nurses found this to be a successful way of working, would local commissioners agree and want to continue with the programme?
- If not, then why not?
- What would the reaction of other health service providers by?

This reports looks back over some of those questions, particularly those related to organisational issues such as client eligibility and ways to ensure fidelity, and then looks forwards to what needs to take place if the programme can continue, can expand and become an integral element of the Healthy Child Programme (Shribman & Billingham, 2009). It should be noted that this report is a historical document rather than an account of the current situation in that the programme has already been expanded under both the previous Labour government and the current Coalition government. FNP is now offered in over 50 locations throughout England, providing the programme to more than 7,000 families with the aim of providing it to 13,000 families at any one time by 2015 (DH, 2011a, b, c) (http://www.dh.gov.uk/en/MediaCentre/Pressreleases/DH_123277). Some organisational and procedural changes have taken place following the pilot phase, in part based on the evaluation, and this will be flagged up in this document.

c. Defining features of NFP

Before examining in detail the findings of the evaluation and the emerging issues it is worth considering why it was thought that this particular programme might be a challenge to implement. Specifically some of its strengths might also be potential barriers.

- It is an evidence-based preventive intervention, one of the main reasons that it was selected rather than any alternative UK developed interventions with

weak or no evidence. However, to fulfil the licensing agreement and in order that the hoped for outcomes can be achieved, the programme needs to be delivered with fidelity and in its entirety.

- The evidence is based on a particular group of clients, namely potentially vulnerable low-income, teenage first-time mothers living in the USA, where there is no national health provision.

- One important aspect of delivery with fidelity is that it needs to be initiated at about 16 weeks' gestation. This means that potential clients have to be identified early in pregnancy, thus any eligibility criteria need to be identifiable at that time.

- In order to adhere to the US license the programme must delivered by registered nurses who have received specific training developed in the USA, they should have a maximum case-load of 25 and ideally stay with the same clients from start to finish, over approximately 30 months.

- Each group of nurses (usually 4 to 6) works in a team with a nurse supervisor, skilled in the programme. In the USA supervisors have previously worked as nurses with the programme but starting from scratch there was not a similar group to recruit from.

- The team meet regularly for supervision as a group in addition to one-to-one supervision. Ideally team members are located in the same office, with at least a part-time administrator.

- The programme is manualised with a detailed range of curriculum materials relating to the 64 programme visits (14 in pregnancy, 28 during infancy, and 22 during toddlerhood). Thus a large amount of new material needs to be learned and then used by the nurses in the appropriate way.

- In addition to some basic fidelity requirements about the clients (first-time mother, gestation before 28 weeks) there are a number of 'stretch objectives' relating to delivery of the programme such as the number of visits delivered, their length and content and the extent of attrition of clients from the programme.

- To guide the nurses and their supervisors and to help with monitoring whether the stretch objectives are attained, there are a number of standardised record forms. Some are completed by nurses after every visit and others at prescribed times during the programme. In order for the information to be collated the information from the forms is entered into a national data base by the team's administrator so that supervisors can generate statistical reports.

- The model of practice begins with a focus on engagement with vulnerable clients who may initially be distrustful, based on previous experiences. The model then moves on to learning and changing, exploring any ambivalence and using motivational interviewing strategies and active learning methods. Then, with the aim of strengthening caregiving so that child development can be successfully supported the client is encourage to explore ideas about their own future and to think about accessing any other relevant services.

The way that each of these features of NFP has been addressed as the programme was implemented in the first 10 sites in England and implications for a long-term roll out are all discussed in detail throughout the report.

2. Eligibility decisions

a. Who should be eligible based on USA evidence?

Using a programme that is selected on the basis of being evidence-based implies that, if delivered with fidelity, certain outcomes can be expected with some confidence. However this will depend to some extent on whether the population to which is it being applied is comparable to that of the trials. The current NFP literature indicates that the program is for low-income, first-time mothers and their children (NFP, 2010c). Evidence of the programme's effectiveness comes from three randomised controlled trials. It is therefore useful to look in detail at the participants in those trials, what the outcomes have been, whether they were found for all participants or only for specific subgroups, and over what timescale. Finally it is useful to know what they have not shown, i.e. outcomes that were expected but that did not eventually emerge or those that were present only for participants with certain defining features. This is particularly important as efforts are made to 'sell' the programme to local commissioners of services for children and families. If it is over-sold then this can be as problematic as not explaining fully all that it likely to achieve. Commissioners and policy makers may need to be dissuaded from suggesting that it be offered to clients who may well not gain substantially from the support.

The decisions regarding who to select for each research study were a compromise between the researchers' knowledge of who the programme was intended for and the practicality of identifying participants through existing systems. This is also an issue as the programme is offered in England through the NHS. In the first trial (Elmira, New York State; Olds et al., 1986a) first-time mothers-to-be were recruited if they were either under 19, a single parent or had low socioeconomic status, determined either by being eligible for means-tested health insurance (Medicaid) or by having no private medical insurance. The latter requirement would not be useful in the UK. However, the issue of potential stigma was considered in this first trial, that encompassed an entire community so, despite having these criteria, any first-time mother in the town who wished to be part of the programme was also enrolled. Consequently, out of the final group of participants, only 85% had at least one of the required characteristics. The benefit of this has been to show that the more affluent or well-supported clients were less likely to show any demonstrable benefits (NFP 2010f). Results from the Elmira trial revealed that many of the programme's impacts were found only for clients who were unmarried and on low income, with some were found only for those who were also teenagers and/or those who smoked in pregnancy. While this over-inclusion is possible in a research study, if funding permits, within a tightly budgeted range of services it will be important not to offer the relatively costly programme (costs are discussed in more detail in section 8) to those who may benefit maximally from the intervention.

The second trial (Memphis, Tennessee; Kitzman et al., 1997) required that the participants had at least two of three characteristics: unmarried, unemployed, and did not finish high school. Using this method all those recruited were of low income and, due to the location of the study, the group was also predominantly African American. Analysis of the impact of the second trial identified the fact that, even within this uniformly disadvantaged group there were some who gained more than others. Many of the effects were found only for mothers who had a combination of mental health problems, low intelligence and low self efficacy, defined as the capacity to take control of their lives. The combination of these three characteristics was labelled as

'low psychological resources." In the third trial (Denver, Colorado; Olds et al., 2002) the main inclusion criterion was again low income, which was determined by selecting a part of the city that was populated predominantly by poorer families but selecting mothers in the basis of qualifying for Medicaid or having no private health insurance. Mothers with lower psychological resources and those who smoked during pregnancy were again the most likely to benefit.

b. Using similar eligibility criteria in England?

One of the non-negotiable aspects of NFP is that it starts early in pregnancy, ideally by 16 weeks gestation and definitely by 28 weeks. Thus eligibility characteristics need to be evident at that time, need to be collected and recorded universally, which means that midwifery services need to be closely involved. In each of the US trials the clients' level of income was highly relevant as a primary inclusion factor but selection for the programme in England has not, up to this point, based eligibility on this characteristic. Instead the eligibility in England in Wave 1 was primarily based on the recommendations of a detailed review of maternal characteristics, identifiable in pregnancy, which predicted poor child outcomes (Hall & Hall, 2007). The instrument recommendation by the review (Hall & Hall, 2007, pp 71-72) suggested a number of possible criteria but concluded that young maternal age stood out as one of the most important and the most consistently present in electronic midwifery medical records. In addition it was a realistic proxy for low income, the major predictor of poor child outcomes.

Five of the 10 pilot sites used young maternal age (under 20) as their only criterion apart from the required gestational age and first-time motherhood. However five of the sites predicted that there would not be a sufficient number of under-20 first-time mothers in the nine month period for recruiting their full caseload of 100 clients, which is one of the core programme elements. In the short-term they consequently also recruited mothers aged 20 to 23 if they had additional eligibility criteria derived from the review (Hall & Hall, 2007): currently not in employment, education or training (NEET) and had never been in regular paid employment; or were currently NEET and had no qualifications; or did not have a stable supportive relationship with the baby's father. Since midwifery records generally do not have any information about educational qualifications or employment status, this meant that the FNP nurses had to collect this information either on the telephone or during the home visit when they hoped to offer the programme. The use of these criteria did not continue but allowed an investigation of the process of recruiting with additional requirements. Subsequent to the pilot phase the period for establishing a site's full caseload has been expanded to 12 months so that workload management is more effective, with clients at varying stages of the programme.

c. Eligibility criteria and the recruitment process

The process of recruitment was studied as part of the evaluation (Barnes, 2007). The details passed to FNP teams was variable, an issue if the additional eligibility criteria beyond maternal age were being used. At the most basic level telephone contact numbers were often missing which meant that it was not always possible to locate and talk to the mother to determine eligibility until after they had reached 28 weeks gestation. In many cases they could not be contacted at all. Given only an address nurses were reluctant to 'cold call' in case the pregnancy had not yet been revealed to other household members. It was much easier to recruit to the

programme when the criteria were only first-time mother and under 20. The inclusion of any additional criteria is likely to slow down the process considerably and could be influenced by the accessibility of data from midwifery booking visits.

In terms of sharing information about new bookings that looked eligible for FNP it was found that the level of cooperation between the FNP team and the local midwives was variable. In some areas it was excellent, particularly when the geographical area was smaller and/or when one member of the FNP team had herself previously worked in the area as a midwife. It was also helpful when the booking clinics took place in a small number of locations rather than in a large number of community clinics. If the midwife manager has been proactive then good contacts with midwives were more likely to develop. It was also helpful when good electronic systems were in place and were accessible for GPs, midwives and Health Visitors, though this was not found often. Access to such systems enabled FNs to check on important information such as the date of scan visits, so that they could meet with potential clients at those times, and to be aware of circumstances such as miscarriage.

Not only was it found to be important to have good information sharing and a good working relationship between midwives and the FN team, they also needed to be supported by senior management. The most problematic situations occurred in some large urban areas with many levels of bureaucracy, particularly when large acute hospital trusts or multiple acute trusts were involved or where there were already well-established specialist teenage pregnancy services. In some cases it was necessary for members of the FNP National Unit to intervene to ensure that information sharing and recruitment took place. Some senior midwifery managers acted as gatekeepers, preventing communication with the FNs.

Modifying the eligibility criteria can have an impact on the effectiveness of the recruitment process. A planned research study in two of the Wave 2a sites found that they had very different systems for referrals. In one community midwives had access to a computerised database which sent referrals automatically to Additional Support Midwives, who identified all 20-22 year olds with the relevant employment criteria, forwarding contact details to the FNP team, who then contacted the women directly. In the other site there was no comparable single database for identifying potential clients. Instead the team relied on referrals from a number of sources in the area and the only information they received was age and gestation. Nevertheless in both locations final details about educational qualifications had to be ascertained during the recruitment visit.

Another research study took place in one of the Wave 1 sites, where there was a large number of potential clients under the age of 20, with additional criteria tested for that age group. The eligibility criteria used were: all first-time mothers aged 17 or under at the time of conception; aged 18 or 19 at the time of conception with two or more of the following: not living with a parent; no educational qualifications; currently not in education, employment or training (NEET); mental health problems of the mother; ever ‘looked after’ as a child; lived apart from parents for more than 6 months before the age of 18; or living in an area of deprivation (as a proxy for low income). The eventual ineligibility criterion most frequently recorded was that gestation was beyond 28 weeks and of those enrolled their gestation at enrolment was significantly greater than had been the case in the site before these criteria were in use. This

suggests that the need to determine eligibility had slowed down the process so that mothers who might have been eligible could not be offered the FNP support.

Overall, introducing extra eligibility criteria proved to be difficult to implement given the nature of the information that is generally collected and recorded by midwives in England when they 'book in' pregnant women. Without a high level of cooperation from midwifery, and the addition of data collection that is beyond the norm for them (income, education, employment) it falls to the FNP team to follow up referrals provided on the basis of their age to find out about these additional criteria. Not only is this time consuming (thus taking away from time that they could spend with clients) it could lead young women to wonder why they were being approached and why certain (seemingly irrelevant) questions were being asked.

Lack of adequate information collected at maternity booking and/or shared with the FNP was not the only issue. Some of the FNs had their own ideas about who should get the programme, believing that some mothers who were, according to the criteria, eligible were in fact not that 'needy' and should not be offered FNP. They may indeed be correct in their assumptions that some eligible clients could do well without the programme. The evidence in the USA is that the strongest impact is for the mothers with multiple vulnerabilities, not only with low income but also lower in intelligence, with mental health problems, and low in the capacity to take charge of their own lives. On the basis of research evidence from the UK regarding which children are most at risk for poor outcomes (Hall & Hall, 2007; Kiernan & Mensah, 2009) some other characteristics also emerge as very strong contenders for eligibility criteria, such as ever 'looked-after' by Social Services, single parent, marital discord, and partner criminality and/or substance abuse. However currently it would be a challenge to use these routinely since they are not generally included in midwifery enquiry or recorded electronically.

Up to the time that the evaluation was conducted FNs have been able to explain additional queries to clients in terms of the programme being piloted and evaluated, but they expressed feelings of discomfort in interviews reporting that they were unlikely to make it obvious to potential clients that certain criteria had to be met. They were concerned that the service would become one associated with stigma. Their strategy had succeeded since most young women interviewed for the evaluation had not felt that they were being selected on the basis of vulnerability. However, in the future the FNs will not be able to say that research is taking place or that the programme is a pilot. Ideally more complete enquiries by midwifery, recorded in an accessible computerized record, should facilitate ongoing recruitment to FNP whatever the criteria.Then the FNP team would know who to contact and do that in a timely manner so that the programme could be initiated as early as possible in the pregnancy.

