FEBRUARY 2018

FNP ADAPT INTERIM REPORT

Family Nurse Partnership
National Unit
Changing the world one baby at a time

DARTINGTON SERVICE DESIGN LAB

TABLE OF CONTENTS

Executive summary	**4**
Introduction	**10**
Context	**10**
Method	**13**
Clinical adaptations	**16**
System adaptations	**16**
Data collection	**19**
Progress so far	**21**
Early insights	**26**
Acceptability, deliverability and outcomes	26
Testing the New Mum Star	27
Regular feedback for problem solving	27
The challenge of the current public sector environment	29
Flexing and dialling	30
Defining vulnerability	30
The true nature of innovation	30
The challenge of co-production	32
Rapid cycle innovation and testing	33
Summary	33
Next steps	**33**

Glossary	**35**
Appendices	**41**
Appendix A: Rapid cycle innovation method description	42
Appendix B: Sample logic model, dark logic, intervention description & context map	44
Appendix C: Principles of personalisation	61
Appendix D: ADAPT: Outline plan for data collection and analysis	64

Figure 1: Timeline of the project, indicating key milestones for adaptation implementation and testing	20
Figure 2: Graphical depiction of rapid cycle processes	22
Figure 3: The progress of each site over time, highlighting the design phase and the various cycle points for each clinical adaptation	23
Table 1: Take up of clinical adaptations by nurses and clients across ADAPT sites (as of January 2018)	21

Executive summary

Background

The Family Nurse Partnership (FNP) is a public health home-visiting parenting programme for first-time young mothers. Introduced to England in 2007, and delivered in 132 sites at its peak, it is the first evidence-based early intervention programme to be taken to scale by the UK government. Like other public services, in recent years, FNP has faced significant challenges, opportunities and changes including: new commissioning arrangements; funding cuts; increased understanding of person-centred care; and disappointing results from a randomised controlled trial.

ADAPT (Accelerated Design And Programme Testing) is one of several initiatives to respond to these challenges being led by the FNP National Unit (NU), the national body responsible for FNP in England (part of the Tavistock and Portman NHS Foundation Trust). This interim report sets out what has been achieved in the period to the end of 2017 and provides an honest account of this first phase of work, including where things have gone well, not so well and how the work has been refined iteratively in response. A final report setting out all the findings will be published later in the year.

ADAPT harnesses the strength of research and the pragmatism of improvement approaches to adapt, test and learn about the FNP programme, while respecting its strong evidence base. It aims to identify adaptations that will enable FNP to better meet the needs of families and respond to ongoing change in the local and national context. At the same time, it has enabled the development and documentation of a method for rapid cycle adaptation and testing. The project is a collaboration between FNP NU, the Dartington Service Design Lab (the Lab), the Big Lottery Fund's 'A Better Start' programme and 10 (initially 11) local FNP sites.

The FNP ADAPT method

The ADAPT project team supported sites to develop and test two types of adaptation:

- Clinical changes: adapting the FNP programme in relation to a specific outcome (for example, smoking).
- System changes: aiming to increase efficiency, improve outcomes, and allow nurses to personalise FNP to better meet the needs of clients (for example, spending less time with clients with less serious needs and more time with clients with more serious needs).

The rapid cycle adaptation and testing method has seven stages: (i) analysis of the problem; (ii) co-production; (iii) small-scale delivery (initially); (iv) minimally sufficient data collection; (v) rapid analysis and feedback; (vi) refinement; and (vii) a decision to stop, scale or test further.

Clinical and system adaptations

Eight clinical adaptations have been developed focussed on six outcomes, representing priority interests for individual sites: neglect, breastfeeding, attachment, smoking, healthy relationships to prevent intimate partner violence and maternal mental health. While the adaptations vary in nature, there are similarities in the types of changes they introduce, including: utilising new assessment tools; developing new programme materials; boosting the skills or knowledge of the nurses in specific areas; and involving peers, partners or family members.

Sites are testing system adaptations that personalise FNP in four ways: (i) changing eligibility criteria – admitting more clients with greater needs (and fewer with lesser needs); (ii) 'dialling down/up' – spending less time with clients with less serious needs (where possible) and more time with clients with more serious needs (where necessary); (iii) 'flexing the content' – orientating programme content around client's needs and increasing flexibility to the suggested delivery schedules; (iv) 'early graduation' – graduating clients who are doing well before the scheduled programme ends at age two. A new assessment tool, the New Mum Star (NMS), has been prototyped and tested to see if it aids structured and collaborative decision-making between clients and nurses about flexing programme content, adjusting visit intensity and graduating clients early.

Rapid cycle adaptation and testing

Testing was guided by an interest in the acceptability and deliverability of adaptations and their potential to influence outcomes. A mixed methods approach to data collection addressed three questions:

- Is the adaptation acceptable to (i) nurses (are they confident to deliver it and do they understand it) and (ii) clients (do they find the content relevant and is it delivered in a helpful way)?
- Is the adaptation deliverable (which components of the adaptation are delivered and what are the barriers and enablers)?
- Is there movement on selected outcomes?

Data have been drawn from multiple sources to provide rich and nuanced insights. These sources include two quantitative data systems, frequent interviews with supervisors and quarterly focus groups with nurses and with clients. Together these pose a range of questions about acceptability, deliverability and outcomes. In addition, each clinical adaptation uses a relevant existing standardised outcome measure to track progress against intended outcomes, for example the Edinburgh Postnatal Depression Scale for maternal mental health and the Ages & Stages Questionnaire for child development.

The set-up and design phase took six months, with all sites commencing implementation of clinical and system adaptations during 2017.

Iteration is key to rapid cycle adaptation and testing: as soon as implementation begins and insights are gleaned – for example, through focus groups with clients and nurses – they are used to inform any further necessary changes to the adaptation. By October 2017, sites had gone through a series of small cycle adaptations (involving small changes) and two large cycle adaptations (addressing more fundamental changes).

Early insights

Greater personalisation in FNP is possible

At this stage, two large cycles into personalisation, *some* sites and *some* nurses have successfully adopted and implemented the four types of changes to practice. This should be viewed as proof of concept: personalisation is potentially 'deliverable' and 'acceptable' to nurses and clients. There is much to do to encourage wider adoption of these changes, but these early findings are a positive sign.

Clinical adaptations started later. Eight have been designed and implementation started but there is not yet enough data to draw firm conclusions about them. When three cycles of clinical adaptation have been completed, the future of each will be determined. Four scenarios are envisaged: (i) the adaptation is not viable and will be stopped; (ii) the adaptation shows promise but more cycles are required to ascertain its long-term viability; (iii) the adaptation shows promise but would benefit from wider testing in other FNP sites; or (iv) the adaptation is ready for wider use.

The challenging environment in the public sector has affected ADAPT

ADAPT is complex and ambitious and is being undertaken in a context of unprecedented uncertainty in the public sector. For some sites, this has significantly hindered their ability to devote time and energy to the work. In other sites, the context has been the very reason for involvement. Many commissioners are supportive of FNP but are asking for greater flexibility in how nurses work, better targeting of more vulnerable clients and improved value for money. ADAPT has tried and continues to strive to address these issues.

Changing the strong FNP ethos and culture is taking time

ADAPT is a disruptive innovation in which apparently subtle adaptations, such as flexing content, actually require fundamental changes to how nurses think and work. As a result, it has taken longer than expected for changes to practice to be adopted. Proof that change is possible has been a galvanising first step; the extent to which it will be widely adopted remains to be seen. It is worth noting that programme developer, David Olds, and colleagues in the US, are also introducing and testing greater flexibilities which suggests there are good opportunities for shared learning while being mindful of the different contexts.

Defining and operationalising vulnerability in the clinical pathway has proved challenging

As part of personalisation, sites have been encouraged to test relaxing existing age thresholds as a trade-off for reaching out to a more vulnerable population. They are also testing relaxing the existing 28-week gestation threshold for women with concealed pregnancies. Insights from nurses suggest that the client base is now more vulnerable, although the quantitative data contradict this. Accurately defining vulnerability across services and operationalising that definition in local referral and assessment processes has proved difficult. These issues will be addressed in the next phase of ADAPT. The learning should be valuable not only for FNP community but also for any service concerned with effective identification of vulnerable clients.

Meaningful co-production requires persistence, creativity and good communication

ADAPT started with an explicit commitment to involve all stakeholders (clients, nurses, supervisors, commissioners and provider leads) in a process of co-production in the belief that adaptations generated with the people who will commission, deliver and use them will be more suitable and more effective. As the project has progressed, engagement with supervisors and nurses has generally been successful. The approach to engaging with commissioners and provider leads has been changed based on their feedback. Client focus groups have provided valuable insights, but numbers have been consistently small. There is certainly more that can be done to engage with clients. In retrospect, expectations of all parties could have been more fully explored at the outset, particularly as to what would constitute project success, the role that stakeholders were expected to play and the best methods for engaging them. The principle of co-production remains important. In the next phase, the project will explore how better to involve all stakeholders, in particular clients.

A method for rapid cycle adaptation and testing is being developed

The aspiration to develop, apply and refine a method for rapid cycle adaptation and testing has largely been realised. There are numerous examples from across the project of how relatively small amounts of data on the service provided have been fed back, considered and changes to practice quickly made. When it was clear from nurse feedback that data collection was too burdensome, the principle of rapid cycle adaptation was also applied to the method itself, in that certain measures were withdrawn as a trade-off for increased data completeness.

Next steps

This phase of implementation and testing will continue until March 2018, at which point decisions will be made about the future of each adaptation. Alongside this, there will be a focus on defining and operationalising vulnerability in the referral pathway, deepening the involvement of FNP clients in co-production, and further refining and testing the NMS. A final report, scheduled for Autumn 2018, will provide a full account of the methodology and set out the findings from all clinical and system adaptations with recommendations not only for FNP but also for other services supporting vulnerable children and their families.

Acknowledgements

FNP ADAPT is a complex and ambitious collaboration involving researchers, academic experts, clinical practitioners, commissioners, FNP clients and local stakeholders, and is being undertaken at a time of unprecedented challenge for the public sector. We hope that this interim report serves as a record of the passion, creativity and dedication that all those involved have shown to improving the lives of vulnerable first-time mums and families. We would like to thank the supervisor, family nurses and co-production teams at each ADAPT site, who have delivered this work alongside existing responsibilities, without additional resource, Sarah Burns from Triangle Consulting, with whom we have developed the New Mum Star, and Jason Strelitz who developed the ideas and implementation plans around system adaptations and personalisation of the FNP programme. We also wish to acknowledge the insight and support of Alison Morton, Viv Bennett, Eustace da Souza, Tim Hobbs, Chris Cuthbert, Alice Haynes and Maria Portugal who have contributed their thoughts and skills to the development of this report. The report was drafted by Louise Morpeth, Keira Lowther, Finlay Green and Nick Axford on behalf of the Dartington Service Design Lab, and Tom McLaren Webb, Ailsa Swarbrick, Beth Heller and Ruth Rothman on behalf of the FNP National Unit. Needless to say, we – the FNP National Unit, the Lab and the respective ADAPT sites – take full responsibility for the final content of the report and, accordingly, for any errors or omissions.