A major issue as the programme is rolled out more widely is how it will be described in trust publicity such as websites and to potential clients. Something offered to all young first-time mothers sounds positive, a programme that you might hope to receive. Adding eligibility criteria needs a different approach. A programme to help mothers whose children may not prosper without the necessary support (in this case FNP) is a more delicate offer to present, though still possible

3. Summary of the main evaluation findings

a. Recruitment

The recruitment targets specified by the US National Office are that 100% of enrolled women are first time mothers; 75% of eligible referrals are enrolled on the programme; and 60% of women are enrolled by 16 weeks gestation. The process and effectiveness of recruitment was examined in detail in the first year at the point when 1217 of the final cohort of 1301 had been recruited. The first target was attained in that all those referred to FNP teams and subsequently recruited were first-time mothers, though many had previous pregnancies. It should be straightforward to identify eligible clients in age at conception is the only criterion apart from first-time parenthood.

Table 1: The first cohort of referrals to the Wave 1 sites FNP and their disposition

	Total	<20 years	20 – 23
Total number of referrals	3363	2196	1116
Disposition	N (%)	N (%)	N (%)
1. None given	158 (5)	126 (6)	24 (1)
2. Unable to locate	230 (7)	126 (6)	96 (9)
3. Not eligible – wrong geographical area	213 (6)	111 (5)	98 (9)
4. Not eligible - >28 weeks pregnant	179 (5)	130 (6)	47 (4)
5. Not eligible – miscarried/foetal death	114 (3)	94 (4)	19 (2)
6. Not eligible – employment/qualifications	214 (6)	11	202 (18)
7. Not eligible – adoption planned	1	1	0
8. Not eligible – multiple problems	1	1	0
9. Not eligible – other, no details	481 (14)	146 (7)	332 (30)
10. Not recruited – Language issues	39 (1)	27 (1)	12 (1)
11. Not recruited - Monthly quota full	262 (8)	196 (9)	65 (6)
12. Not recruited - Programme full	66 (2)	25 (1)	16 (1)
13. Refused participation	188 (6)	148 (7)	38 (3)
14. Enrolled	1217 (36)	1054 (48)	167 (15)
Total possibly eligible	2160 (64)	1702 (77)	454 (41)
Enrolled as percent of possibly eligible	56%	62%	40%
Total definitely eligible	1405 (42)	1201 (55)	205 (18)
Enrolled as % of definitely eligible	87%	88%	81%

Notes:
1. Numbers broken down by age do not add up to the total since age was not given for 51 referrals.
2. Total possibly eligible calculated as: total referrals minus not eligible (all reasons).
3. Total definitely eligible calculated as: total referrals minus: not eligible (all reasons); language issues; monthly quota full; programme full; unable to locate; no disposition given.

The ineligibility of some of the referrals (6%, see Table 1) was partly the results of a mismatch between the area that was offering the FNP and the mother's residence. This was particularly relevant when maternity booking took place in large hospital clinics where mothers might come from a large geographical area. This will become less of an issue as the programme becomes available more widely around England. A similar number of ineligible referrals (5%) had passed 28 weeks gestation when

they were contacted by the FNP team; others could not be contacted, either due to poor information or because they were not at home when telephoned.

Both passing 28 weeks gestation and lack of contact can be linked to the problems discussed in section 2 regarding data sharing problems between midwifery and the FNP teams. If access to the relevant electronic midwifery records could be made available to FNs then more timely contact could be arranged, and they should be able to find sufficient contact details. Mothers under the age of 20 should not have been deemed ineligible in these first pilot sites due to having educational qualifications but there was some confusion initially about whether the relevant age was at conception or at the time of contact that should be used to place them in the under 20 or 20 plus category.

Some clients who had been referred were not contacted because the monthly number of new clients per nurse had been achieved. This will continue to be an issue for sites since nurse caseloads will fill and if they are successful in limiting attrition then they will only be able to take on small numbers of new clients after the initial recruitment is complete. A fine balance will need to be made between encouraging local health professionals to refer to FNP and letting them know that spaces are limited so many referrals will not be catered for. One way to lessen this problem would be to add additional eligibility criteria, but that runs the risk of the programme being perceived as one targeting the most vulnerable, which could lead to stigma, as discussed in section 2.

The target for take-up of the programme by eligible clients was easily achieved. Of those definitely eligible, 87% took up the offer of FNP, well beyond the objective of 75%, with no difference between those under 20 years and 20 to 23 years (see Table 1). The percentage taking up the offer was above 75% in all 10 sites, ranging from 78% to 94%. An optimal gestational age at the onset of the programme was not so easy to achieve. The aim is that at least 60% of clients will be recruited by 16 weeks gestation and all will be receiving the programme by the time they reach 28 weeks, but in this first wave of sites only 51% were at or below 16 weeks. The mean gestational age at enrolment across the pilot sites was 17.9 weeks (range 3 to 35) with 6 clients recruited after 28 weeks. However there was variability between the sites with the percentage enrolled by 16 weeks (28% to 73%) and the mean gestational age (13.8 to 20.5 weeks) reflects differences in referral details, access to midwifery records or relationships with midwifery colleagues.

b. Characteristics of clients

Using the initial eligibility criteria, the clients recruited into FNP had many characteristics that make them potentially vulnerable to poor outcomes for themselves or their children (see Table 2). The majority are becoming parents at a young age (mean 18.1, range 13 to 24), have a low income, do not live with their partner and have few educational qualifications or steady employment. In addition many had other vulnerabilities including physical health difficulties, mental health problems, experience of domestic violence and homelessness. This suggests that a simple selection on the basis of being a first-time parent under the age of 20 can identify a group similar to those who were found to benefit most from the programme in the USA trials, as described in section 2.

An intake vulnerability index was created using factor analysis (Barnes et al., 2010) based on eight characteristics identifiable in pregnancy to the FNs and known in other populations to be risk factors for subsequent poor child outcomes. The eight characteristics are: no partner, not living with mother, very low income (less than £3,100 p.a. or entirely from benefits), smoked in previous 48 hours, no GCSEs, any history of abuse, currently homeless, and receiving mental health services. The relevant data on at least six of the vulnerabilities were available for 1109 of the clients (see Table 3). Of those, 158 (14%) had no vulnerabilities at intake, the majority had either one (332, 30%) or two (288, 26%) while smaller proportions had three (193, 17%), four (86, 8%) or five (41, 4%). Only nine clients had six vulnerabilities (0.8%), two (0.2%) had seven while no client had all eight.

Table 2. Demographic characteristics of the first cohort of Wave 1 FNP clients (N=1303)

Client Characteristic	Mean (range)	N (%)
13 to 16 years	-	243 (18.6)
17 to 19 years	-	824 (63.2)
20 to 24 years	-	236 (18.1)
Marital status - single	-	853 (72.0)
cohabiting	-	229 (19.3)
married	-	97 (8.2)
separated/widowed	-	6 (0.5)
Number of other people in the household	2.7 (0-10)	-
Lives with - own mother, no partner	-	491 (41.3)
own mother plus partner	-	103 (8.7)
partner	-	189 (15.9)
partner and others, no mother	-	117 (9.8)
other adults, no partner or mother	-	95 (8.0)
alone	-	107 (9.0)
in shelter/homeless	-	88 (7.4)
Ethnic group – white	-	939 (78.9)
Black	-	92 (7.7)
Asian	-	81 (6.8)
Mixed	-	60 (5.0)
Other	-	18 (1.5)
In school or vocational programme	-	332 (28.3)
Not in education	-	841 (71.7)
Number of GCSEs any grade	4.2 (0-16)	-
Number of GCSEs, A* to C	2.1 (0-16)	-
Employed, full time	-	120 (10.2)
Employed, part-time	-	129 (11.0)
Not employed/never worked	-	926 (78.8)
Smoker at intake	-	442 (39.3%)

Note: Demographic background form was not completed for all clients.

Table 3. Intake vulnerabilities by site (clients with information for at least 6 of 8 factors)

Site	N	None	1 or 2	3 or 4	5 to 7
1	100	11 (11)	52 (52)	30 (30)	7 (7)
2	104	18 (17)	56 (54)	27 (26)	3 (3)
3	174	24 (14)	97 (56)	44 (25)	9 (5)
4	132	18 (14)	68 (52)	36 (27)	10 (8)
5	103	17 (17)	65 (63)	18 (18)	3 (3)
6	93	11 (12)	53 (57)	24 (26)	5 (5)
7	92	12 (13)	46 (50)	30 (33)	4 (4)
8	114	20 (18)	60 (53)	31 (27)	3 (3)
9	108	17 (16)	62 (57)	24 (22)	5 (5)
10	89	10 (11)	61 (69)	15 (17)	3 (3)
Total	1109	158 (14)	620 (56)	279 (25)	52 (5)

c. Delivery of the planned visits

The average number of visits made during pregnancy was 7.3, half the number in the curriculum (14), with the site average ranging from 6.1 to 9.0 (see Table 4). Note that the mean number of expected visits was less than 14 in all sites due to many clients starting after 16 weeks gestation, and to some leaving before the pregnancy phase was complete. Just under one third (30%) received the recommended level of 80% or more of expected visits. The range between sites was from 20% up to 44%. The most frequent experience in pregnancy (for 47% of clients) was to receive between 50% and 79% of the expected visits (see Table 5). Just over 10% of the clients received fewer than 30% of the expected visits. This reflects in some cases clients who had decided to leave the programme but who had ‘disappeared’ rather than informing their FN. In the newer sites this issue has been resolved by defining clients as dormant if they have not been visited for six months.

Table 4. Visit made in the pregnancy phase by site

Site	N	Mean visits expected	Mean visits	range	Mean % of expected	% range	80%+ N (%)
1	118	12.1	7.8	1-18	63.5	9- 113	27 (23)
2	111	11.7	8.1	1-17	69.6	15 - 140	32 (29)
3	190	12.1	9.0	1-16	73.2	14-200	83 (44)
4	153	10.9	6.4	0-15	60.1	0 - 150	34 (22)
5	123	11.2	8.4	1-18	75.4	20 - 130	50 (41)
6	100	11.9	7.3	1-15	61.5	14 - 100	20 (20)
7	112	11.8	7.2	1-16	63.0	9 - 143	28 (25)
8	133	10.0	6.1	0-16	61.5	0 - 125	37 (28)
9	139	9.8	6.5	0-12	68.8	0 - 200	51 (37)
10	124	10.9	6.2	1-14	56.5	8 - 125	25 (20)
Total	1303	11.1	7.3	0-18	65.6	0 - 200	387 (30)

Table 5. Distribution of the proportion of expected visits received in the pregnancy phase

% Visits	0	<10	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 80	90 to 99	100 to 119	120+
N	5	7	44	78	96	68	145	239	234	194	63	111	19
% of sample	0.4	0.5	3.4	6.0	7.4	5.2	11.1	18.3	18.0	14.9	4.8	8.5	1.5

In infancy (from birth to 12 months) the average number of visits was 12.8, just under half the number in the infancy curriculum (28). Sites means ranged from 10.5 to 16.5 (see Table 6). Again the average expected number (22) is less than the number in the curriculum materials (28, see Table 6) since some clients left during infancy, at which point the number of visits expected was frozen and for those who left in pregnancy the expected visits are set to 0.

During infancy the expectation is that at least 65% of expected visits will be received and this was the case for 42% of the clients, with the proportion within any one site ranging from 26% up to 57%. The most common experience was to receive between 35% and 64% of visits, true for 47% of the clients (see Table 7). Again some clients (6%) received no visits or very few during the year.

Table 6. Visit made in the infancy phase by site

Site	N	Mean visits expected	Mean visits	range	N	Mean % of Expected	% range	65%+ N (%)
1	118	20.9	12.6	0-33	96	58.4	17-118	38 (40)
2	111	24.1	16.5	0-32	101	65.8	0-114	58 (57)
3	190	25.7	16.8	0-32	148	62.4	0-133	79 (53)
4	153	20.2	10.5	0-26	128	48.7	0-100	40 (31)
5	123	22.2	14.0	0-31	108	61.2	0-111	57 (53)
6	100	19.5	12.3	0-29	84	60.7	0-120	42 (50)
7	112	21.9	13.5	0-33	97	60.0	0-150	44 (45)
8	133	22.4	11.5	0-30	124	48.9	0-167	32 (26)
9	139	22.3	11.9	0-35	127	51.7	0-200	40 (32)
10	124	22.4	12.6	0-29	109	54.4	0-129	39 (36)
Total	1303	22.1	12.8	0-35	1122	55.0	0-200	469 (42)

Note: The number of expected visits was available only for the 1122 clients who did not leave in pregnancy. For the leavers expected visits = 0 and completed visits = 0 so the percentage of completed relative to expected cannot be calculated.

Table 7. Distribution of the proportion of expected visits in infancy

% Visits	0	<15	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 to 94	95+
N	46	22	42	78	165	148	214	207	117	52	31
% of sample	4.1	2.0	3.7	7.0	14.7	13.2	19.1	18.4	10.4	4.6	2.8

The average number of expected visits in toddlerhood was 13, well below the number in the curriculum (22) since the number expected is set to 0 for all clients who left in pregnancy or infancy, and is frozen if a client left during toddlerhood (see Table 8). Delivery of the programme in toddlerhood was closer to the level set out in the stretch objective for the expected number of visits. The objective to aim for is 60% of the expected toddlerhood visits and the average across the 10 sites was 55% of expected visits delivered, with a site range from 45% to 63% (see Table 8).

It is interesting to note that some clients received many more than the recommended 22 toddlerhood visits, with the highest number 34 and the range going beyond the number in the programme in all but one site. This can partly be explained by the fact that many clients received visits after their child reached 24 months. FNs had acted as the client's health visitor up to that time and efforts were made to make one joint visit with a member of the local health visiting team before officially 'signing off' each client. This was often delayed due to shortages of health visitors, a situation that will be less likely as the promise of 4,200 new health visiting posts is attained.

Note that this calculation excluded those leaving in pregnancy or infancy since the proportion of delivered to expected visits would be 0/0. For those clients with some

toddlerhood visits expected, the most common experience (for 22%) was to receive between 50 and 59% of expected visits (see Table 9) with a further 19% receiving between 30 and 49%. The percentage of clients who did receive at least 60% of their expected visits was, at 42%, greater than that achieved in pregnancy or infancy. There was however substantial variability between sites with the proportion attaining the stretch objective ranging from 22% up to 60% of clients.

Table 8. Visits made in the toddlerhood phase by site.

Site	Total N	Mean visits expected	Mean visits	range	N	Mean % of expected	% range	60% + N (%)
1	118	13.4	7.3	0-29	82	51.2	0-132	30 (37)
2	111	17.5	11.0	0-33	92	61.7	0-159	45 (49)
3	190	12.6	8.1	0-23	117	63.1	0-107	70 (60)
4	153	12.2	6.8	0-24	90	52.9	0-109	35 (39)
5	123	14.2	8.5	0-29	85	58.4	0-132	44 (52)
6	100	9.7	5.0	0-18	52	52.9	0-200	17 (33)
7	112	13.0	6.6	0-30	72	49.8	0-136	29 (40)
8	133	13.4	6.2	0-34	85	44.9	0-155	19 (22)
9	139	11.8	7.1	0-28	91	56.1	0-127	43 (47)
10	124	14.0	7.2	0-24	91	52.7	0-125	30 (33)
Total	1303	13.1	7.4	0-34	857	54.9	0-200	362 (42)

Note: The number of expected visits was available only for the 857 clients who did not leave in pregnancy or infancy. For the leaver expected visits = 0 and completed visits = 0 so the percentage of completed relative to expected cannot be calculated.

Table 9. Distribution of the proportion of expected toddlerhood visits received

% Visits	0	<10	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 80	90 to 99	100 to 119	120+
N	49	18	29	47	80	85	187	135	88	68	30	30	11
% of sample	5.7	2.1	2.2	3.4	9.3	9.9	21.8	15.8	10.3	7.9	3.5	3.5	1.3

d. Content of visits

The detailed manual provides a range of activities and topics for each visit in each phase, with the expectation that each of five content domains will be covered to a greater or lesser extent, and if necessary referral to other services. There are US stretch objectives indicating what proportion of visit time, on average, should be spent on each domain (see Table 10, second column). Nurses record the percentage of time spent on each area after each visit so that it is possible to calculate averages for visits in each site and overall across England. The England averages suggest that the programme is, for the most part, being delivered in a way

that corresponds to the US objectives with the exception of environmental health. More time on average was spent on this domain than recommended in all three programme phases of the programme and by all sites.

However inspection of the final column in Table 10 shows that there was variability between sites in the extent to which the other domains were covered. For instance some were on average well below the suggested 35 to 40% in pregnancy for time on personal health and some were well below the suggested 40 to 45% in toddlerhood for the maternal role.

Table 10. Coverage of the programme curriculum in relation to US recommendations

Phase of programme and Domain	Objective %	Mean %	Site range %
Pregnancy			
Personal health	35-40	35	30-41
Maternal role	23-25	24	21-28
Life course	10-15	11	10-13
Family and friends	10-15	16↑	13-18
Environmental health	5-7	13↑	10-15
Infancy			
Personal health	14-20	22↑	20-25
Maternal role	45-50	42↓	36-47
Life course	10-15	11	9-12
Family and friends	10-15	14	12-17
Environmental health	7-10	12↑	9-15
Toddlerhood			
Personal health	10-15	18↑	15-21
Maternal role	40-45	42	26-46
Life course	18-20	13↓	11-17
Family and friends	10-15	14	12-18
Environmental health	7-10	13↑	11-18

↑ England mean above the US stretch objective
↓ England mean below the US stretch objective

e. Attrition

There will always be clients who do not continue with such an extended support service for the entire 30 months. The US National Office suggests that attrition should be limited to 10% in pregnancy, 20% in infancy and 10% in toddlerhood. For Wave 1 attrition in pregnancy was higher than the recommendation (179, 14%), infancy attrition was on target (258, 20%) and toddlerhood attrition lower than 10% (97, 7%) although some clients had not quite reached the end of the programme when calculations were made. There was, nevertheless, considerable variability between the sites in the extent of attrition (see Table 12).

Several sites had particularly high attrition in pregnancy and, on reflection, some of the FNs reported that they may have been over-enthusiastic about recruiting so that they could meet the target number within the prescribed (quite short) time period, resulting in some clients deciding quite quickly that they did not need the programme.

One site has a high rate of attrition during pregnancy, linked to management issues. Several staff departures came close together, there were delays in recruiting replacements, so not all clients could be accommodated by the remaining team members.

A record is kept by FNs of the reason why each client leaves. Some reasons are basically unrelated to the programme such as clients moving away from the area; others are linked to client behaviour such as missing many appointments or 'vanishing from the radar' by not being home and not answering telephone calls or texts, some are medical – miscarriage, termination, stillbirth, child death or more unusually maternal death – and visits may stop if the child is no longer in the mother's custody either through adoption or through being made the responsibility of social services. Finally, the largest proportion of leavers was clients who indicated to their FN that they no longer wished to receive the programme (see Table 13).

Table 11. Attrition from the 10 Wave 1 pilot sites by programme phase

Site	Total N	Left pregnancy N (%)	Left infancy N (%)	Left toddler-hood N (%)	Total attrition N (%)	Active through N (%)
1	118	22 (19)	13 (11)	14 (12)	49 (42)	69 (58)
2	111	10 (9)	8 (7)	6 (5)	24 (22)	87 (78)
3	190	42 (22)	31 (16)	12 (6)	85 (45)	105 (55)
4	153	25 (16)	38 (25)	7 (5)	70 (46)	83 (54)
5	123	15 (12)	22 (18)	8 (7)	45 (37)	78 (63)
6	100	16 (16)	31 (31)	14 (14)	61 (61)	39 (39)
7	112	14 (13)	25 (22)	7 (6)	46 (41)	66 (59)
8	133	8 (6)	38 (29)	9 (7)	55 (41)	78 (59)
9	139	12 (9)	34 (24)	14 (10)	60 (43)	79 (57)
10	124	15 (12)	18 (14)	6 (5)	39 (31)	85 (69)
Total	1303	179 (14)	258 (20)	97 (7)	534 (41)	769 (59)

Table 12. Reasons given for client leaving FNP, as reported by Family Nurses

Reason for not continuing with FNP	N	% Total N=1303	% Leavers N=534
Completed programme	769	59	-
Declined further participation in FNP	230	18	43
Moved out of the programme area	104	8	20
Excessive missed appointments	83	6	16
FN unable to locate client	37	3	7
Child no longer in family custody	29	2	5
Foetal death (miscarriage or termination)	19	1	4
Child death	4	0.3	0.7
Still birth	3	0.2	0.6
Maternal death	1	0.1	0.2
Other	24	2	4

Table 13. Reported reason for declining further participation

Reason for declining	N	% Total N=1303	% Leavers N=534	% Decliners N=230
Client's needs satisfied	82	6	15	36
Does not wish to remain in FNP	32	3	6	14
Has sufficient knowledge or support	20	2	4	9
Dissatisfied with the programme	20	2	4	9
Refused new Family Nurse	18	1	3	8
Pressure from family members	16	1	3	7
No time, returned to work	13	1	2	6
No time, returned to education	9	0.7	2	4
No time	9	0.7	2	4
Services from other programme	6	0.5	1	3

Their reasons for declining to receive the support are also recorded by FNs and the most frequent reason for declining, given by more than one third, was that they considered their needs had been satisfied by the programme or that they now had sufficient support or knowledge (36% of decliners, 15% of leavers; see Table 14). Smaller numbers indicated that they were not satisfied with the programme, that they did not want a new FN after their own nurse had left, or that they had been persuaded by family members that they did not need the FNP. Only a small number, 22 of the 1303 (4% of leavers), left FNP saying that their return to education or work left them with no time for the visits.

Efforts were made to interview clients who left the programme and most indicated that they had been satisfied with their FN and with the content of the programme, but either thought that they did not need ongoing support thanks to support from family, or they could not manage the visits having returned to work or to education. Few decliners were negative about the programme or the FN but a small number were unhappy after their FN involved social services.

f. Acceptability of the programme for clients and nurses

Clients and their families were positive about the programme when it was offered to them. They liked it in comparison with other services and noted in particular the different way they were perceived by FNP staff, not judged and undermined but supported and strengthened. Some were not sure about it when they accepted, but most found the programme better than they had expected, particularly some of the young men interviewed. They felt more involved as fathers to be. Grandmothers were generally happy to let the FN provide up-to-date information to their daughters. Some clients expressed dismay at the amount of paperwork (quizzes, diaries etc.) that were part of the programme but in general the FNs helped them to complete the most relevant and were sensitive to literacy problems.

Clients who decided that they no longer wanted to receive the programme were generally positive towards their particular FN and programme. They were aware that the programme was designed to be supportive, although some indicated that, by the frequency of visits, they felt that they were being monitored for evidence of bad parenting, particularly so if the FN had been in contact with other services such as social work. The focus on encouraging father involvement could also lead to difficulties if there was discord between the parents.

Overall it appears for the first group of nurses that delivered this programme, new for England and the NHS, the programme was acceptable. Many reported enjoying the job and the challenges it offered. Some said it is the best job they had ever had. Initially they found the change to a programme that involved detailed record keeping after each visit in addition to a range of other data forms documenting the progress of the clients and their children to be onerous. In addition a common theme in many interviews at the start of the programme was the strain involved with concerns about delivery or 'dosage' shortfall. This lessened in the later phases of the programme as they understood more clearly the concept of 'stretch objectives' and, based on the experiences of the Wave 1 'pioneers', FNs in the newer waves are starting with a greater understanding of the utility and relevance of the data collection aspect of FNP. A substantial amount of work was completed by the Wave 1 teams to amend the written materials to make them more relevant to families in the UK. They were in use for the toddlerhood phase, and there was agreement that this amendment to the programme's 'surface structure' was important and helped to make the programme more acceptable for both nurses and the clients.

g. Nurse time allocation

Work diaries were completed over a two week period in each phase of programme delivery to determine how time was spent. The most representative information for the Wave 1 sites with respect to time allocation of the FNs is infancy. In pregnancy, as the programme was being introduced into the areas, there was disproportionately more time spent on communication with other professionals about the programme to boost recruitment, and on their initial training. In toddlerhood the time allocation was distorted by recruitment to the RCT, meaning that FNs could not re-fill their caseloads with new clients for several months, and the rate of recruiting clients to the

RCT was slower that the usual recruitment rate. Thus their case-loads were not full for much of the toddlerhood time period studied.

In infancy FNs spent 60% of their time on client contact in visits (35%) or other visit-related activity such as preparation, travel and notes (25%). There was some variation between the sites, from 50% up to 72% (see Table 15). For every typical hour and a half visit, there was at least 21 minutes of travel, 22 minutes of preparation and 26 minutes of notes. Although there was some variation in journey time to visits by site, this was not great and most journey times clustered around 20 minutes within the range 17 to 21 minutes. The remaining time in infancy was divided between other activities related to FNP (10%) and non-programme work. Nurses spent 3% of their working time in consultation with others (case conferences, and discussions with GPs, social workers, Connexions and other agencies). They spent 8% of their working time on administrative tasks and 4% unclassified activities.

The most significant element of non-programme time was training and personal development. Just under 7% of available time across the sites, was accounted for by training or other professional development activity that was not related to the FNP (see Table 15). Around a quarter of this was mandatory training, while three-quarters was other professional development. This suggests that the FNs were concerned about maintaining their career options for work such as midwifery or health visiting, in view of the fact that the current expansion of FNP had not yet been put into place.

Table 15. Proportion of available hours spent by Family Nurses on client-related activities and on non-FNP training in infancy by site (N=38)

Site	Client-related (%)	Non-programme training (%)
1	61.2	10.7
2	71.7	3.1
3	57.3	9.8
4	65.8	2.2
5	50.0	5.9
6	50.0	5.9
7	68.8	4.1
8	62.3	0.0
9	54.2	3.2
10	60.1	4.2
Total	59.7	6.0

h. Potential for impacts

Clients and FNs indicated from pregnancy onwards that they believed good progress had been made in their parenting and in other life skills. Case studies illustrate substantial gains in mothers developing relationships with infants and improving difficult relationships with fathers, often in the face of initial low engagement or risk factors such as having been in care. These generally involved much multi-agency working and were facilitated by the strong Family Nurse-client relationship. There was a relative reduction in smoking during pregnancy of 20% from early in pregnancy (40%) to 36 weeks gestation (32%) (see Table 16). Breast feeding initiation was 63%, with more than a third (36%) of whom were still breastfeeding at 6 weeks,

which is promising in relation to the rates identified in national surveys for socio-economically disadvantaged mothers. There was however a wide range in breastfeeding initiation rates between sites, from 38% to 86%.