Suggested citation: **Dartington Service Design Lab & Family Nurse Partnership National Unit (2018)** ***Interim report of the FNP ADAPT project*****. London, UK. Available at** www.fnp.nhs.uk/ADAPT/

Nick Axford's time is supported by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care South West Peninsula. The views expressed are those of the author and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

Introduction

This is an interim report about the Family Nurse Partnership (FNP) Accelerated Design And Programme Testing (ADAPT) project, an ambitious and cutting-edge collaboration that began in April 2016 and aims to rapidly adapt, test and improve the FNP programme in England.

FNP is a public health parenting programme for first-time young mothers, developed initially in the US in the 1970s and brought to the UK in 2007. It aims to improve outcomes for mothers and their children in a range of areas, including physical and mental health, life chances, parenting competency for the mother, and positive cognitive, emotional, social and physical development for the child.

The project is a collaboration between the FNP National Unit (FNP NU), responsible for FNP in England and based in the Tavistock and Portman NHS Foundation Trust, the Dartington Service Design Lab (the Lab)[1], and the Big Lottery Fund's 'A Better Start' programme. This report seeks to provide an honest account of the first phase of work, including where things have gone well, not so well and how the work has been refined iteratively in response. At this partway stage, we believe ADAPT has significant potential not only for the FNP community but also the myriad other services that provide help and support to young families and their babies. The ADAPT method has opened up the FNP programme to thorough scrutiny to consider how it can better meet the needs of families and respond to on-going change in the local and national context. Considerable progress has been made in a short space of time. This interim report sets out the rationale for the work and what has been achieved in the period to the end of 2017. It also includes some of the rich learning that has emerged, how that has been acted upon and its relevance for other services. The report ends with plans for the next phase, which includes the preparation of a final report where all the findings from the project will be communicated.

Context

Since its adoption in 2007, FNP has had a national roll out which involved, at its peak, 132 sites in England. This made it the first evidence-based early intervention programme[2] to be taken to scale by the UK government. With the aim of replicating the outcomes from earlier research trials of the programme, the primary focus has been on high fidelity implementation at scale, informed by insights from the discipline of implementation science. The programme is well known for its ability to engage and build relationships with vulnerable clients, in part because of its highly motivated and skilled workforce.[3] Across the decade, the programme has been refined and adapted within the parameters of the licence in response to evidence, policy, opportunities to improve and innovate, and feedback from across the FNP community.

---

[1] The Dartington Service Design Lab is a charity that seeks to challenge and inspire system and service reform to improve the lives of children, families and communities. Formerly known as the Dartington Social Research Unit, it is a member of the consortium with the Tavistock & Portman NHS Trust and Impetus PEF responsible for the FNP NU.

[2] Keywords are hyperlinked to the Glossary where they are fully explained.

[3] Barnes, J, Ball, M., Meadows P., Belsky J (2008) *Nurse-Family Partnership Programme: First Year Pilot Sites Implementation in England*, London, DCSF.

I'M NOT

In recent years the programme, like many public-sector services, has faced a number of significant challenges, opportunities and changes, including: the move of public health commissioning into local authorities; severe public-sector funding cuts; the trend towards person-centred care in health services and the need to keep up with the developing international evidence base. The same period saw the publication of the findings of a large randomised controlled trial (RCT) of FNP, known as the Building Blocks study.[4] This was and remains unusual in children's services, where most services and innovations have not been scrutinised so thoroughly. The findings of this trial were disappointing. Contrary to existing international evidence on the programme, Building Blocks concluded that in England, by the time the children of its clients were aged two, the programme had no effect on the primary outcomes when compared with usual services. Small effects were detected, however, on a small number of important secondary outcomes, such as cognitive and language development and maternal self-efficacy. Some have questioned the suitability of the primary outcomes, some of the measures used and whether aged two was too early to make a judgement about the programme.[5]

A second study (Building Blocks Two) was commissioned prior to the release of the trial findings to examine the longer-term effects of the programme, the findings of which are expected in 2018.

ADAPT is part of the response from the FNPNU to this changed context. It seeks to draw on the considerable capital of the programme – the large network of sites, a highly skilled and knowledgeable workforce and a commitment to using data and evidence to improve outcomes – and harness that for the good of current and future services.

ADAPT is not intended in any way to supersede or challenge the findings from the RCT. Rather, the trial served to generate a series of hypotheses about the way the programme was and was not working in England, which have guided adaptation efforts. Some of these hypotheses cut across the programme as a whole, such as: a cohort selected on the grounds of age alone drew in some clients with low-level needs, so a wider age range accompanied by indicators of vulnerability would draw in a needier client group; and delivering the programme with fidelity failed to secure the expected outcomes, so tailoring the programme to better meet individual clients' needs would lead to better outcomes. Some of these hypotheses are more focussed, such as: breastfeeding maintenance rates were low (as they generally are for this age group), but innovative ways of enabling the wider family to support the mother would increase rates.

[4] Robling, M. et al (2016) Effectiveness of a nurse-led intensive home-visitation programme for first-time tenable mothers (Building Block): a pragmatic randomised controlled trial, *The Lancet*, Vol 387, No 10014, p146-155.
[5] Barlow, J., Barnes, J., Sylva, K., Fonagy, P. and Fearon, P. (2016) Questioning the outcome of the Building Blocks trial. *The Lancet* 387, No.10028: 1615-1616; Robling, M., Torgerson, D., Pickett, K., Channon, S. & Sanders, J. (2016) Questioning the outcome of the Building Blocks trial – Authors' reply. *The Lancet* 387, No.10028: 1616-1617.

Method

FNP ADAPT is not a conventional research study, nor is it an improvement project; it sits somewhere in the middle of this spectrum, harnessing the strengths of high-quality research and the pragmatism of improvement approaches. More specifically, the method drew on the work of the Institute for Healthcare Improvement, incorporated formative evaluation methods and was influenced by intervention development methods.[6] FNP ADAPT seeks to develop, test and learn about adaptations with potential value for the FNP community and other services available to pregnant women, their babies and families.

The project has been guided by a method – 'rapid cycle adaptation and testing' (see Appendix A - Rapid cycle innovation method description) – which is underpinned by four principles:

(1) A deep respect, on the part of all stakeholders, for science and evidence, and the contribution that existing high-quality research can make to effective adaptation. For example, systematic reviews of intervention effectiveness are a starting point for crafting new solutions.

(2) A focus on improving not proving, meaning that it seeks to make the adaptation better and more likely to succeed, rather than seeking to generate robust research evidence (i.e. through using a control group) of whether or not it is effective in achieving specified outcomes.

(3) An assumption that services that are co-produced, i.e. designed and tested with the people who will commission, deliver and receive them, will result in better services, which should in turn achieve better outcomes.

(4) Whatever is designed will not be perfect but through an iterative and pragmatic process of testing and refining, it can be improved – akin to the plan-do-study-act (PDSA) approach of improvement science.

There are seven stages to the method:

(1) Analysis of the problem – use existing research, local intelligence, practice wisdom and client experience to help understand the nature of the problem in question.

(2) Co-production – in a group comprising a mix of stakeholders develop adaptations together, informed by existing evidence of 'what works for whom' wherever possible and in consultation with academic and other experts in the relevant field.

(3) Small-scale delivery (initially) – start delivering to small numbers of clients before increasing numbers as confidence in the adaptation grows.

---

[6] IHI: http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx ; Rossi, P. H., Lipsey, M. W. and Freeman, H. E. (2004) *Evaluation: A Systematic Approach* (7th Edition). Thousand Oaks, CA: Sage; Fraser, M. W., Richman, J. M., Galinsky, M. J. and Day, S. H. (2009) *Intervention Research: Developing Social Programs*. New York: Oxford University Press; Axford, N., Berry, V., Blower, S., Little, M., Hobbs, T. and Sodha, S. (2013) *Design & Refine: Developing Effective Interventions for Children and Young People*. Dartington: The Social Research Unit.

(4) Minimally sufficient data collection – collect 'just enough' data through mixed methods to answer questions about acceptability, deliverability and movement on outcomes.

(5) Rapid analysis and feedback – rapidly analyse the data and quickly feed it back to and discuss with those delivering the adaptation.

(6) Refinement – refine the adaptation in the light of data with the option to continue the process of data collection, analysis and feedback and refinement through several cycles.

(7) Stop, scale or test further – stop delivery (if successive refinements have failed to deliver the expected improvements in acceptability, deliverability and movement on outcomes) or move to scaling and further testing (if improvements are promising).

The project is a collaboration between the FNPNU, the Lab and 10 (initially 11) FNP sites, five of which were also taking part in the Big Lottery Fund 'A Better Start' programme. Each site formed a co-production team with responsibility for the design, implementation and refinement of adaptations. These teams were expected to draw on a range of perspectives and include family nurses, the team supervisor, the commissioner of the FNP team from the local authority, local subject-specific experts and FNP clients. All participating sites committed to add ADAPT to their workload, as there were no resources for extra capacity. The supervisors and nurses made their contribution in addition to the responsibilities of their day jobs.

The 11 original sites were: Blackpool, Bradford, Cheshire East, Derby, Dudley, Lambeth, Lewisham, Nottingham, Portsmouth, Southend and West Sussex. Derby subsequently chose to leave the project, as the team needed to focus its resources on other existing work commitments.

The FNP ADAPT project team supported sites to follow the method and develop two types of adaptation: clinical adaptations and system adaptations. Each clinical adaptation was concerned with adapting programme content and delivery in relation to a specific outcome and articulated in four key documents – a logic model, an adaptation description, a context map and a dark logic (see Appendix B). Once approved, these documents guided implementation and data collection. Between them, sites focused on six outcomes and generated eight clinical adaptations (see Box 1). The system adaptation work resulted in a strategy for personalisation– an approach to tailor the programme to client needs – and guidance to translate the strategy into practice.

Implementation support is essential in a project of this complexity and ambition. New tools, materials and specialist training and coaching approaches have been developed by the FNPNU clinical and local teams to support the changes to clinical practice.