Table 16. Change in the mean number of cigarettes smoked per day from pregnancy intake to 36 weeks gestation by site

Site	N	Mean reduction, all smokers	Range	N Smoke 5+per day	Mean reduction, 5+ per day smokers	Range
1	81	+0.5	+15 - 7.5	33	+0.8	+15 - 7.5
2	81	1.2*	+6 - 11.5	21	2.2*	+5 - 11.5
3	139	2.4*	+13.5 - 22.5	39	3.4*	+13.5 - 22.5
4	108	0.1	+7.5 - 8.5	24	0.2	+7.5 - 8.5
5	81	1.3*	+3.0 - 7.5	16	1.8*	+2.5 - 7.5
6	78	2.9*	+6.5 - 17	29	4.1*	+6.5 - 17
7	86	2.1*	+4.5 - 10	23	4.0*	+2.5 - 10
8	83	2.5*	+2 - 10	4	5.8	0.5 - 10
9	105	2.7*	+3.5 - 15	14	3.5*	+3.5 - 15
10	74	1.0	+37 - 12.5	16	3.2*	+7.5 -12.5
Total	916	1.5*	+37 - 22.5	219	2.4*	+15 - 22.5

* indicates that the amount of change is significant at $p<0.05$, (*) signifies a trend at $p<0.10$

+ signifies a mean increase in the number of cigarettes

By the end of the programme the number of clients becoming involved in education and employment looked encouraging in that this group of mothers may be among the least likely to be able to gain employment, with child care to arrange and a preference for part-time hours. More than one quarter took part in some education after their child's birth, half of whom had not been in education at intake. A greater percentage was employed at the conclusion of the programme than had been the case at intake (see Table 17).

Table 17. Current employment at each stage of data collection (percentages in brackets)

	With data N	Currently employed	Not employed	No data
Intake	1175	249 (11)	926 (79)	128
Active 6 months	826	58 (7)	768 (93)	158
Active 12 months	677	96 (14)	581 (86)	190
Active 18 months	534	74 (14)	460 (86)	278
Active 24 months	506	89 (18)	417 (82)	263

The FNs linked clients up with other necessary services; housing was a particular focus of referrals in pregnancy and maternal and child health referrals throughout. More than three quarters of clients had been referred to at least one other agency. Overall the most frequent types of referral to other agencies or services were:

financial assistance 42%, maternal health 41%, child health 33%, housing 31%, social care 11%, mental health serviced 10%, Substance abuse 10% and the Citizen's Advice Bureau 10%.

When a random sample was interviewed in infancy, just under one third (30%) had been to a children's centre in the previous three months, mainly for play sessions or infant massage. After their child reached two years old, a proportion of clients who had remained with FNP for its duration were also asked about their current Children's Centre use. Just under one quarter of the 155 interviewed (34, 22%) had been to the Children's Centre for one of the specified service, 10 for 2 and 15 for 3 or more activities (maximum 6). 10 had not yet been to any services listed but had been or were signed up to attend to a variety of other services such as cookery classes, a young mums group, the toddler play gym, a parenting group or PEEP. The interviewed group demonstrated significant improvement in their sense of mastery over their lives and their children were unlikely to have marked emotional or behavioural problems. However there was no control group involved in the process evaluation and it remains for the ongoing randomised controlled trial to demonstrate the impacts of the programme.

4. Evidence-based programme delivery with fidelity

a. Implementing evidence-based policy, nationally and locally

Now that FNP is being rolled out more widely in England it is useful to consider the implications of focussing resources on an evidence-based programme. Policy documents affirm that this is a wise use of public finances to offer programmes with strong evidence (Allen, 2011). The US website describing the NFP programme emphasises that it is important for policy makers to know that it is evidence-based (NFP, 2010a) and gives more details in a further fact sheet (NFP, 2010b). Both documents stress that public health officials and communities increasingly want to invest resources in services that have evidence of their impact, from properly conducted randomised, controlled trials, the results of which have been peer-reviewed before publication. This was also one of the key aspects of services introduced by the previous Labour government. A series of policy documents from the Cabinet Office written soon after Labour came into power in 1997 recommended the introduction of programmes that were supported by a strong evidence base (Cabinet Office, 1999; HM Government 1999; Cabinet Office 2001). There continues to be a strong push for the introduction of evidence-based programmes (Little, 2010; Shribman & Billingham, 2009).

There are varying levels of evidence, some more persuasive that others. The evidence for the FNP programme is of high quality in comparison with many other early intervention programmes and it is commonly named when examples of programmes with good evidence for success are sought. The USA coalition for evidence-based policy, responding to a Congressional directive that funds be directed to programmes that achieve the top tier evidence of effectiveness – i.e., "that have been shown, in well-designed randomized controlled trials, to produce sizeable, sustained effects on important … outcomes" identified only two programmes designed to support children aged 0 to 6 and their families that could be thus categorized, one of which was the NFP (CEG, 2008). The Blueprints mission of the '*Center for the Study and Prevention of Violence'* at the University of Colorado was to identify truly outstanding violence and drug prevention programs that meet a high scientific standard of effectiveness. After reviewing approximately 800 programmes with published research in peer-reviewed literature they found that the Nurse-Family Partnership was one of only 12 that clearly work, or even appear promising (Blueprints, 2010) . A similar conclusion was reached by academics seeking evidence-based home-visiting programmes likely to reduce child abuse and neglect (MacMillan, Wathen, Barlow, Leventhal & Taussig, 2009). Professor Olds has paid close attention to ensuring high quality replication through not only the RCT studies but also by prescribing the programme, the core model elements and the focus on fidelity.

However, academics in the US have challenged the idea that the majority of resources should be directed to providing evidence-based interventions. They argue that building a national initiative on the basis of evidence from randomised trials provides little guidance on how to replicate these models successfully; nor does it provide the ability to generalise findings to diverse populations and diverse contexts (Daro, Dodge, Weiss & Zigler, 2009). US economists have made a similar point, suggesting that, while investing in "blue-chip" proven prevention with demonstrated cost benefits is sensible, the "market place" for rigorously researched programmes is

developing fast, with many rigorous studies soon to be producing findings (Aos, 2004).

Thus it is particularly important to know whether this evidence-based US intervention can be applied in a different cultural and institutional context and its introduction should be gradual so that potential alternatives can also be tried and similarly tested. It is also relevant that some 'competing' interventions developed within the UK context may feel that their programmes are as effective, but have not been able to conduct the necessary randomised trials with long-term follow-up that the NFP has achieved. This could result in local opposition to the introduction of NFP.

b. What can be expected based on the evidence?

If the FNP, as it is know in England, is offered to a client group that closely resembled that of the US NFP trials, what should be expected in terms of outcomes? And which departments or agencies will be sufficiently persuaded by the evidence to invest their resources to achieve these outcomes? It is useful to look briefly at the evidence to determine both what the programme is likely to achieve and also, perhaps more importantly, what impacts are unlikely either for all clients or for sub-groups. It is noted (NFP, 2010c) that the programme has three major goals, to:
Improve pregnancy outcomes by helping women engage in good preventive health practices, including obtaining thorough prenatal care from their healthcare providers, improving their diet, and reducing their use of cigarettes, alcohol and illegal substances;
Improve child health and development by helping parents provide responsible and competent care for their children; and
Improve the economic self-sufficiency of the family by helping parents develop a vision for their own future, plan future pregnancies, continue their education and find work.

While these are the broad goals or aims, information is also provided about the main outcomes that can be expected, based on the three research trials: improvements in prenatal health, birth outcomes (including greater intervals between births), child development, school readiness, academic achievement, and maternal employment; and reductions in child abuse and neglect, early childhood injuries, mental health problems, and crime" (NFP, 2010a). Six outcomes have been found in at least two of the three trials, namely "improved prenatal health, fewer childhood injuries, fewer subsequent pregnancies, increased interval between births, increased maternal employment and improved school readiness" (NFP, 2010e). In addition to these impacts there is evidence for a further 31 impacts found in at least one of the three trials (NFP, 2010c). The programme's monetary benefits relative to costs are based on one of the three trials, the realist one in Elmira (NFP, 2010f). Cost effectiveness is discussed in section 8.

Health: One of the three major proven outcomes of the programme is reported to be improved pregnancy outcomes through better preventive health practices (NFP, 2010a). From the detailed summary of improvements in prenatal health (NFP, 2010 c) the examples differ in each trial: less pregnancy-induced hypertension in the Memphis trial (Kitzman et al., 1997); fewer deliveries of preterm babies to mothers who smoked in the Elmira trial (Olds et al., 1986a); a reduction in closely spaced pregnancies in Memphis (Kitzman et al., 2000) and reduced cotinine levels

(indicating smoking) amongst mothers who smoked in Denver (Olds et al., 2002). The spacing of pregnancies is a good outcome to have, but is not related to maternal health in the current pregnancy, any impact will be in the longer term on health and factors such as employment or education. In addition, the Elmira trial was able to collect detailed pregnancy health information. While fewer kidney infections and fewer cigarettes smoked from intake to late pregnancy were identified, participation in NFP had no impact on hypertension, pregnancy bleeding, spotting, maternal alcohol use in pregnancy, weight gain bladder infections hematocrit, proteinuria, blood pressure or oedema (Olds et al., 1986a). Noting the details of these non-effects is not designed to take away from the significant findings but to highlight the fact that positive evidence needs to be understood in detail, not with global labels such as 'improved pregnancy outcomes', and should also accompanied by some understanding of null findings so that expectations of both commissioners and practitioners are realistic.

Child Development: The second broad goal is for improved child development through more competent parenting. It is reported that the trials have demonstrated increases in children's school readiness and academic achievement (NFP, 2010a; NFP 2010c). This would make it an attractive option for many local authorities in the UK. However the results cited, e.g. less language delay at 21 months (Olds et al., 2002); better language scores at 4 years Olds et al., 2004a), better mathematics and reading achievement in grades 1 to 3 (Olds et al., 2007), are almost exclusively based on the children of mothers with low psychological resources in these trials. Thus even within a low income group the major impact on school readiness and later achievement is for children of the most vulnerable mothers, which has implications for the discussion of eligibility criteria in England (see section 2). It is also useful to know that other aspects of school achievement such as repeating a grade, academic failure or requiring special education were not impacted by the programme in the Memphis trial, with evidence until children were 9 years of age (Olds et al., 2007). Longer term follow-up is ongoing and evidence is yet to come for this age-group from the Denver trial but it is possible that, for maximum impact in this area, FNP may need to be provided together with related interventions such as high quality early education. For example, the US Early Head Start initiative (Love et al., 2005) found that the most impact was observed when high quality stimulating experiences for the children were available in addition to professional home-visiting support.

It is noted that the programme "reduces children's mental health problems (NFP, 2010a; NFP 2010c) and specific outcomes relating to socio-emotional development are also detailed such as a 67% reduction in behavioral and emotional problems at child age six (Memphis; Olds et al., 2004b), a 28% reduction in 12-year olds' depression and anxiety (Memphis; Kitzman et al., 2010). Reductions in adolescent antisocial behaviour are also noted at age 15 in the children from the Elmira trial, such as a 59% reduction in arrests by age 15 and a 90% reduction in adjudication as PINS (person in need of supervision) for incorrigible behavior (reanalysis of Olds et al., 1998) and 33% fewer arrests among female children at age 19 (Eckenrode et al., 2010). None of the trials reported on child emotional or behavioural outcomes in any detail until children were aged six so further trials might indicate detectable effects during the preschool years. Indeed there were null findings when infants were 6 months in the extent of crying and night waking while infants of intervention mothers were more likely to resist eating - aspects of children's behaviour that can be challenging for parents and which have been associated with a greater risk for child

abuse (Elmira; Olds et al., 1986b). A key issue in relation to the US evidence, discussed in more detail in Section 8, is that much of the impact is in the medium and long term which needs to be understood by policy makers and commissioners.

Economic welfare: The outcomes relating to the third main goal of increasing economic self sufficiency are possibly the most likely to be culture specific when the programme is transferred from a society that has fewer supports for families living in poverty to one with a national health service and a relatively strong welfare system. It will remain to be seen whether effects such as a one month increase in labour force participation during second year of child's life (Denver, Olds et al., 2002), a seven month increase in labour force participation 4 years after delivery of first child among low-income unmarried mothers (Elmira, Olds et al., 1988) or a 30-month reduction in use of aid to families with dependent children (AFDC) or temporary assistance for needy families (TANF) by the time the child is 15 among mothers who were poor and unmarried at registration (Elmira, Olds et al., 1997) can translate into similar evidence of economic cost-saving in England. Indications from the implementation evaluation are that pregnancies are being spaced in a manner similar to the US trial so this may be an important outcome to look out for in the UK trial.