Box 1: FNP ADAPT sites, their selected target outcomes and a summary of their clinical adaptations

PORTSMOUTH

NEGLECT

Guidance notes covering definitions and risk factors for neglect; information on sources of help and how to get support; information on parenting styles and how they inform parenting and internal working models; games and interactive educational activities to help identify neglectful parenting behaviours; and Graded Care Prolife 2 (GCP2) assessment to identify neglect.

BLACKPOOL

BREASTFEEDING

Increasing frequency of use of current materials; new materials to address the role of family and partner; a new communication tool to practice difficult conversations; more partner-focused materials to introduce partners to the subject early; and a peer support group.

BRADFORD

ATTACHMENT

New pregnancy guidance notes; Dyadic Assessment of Naturalistic Caregiver-Child Experience (DANCE) cards, DANCE assessment and DANCE STEPS manual, including increased use of Partnership in Parenting Experiences (PIPE); and Video Interactive Positive Parenting (VIPP) from six months using the Ainsworth Maternal Sensitivity Scale to assess maternal sensitivity.

CHESHIRE EAST AND DUDLEY

SMOKING CESSATION

Visual aids to communicate risk; mindfulness training for stress reduction; Nicotine Replacement Therapy (NRT) prescription; regular use of Carbon Monoxide (CO) monitors; advanced communication skills training for nurses; and a peer support group online (Cheshire East only).

LAMBETH AND LEWISHAM

HEALTHY RELATIONSHIPS TO PREVENT IPV

New materials on identifying healthy and unhealthy relationships; information on experience of intimate partner violence (IPV) from child's perspective; support with emotional intelligence and communication and conflict resolution skills; materials on self-efficacy and how to seek help for IPV; tighter referral pathways for specialist support; new partner facilitator; and referral to a local project that works to prevent reoccurrence of abuse in couple relationships.

NOTTINGHAM

MATERNAL MENTAL HEALTH

Modified existing resources and new facilitators for all clients regardless of mental health; improved assessment for anxiety and depression; targeted mental health toolkit for mild to moderate depression and anxiety; and referrals to specialist care for clients needing greater support.

Clinical adaptations

Clinical adaptations clearly varied in terms of focus and nature but there were also similarities between them in terms of the types of adaptation made. Collectively they involved the following changes:

- the utilisation of new assessment tools;
- using video to increase knowledge or provide feedback on client behaviour;
- using instruments to monitor the problem behaviour;
- the development of new materials (for the client and/or family members);
- boosting the skills or knowledge of the nurses;
- giving clients things to do outside of visits (such as games, apps and 'homework');
- prescribing treatment;
- involving peers, friends, partners or family members;
- helping clients to access specialist services where relevant.

It should be noted that although each adaptation comprised activity to influence client behaviour change, they also attended to contextual factors such as the client's family and social environment and the connection to other services. In this way, they sought to respond to the complex set of influences on young mothers.

Each adaptation had to meet a set of criteria before the design could leave the drawing board and move into the implementation and testing stage (see Box 2).

System adaptations

Whereas clinical adaptations were developed site-by-site, the system adaptation was led centrally with extensive input from all sites. Its aim was to improve efficiency and outcomes by: (i) encouraging sites to engage more clients with greater needs (and fewer with lesser needs); (ii) freeing nurses to spend less time with clients who have lesser needs (where possible) and more time with clients with greater needs (where necessary); and (iii) enabling nurses to better orientate the content delivered to each client's needs. A new assessment tool, known as the NMS, was developed – in prototype form – to support nurses in delivering this more personalised version of FNP. It is described in more detail below. Efforts to personalise the programme resulted in a four-dimensional approach set out in Box 3.

Box 2: FNP ADAPT clinical adaptation criteria

- The adaptation is a good fit with the FNP ethos
- The local commissioner of FNP supports the adaptation
- From the existing local FNP site data, there is evidence of sufficient need and demand (e.g. Are there significant numbers of clients who smoke/have mental health problems?)
- From the existing FNP data, there is adequate predicted throughput (e.g. enough clients) to allow for meaningful testing
- It is reasonable to detect some change in this outcome fairly quickly
- It is within scope for the FNP clinical team to develop new content and training
- The proposed adaptation will be delivered by FNP nurses
- There is a good fit with local service provision (e.g. complementing not duplicating existing provision)
- Implementation is feasible
- The adaptation is supported by logic and evidence of 'what works' (if available)
- It is reasonable to expect the innovation to be cost-effective
- It is reasonable to expect the adaptation to stand alone (i.e. be taken on by services outside of the FNP community)

Box 3: The four-dimensional approach to personalisation

The sites could personalise the programme in four ways.

The first dimension concerned eligibility criteria. In standard FNP in England, the programme is offered to first-time mothers aged under 20 who are less than 28 weeks pregnant. ADAPT sites were permitted to accept clients who presented a later gestation, including those who had concealed their pregnancies, and were older, if they displayed specific risk factors, such as being a care leaver or having special educational needs.

The second dimension involved enabling nurses to adjust the frequency of visits according to client need ('dialling down/up'), informed by the NMS assessment. Clients who were doing well could receive visits less frequently, while those with particular needs could receive more visits (over a specified period).

The third dimension encouraged the nurses to better flex the visit content from the previous schedule, according to client need and priority as identified through the NMS assessment.

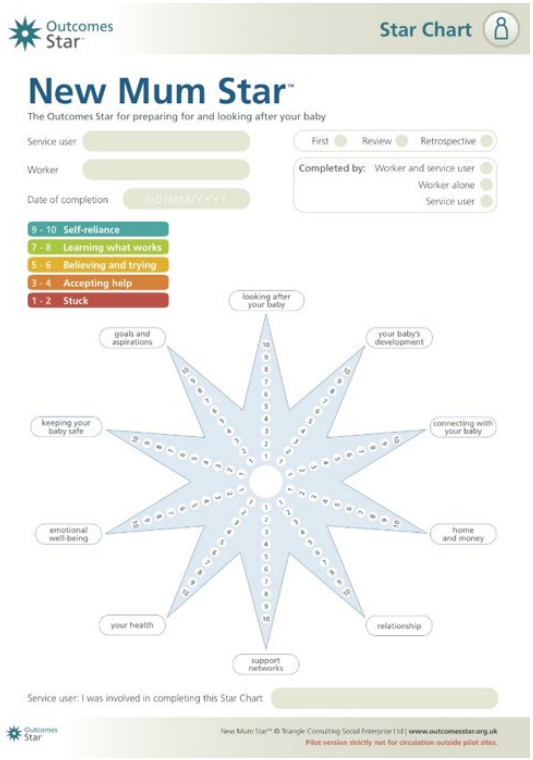
The fourth dimension involved nurses graduating clients early (i.e. before the child's second birthday) if they felt that their needs could be met by universal services.

Box 4: The New Mum Star assessment tool [8]

The NMS assesses clients across the 10 areas of their lives that FNP tries to influence, each one represented by a 'prong'. The 10-point scale on each prong is framed in terms of client self-efficacy, such that a client who is 'stuck' in a particular area is placed at the bottom, while clients at the top exhibit 'self-reliance'. Each point on the scale is accompanied by detailed guidance with clear criteria.

The NMS is designed to be completed by a nurse in collaboration with their client. The aim is to stimulate an open and honest discussion that informs the way in which nurses adjust programme delivery. Once a NMS is completed, nurses and clients draw up an action plan that indicates how content should be flexed in order to focus on where the client has the greatest need. If a client has low need across most or all areas, this can inform decisions about which clients to dial down or graduate early. The assessment is repeated approximately every four months to track progress and ensure that action plans are up-to-date and well-informed.

The NMS has been through one cycle of adaptation and testing. Insight from the first cycle has been used to make further changes to the tool, which are currently being tested.



[8] The NMS has been developed by Triangle Consulting, a social enterprise that has specialised in the development on 'outcome stars'. See www.outcomesstar.org.uk for more information. Based on testing and feedback from ADAPT teams, a revised version of the NMS is in development.

This approach represented a radical departure. Eligibility for FNP in England has typically been determined by first pregnancy, age and stage of pregnancy, without applying additional vulnerability criteria. The manualised nature of the programme and the requirement within the licence to deliver the programme with fidelity means that, outside of ADAPT, all clients are offered broadly the same content, in the same volume and at the same pace (the focus of a visit can be adjusted to a degree to reflect the client's needs and concerns through a process known as 'agenda matching'). Clients have been expected to stay on the programme until their child's second birthday. Personalisation introduces the opportunity to tailor delivery of the programme within clear parameters (see Appendix C).[7]

As mentioned above, central to personalisation was the development and testing of a new assessment tool. Although this has taken place in the context of ADAPT, as with the clinical adaptations, it is being developed with one eye on being useful for services beyond FNP.

Data collection

Until now, the focus of this paper has been on the process of designing adaptations and preparing for implementation. Integral to the testing process was agreeing at the outset the essential questions that needed to be answered and the data required. This was guided by an interest in the acceptability and deliverability of adaptations and their potential to influence outcomes. As a result, data collection focused on addressing three primary questions:

(1) Is the adaptation (clinical and system) acceptable to (a) nurses (are they confident to deliver it and do they understand it) and (b) clients (do they find the content relevant and is it delivered in a helpful way)?

(2) Is the adaptation deliverable (which components of the adaptation were delivered most frequently and what were the barriers and enablers)?

(3) Is there movement on selected outcomes?

The approach to collecting data to answer these questions is described in Box 5.

[7] It is important to acknowledge that programme developer, David Olds, is also introducing and testing a more flexible approach to delivery in the US, including adjusting the frequency and method of visits based on assessed client risks and strengths, and tailoring content to client needs. US nurses also aim to engage a population that is at high risk of poor outcomes. This suggests there are good opportunities for shared learning, while being mindful of the different health and social contexts in the US and the UK.

Box 5: Sources of data for FNP ADAPT

ADAPT has adopted a mixed-methods approach to all three questions.

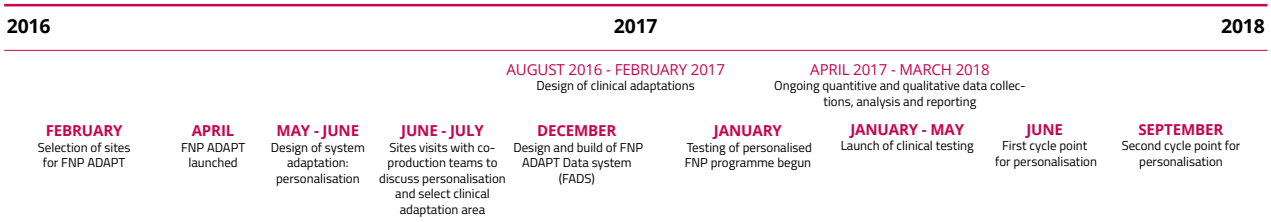
There are two quantitative data systems in use. One is the pre-existing FNP Information System (FNPIS), which collects a large amount of routine data from all FNP sites (ADAPT and non-ADAPT). The other is the FNP ADAPT Data System (FADS), which was established to gather additional ADAPT-specific data. Together, the FNPIS and the FADS pose a range of questions directly to clients, nurses and supervisors on acceptability, deliverability and outcomes. Each clinical adaptation uses a relevant existing standardised outcome measure to track progress against intended outcomes, for example, the Edinburgh Postnatal Depression Scale for maternal mental health and Ages & Stages Questionnaire for child development.

A range of qualitative methods are used regularly to triangulate the data drawn from FNPIS and FADS and to shed light on the perspectives and understandings that these systems cannot capture. Monthly telephone interviews are conducted with supervisors from every ADAPT site, while focus groups are carried out separately for nurses and clients in all ADAPT sites every two to three months.

More information on these methods can been found in the Outline plan for data collection and analysis (see Appendix D).

The timeline of the project, indicating key milestones for adaptation implementation and testing, is set out below in Figure 1.

Figure 1: Timeline of the project, indicating key milestones for adaptation implementation and testing



Progress so far

Eighteen months into the ADAPT project, 10 sites were implementing personalisation and eight were also implementing a clinical innovation. The first phase of project set-up and design took six months, as Figure 2 illustrates. All sites commenced testing of personalisation over the winter of 2016/17, followed by their clinical adaptations. The start of testing was dependent on local circumstances and the preparations required to commence delivery – for example, drafting guidance and staff training – and gathering data – for instance, agreeing measures.

By the end of January 2018, sites were just over one year into the implementation stage. In total, 86 nurses across all sites had been trained in personalisation. A total of 725 clients had experienced an adapted FNP programme, as Table 1 illustrates.

Table 1: Take up of clinical adaptations by nurses and clients across ADAPT sites (as of January 2018)

Clinical Adaptation	How many nurses have delivered the adaptation?	How many clients have received the adaptation?
Blackpool (Breastfeeding)	6	135
Bradford (Attachment)	11	137
Cheshire East (Smoking cessation)	8	81
Dudley (Smoking cessation)	9	125
Lambeth (Intimate partner violence)	8	59
Lewisham (Intimate partner violence)	7	55
Nottingham (Maternal mental health)	10	190
Portsmouth (Neglect)	7	134

Rapid cycle adaptation and testing rests on the premise of learning through doing, with that learning being informed by the mix of data coming from multiple sources. The feedback loops are both very short and slightly longer (see Figure 2). 'Small cycle' adaptation involves getting under the skin of implementation by obtaining qualitative insights from nurses and supervisors. These began within weeks of getting started and informed tweaks that were made to aspects of delivery and data collection accordingly. 'Large cycle' adaptation entails reviewing all the data (qualitative and quantitative) about an adaptation over a few months to see if more fundamental changes are required. The green dots in Figure 3 show how each site's clinical adaptation will go through at least three large cycles.

With each cycle (small and large) adjustments have been made to clinical practice, as the examples about personalisation in Box 6 illustrate. This also illustrates the honest, thoughtful and collaborative approach engendered by the ADAPT project.

Figure 2: Graphical depiction of rapid cycle processes

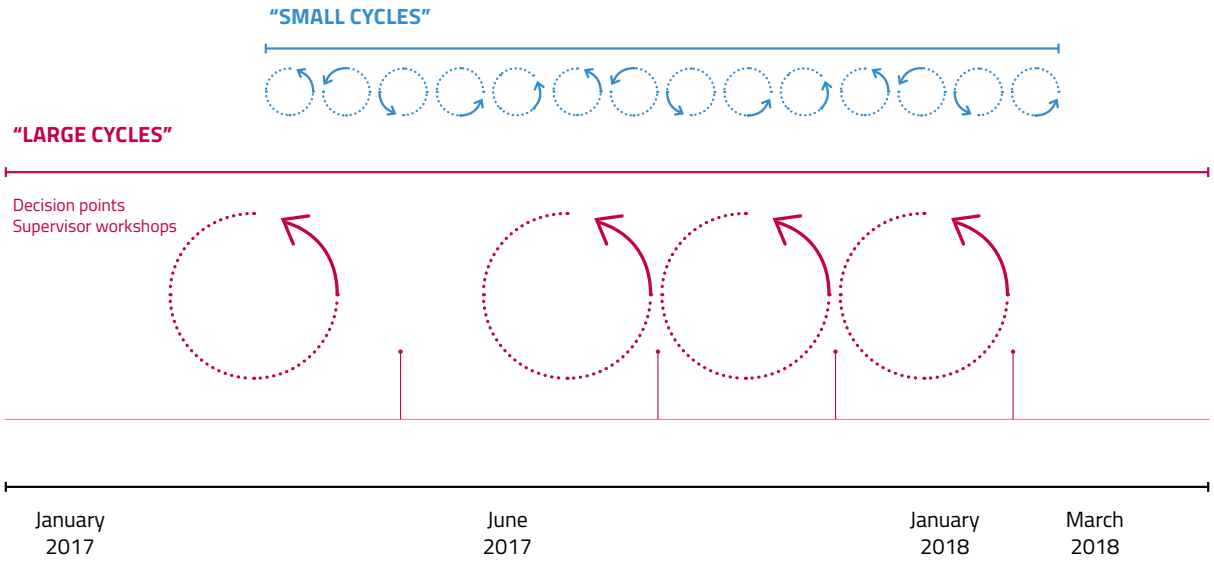
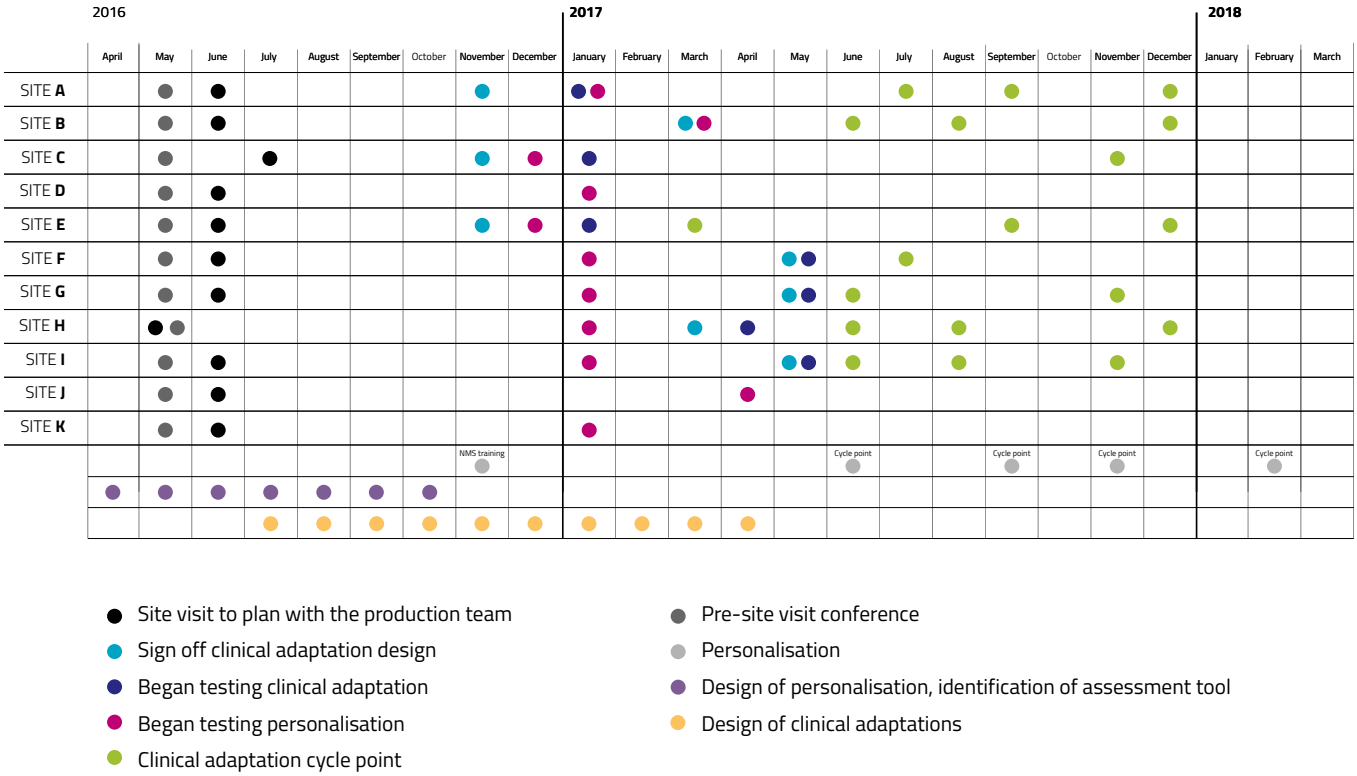


Figure 3: The progress of each site over time, highlighting the design phase and the various cycle points for each clinical adaptation.



Box 6: Examples of how practice has been adapted in the testing of personalisation

Dialling down – reducing the frequency or length of visits

There was strong interest from sites in testing 'dialling down', where appropriate, with clients. Some sites have made progress in doing so (see below) but six-months into implementation and testing the quantitative data indicated that only a small proportion of clients across the programme had had their visits reduced.

One of the barriers to this that emerged from focus groups with nurses and monthly supervisor interviews was resistance from clients. Some clients who were doing well enough to qualify for a 'dialled down' schedule resented the loss of face-time with their Family Nurse (FN). Nurses have had to balance a desire to dial down with a concern that doing so could damage the nurse-client relationship and potentially lead to disengagement from the programme, as this quote from a client illustrates:

Client: *'I'd rather see [my nurse] more. I think she's very supportive. She's not only there for [my son], she's there for me as well. She's very emotionally there for me.'*

Some nurses (FN) also expressed concern that clients would feel that dialling down represented a broken promise as they had been offered and agreed to a set number of visits over a fixed period of time.

FN: *'I was torn, because obviously I'm being told to dial those down, but then equally that again brings her down, because that's not what she had thought she'd signed up for'*

Two potential solutions were identified. First, the FNP ADAPT Project Team designed and implemented a 'Respectful Challenge' training session with supervisors and nurses from ADAPT sites. This was intended to give nurses a wider range of techniques for dealing with resistance from clients. Second, at workshops* and during the monthly interviews with supervisors, lessons were shared from one ADAPT site that was dialling down more clients with greater ease. This site, for example, dialled down clients gradually (fortnightly to three weekly and then to monthly visits). These issues are expected to diminish as new clients are engaged into the programme since they will be offered flexible support rather than for a fixed period.