Evidence, however robust - and this programme has more than most such preventive interventions, - is based on the particular population taking part in the trial (see section 2). Detailed evidence will emerge in England once the findings of the current RCT are published. Until that time it is probably sensible to think that some of the expected outcomes may fail to materialise when the programme is provided to English mothers-to-be, while some may be identified that were not found in the evidence from the US. For example better measures of young children's emotional and behavioural problems and language development are now available. If they are used in the research in England they may identify child developmental impacts that were not evident previously. However, it should be made clear to any local authority interested in providing the programme that much of the evidence relates to specific sub-groups in each of the three trials and to take note of what the FNP National Unity are saying about eligibility criteria. Promising too much will be likely in the long-term to lead to disappointment, which could then result in a local area deciding that they do to want to continue with the investment. It is much better to be circumspect from the outset.

c. Eligibility within universal service provision

According to the license agreement the programme can only be offered to first time mothers and currently the number is limited by adding the criterion that they should be under 20 years of age at conception. If the provision of the programme is limited, due to funding issues, then the existing eligibility criteria discussed on section 2 may produce more referrals than FNP teams can enrol, leading local areas to think about limiting the programme by using additional criteria. This might be for instance limiting it to mothers under 17 or to mothers under 20 who also have an additional risk factor such as, for example, no educational qualifications, having been a looked-after child or currently experiencing mental health problems. Guidance has been issued to sites on the basis of the implementation evaluation, noting that outcomes may be different for clients of nurses working with more vulnerable caseloads. While the numbers are small relative to other factors such as NEET, having ever been in care is one criterion that deserves particular attention. However to use any additional criteria there may

need to be radical changes to the type of information collected by midwifery if characteristics such as this, or low income or learning difficulties are to be used. Midwifery systems and ante-natal booking systems will need to be more sophisticated, with better data for additional eligibility criteria to be used effectively with FNP (Barnes et al., 2010a).

If local midwifery procedures and data systems are enhanced so that the relevant information needed for targeting are available, then there will be expectations by midwifery professionals that mothers thus identified will receive the programme. This was possible in Wave 1 as caseloads were built up, but once each FN has the maximum number of clients (25) then many eligible clients may not be offered the programme. Places will only become available if a client leaves or graduates or if the number of places is increased locally. Providing the programme in an on-going manner may require a more finessed negotiation with midwifery, ensuring that referrals come but also recognising that all referrals may not then be supported by FNP. Some robust modelling is necessary so that eligibility criteria can be fitted to the number of FNP places available, or that the number of places can be fitted to the number of eligible women.

d. Provision with fidelity but adapting to a new context

A number of stretch objectives are available to inform FNP teams whether they are delivering the programme in the way that was intended. While not hard and fast performance indicators, the FNs understand that they should aim to match the objectives as closely as possible. Most of the nurses providing the programme in England, particularly those in the Wave 1 sites, have a background in health visiting or midwifery, some with training in both disciplines. Thus they had substantial experience of making home-visits and have been accustomed to making many professional judgments about what to offer families based on their clinical judgment. Indeed their expertise has been praised by Professor Olds in that they were starting with a range of experiences that US nurses did not generally have when they were introduced to the programme. Not surprisingly the thoughts of these highly skilled nurses turned to how the NFP curriculum materials, developed in the US, could be adapted for their use in a different cultural context.

It has been noted (Schinke, Brounstein & Gardner, 2002) that implementation of successful programmes in new contexts may lead to tension between the (perceived) need to tailor the programme to the new setting and a desire to maintain fidelity to the original model, so that the expected gains might be achieved. The developers of a number of evidence-based intervention programmes for families were interviewed in depth about this issue (Ferrer-Wreder et al., 2004) and there was agreement that adaptation could provide the opportunity to strengthen the intervention if there was good communication between the programme's developers and the new implementers. Nevertheless they also agreed that adaptation required the programme to be evidence-based; as one commented "it would be foolish to try to adopt a program that hasn't been demonstrated to be effective no matter what the culture." (Ferrer-Wreder et al., 2004; p.200). But one aspect that should not take place is 'watering-down' of the programme, the programme needs to be taken to scale in its 'pure form' (Axford & Little, 2010). Thus a tension may be present between building on the strengths of the UK workforce and ensuring that delivery

follows the manualised materials, using appropriate professional judgment to match the programme uniquely to each client.

Developers of a number of evidence-based programmes also noted in qualitative interviews that in any new context there needs to be a pragmatic fit between the context and the programme – the theory behind it must make sense – and that the core principles should remain intact unless there was compelling scientific evidence to the contrary (Ferrer-Wreder et al., 2004). They suggested that, while this 'deep' structure should be protected, the surface structure could well be amended to enhance initial receptivity with potential participants. Indeed the process of adaptation by a change in surface structure was initiated in the first training experience for the Wave 1 nurses and supervisors. The NFP programme was re-branded after a democratic process as the Family Nurse Partnership (FNP) and the practitioners also made a collective decision to call themselves Family Nurses (FNs) to distinguish their role from previous posts such as health visitor or community health nurse.

In England there is overwhelming understanding and integration into clinical work of aspects of the programme's deep structure. Two of the three theories upon which NFP is based, attachment theory (Bowlby, 1969) and ecological theory (Bronfenbrenner, 1979) are widely understood and used to plan services but there is possibly less general use of self efficacy theory (Bandura, 1977) in current support for new parents. Thus there may be discussion required about how to focus on this aspect of the 'deep structure' of NFP. It was found in the delivery of the programme in Wave 1 that the average time spent on the mother's 'life course', the domain that encompasses much of the self efficacy focus, was within the suggested stretch objective of 10 to 15% of each visit on average for both pregnancy and infancy. Time on this domain was 11% overall in both phases (Barnes et al., 2008; 2009; see Table 10). However this becomes a particular focus of toddlerhood when the recommendation is that 18 to 20% of the visit time is spent on the life course domain. None of the Wave 1 sites reached that level and the overall average was 13% (Barnes et al., 2011). Possibly this is an adaptation that reflects the different context for young mothers in England, but it deserves discussion. The stretch objective is not a fidelity requirement so this type of adaptation is possible, in the same way that the photographs used in the materials or the language had been adapted to be more useful for parents in England.

The surface structure has been addressed with a considerable 'Anglicisation' of the materials so that they incorporate some handed out to all mothers by midwives and health visitors, modification of some of the language and examples so that they will be more meaningful to mothers and fathers in the UK, and a general brightening of the printed matter with more colour and more illustrations. This work was led by one of the Wave 1 sites, where FNs decided quite early on in the process of delivery that they needed to make the information more relevant and the changes have been well received (Barnes et al., 2009).

It is an interesting aspect of the programme that it can be both closely prescribed in terms of the content, and the delivery of content, and yet offer the individual nurse considerable room for manoeuvre in conveying aspects of the curriculum during the visits to clients. There are stretch objectives indicating a minimum proportion of visits to ideally complete in each phase but what takes place within the visits can be

adjusted by the nurses. This potential for flexibility within the programme approach became more apparent in the ten sites as the teams of nurses became more used to making visits, and had more insight into each client. They are encouraged to 'agenda match': that is, to find out a client's preferences and goals and to adapt the programme and its materials in the light of these. The supervisory system has allowed for reflection on the choices they might make. In making them, nurses are often balancing practical considerations - like preventing clients from leaving or dealing with crises that have arisen in a client's life - with the need to deliver the programme content with fidelity. In describing their work it is this fine-tuning element that the British nurses most often communicate with enthusiasm, and which they feel draws on their existing professional background. While this is a potential strength, it could also lead to the balance of the programme's content being changed in ways that diverge from the original intention. Thus an important aspect of ongoing roll-out will be to ensure that quantitative information derived from the routine documentation of content per visit is regularly incorporated into supervision.

5. Nursing professionals delivering the programme

a. Previous roles

A non-negotiable element of the licensed programme has been its delivery by registered nurses working in teams of at least four nurses with one supervisor. In the UK in the first 10 sites these were almost all Health Visitors or Midwives (or had experience of both). The nurses in the newer sites have a more varied background but are still heavily weighted to these two disciplines. At the time of recruiting the Wave 1 teams, both these professions were under some pressure - the midwifery service because it was operating under-capacity on many areas, and the health visiting service because its once established modus operandi, child health surveillance, had been modified, with nothing so clear established in its place. For some years the exploration of what health visiting was for had been under discussion among policy makers and health visitors themselves. New ways of supporting young children and families, notably multi-agency approaches, had been changing their ways of working and their 'public health' role, which fitted well into local programmes of prevention (rather than 'crisis intervention' when things went wrong for families) had led to the acquisition of new skills (group work, for example), but these were by no means consistent across PCTs. When the FNP pilot sites were first postulated, several applications for pilot funding described FNP as 'the future of health visiting' - but there was no elaboration from any PCT or from the National Unit as to how this might be realised. Since that time of course there has been a Department of Health initiative in the context of the Healthy Child Programme to increase the health visiting workforce by 4,200 by 2015 (DH, 2010a; 2011b) and the role of the FNP Family Nurse is seen as a separate, specialist role.

All the new FNs shared an experience of working in (and almost always being trained within) the NHS. This has provided a shared language and culture, career structures, pay scales and expectations which are bonding for staff but can cause difficulties in the face of change. There had already been considerable recent change for health visitors. Traditionally the lead profession in relation to children in the early years, they had seen a switch of leadership in this field from the Department of Health to that of Children, Schools and Families, with the early development and education of children becoming far more central to policy-making. Many had been relocated - from GP surgeries to health centres, sometimes to Sure Start centres - and had to learn to function alongside family support workers, teachers and other workers, all focussing on the young child. Although hesitant at first most health visitors - including many who became FNs - really welcomed the focus on individual children and families that resulted from this approach.

Studies had looked for evidence of outcomes from health-visiting which might reflect those found in the American programme (for example, Barlow et al., 2007) but their findings were of slight significance. These research studies, combined with a systematic review of health visiting which had raised many questions about the extent of the evidence-base for the service, and even for its validity (Elkan et al., 2000) had affected the general confidence of health visitors. They remained proud of their profession but uncertain as to its future direction.

It is easy to think that a FN is very like a health visitor. Domiciliary visits are the heart of the programme. Some of the curriculum content, particularly at the infancy stage,

overlaps. But even on the most basic level there are big differences. Health visitors were carrying caseloads of hundreds of families - often well over 300 - and saw many of these families for only once or two brief visits. The chance of any relationship, let alone a 'therapeutic' one, was unlikely. Although they had enjoyed freedom to assess and respond to need, to work with other practitioners in order to support families and to manage their caseload in ways which prioritised need without stigmatising families, the professional freedom this allowed

was limited by the sheer volume of work and the demands of safe-guarding children from risk. In addition there was a big difference in the style of the two approaches. Health visitors were advisors and mentors, arriving to answer questions, check the child and give advice. Sometimes this could be seen as judgmental, especially by families in the lower income sectors (Cragg Ross Dawson, 1999). This contrasts with the style in which FNP is delivered, focussing on clients' strengths and using motivational interviewing techniques so that they can have more ownership of their goals and aspirations.

b. A change in professional identity

FNs themselves often draw a distinction between what they are in their current incarnation and what they were as health visitors, describing their relationship with a client as 'doing my health visitor role'. It is difficult to pin down exactly what this reversion is. It focuses on health, whereas family nursing ranges much wider, but there is also an element of advice-giving and instruction in it which runs counter to the equality of the therapeutic relationship. It also has a less positive, less strength-based emphasis, warning about what might go wrong, perhaps, and concerned about risk. Health visitors also have a degree of flexibility as to how they manage a caseload, what they do on visits and how they relate to other professional services. Even where they are not working from a multi-agency setting, they will be drawing professional sustenance from colleagues working with families. They are known and understood within the local network of health and personal support for families. And their health expertise gives them status within this network. They have a good deal of professional autonomy.

It has been necessary to 'convert' nurses into FNs, and in the process some 'unlearning' has been required. All FNs insist that their new role is very distinct from their old, and yet they are loath to lose their health visiting/midwifery identity. FNs toy with the idea of going back, and some have done so, either because a PCT has not continued with the programme (which happened in 1 of the 10 sites) or for individual reasons. In at least one latter case the nurse subsequently regretted the change.

Some of the local health visitors and midwives interviewed during the pilot phase of introducing FNP initially expressed reservations about the introduction of the programme at a time when resources were stretched. Their anxieties are likely to have been allayed more recently by the current focus on recruiting and training more of both professions. Health visitors reported that they would welcome the opportunity for closer involvement with families on their caseloads, which fewer families and more time would give them, that they would like access to the sort of materials that FNs used, and would appreciate the training and attention that the pilot sites enjoyed. Some wondered why it was not possible to move between health visiting and being a

Family Nurse. Subsequent to the pilot site work the National FNP team have developed ways that the learning from FNP, such as the use of motivational interviewing, the strength-based approach, the whole-family approach and the non-licensed materials such as PIPE for example can be shared with local health professionals, so they can gain from the integration of FNP within the Healthy Child Programme.

c. Integration with other provision for children and families

The PCT managements which won the bids for these pilot sites have been running them in tandem with wider services locally and in most places a sense of how they will co-exist has emerged. The Child Health Promotion Programme (Shribman & Billingham, 2008; now the Healthy Child Programme, HCP; Shribman & Billingham, 2009) offers a workable framework for doing this. Topics identified in the FNP implementation research interviews, and particularly the four case studies of contrasting site for successful integration reflect guidance for commissioners regarding the HCP (Shribman & Billingham, 2009, p. 31): a well-defined description of the programme; a very clear identification of who will receive it, local consensus that this will be the appropriate group and understanding of workforce requirements. Interviewees further noted that a description of the whole local offer of the HCP is needed to show what parents will get. For FNP to develop in this context it is the clear communication of the programme and the clear identification of the families who will receive it that will be important.