Flexing the content – tailoring the content of visits to the client's specific needs

While nurses have always tailored aspects of programme content to the needs of clients, flexing the content gives nurses more autonomy to choose what to cover in a session with flexibility, supported by the use of the NMS, to use materials from the entire FNP collection. Before ADAPT, clients would typically receive content from the pack of materials associated with the specific visit (for example, the second visit after birth). This change of practice, however, requires additional time prior to a visit to sift through packs and pull out the most appropriate material. This experience was shared by many nurses and supervisors through the focus groups and monthly calls.

FN: *'In terms of organisational skills, I find you have to be a bit more organised with your planning ... you've got to, kind of, start looking through all the different packs and finding the stuff... A bit more planning, a bit more organising.'*

In order to tackle this, two sites began to reorganise programme content by theme as opposed to visit. This meant that once nurses had identified themes to work on (through the new assessment process), they could more easily identify material to address that particular theme. The ADAPT Project Team built on the work of these two sites by reorganising all of the content and supporting the implementation of the new system in all ADAPT sites. Both nurses and supervisors fed back that the new system reduced the time required to plan visits.

FN: *'It makes it more accessible and easy. It saves time ... just go to that folder and pick up what you want.'*

Early graduation – leaving the programme before the child's second birthday

The number of clients being graduated early is relatively small at this stage of the project; however, the progress made in one site suggests it is a feasible aspiration as the following quote illustrates.

FN: *'It's exciting I think to be able to graduate these girls and get back to the girls that need it.'*

The main barrier concerns the local context. FNP commissioners in several sites feel that the age at which children (and their mothers) are graduated from FNP should not change. This is because FNP may be the main service for children born to first-time teenage mums for the first two years of their lives; and there may not be other services to fill the gap should FNP clients be graduated early. Pressures to maintain a full caseload, discussed below, have also contributed.

As with dialling down, client resistance has also played a part. Some clients are reluctant to give up what they see as an improvement on universal services. They also feel they were promised a two-year programme, a sentiment with which many nurses sympathise, such that cutting their time short with clients would constitute breaking a promise.

FN: *'if you've not done that work really, really early there can be tears and rejection because they feel you're leaving them and abandoning them.'*

In light of these insights, recently enrolled clients in FNP ADAPT sites are not being offered a fixed length commitment.

Nurses who have been more successful in graduating clients early have been able to frame it as a sign of the client's progress and therefore something to be celebrated. For example, one supervisor used an exercise focused on the child- parent relationship, and designed it to help the client see that as her baby grows older they will look to do things more on their own, without the mother's support. The exercise helps the client to see the parallels with the nurse-client relationship and early graduation as natural development and progress rather than rejection. After being picked up and communicated to other sites by the ADAPT Project Team, other nurses are now testing this strategy.

**Representatives (typically the FNP team supervisor) from all co-production teams were invited to a workshop every other month in London. These have taken place throughout the life of the project.*

Early insights

Two large cycles into the adaptation and testing process for personalisation, it is clear that *some* sites and *some* nurses have successfully adopted and implemented the proposed changes to practice. This should be viewed as proof of the concept: personalisation is potentially 'deliverable' and 'acceptable' to nurses. As adaptation and testing continues, the full extent of deliverability and acceptability to nurses, clients and commissioners across all sites will become clear. Although there is much still to do to encourage wider adoption of these changes, these early findings are a positive sign.

When all adaptations (clinical and personalisation) have been through at least three large cycles, the future of each adaptation will be determined. It is envisaged that there are four possible scenarios:

(1) The adaptation is not viable: if it is clear that it is unacceptable to nurses or clients, or that it is not deliverable, or that it appears unlikely to be associated with movement on key outcomes, then it will be stopped;

(2) The adaptation shows promise, but more cycles are required to know if it will viable in the long-term;

(3) The adaptation shows promise but would benefit from wider testing in other FNP sites;

(4) The adaptation is ready for wider use within the FNP community and in other settings.

Acceptability, deliverability and outcomes

FNP holds itself to account by being clear about the impact it expects to make to the lives of pregnant women and their babies, and FNP ADAPT is no different. The project is ultimately concerned with detecting change on a number of key outcomes. It is important to stress that the methodology does not permit attribution of the effect of the intervention on outcomes (there is currently no counterfactual) but it is examining distance travelled on selected outcomes during the innovation period and can make some limited comparison with non-ADAPT sites and historical data, as explained in the Outline Plan in Appendix D. At this stage, the focus of the project has been on designing and delivering adaptations, collecting data (on acceptability, deliverability and outcomes) and going through cycles of testing, learning and adjusting. This is illustrated with a clinical adaptation in Box 7. Data on outcomes will be presented in the final report.

Box 7: An example of how deliverability and acceptability inform adaptation

A core part of one site's clinical adaptation, which focuses on maternal mental health, is the introduction of two alternative assessments: the Generalised Anxiety Disorder 7-item (GAD7) scale and the Edinburgh Postnatal Depression Scale (EPDS) - replacing the Hospital Anxiety and Depression Scale (HADS). Several months into the delivery of their adaptation the new assessments were discussed in a focus group with nurses. Many of them felt that the new assessments reinforced the stigma around mental health – clients could sense from the way the assessments contrasted with standard FNP materials that the nurse was delivering something different and, from their perspective, more formal. In response, some clients did not feel that they could be open in the assessments and some disengaged from the programme altogether.

FN: *'One of my clients, she disengaged ... I was trying to think is it because we've got this pack of leaflets in front of us, a bit like what another service would do? I think the ones that have known me for a while, I think they're thinking, "What's she doing with those leaflets? This is not how she works."'*

Consequently, the ADAPT Project Team reformatted (without changing the content) the GAD7 and EPDS to give them the same look and feel as other FNP materials. Materials that address the stigma associated with mental health are now delivered with all clients, not just those who have already presented with a mental health issue. The new process will be trialled and tested.

Testing the New Mum Star

The example provided in Box 8 shows the value of taking a rapid cycle approach to the introduction of the new assessment tool. Although this was introduced primarily to inform the personalisation of the programme, it was hoped that the data could be used to measure any change in outcomes. As can be seen, using it without testing would have generated unreliable and invalid findings.

Regular feedback for problem solving

In accordance with expectations, the capacity to implement, report on and refine adaptations has varied within sites (i.e. from nurse to nurse) and across sites. The process of rapid feedback has quickly highlighted these differences and the regular convening of the sites offered opportunity to problem-solve collectively, either through constructive peer-to-peer challenge or shared reflection, as Box 9 illustrates.

Box 8: Testing the New Mum Star (NMS)

Initial qualitative feedback about the acceptability of the NMS was very positive on the part of nurses and clients. Nurses reported gaining new insights into their clients' lives and finding opportunities to broach different issues.

FN: *'I find out things about my client that I didn't know, it's quite surprising in that way and I think some of them like it and they like it that they're almost in control of what you're going to bring next time and the sort of information.'*

Client: *'I think before we did the star I was a little bit shy and I wasn't sure what to tell her, but then when we did the star I opened up to her and told her things I haven't told some other people, and I told her something that the social workers don't know so I think it's brought us a lot closer.'*

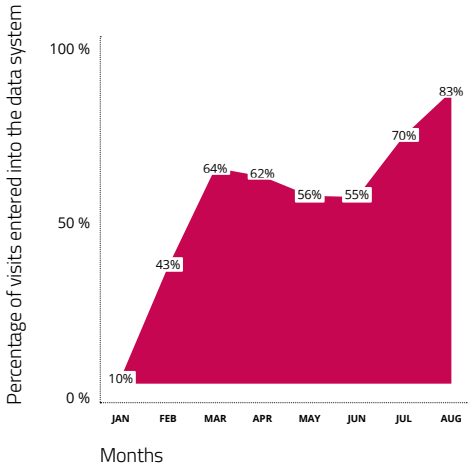
However, after six months of testing, an analysis of the NMS data demonstrated that the average scores nurses were giving clients were much higher than expected (high scores indicate good levels of self-efficacy). Through the nurse focus groups and monthly supervisor interviews, several factors appeared to be influencing this trend. First, nurses felt the 1 to 10 scoring system and accompanying red-to-green colour-coding reinforced the negativity associated with low scores. Second, many nurses were concerned about the potential adverse impact of challenging a high score where theirs and the client's judgement were at odds. Third, aspects of the accompanying guidance for each score were open to interpretation, making it hard to dispute clients' claims they should receive higher scores.

This phenomenon also contributed to a lack of variation across the prongs and between clients' scores, which in turn made it difficult for some nurses to flex the content as no particular areas of concern were identified. As a result, many nurses were using the NMS more to structure a conversation and gain new insights, and less to inform personalisation decisions.

In response, a workshop attended by nurses from all ADAPT sites was held to co-produce the next iteration of the NMS. This included more detailed criteria and guidance and amendments to the red-to-green scoring system. Testing of the new version commenced at the end of 2017.

Box 9: An example of how regular feedback and collective problem-solving resulted in improvements to data collection across FNP ADAPT

Data completeness for the programme is reported by site and by nurse each month. This is to impress on the nurses the importance of having data of sufficient quality to allow confidence in findings and any associated conclusions. In response to decreasing data completeness and supervisor reports of nurse data fatigue due to the project's additional data collection requirements, reporting requirements were simplified and reduced in June 2017. In addition, nurses shared within and across ADAPT sites their strategies for keeping track of their data entry and improving their data completeness. The apparent effect of these changes is seen with a corresponding increase in data completeness from 55% in June to 70% in July and then 83% in August.



FNP ADAPT visit data completeness from January - August 2017

The challenge of the current public sector environment

FNP ADAPT is a complex, ambitious and bold project involving over 50 practitioners, as well as managers, commissioners and local stakeholders from 10 different areas operating in a rapidly changing and deeply challenging context. In several cases the environment has directly or indirectly affected adaptation efforts. For example, in some areas commissioners understandably expect nurses to maintain a high caseload (under the licence nurses are expected to have a caseload of up to 25 clients). Implementing an adaptation that will move clients off a caseload, such as early graduation, releases capacity to recruit new more vulnerable clients. Any delay in this recruitment process, particularly where it involves testing and implementing new referral processes, requires spaces to be held open and consequently reduces average caseload size. For some commissioners, this is an uncomfortable risk to manage since it increases the unit cost of the programme. In other sites, the context has been the very reason for involvement. Many commissioners are supportive of FNP but are asking for more from the programme, such as greater flexibility (for example, the amount and frequency of visits), targeting of the most vulnerable pregnant women and better value for money. ADAPT has tried and continues to strive to address these issues.

Flexing and dialling

For the last decade FNP has established itself as a new and different model of practice. To achieve this required root and branch changes to staff recruitment, training, practice development and the use of data. This resulted in a strong ethos and culture. FNP ADAPT is in many ways a disruptive innovation, especially with regard to personalisation; apparently subtle changes such as flexing and dialling actually require quite fundamental changes to how nurses are expected to think and work. For example, with greater autonomy to flex the programme and exercise their professional judgement comes some uncertainty and associated anxiety on the part of some nurses. Earlier in the process, there was arguably less awareness of how radical some changes were. For instance, feedback in the design phase of ADAPT suggested that personalisation – in particular flexing the content – was already happening (albeit to a limited degree) in the form of the well-established FNP practice of agenda matching. This led those involved to think that the proposed changes would be fairly straightforward to adopt. In reality, it has taken longer than expected for changes to be adopted. Reflecting more on the radical nature of the changes, indicates that this is perhaps not a surprise. The examples in Boxes 10 and 11 bring these points to life.

Defining vulnerability

ADAPT has exposed some unexpected findings. The case of client vulnerability has proved to be particularly vexing. In a climate of diminishing resources and increasing need, it made perfect sense for sites to re-focus their attention on a more vulnerable population, defined not solely by age. Initial qualitative data, particularly feedback from nurses, suggested that this was either already happening or about to change in all sites. The quantitative data over the ensuing period, however, suggested that clients were less vulnerable on average than they had been previously. These contrasting perspectives have prompted a deeper examination of definitions of vulnerability, the way it is measured and how local areas assess vulnerability within the service pathway. Investigating and understanding these issues will form a major part of next phase of the project and will likely yield valuable insights for any service concerned with the effective identification of clients vulnerable to poor outcomes.

The true nature of innovation

FNP has a strong evidential pedigree. David Olds, the programme developer, insisted on multiple randomised controlled trials of the programme in the US before he would countenance its wider adoption. This respect for scientific evidence has been mirrored in FNP in the UK (hence the Building Blocks trial). It has been maintained throughout ADAPT. For instance, rapid literature reviews informed the clinical adaptation designs, which were then discussed with academic experts in the respective fields. While this is positive in many respects, some may argue that the clinical adaptations appear somewhat conservative. However, it is also becoming apparent that the expectation for innovation to be radical or 'blue sky' could be missing an important point: small, incremental, well-implemented changes are the norm in innovation and may, in time, make the greater impact.[9]

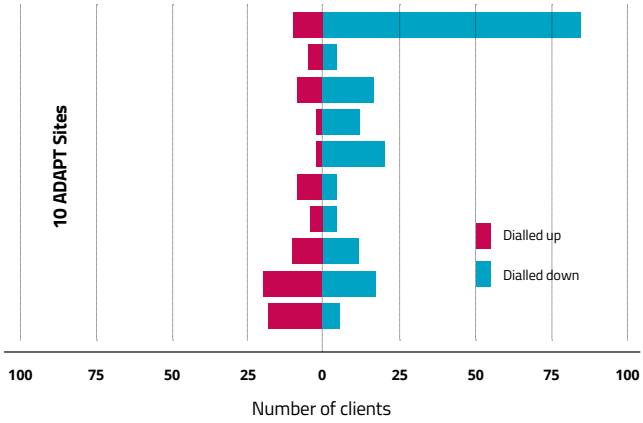
---

[9] Johnson, S. (2010) *Where Good Ideas Come From: The Natural History of Innovation*. New York: Riverhead Books.

Box 10: The adoption of dialling across sites

There has been variation in the uptake of the strands of personalisation across sites. This is illustrated in this graph from September 2017 depicting the extent to which nurses were dialling down (blue) and dialling up (pink). It was clear that although one site was dialling down far more than any others, and there was wide variation across the other sites, most sites were making efforts to integrate this change into their usual practice. The site with the largest amount of dialling down has demonstrated that this dramatic change in practice is possible under the right conditions. Insights about how and why disparities occur between sites, and how the early adopter sites can encourage others to integrate dialling the frequency of visits into their usual practice, have guided subsequent phases of testing.

Variation in extent to which ADAPT sites are adopting dialling down and up: **August 2017**



Box 11: Reflections on how personalisation has been managed

There has been a varied reaction from sites to the changes that personalisation has tried to introduce. Reflections gathered through focus groups and supervisor interviews from two sites that have successfully introduced the changes to practice required to support personalisation point to why this might be.

Improving structural supports – Both sites were quicker than others to address the structural barriers to change. For example, both sites were among the first to reorganise their materials by theme or NMS prong to facilitate flexing the content.

Peer-to-peer learning – Nurses in one site have used their team meetings to role play difficult conversations with clients around dialling down and early graduation, and encouraged nurses who found these conversations easier to share their insights. In the other site, the team found that once an area has been identified as problematic through the NMS, there is often only enough material - particularly of emotional health - for one or two visits, but no more. Consequently, one nurse developed a range of new evidence-based materials and exercises and has been trialling them with clients. Other nurses are now using the materials that have been well received by clients.

Positive local conditions – Both sites have benefitted from stable funding and commissioning contexts, which ensures nurses can enjoy a relatively secure working environment. This has given them a platform from which they can find creative solutions to the challenges that ADAPT has introduced. As mentioned earlier, in sites where the commissioning environment is less favourable, the opposite has been the case. Nurses have reported that due to the pressure they are under and the turbulence of their environment, they have struggled to take on further challenges and often stuck to what they know.

The challenge of co-production

ADAPT started with an explicit commitment to involve all stakeholders (clients, nurses, supervisors, commissioners and provider-leads) in a process of co-production in the belief that adaptations generated with the people who will commission, deliver and use them will be more suitable and more effective. As the project has progressed, engagement with supervisors and nurses has generally been successful. The approach to engaging with commissioners and provider-leads has been changed based on their feedback. Client focus groups have provided valuable insights, but numbers have been consistently small. There is certainly more that can be done to engage with clients. In retrospect, expectations of all parties could have been more fully explored at the outset, particularly what would constitute project success, the role stakeholders were expected to play and the best methods for engaging them. The principle of co-production remains important. In the next phase, the project will explore how better to involve all stakeholders, in particular clients.

Rapid cycle innovation and testing

The aspiration to develop, apply, refine and codify a method for rapid cycle adaptation and testing has largely been realised. This is a consequence of the goodwill and considerable effort of the many people involved. There are numerous examples from across the project of how relatively small amounts of data have been fed back, considered and changes to practice quickly made. When it was clear from nurse feedback that data collection was too burdensome, the principle was also applied to the method itself, in that certain measures were withdrawn as a trade-off for increased data completeness.

Summary

In summary, there are promising signs that the two broad objectives of the project will be achieved: first, to identify adaptations that will enable FNP to better meet the needs of families and respond to on-going change in the local and national context and, second, to develop and document a method for rapid cycle adaptation and testing.

Next steps

In the next phase to the end of March 2018, alongside the current adaptation and testing programme of work, the project team will focus on:

- how to define client vulnerability and operationalise the definition in the referral pathway;
- how to meaningfully involve clients in co-production and seek their feedback to inform service improvement at scale;
- further refinement and testing of the NMS.

As the number of clients receiving innovations increases and outcome data are collected, the project will be in the position to make decisions about the future of system and clinical adaptations in consultation with David Olds, the programme founder. This will involve stopping them, testing them more widely or rolling them out across the FNP community. It is anticipated that wider testing of aspects of personalisation (including the NMS) and the most promising clinical adaptations will start in a second wave of ADAPT FNP sites by the middle of 2018, with a view to a wider staggered rollout as soon as possible after that.

Most challenging but of equal importance will be the translation of these insights for colleagues beyond FNP, for example in health visiting, midwifery and social care services supporting vulnerable new mums.

In Autumn 2018, a final report of ADAPT will be prepared for wide dissemination, accompanied by a series of articles for submission to academic journals.

GLOSSARY

A

AGENDA MATCHING

Agenda matching is the process by which the family nurse maintains alignment between the goals of the client/her infant and those of the programme. This can mean some digression from the planned content of a visit to consider the programme aims and goals, the client's 'heart's desire', the client's immediate concerns and stage of the programme as well as considering any anticipatory information that may be needed.

C

CARBON MONOXIDE MONITOR (CO MONITOR)

Carbon monoxide is exhaled in higher concentrations in individuals who smoke, therefore monitoring exhaled carbon monoxide levels is a good indicator of levels of smoking, and can be used to monitor progress towards a quit attempt and to verify a successful quit attempt.

CLINICAL ADAPTATIONS

Clinical areas that have been chosen by the FNP site (nurses, supervisors, commissioners, providers) in collaboration with the FNP National Unit and the researchers from the Lab as areas where clinical outcomes could and should be improved. All stakeholders have contributed to the designs, and additional nurse training and materials have been provided by the FNP National Unit.

CONTEXT MAP

This is a systematic assessment of the external context to a project, considering all the factors that may not be under the direct control of the team implementing the project, but may affect their ability to deliver as planned and achieve desired outcomes. These contextual factors have been grouped into five headings: political, organisational, cultural, economic and other. Teams were also asked to suggest mitigating factors that could be put in place anticipating that these issues might arise, to reduce any negative consequences for the project.

CO-PRODUCTION

The practice of involving all stakeholders in the design and development of an idea or project. In ADAPT it refers to including clients, nurses, supervisors, commissioners, provider leads, FNP National Unit staff, researchers and academic experts in the design stage of the clinical adaptations. Clients, nurses, supervisors, researchers and FNP National Unit staff have been involved in subsequent revisions and changes through the rapid cycle testing process.

D

DARK LOGIC

In the same way that a logic model highlights the desired outputs and outcomes of a service, a dark logic model highlights the potential harmful unintended outputs and outcomes of a service. This is particularly important in complex interventions such as FNP where there are multiple components that interact in multiple and unexpected ways to produce sometimes unexpected outcomes.

DYADIC ASSESSMENT OF NATURALISTIC CAREGIVER-CHILD EXPERIENCE (DANCE)

DANCE is a licensed, observational tool used to assess the qualities of the care-giver/infant relationship and to promote responsive and sensitive parenting which is a key goal of the FNP programme. Observations are made in the child and client's natural setting during a home visit. The DANCE tool enables nurses to organise, analyse and record these observations and then use the DANCE STEPS materials to enable them to plan their interventions effectively as well as to gauge the efficacy of those planned interventions in terms of whether the client shows measurable positive changes in any of the identified areas for growth. The information collected through use of the DANCE tool supports the nurse to match the client's strengths and challenges in caregiving, with the FNP programme content for promoting sensitive and responsive parenting behaviours.

E

ELIGIBILITY CRITERIA

These criteria are the risk factors against which potential clients are assessed for suitability for the FNP programme. Prior to 2016, all first-time mothers who were 19 or under at their last menstrual period were eligible for the programme. Eligibility criteria have been changed since then to try and target a more vulnerable client group who might benefit more from having a family nurse.