For managers there has been the practical problem. Recruiting to the pilot phase of FNP meant that health visitors who became FNs had to be replaced. Some areas found it hard to do this. In most the manager responsible for FNP also managed the generic service and their loyalties were tested. In at least one area the manager felt that the pressure on her health visiting service could not be justified by the amount of benefit to a finite number of families represented by FNP, and she was not convinced that the efficacy of FNP was greater than that of health visiting. In those sites where FNP established itself most securely (demonstrated by the effectiveness of the implementation and its fidelity to the model) the local leader had a very strong commitment to FNP and has championed it. There was some evidence that this position was more likely to be reached by managers who had participated in the development of the multi-agency services for families over the past 12 years or so, and who had a strong commitment to poorer children and families. It is as though the insight gained through these previous initiatives had given them the determination to make this one work. This is interesting because it is almost counter-intuitive. This very focussed intervention looks like the antithesis of the looser, multi-agency, response to family and community exemplified by Sure Start whether local programmes or Children's Centres, yet it was the experience of Sure Start that led many FNs to their interest in FNP, and that made some PCT managers keen to have this intervention focussed on the most needy. Both were most concerned about the children and families about whom they were already informed.

d. Maintaining an FNP workforce

FNs in the first wave of sites generally report that they like working in the programme, despite the fact that most find it more taxing than their previous roles. All reported that it is the parents and children who keep them committed, and that the opportunity

for deep relationships with families as their children are born and grow is the source of rich job satisfaction. They also report that this is a new way of working which brings with it difficulties. It is harder to 'turn-off' from work; they think about their clients incessantly and worry about them. Some also find it a challenge to 'let go' of clients when it is time for the programme to be completed.

Over the past three years FNs in the pilot sites grew in their trust for the programme and in its effective applications. They reported that their experience had confirmed that the approach works for individual clients. Where they reached an impasse in a situation with a family they were able to find alternative approaches within the system and by using the materials, and they observed changes in the families they worked with. The development of the children, especially as they neared the end of the programme, was often cited as evidence of efficacy, and in particular when several children who had been through the programme were observed together. Individual FNs were able to take personal pride in this progress and this clearly gave them great satisfaction.

How can this role be integrated with the other groups of professionals working with families and young children? Can - and should - health visiting become more like Family Nursing? Or should health visiting, by developing the public health function that preventative work with young families often demands, actually move in a different direction from Family Nursing: home visiting less, working in multi-agency teams more? Tackling issues like post-natal depression and domestic violence in a preventive way suggest that the latter direction could have a bigger impact. The impact of the FN will always be limited to a small number of mothers and children. The long-term goal here may best be seen as making a difference to the inter-generational transmission of disadvantage: an intransigent indicator that has proved extremely elusive for social programmes. By penetrating deeply into the private territory that is early family life, it may be that FNs are tackling this: but the indicators of their success will have to be very long-term, and include not only those earnests of personal success like educational achievement, good health and avoidance of crime, but also the production of new generations which continue to achieve them. Construed in this way FNs become a kind of special force, targeting very specific need. This will make deploying them simpler. But doing it well will mean that their targets will need to be very exactly located.

6. Implications of the training for nurses

Nurses delivering the programme in the USA receive more than 60 hours of instruction over a 12- to 16-month period of time. The first wave of FNs in England was offered this exemplary training with some additional elements introduced in the UK, which could serve as a model for other professional services. It can be divided into four parts: training in theory and current understanding; training in specific techniques to enhance the delivery of the programme; training in the programme content; reflective training based on issues emerging from programme practice. In addition this pilot programme has included opportunities for feedback and interaction between the ten teams which, though not 'training' as such, have helped create a learning experience.

a. Theory and current understanding

The training in theory and current understanding has come through presentations by leaders in the field. The line of communication between them and the ten teams of nurses has been direct and has given FNs a clear grasp of the current knowledge of the issues they deal with on their home visits. This link between the theory and their own practice has been helpful to them and can be heard in the way in which FNs discussed their work: they often referred to the theories on which it is based. It provided a language for a wider discourse about FNP in which the nurses were able to participate. The question that springs to mind is: why doesn't this happen more often? Why aren't frontline staff offered regular presentations about the science on which their practice is based? Why is so much knowledge only shared between scientists, or with managers and not directly with those who will use it? The FNs were interested in current findings, able to question the presenters and refer to this knowledge regularly.

b. Techniques to enhance the programme

Again, the introduction to new techniques was made by the people who devised and developed them. They were very knowledgeable, often experts in their field, so the FNs felt they were getting high quality input. Many thought that these were the transferable skills they would have liked to have had when they were health visitors or midwives. The training was applicable and the skills were applied immediately, and with enough significance for FNs to feed back quickly and to receive support in applying them further. There was a real sense that nurses found this training useful and that they were able to build on it and improve the techniques. It was also significant that the whole team in each area received the same input and were at the same stage. Later FNs received different training and the 'pioneers' in the ten sites were aware of this and able to compare the benefits or otherwise of changes. More is not always better in training, but relevance is essential. Good quality is also essential and time after the training to process with each other what has been learned which proved a challenge when teams were not co-located.

c. Training in programme content

The first teams of nurses have been particularly fortunate in that their introduction to FNP has been through direct sessions with Professor David Olds and American FNP expert practitioners, or through an experienced trainer in the FNP National Unit who

worked with them throughout the period. Her ability to examine and understand elements of the programme and to interpret these to the FNs provided a 'holistic' aspect to programme learning in which the FNs have shown increasing confidence. In particular this process has enabled the programme to adapt to the British scene in an incremental way. The trainer is already expert on health visiting services and understood where FN approaches have to be modified with care. This has been done together with the nurses - they have not felt as if they are being required to work in ways to which they have not been able to contribute. The ability to participate actively in training content has been important: whereas at the outset nurses were anxious about the prescriptive nature of the programme, and wondered immediately what role they would have in adapting it, they have been able, through training, to participate in modifications and developments to programme delivery. Thus, besides their growing trust in programme content, FNs became much more confident and happy with delivery over the three years, largely because they were able to talk about it and change it as they proceeded. The ongoing training will involve these pioneer FNs, which should help others to recognise the programme as acceptable in the UK context.

d. Reflective learning

Regular get-togethers of this small group of people occurred nationally and locally. Local sessions, especially those led by a psychologist or for specific multi-agency training in matters like safeguarding, have led FNs to operate in rather the same way as they respond to clients: strength-based, agenda-matching discussions, aimed to find a way forward and not to get snagged on petty issues. Some of the devices intended to foster reflectivity did not work so well. Buddying by American nurses was useful for some for a while, few continued; blogging and net-discussions on the web never really took off. The level of discussion within teams did become more refined, and provided some satisfactions of its own. It would appear that FNs now have a language and culture of their own. This can move them somewhat further away from their universal service colleagues.

The pioneer FNs were offered high quality training and a great deal of attention. At the first meeting of the ten teams (most of whom knew little of what was to come) the sheer starriness of the academics, experts and leaders assembled to start them off astounded many nurses: here was the author of the most influential work on the progress of their profession; here was an expert on infant mental health, here was one of the leaders of nursing in the Department of Health; here was the actual begetter of the Nurse-Family Partnership. It has been characteristic of the ten sites that the front-line, the FNs themselves, had direct access to the theory of working therapeutically with young families. This was partly to carry them into the new work on a tide of positivity and enthusiasm. It was also to enable the leadership and the academics insight into what was happening on the ground and this bi-directional exchange of information, conducted through national training events and smaller groups, has been important in fine-tuning the programme for its new context. Some aspects of the programme which are crucial to the understanding of the UK implementation received less attention initially. The quantitative, data-collection requirements, much of them specified by programme fidelity, were seen as secondary to the main task of direct recruitment and delivery of the programme. Nurses in the four case study areas acknowledged that they had found the data requirement onerous, but understood that it was a part of the programme. Some

noted that the burden of information gathering that had increased for them as health visitors/midwives had affected their attitude to it. But there was also some suggestion that practitioners can be apprehensive about the messages that emerge from regular monitoring - especially when it occurs in a comparative situation, as it did in these ten sites. They know why it is being done, they know that they are an essential part of the process, but they are quite fearful of it. The preparation and training in the newer sites has focussed in more detail on what can be gained from routine data collection and the new web-based data entry system should help this to become a routine part of delivering FNP.

Bearing this in mind, it is interesting to note that the aspect of the FN training which was least successful for many nurses involved a scientific, measurable methodology. Becoming accredited to use the NCAST parent-child interaction scales (http://www.ncast.org/index.cfm?category=2) challenged areas of knowledge in which FNs were already experienced. However, they were exposed to the judgement of a trainer when they applied it, and some 'failed' the test in that their judgements did not agree sufficiently with those built into the scales. This is not an FNP developed measure, only one that is recommended for use and subsequently a new tool has been developed in the UK to replace this instrument for documenting parent-child interactions. The UK 'ownership' of this new tool is likely to ensure that it is more acceptable and therefore more often used. Somewhat parallel has been the experience of using the MacArthur Communicative Development Index to examine child language development in toddlerhood. Some FNs did not like this tool because the indicators it provides were seen as a 'test' for children, which they are seen as 'failing' if they do not reach the advised level for their age. Yet screening instruments are useful tools for ensuring that children, (and FNs), get the support that will help them most. The culture that tells practitioners that the evidence-base for their work is to be feared needs to be tackled at root and subsequent to the pilot phase, the training for the use of the CDI has been strengthened.

The training investment in FNs has produced confident, skilled practitioners who understand the importance of collecting and recording accurate data about their work and their clients. One of the main benefits has been in their ability to engage and retain clients (who have no obligation to stay - this programme is voluntary): they know what they are doing, and are able to adapt the programme in order to keep clients in it. The skills are transferable, but it will be harder to use them in the kind of community nursing that allows little face-to-face time with clients. The skills which enable nurses to treat their clients as self-reliant partners in a project that has positive intent are great, providing there is a wider commitment to partnership with clients and autonomy for professionals.

7. Organisational issues

a. Where to locate teams?

The pilot phase of this project has been an experiment in experiential learning. Although the intervention straddles the whole early years field, including early education and parental support as well as health, the ten sites have settled firmly into the health sector. Children's Centres, under the aegis of Children's Services Departments appeared to offer appropriate home bases for FNs, and some FNs remained in them, but many shifted back into NHS buildings for purely logistical reasons: the need for access to NHS technology and data, lack of space in the Centres, differing catchment areas. FNs gravitated towards their health colleagues, even when they were in multi-disciplinary settings. FNs still feel part of the health community.

FN teams have taken root in Children's Centres in some sites, but day-to-day interaction with practitioners from other disciplines has been limited. The FNP model does not allow time for participation in multi-agency meetings on a regular basis, and practitioners from non-health disciplines are often unclear as to the exact differences between FNP approaches and those of other health services for families. A model of the FNP service which placed individual nurses in Children's Centres, though servicing a larger catchment in the PCT area, might be workable, but the FNs placed in this situation could become isolated and fidelity to FNP could be lessened.

FNs in Children's Centres need back-up from local NHS services. The fact that this does not always occur it is due to poor level of cooperation at a senior level in many local children's services. Local authorities had not all taken ownership of the project, despite paying lip-service to its evidence base although there was successful joint commissioning in two of the 10 pilot sites. Multi-agency working often seems much better realised at the front-line than at middle and senior management levels. Where a manager has pushed FNP forward and fostered its inter-agency links, the local site delivers well and can be seen to do so by measurable indicators. In two sites in particular the commitment of programme leads and their long-term immersion in family work in their areas has provided a spring-board for FNP.

b. How important is the team?

In the pilot sites the FNs have been deployed in teams and there has been considerable work by the central team to create a bond between team members. In fact, the team has been the basic structure for delivery of the programme, and local FNs talk as team members with team point of view. They have been pioneers together, and they have shared the learning journey, exposing themselves to one another as they dealt with difficult cases, seeking one another's help with ways to deal with them. But this relationship has become less important as FNs become more experienced, and as long as the supervision needs are met properly, FNs may not need to be supported in teams. The drawback to the team structure is its inflexibility. Clients are not shared in an FNP team as they might be by health visitors. A team based together can be particularly difficult to deploy in a rural area but as long as regular contact takes place between team members – including the supervisor and the administrator – then FNP can be operated successfully. The regularity of the group supervision is the critical aspect of team membership. An

alternative way of organising the delivery of this intervention might put less emphasis on the team, more on support from the centre, with FNs working independently in a specialist role, rather like Macmillan Nurses, working within an independent organisation rather than as NHS employees? However to deliver with fidelity the group and individual supervision need to be maintained.

c. Supervision

Each team has its own supervisor, who has also carries a small case-load. In the UK supervision has had particular connotations, associated with a hierarchical system, where work is over-seen to ensure good quality and the observation of statutory requirements - with regard to child protection, for example. It is generally carried out by someone who is considered more experienced than the practitioner who is being supervised.

In FNP supervision is a more collaborative undertaking, which recognises the FN as an explorer, going out to make and retain the relationship and to ensure the client gets the programme, using their skills to ensure that this happens. Others are there to listen and offer their own expertise, but it is the FN who is the navigator here. Supervisors provide one-to-one help and facilitate group support, but they do not oversee them in an accountable way. But UK nurses are used to supervision from someone with more experience than they have themselves. Because the pilot sites were the introduction of NFP into England there were no existing FNs to provide skills or insight into the new programme. Relationships between FNs and supervisors have been affected by this, with nurses questioning the 'authority' of supervisors, even though they do not have 'authority in this model of working. One change to the process of supervision is that in England the FNP teams now regularly involve a local clinical psychologist in group supervision. This has allowed for more illuminating supervision discussions, which could otherwise focus too much on delivery objectives and programme content.