EVIDENCE-BASED EARLY INTERVENTION PROGRAMME

A discrete, organised package of practices or services – often accompanied by implementation manuals, training and technical support – that has been tested through rigorous experimental evaluation, comparing the outcomes of those receiving the service with those who do not, and found to be effective, i.e. it has a clear positive effect on child outcomes.

F

FACILITATOR

Family nurses' delivery of programme content in each home visit is enhanced by the use of specifically designed discussion facilitators and educational materials which support sharing information with the client.

FNP ETHOS

At the heart of FNP is the desire to enable parents to be the best parents they can be thereby maximising positive outcomes for both them and their children. The FNP ethos is underpinned by robust theory, including self-efficacy theory. This describes a philosophy which acknowledges the potential strengths of each client, as this is where behaviour change can happen. Self-efficacy can be developed through the respectful and professional challenges which are consistent with the principles of Motivational Interviewing techniques. Respectful Family Nurses recognise and accept that the client is the expert in her own life, and will skilfully work to utilise this for the benefit of her baby.

H

HIGH FIDELITY IMPLEMENTATION

Fidelity is the extent to which the programme is delivered according to the original design, in particular the core components that are presumed to be essential mechanisms or ingredients for impact on outcomes. High fidelity would indicate that the programme delivery has been monitored and data suggest that the core components are being delivered as designed.

I

IMPLEMENTATION SCIENCE

Implementation science explores theory and evidence about how best to design, redesign and deliver the intervention. It supports the process of putting practice into delivery, and therefore delivering effective interventions to people who need those most.

L

LICENSE

FNP is a licensed programme which means that the delivery of FNP is controlled by the license holders, who are also the programme developers, the University of Colorado in Denver. This license protects the core elements of the programme, ensuring that compromises cannot be made to implementation quality so that it is delivered exactly as designed, which then ensures that the right ingredients are in place to have the desired impact on outcomes.

LOGIC MODEL

A typically graphical depiction of the logical connections between resources, activities, outputs and the desired outcomes of a service. Ideally these connections will have some research underpinning them. Some logic models also include assumptions about the way the service will work.

M

MANUALISED PROGRAMME

A programme that is accompanied by or described within a document that covers all the things about a programme or service that are relevant wherever and whenever it is being implemented. This typically includes the research base for the programme, the desired outcomes, the logical connection between activities and these outcomes, the target group and all of the relevant training or delivery materials.

N

NEW MUM STAR (NMS)

This is an assessment tool bespoke to FNP, developed by Triangle Consulting in collaboration with the ADAPT team. The assessment is holistic – covering all areas of the client's life and her parenting ability – and is completed collaboratively by the client and her family nurse. The assessment is designed to be completed every four to six months depending on the client, and is designed to inform personalisation decisions.

NICOTINE REPLACEMENT THERAPY (NRT)

This is a way of delivering nicotine to those who are addicted to it that does not involve using cigarettes, thus avoiding any of the associated hazards of using cigarettes. The nicotine might be delivered using patches, gum, lozenges, microtabs, inhalators or nasal sprays.

O

OUTCOMES

Outcomes refer to the 'impact' or change that is brought about, such as a change in behaviour or physical or mental health. In FNP outcomes are grouped into maternal outcomes such as self-efficacy, and child outcomes such as cognitive development.

P

PARTNERS IN PARENTING EDUCATION (PIPE)

A parenting education model and curriculum that uses a carefully designed instructional process to teach the concepts and skills of emotional connectedness using a range of materials which focus on and strengthen the parent-child relationship. PIPE's use of supervised parent-child activities allows the child to teach, which validates and empowers the parents. PIPE was developed by the "How to read your Baby" organisation. https://www.howtoreadyourbaby.org/pipe/).

PERSON-CENTRED CARE

Person-centred care is care planned based on the needs, circumstances and preferences of the individual receiving care. The Health Foundation defines it as care which is personalised, co-ordinated, enabling and when the person is treated with dignity, compassion and respect (http://www.health.org.uk/sites/health/files/PersonCentredCareMadeSimple.pdf).

PERSONALISATION

Changing the programme from a predesigned pattern of visits for clients, to a schedule of visits adapted according to need. As part of personalisation of FNP, visit frequency can be changed, visit frequency and content can be changed and the duration of the programme can be reduced.

R

RANDOMISED CONTROLLED TRIAL

An evaluation that compares the outcomes of children and young people who receive a service to those of a control group of similar children and young people who do not. Within an RCT the control group is identified by randomly allocating children and young people who meet the target group criteria to either the service receipt or control groups.

RAPID CYCLE TESTING

The practice of developing the design of a project, implementing it and then assessing the progress and making changes at regular intervals through the project lifespan. Each implementation phase that ends with assessment and change is termed a cycle. A cycle can last for days, weeks or months depending on the outcome or change in question.

S

SELF-EFFICACY

The belief held by an individual about their ability to succeed in specific situations or accomplish a task. This belief is integral to how they approach both goals and challenges. Self-efficacy is one of the key theories that underpin the FNP programme.

SYSTEM ADAPTATIONS

System adaptations are changes that have been proposed that adapt the FNP programme at a system level. They include personalisation of the programme to fit more closely to client need and changing the eligibility criteria so that a more vulnerable client group are targeted.

SYSTEMATIC REVIEWS

A systematic and replicable search of relevant sources for literature on a given topic, leading to the synthesis of findings in narrative or statistical form.

V

VIDEO INTERACTIVE POSITIVE PARENTING (VIPP)

An approach designed to help build strong attachment relationships between parents and children. It helps parents to see the world through their child's eyes and supports them with their parenting. It is based on the premise that the client can be her own role model, encouraging positive parenting behaviours through filming interactions between the client and her child, and using this film to demonstrate and encourage positive parenting behaviours and suggest changes she could make to develop the parenting relationship further. The programme lasts for four to six months and includes up to seven visits. Visits are usually between two weeks and one month apart.

APPENDICES

Appendix A
Rapid cycle innovation method description

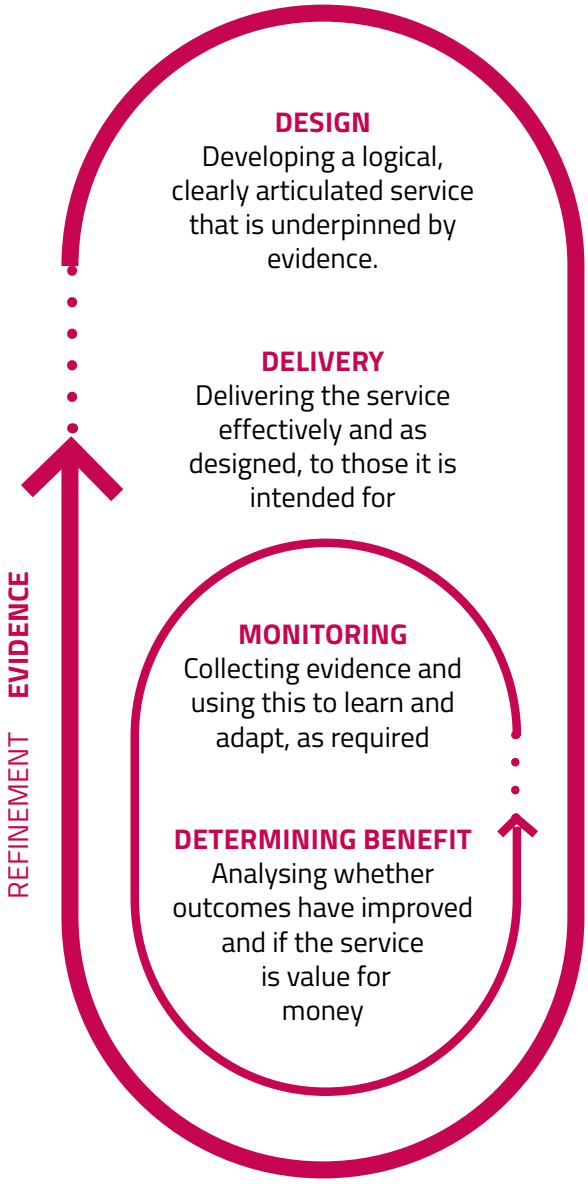
Appendix B
Sample logic model, dark logic, intervention description & context map

Appendix C
Principles of personalisation

Appendix D
ADAPT: Outline plan for data collection and analysis

Appendix A
Rapid cycle innovation method description

This diagram depicts the core approach to rapid cycle adaptation and testing, developed by the Dartington Service Design Lab, which was adapted for the FNP ADAPT programme.



- **Non-linear**
- **Evidence supports the entire process and feeds** into each stage leading to refinement of quality, impact and scale
- **Iterative**
- The **use of evidence generates more evidence** that can be used in further refinement

1.

A '**co-production team**' will be formed, comprising scientists, users, practitioners and system leaders.

2.

This team will design the **adaptation**, drawing on the science of child development, evidence from effective interventions, hypotheses from qualitative work, and 'good bets' from systems and communities.

3.

The co-production team will build a prototype of the adaptation in context and then start to **implement and test** it using a method sometimes referred to as 'rapid cycle testing'.

4.

The adaptation will be reformulated in the light of test results: there are likely to be repeated cycles / iterations.

5.

After repeated cycles, a proportion of the prototypes will be developed into **viable products** with evidence of impact at scale.

Appendix B
Sample logic model, dark logic, intervention description & context map
(please see http://fnp.nhs.uk/fnp-next-steps/adapt/ for all sites)

BLACKPOOL

ADAPTATION DESCRIPTION

Name of adaptation
Improving breastfeeding in Blackpool – initiation and continuation rates

Target group
FNP clients in Pregnancy and Infancy stages, wider family and partners

What it comprises
The adaptation has several strands to it:

- An increase in breastfeeding-related materials used by Family Nurses with clients in key pregnancy and infancy home visits, using those currently available in a different place in the programme or new materials. These are designed to: increase clients' understanding of the benefits of breastfeeding in health, financial and practical terms; consider practical ways to overcome potential difficulties before they arise; and support clients via skills practice to have challenging conversations with others.
- New materials to be used by Family Nurses with the client's family in key pregnancy and infancy home visits, especially targeting grandmothers to change attitudes to breastfeeding and encourage family to support clients to breastfeed and continue to do so. This will give family the skills to offer practical and emotional support.
- An increase in client partner materials used by Family Nurses in key pregnancy and infancy home visits, both using those currently available earlier and developing new ones. This is designed to: change attitudes to breastfeeding; encourage and enable partners to support clients to start breastfeeding and continue to do so; and increase partners' understanding of their role in supporting clients to breastfeed.
- The development of a peer support group comprising past or present clients who have successfully breastfed for one month and who can give clients practical and timely advice and support in a way that is meaningful to clients. This will include sharing their experiences of breastfeeding and problems they had and overcame. This will involve both face-to-face and telephone/text contact as required by the clients over a period of a month following delivery, with an earlier cut-off if clients no longer require support.