Supervision needs to acknowledge that the task is challenging, with only 25 clients the intensity of the involvement mean that nurses need a different kind of support than they would if managing larger caseloads (as in health visiting); and needs to address dependency issues, the fact that clients are demanding a different level of involvement requires more of a focus on boundary setting. Comments in work diaries in the first year showed that many FNs were struggling with managing close relationships based on the high level of availability to clients and the intrusion into non-working time, particularly for those who worked part-time. In subsequent diaries these comments were rare, suggesting that experience had helped the pilot site FNs resolve these issues. But it is also worth noting that the level of part-time working among FNs in these first 10 sites has fallen through the life of the programme, and the vast majority of FNs in wave 2 sites work full-time.

Piloting the FNP has provided a chance to understand the supervision process better and there are indications that the difficulties will be avoided by later waves of the programme. The approach to supervision in FNP is a response to the difficulty of the task of managing a small case-load intensely. The qualities needed for the role are now understood much better. It is a significant part contribution to the FNP approach

and needs to be carried out fully. However the supervisor also needs to be well supported within the wider organisational context, the role taken by the Project Lead.

d. Wider organisational matters

The presence of the FNP National Unit at the Department of Health with direct support from the US developer of this intervention has meant that details of project organisation have been addressed as they have arisen. It has been a feature of the pilot that it has been led in a direct and inspirational way, and the sense of being on a mission to introduce an effective and important service has been present from the beginning and shared by FNs and supervisors. This can, however, have drawbacks. After three years some FNs were tired of being singled out and wondered if celebrity was always a good thing. It took time and raised expectations, and colleagues in the NHS could become tired of hearing how special FNP was. But the attention had clearly buoyed the FN teams up; and it is a direct modelling of the attitude they use in their relationship with their clients: positive and inspirational, expecting the best and believing that the child and his or family will achieve it.

The pilot was unusual in its method of introduction, however. It has been placed within the statutory service, as part of it, even though its efficacy in the British context has yet to be established. There has been a customary process in the UK, established accidentally, but nevertheless well tried and tested, that innovation will be developed in the non-government sector, (though often funded by government resources) and that any assumption into the mainstream will only occur once this feasibility process, with an accompanying evaluation, have been completed. In recent years, in the early years sector in particular, this process has been eschewed for direct development of programmes in the mainstream from the outset. This means that problems of 'fit' with existing services tend to arise as the programme is being tested, and they can be difficult to overcome from this operational position.

The reasons for the mainstream approach in this instance are not difficult to understand. The programme itself was not being tested (the right to use it had already been purchased, and this required that it be implemented in specific ways); the use of professional nurses who were already operating in the mainstream meant that it would be impossible for an untried non-government agency to recruit for the programme; the cost implications were high; the programme needed a high profile statutory champion to produce the head of steam to get it off the ground and tested. But the problem of fit with existing services remain was highlighted in the evaluation and has in fact been addressed to a considerable extent in recent months though the development of the health visiting model of practice.

This need for integration was apparent from the interviews in case study sites and with the lead officers in programme areas. The two most obvious niches for the intervention - as a kind of super-skilled health visiting, or as a part of multi-agency universal services for parents both offer risks to programme integrity. The urge from existing provision will always be to adapt the new and absorb it. "I think the feeling of our commissioners is that FNP is very good, that the learning is very good, that the nurses are highly skilled - however, perhaps going forward we would like to use those skills somewhere within the generic health visiting team, to take them back into health visiting." (Programme lead officer interviewed in 2010) This tendency has been evident through the pilot period and to some degree FNP has gone to meet it:

there have been many small changes to the programme to suit the UK context. But it is evident from the literature and from the experience in the pilot sites that FNP is essentially a discrete service, singular in its holistic engagement with the family and far too intensive to be required or appropriate for everybody.

Commissioners of services for families in the NHS are perfectly well aware of the value of preventive services for young families. They know the data on family disadvantage, particularly as it affects the long-term prospects for health, and they see the advantage of interventionist approaches. This has remained true throughout the piloting phase. They are less well-acquainted with the detailed research on the NFP, saying most often that they 'know it has outcomes' without knowing what these are. What has also remained have been reservations about the FNP approach, largely because of its inflexibility, concerns about who it is offered to, and competing demands on budgets. And they note that the benefits that might emerge from treatment by the programme will be evident in the very long-term and will benefit the budgets of other services, like the criminal justice system, rather than health.

It is also clear from their interviews that commissioners see prevention in early childhood as a somewhat marginal issue for health, as much a matter for the local authority as for health services. As noted already, it has been disappointing that local authority commissioners also see this work as marginal to their main concerns. The claims of crisis intervention on budgets over-ride preventative work- particularly when the preventative work looks like crisis intervention in terms of its costs and approaches. And commissioners continually fall back on the evidence-base. They want to know if it gets the outcomes in their area, UK-wide evidence is not going to be enough for them to argue this case. So there is a good deal of waiting-for- the-RCT in responses at this level. There is some irritation that the presentation of FNP has been so evangelistic, under-valuing existing services as some commissioners see it.

Programme leads also found themselves caught in a discourse which constructs FNP as something special and particular on the one hand, and not so different from other offers to families on the other. Certainly the process of securing the service in the localities for the future has involved balancing demands and careful lobbying. It is interesting that one of the main reasons given for continued support has been concern about losing face by withdrawing from such a high-profile experiment. The responses from leads and commissioners raise questions about the future organisation of the programme, and the need to preserve its autonomy while encouraging its use.

In the local areas which have been most successful in establishing FNP and gaining a secure basis for future development, the role of well-established local programme leads, fighters for children and families, has affected local acceptance. It is interesting that in one of these areas a plan to move the programme onto an independent footing as a social enterprise, driven by changes taking place in the NHS, was well underway in the third year of the project, and has received support from the Department of Health to do so. This can be seen as taking FNP in the opposite direction from the traditional 'non-government pilot taken up by mainstream service' to 'mainstream pilot becomes non-government organisation'. NHS changes in the future may have a continuing effect on the way that FNP is integrated into the Healthy Child Programme and other existing services.

8. Establishing cost effectiveness

There are two related issues to consider. The first is the cost of delivering the programme and secondly the potential that the programme has to save funds over the long-term through improvements in the life chances of the mothers and in the development of their children.

a. USA evidence on cost and benefit

The latest figures from the Nurse-Family Partnership organisation state that the annual cost per family is $4,500, although it varies from site to site between $2,900 and $6,400 depending on local cost factors (Stapleton, 2010). This is usually multiplied by 2.4 by external reviewers to give the total cost per family of between $10,000 and $11,000 at 2010 prices based on the maximum eligibility period for the programme. GiveWell (2010), the Centre for Evidence Based Policy, and the Washington State Institute for Public Policy all suggests costs in this range at 2010 prices. However Karoly et al. (2005) estimate a lower figure ($7,271 at 2003 prices, or $8,400 at 2010 prices). The most recent publication from the NFP team related to the Memphis trial reported a cost of $11,500 in 2006 prices, which is equivalent to $12,400 in 2010 prices (Olds et al., 2010).

A systematic review of the costs and benefits of early intervention found that the Nurse-Family Partnership yields an average benefit of more than $26,000 per child at 2003 prices or $31,200 at 2010 prices (Aos et al., 2004). A second study by the same team (Aos et al., 2006) found that crime reduction was an important contributor to the benefit, with some benefit coming from lower receipt of welfare payments. Crime is expensive for victims, for the state which has to investigate, prosecute and fund sentences, and for those who offend in terms of reduced earnings potential (Aos et al., 2006). A cost-benefit calculation by Karoly, Kilburn and Cannon (2005) found that although benefits barely exceeded costs for families where the risk of adverse outcomes was relatively low (and for the lowest risk sub-groups, women who were married or had higher incomes the costs exceeded the benefits), for high risk families the value of the benefits was $41,000 in 2003 prices or $49,000 in 2010 prices.

The evidence about reduced offending was derived from the Elmira trial follow-up when the children were 15 years old. Neither the Denver nor the Memphis trials has yet followed children into adolescence, when offending typically begins. However, a more recent follow up to the age of 19 found that there was no effect on offending by boys. Between the ages of 15 and 19 the treatment group boys caught up with the control group boys in terms of their offending behaviour. There was, however, a significant reduction in offending by girls (Eckenrode et al., 2010). However, this means that the age 15 outcomes, on which the benefit-cost calculations by Aos et al. (2004; 2006) and Karoly et al. (2005) are based, exaggerate the true level of benefit.

However, recent evidence from the Memphis trial, when the children were aged 12, suggests that there was an impact on mothers' work and receipt of welfare benefits. There was a $12,300 difference between the nurse-visited and control groups in the cost of cash assistance, food stamps, and Medicaid. This compared with a programme cost of $11,500, so the programme was showing net benefits without taking account of offending (Olds et al., 2010). This impact on use of welfare did not

hold in the Denver trial, which took place just as federal welfare reform began, which meant that assistance in moving into work was strengthened for all groups.

Overall, therefore, the estimation of net benefits from the Nurse-Family Partnership in the US is still a work in progress. The welfare cost reductions found in Elmira and Memphis were not found in Denver, as welfare reform led to help in getting into work being made more widely available. The initial large reductions in offending found in Elmira only persisted for girls (who are typically less prolific offenders than boys). Thus, it is likely that the estimated benefits published so far are likely to be reduced downwards. However, one consistent finding is that for lower risk families the costs generally exceed the benefits. This implies that effective targeting is critical to cost-effectiveness.

b. What did it cost in England?

With a full FN case-load the cost of the Family Nurse Partnership in England is approximately £3,000 per family per year (in most cases this is a per child cost, but some families have twins). Mothers are eligible to join the programme from mid-pregnancy until the infant reaches the age of two. Some leave prior to this date. The mothers who took part in this evaluation whose children had reached the age of two stayed in the programme for an average of 19.5 months. This means that the average total cost per family for the entire programme was in the region of £4,900. This compares with a theoretical maximum cost of £7,200 if all families remain in the programme for the maximum period of their entitlement (i.e. from the 16th week of pregnancy until the child reaches the age of two).

In order for the programme to be cost-effective it has to be capable of generating savings over time which are at least equal to this cost. Not all families will generate savings. Some will have had had positive outcomes in any case. Others will have adverse outcomes which are no different from those that would have been achieved in the absence of the programme. Families where outcomes are improved are those which have the potential to generate savings.

It is possible for an intervention to be cost-effective even if the outcomes for most participants are unaffected by the programme. Sometimes a programme has a large impact on a small minority of participants, and this is sufficient for it to be cost-effective across the whole group. The evidence on the impact of the programme, discussed above, shows that it has little or no impact on mothers and children who are at lower risk of adverse outcomes, and has a much larger impact on families where the risk of adverse outcomes is high. This suggests that (as discussed in detail in section 3) in order to be cost-effective, the programme may need to be targeted towards groups whose risks of adverse outcomes are high, not just because they become pregnant as teenagers, but also because they have other risk factors such as low income, living in a disadvantaged neighbourhood, poor educational achievement, health or substance use problems, disrupted family background or a history of having been looked after (Hobcraft & Kiernan, 2001; Berrington et al., 2005; Ermisch & Pervalin, 2003; Botting et al., 1998). However, that said selecting clients using the age criterion did identify a predominantly vulnerable population, with only 14% having none of a list of 8 vulnerabilities (Barnes et al, 2011) demonstrating the accuracy of the Hall review (2007) and indicating that successful expansion

could, in the absence of more consistent information being available in midwifery records, continue to rely to a great extent on maternal age.

c. Where are future UK benefits likely to come from?

Based on US evidence, the economic returns are likely to be derived from two main sources:
Higher earnings and tax payments and lower benefit receipts among mothers.
Lower rates of problem behaviour (particularly teenage pregnancy and offending) in adolescence and adulthood.
This in turn has important implications for employment and earnings in adulthood, although these have not yet been studied in the US trial populations. Some of the costs of the adverse outcomes experienced by teenage mothers and their children are borne by public funds, but many of the costs are borne by the mothers and children in later life, and by the rest of society. Some of the costs, particularly the cost of offending, and the cost of poor mental health for both parents and children, are high. But the majority of the costs are not borne by health services. Rather they are borne by the whole of society in terms of lost output, by the parents and children in terms of lower earnings, and by victims of crime. However, a reduction in the incidence of many of the adverse outcomes that have been identified is likely to yield savings over long period as the children of the teenage parents move into adolescence and adulthood.

Conduct disorder: Perhaps the issue with the highest potential costs is conduct disorder. The evidence is consistently clear that the children of teenage parents have a markedly higher incidence of conduct disorder than the children of other types of family. Conduct disorder is potentially expensive because it has an impact on educational achievement, is associated with a high probability of being an offender, of starting offending at an early age, of offending persisting into adulthood and of substance use. People who had serious conduct disorder as children commit 30 per cent of all crime. The Home Office has estimated that the total cost of crime to businesses and households is £60 billion a year, so that the cost of offending by those who had serious conduct disorder as children is around £20 billion a year. The amounts to a lifetime cost of £160,000 per child in offending alone. The cost in terms of other problems (notably unemployment and health costs) brings the total to £225,000. In addition, the larger group of children with milder forms of conduct disorder commit half of all crime. The lifetime cost of offending for these children is £45,000 each, with other lifetime costs amounting to a further £30,000 (Sainsbury Centre for Mental Health, 2009).

Two aspects of the FNP are likely to have an impact on the prevalence of conduct problems: the impact on mothers' mental health, which research has shown is associated with a higher prevalence of conduct problems, and improving parenting skills, which have also been shown to have an impact on conduct disorders (NICE, 2006).

Lack of educational qualifications: Teenage mothers are likely to enter adulthood with no qualifications. Nearly 40 per cent leave school with no qualifications. On average only around five per cent of young people leave school with no GCSE or equivalent passes. The lifetime loss of earnings to a woman with no qualifications compared with having five good GCSEs is £211,250 (Cummings et al., 2007). Encouraging

young mothers to return to education is likely to have a positive effect on their lifetime incomes. It is also the case that the children of teenage mothers are more likely to leave school with no qualifications than other children, so this earnings disadvantage potentially persists into the next generation.

In addition to the individual's loss of earnings, the net cost to the taxpayer of out of work benefits are £4,400 a year for lone parents, £8,100 for Jobseekers' Allowance claimants and £9,000 a year for those dependent on incapacity benefits (Freud, 2007). Evidence from cohort studies suggests that teenage parents are disproportionately likely to be workless in adulthood. If, on average they spend around ten years of their adult lives in receipt of out of work benefits (a combination of time spent as a lone parent, unemployed or in poor health) the cost to the taxpayer is likely to be more than £70,000.

Hospital admissions: The average outpatient cost of a child attending an accident and emergency departments as a result of a non-fatal injury is around £126 where the child is subsequently admitted and £93 where there is no admission. The average cost of a single night in hospital is £493 (Curtis 2009). Around 5 per cent of all A&E attendances for injury by children result in admission to hospital. While the potential savings from outpatient attendances are relatively small, the number of attendances is large. A hospital stay would typically cost in the region of £750 (with a bias towards shorter stays). The children of teenage parents are more likely to experience injury than other children, and US evaluations show significant reductions in the incidence of injuries and hospital admissions.

Foster care: Some of the US trials find lower rates of child maltreatment by parents who have received FNP. The major expense associated with maltreatment is foster care where it is decided that it is unsafe for a child to remain at home. The latest published UK local authority foster care costs are £521 a week for 2007 (Curtis, 2008). It is likely that very young children in foster care will be adopted relatively quickly, so that it is unlikely that foster care will last for more than a year. Nevertheless, the cost of a year's foster care is around £27,000.

However, one of the challenges confronting commissioners is that these costs will be incurred in the future – in the case of offending costs more than ten years in the future. Moreover, they will be incurred by other agencies, by families themselves, and by the victims of crime. The costs of the programme will be incurred this year by the NHS (with some contributions from other sources). Those used to looking at cost-effectiveness from the perspective of short-term costs and savings to the health service alone may regard the programme as expensive and difficult to justify.

While at this stage in the lifetime of the FNP programme in England it is not possible to conclude that it is cost-effective, the risks that the children will incur high lifetime costs are high. As Nobel Laureate James Heckman has argued, investment in children's early years forms an essential building block to their potential achievements in later life, and because of the length of time over which returns on the investment can be realised, the potential returns are larger than those for most other investments in human capital (Heckman, 2006). But as with expenditure on primary schools, the returns are likely to be generated many years after the costs are incurred.

9. Final thoughts and suggestions

The Family Nurse Partnership is ongoing in nine of the ten pilot sites included in the implementation evaluation, all with local commitment to immediate continuation of the service. The pilot has demonstrated that the intervention can be transplanted into a community where health services are available free at the point of contact. It has been set up alongside these services and has co-existed with them, though elements of the interface between FNP and existing provision remain a problem. Indeed since this evaluation it has been introduced in a further 40+ locations (DH, 2011a). Some points may be useful to consider as this expansion takes place.

a. Going to scale

The issue of 'going to scale' from an evidence-based programme into the 'real-world' of service is much discussed. A review of more than 500 studies (Durlak & DuPre, 2008) concluded that the level of implementation of a programme will have an impact on its outcomes and identified 23 contextual factors that can influence implementation, grouping them into: community level factors (e.g. politics, funding); provider characteristics (e.g. perceived need for innovation); the innovation itself (e.g. compatibility, adaptability); organizational capacity (e.g. shared decision making, leadership, managerial support); and the support system (e.g. training and technical assistance). It is relevant both within the culture where the experimental research had been conducted, to create the evidence, and when transferring to a new cultural context.

The move to provide NFP more widely in the USA was launched in 1996, with funding to create a "National Center", said to be pivotal in the successful roll-out by providing standardized training for nurses, all the guidelines regarding implementation with fidelity, and collecting standardized data from all locations so the extent of fidelity can be monitored by the National Center in addition to local sites generating their own information about delivery using a series of standardized reports (Olds et al., 2003). The thinking in the USA has been that without these supports in place and without the written license agreement the programme might be watered down as it was provided more widely (Olds, 2002), a likelihood that a number of developers of family interventions have highlighted as a potential problem when programmes are rolled-out more s widely (Ferrer-Wreder et al., 2004). Summarising the roll-out of NFP, three basic components have been identified for roll-out – an organization and community fully informed about and supportive of NFP; a well-trained staff group; and the availability of real-time information on the implementation of the programme, all provided by the National Centre (Olds et al., 2003). The FNP National Unit within the Department of Health has, since the evaluation of the pilot sites, been established to fulfill this role in the UK, ensuring that delivery is according to the US license and providing support and guidance to local areas on issues such as infrastructure and hiring procedures. Conceivably this role could be provided by an independent organisation, outside of government, though at the present time this is not under consideration.

A national context of readiness for this kind of implementation has been growing for more than a decade in England and can be linked with a number of central government policy documents from the previous Labour government (Barnes, 2010). This has continued with a change in government (Department of Health, 2010) and

the cross party support for early intervention programmes, reflected by the review conducted by the MPs Graham Allen and Ian Duncan Smith. The programme is positioned within Health, but given the cross-cutting impacts that are expected it also needs to be supported by the Department for Education, with its focus on early education and the whole child; by DWP with is focus on helping families to avoid being dependent on welfare, and the Home Office given the outcomes in the US indicating less delinquency of the children in adolescence.

b. Eligibility

Those clients who have been shown to benefit from the programme in the US trials have been those with a number of significant vulnerabilities, low income, low intellectual capacity, mental health problems and low self esteem. Cost-effectiveness may be enhanced by being more selective about which clients receive FNP. However it may also be the case that to have a caseload of clients who all have high levels of vulnerability at intake may have a detrimental impact on nurse well-being and on the programme's eventual impact. The ongoing RCT in England may illuminate this issue. Using more restrictive eligibility criteria could also lead to the service being perceived as more stigmatising, only suitable for clients with high levels of need and expectations of poor outcomes.

Two issues are relevant. Firstly the fact that in the US trials the biggest impacts were for the most vulnerable of the already low-income clients. Secondly there will be a specific number of FNP places available in each area. If places exceed potential clients eligibility for FNP could be based some additional vulnerability criteria in addition to maternal age, or modelling could be used locally to see how to balance the criteria so that most eligible clients are offered the programme. This has proved difficult and midwifery enquiry and record keeping would need to be amended so that crucial information is collected. If this path is followed then additional guidance and support may be needed for the nurses during recruitment visits so that they can determine eligibility while still feeling that they are being strength-based. However, it is also important for local areas to document the need for the programme and then encourage commissioners to support expansion.

c. Establishment of local leads

Successful roll-out will need strong local support. Throughout the implementation evaluation of Wave 1 pilot sites the importance of a local advocate was evident. Indeed when this was not the case the programme was eventually withdrawn. The programme is complex to position within a range of NHS and other services and many of the expected outcomes are not those for which the NHS has responsibility and are long-term – e.g. better child readiness for school, more maternal employment or education, less delinquency of children in adolescence. These require commissioners to have a long-range vision and to think in a multi-disciplinary way. Good detailed guidance for commissioners has been prepared by the National Unit for commissioners but this needs presentation by a knowledgeable local professional in order to have the maximum impact. Some Wave 1 teams were responsible for both learning the programme and also 'selling' it to midwifery and GPs, among others. With changes in the commissioning environment this role may become even more important the team will need some other support from someone who can link with many other agencies and local stakeholders.

A high level of programme delivery and sustained local support in Wave 1 was found when one individual has the time and resources to both monitoring the team's performance and networking widely in the community. This could be what was known in Wave 1 as the programme manager or the project lead. The key elements were detailed knowledge of the programme, good and regular communication with the FNP supervisor and with representatives from public health, social services, the Local Authority and midwifery, and maintaining a high level of visibility with commissioners. This role needs to be established in any new site and it will be important from the outset that interest is shown not only be health but also by the police, by social services, and by education (local authority). The advocate needs to have detailed knowledge of the US research evidence and of the likely outcomes so that expectations can be kept at a realistic level. Overselling, which can be the result when expected outcomes are poorly understood, will do as much damage as not promoting FNP effectively. The biggest problem lies in giving the health service the impression that they will see benefits within the programme's lifetime whereas most emerge after the child is 2 years old, and many of these are not health outcomes. Local advocates will need to work closely with the FNP National Unit to ensure that they are up to date and accurate in their knowledge of the research.

d. Continued integrity of the programme and the fidelity of its functioning in England.

National support – both political and in terms of infrastructure – is essential to ensure that FNP continues to be delivered with fidelity as it is rolled-out more widely. The sites delivering the programme need to monitor their own performance and also have the information about their activity collated centrally. The attention of FNs, supervisors and local leads should be focused on the results pertaining to the stretch fidelity objectives so that the programme has the most chance of achieving the predicted outcomes. The experience of the pilot sites was that the collection of quantitative data, designed to be part and parcel of programme delivery, was sometimes perceived as not useful. However this early message from the evaluation has been addressed in the training of subsequent teams and now data collection is high and of good quality, entered directly into a tailor-made web-based system. Local advocates also need to liaise with each-other and with a central organisation so that local delivery can be compared with that of other sites to advance learning. Finally the training and supervision of new teams of FNP nurses and supervisors needs to be provided in a way that meets the fidelity requirements of the license, drawing on the expertise of the more experienced teams but also maintaining the inclusion of a range of experts, found to be a motivating aspect of the training of the pioneer sites.

Central government will need to take a lead in recommending the service and perhaps in guiding local health commissioners to it, because preventive commissioning is easy to over-look when there is pressure on resources. The National Unit within the Department of Health currently generates and coordinates inter-department attention on FNP, ensures the quality of delivery of existing sites, liaises with the US National Service Office with respect to the licence and development issues and oversees the establishment of new sites. The National Unit will need to continue to work closely with existing and new sites so that the quantitative aspects of programme delivery are used in the most effective way both to ensure good programme delivery and to collect local information that can be usefully shared with commissioners. Commissioners may need ongoing input so that

they do not regularly request 'evidence' of success in the short-term from relatively small numbers of local clients.

e. Integration of elements of FNP training with other health training

There has been some envy from other health professionals such as health visitors and midwives about the quality and extent of the training received by FNs and supervisors. There have also been suggestions that some parts of the programme can be selected and used rather than providing the whole programme, in an attempt to cut costs. However, while much of the training deals with the licensed NFP materials, it also includes more generalisable aspects of practice and some measures and strategies that are separate from NFP and can be used in their own right. In particular the Parents in Partnership Education (PIPE), focussing on the parental role in stimulating child development, has received a great deal of praise from FNs and in fact its use can be shared and promoted freely with others (though the materials do still need to be purchased).

One role of the National Unit responsible for FNP in Britain is to closely with the organisations responsible for training health visitors and other nursing professionals. Aspects of the FNP approach – strength based, respectful, family focussed – can also be integrated into other training together with an introduction to motivational interviewing methods and the use of materials such as PIPE so that some of the most praised elements of FNP can become part of the training for many health practitioners. The Health Visitor is role is being examined (Beasley, 2010) and numbers increased (DH 2010) so now is an ideal opportunity to introduce some of the learning from FNP without contravening the agreement that the detailed materials can only be used under licence.

f. Conclusions

The experiences of the Wave 1 'pioneers' has by definition been unique; they were the first to learn about FNP in England, share information about the programme with colleagues and go through the process of seeing clients experience the programme. For most it has been a profound journey, the realization of the kind of work that they had wished they could undertake with vulnerable parents. It allowed them to stay with families from early pregnancy to a time when toddlers are beginning to join in social groups and prepare themselves for school while their mothers were planning for their futures by entering or re-entering education or becoming trained for productive employment. Their personal experiences have primarily been positive and their expertise is now important as they take on some of the work of sharing their knowledge with new Family Nurses. .

This evaluation report focuses on structural issues that have emerged from the introduction within the NHS of this complex programme with a great deal of evidence of success in the USA. Systems can be more difficult to alter than people and hopefully this report will provide some useful information so that the NFP programme can continue to be integrated into the range of programmes and services available to young children and their parents in the UK. Integrating evidence-based programmes into systems requires caution and a slow pace so that it can be established with certainty that the actual programme is being provided, that any superficial modifications to meet the local needs have not substantially altered the basic

structure. The issue has been well summarized by Axford and Little (2010) in the title to their editorial on this topic, "*Let's walk before we run*." There has been a substantial amount of progress and learning in all aspects of the programme, including the training, the materials, the supervision – now enhanced by the regular attendance of local clinical psychologists – and ways to 'agenda match' so the programme retains its integrity but is applied in a tailored fashion to each client. The regular, and very enthusiastic, learning exchange between teams regionally and nationally will ensure that each new wave of sites has a stronger base to build on. Ongoing dialogue with the programme's developer in the USA should ensure that the programme can not only be delivered successfully within this new context but also enhanced and strengthened.

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