Materials needed for delivery

- New facilitators to be developed as above by FNP National Unit and co-production team, including Smart Choices.
- Training to be provided by NU to develop Family Nurses' skills to deliver new materials and support behaviour change in what is likely to be a complex and tricky area where family already have deep-seated and fixed views.
- Training for peer supporters to enable them to practise in a safe manner, both for themselves and the clients they support. Areas to explore will be how best to train peer supporters, either by using the Breastfeeding Network to provide training or developing an in-house FNP training package. The training will address boundaries and interpersonal and communication skills. As Blackpool has Baby Friendly accreditation, peer supporters will also need to complete that training.

Procedures for delivery

All clients in pregnancy to be offered the new materials and opportunities for skills practice by their Family Nurse; those clients who are breastfeeding to be offered infancy materials; wider family and partners to be offered new materials in client visits (these will include materials that demonstrate how wider family and partners can practically support clients who choose to breastfeed). These will be introduced with agreement from clients. Peer support to be offered; if agreed by the client, a plan will be drawn up to facilitate this.

Mode of delivery

Delivered face-to-face individually by the client's Family Nurse at weekly or fortnightly pregnancy or infancy visits. Material for partners / family will be delivered in the context of these visits with the client's consent. Peer supporters will provide both face-to-face and telephone / text support, with the Family Nurse monitoring.

Where it takes place

In clients' homes or community settings on an individually agreed basis with the nurse or peer supporter.

When/ how much

During pre-arranged weekly or fortnightly pregnancy or infancy visits incorporating other materials as per programme design. Visits last 60-90 minutes and agreed with clients.

Peer support requires individual assessment and provision and will be offered as a standard package which can be tailored to fit.

How it can be tailored

All current visits are agenda-matched to suit the individual needs of the client, but if strong resistance is met the Family Nurse will use her skills to judge when and if to return to the new materials at a later date.

Peer support will be tailored for each individual client. But a standard package will be offered to incorporate an antenatal meeting towards the end of pregnancy, then an initial postnatal visit in the first 24/48 hours. Agreement will then be reached between the client and peer supporter on how to manage future support.

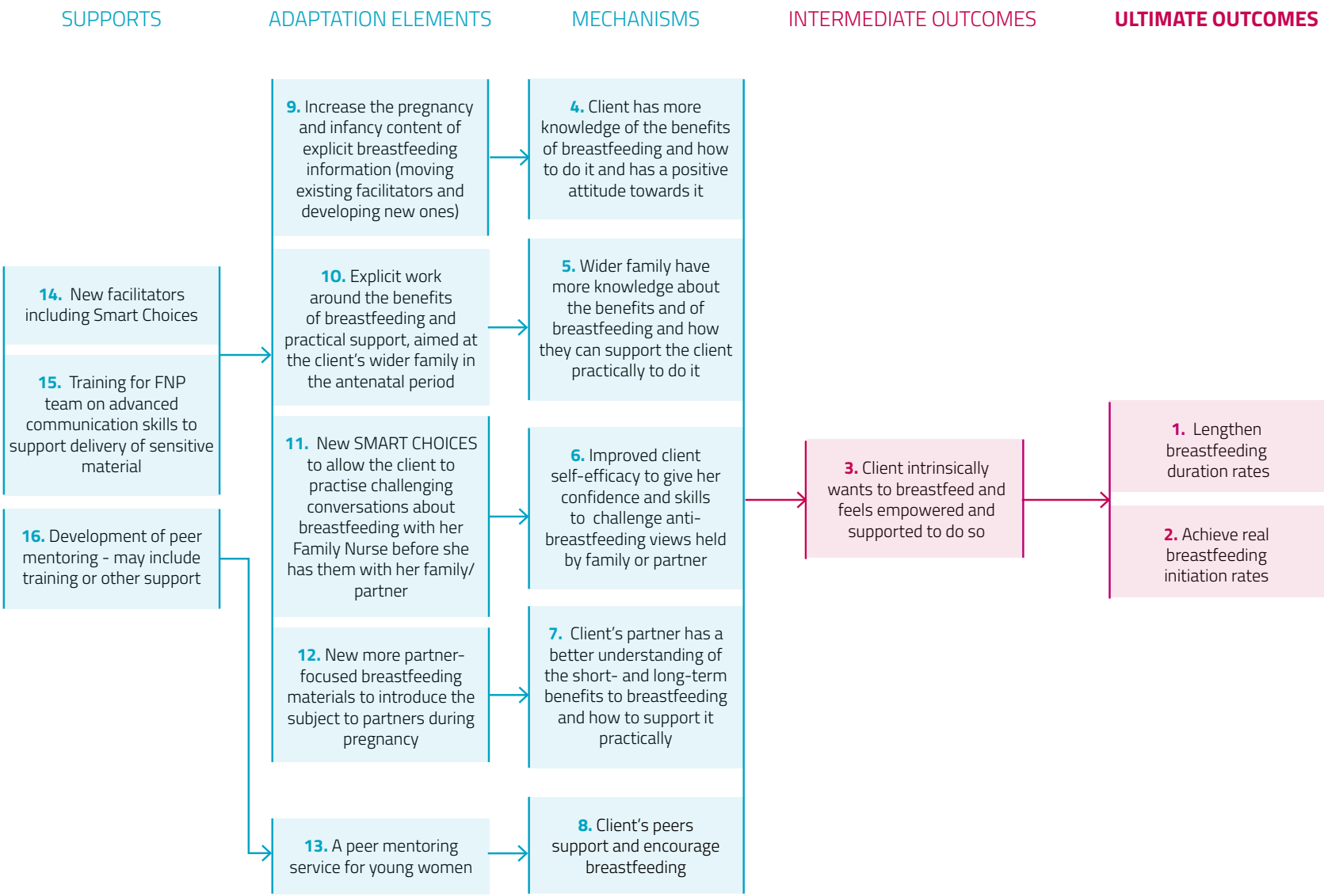
How fidelity is monitored

Family nurses will record what they have covered in each home visit with clients, family or partners. Supervision will allow for opportunities to monitor and discuss issues arising. Peer supporters will require supervision to ensure that they are working safely and to allow for feedback and reflection and report on visits completed (e.g. how many, what they covered) and outcomes achieved.

BLACKPOOL

LOGIC MODEL

A narrative of each element of the logic model is provided below - numbers relate to the relevant boxes in the diagram.



A narrative of each element of the logic model is provided below – numbers relate to relevant boxes in the diagram:

There are two ultimate outcomes

1. The first is to lengthen breastfeeding duration rates i.e. increase the proportion of clients who are still breastfeeding at six months.
2. The second is to achieve the real initiation of breastfeeding. This will contribute to the longer duration of breastfeeding because clients will have started to breastfeed properly in the first instance.

The ultimate outcomes are more likely to be achieved if the intermediate outcome is achieved

3. The client intrinsically wants to breastfeed and feels empowered and supported to do so. Having the intrinsic motivation to breastfeed will help her to initiate breastfeeding even if she finds it difficult to start with and to continue even if she encounters difficulties or there is a temptation to stop.

Several mechanisms contribute to the intermediate outcome

4. Clients have an increased knowledge of the many benefits and the mechanisms of breastfeeding and will have a positive approach to it. Understanding the benefits for the baby and themselves (e.g. financial, health, practical) will mean that clients are more likely to want to breastfeed and they will feel empowered to initiate and continue breastfeeding even when they encounter difficulties, as they have learned how to initiate breastfeeding well and have already considered how to manage problems if they arise and are better prepared for the ups and downs of breastfeeding.

5. Wider family have more knowledge about the many benefits of breastfeeding and how they can support the mother practically so that she can breastfeed. This will encourage the client to want to breastfeed, as those who are strong influences in her life are supporting her decision (because they understand that it is a good decision) and encouraging and helping her practically if she encounters any challenges or is tempted to stop (because they are better prepared for the ups and downs of breastfeeding).

6. The client's self-efficacy is improved because she has practised the skills and developed the confidence to challenge any anti-breastfeeding views held by her partner or wider family. This will support her to feel further empowered to make her own choices and defend them to others and be able to persuade others of the benefits of breastfeeding (for both baby and mother). This will then ensure that she has her partner's and wider family's support to initiate and continue breastfeeding.

7. The client's partner has a better understanding of the short- and long-term benefits of breastfeeding (for baby and mother) and his role in supporting that practically. As a result he will be likely to encourage breastfeeding. This will support the client to initiate and continue breastfeeding because her partner is actively supportive of this choice.

8. There is support from one of the client's peers, who can be very influential; with their practical and timely support and encouragement she will be more motivated to breastfeed and feel supported in doing so. They can offer practical lived experiential advice when the client may encounter challenges and be tempted to stop and so support her to continue for longer.

The elements of the adaptation that enable these mechanisms are

9. *The amount of material for clients focusing explicitly on breastfeeding in pregnancy and infancy will be increased in two ways:*

Moving existing materials – there are facilitators in the Infancy phase of the programme which could be brought forward to the Pregnancy phase, particularly from visit Infancy 1 (I1) "baby's first feeds, a checklist….." to a later Pregnancy visit, perhaps P11.

Developing new materials in pregnancy and infancy – to include one facilitator that considers solutions for potential difficulties which may be encountered and one that explores with clients the long-term benefits of continuing breastfeeding to at least 6 months (not currently covered in pregnancy). These could be designed in conjunction with clients, the co-production team and the FNP National Unit and could be trialled with clients. This allows clients to be: fully prepared for what breastfeeding may bring; able to identify solutions to potential problems; more likely to choose to breastfeed and continue even if problems are encountered (because they will have the knowledge to manage this).

10. Materials should target people who are powerfully influential in supporting clients to make their choice, including parents and grandparents of clients, during the antenatal period to ensure that any discussions within the family are fully informed before the arrival of the baby and can be re-addressed in the postnatal period. These materials will primarily be educative in nature to inform parents and grandparents of clients of the benefits of breastfeeding for both the mother and baby in terms of physical health, cost, convenience, bonding and attachment. In addition, parents and grandparents of clients should be supported to understand why the choices they made in the past may have been based on less accurate information than we have now about breastfeeding. It will be important that their past decisions are affirmed and celebrated while acknowledging that there is now the opportunity for them to support their daughter to make the best choices possible based on the information/evidence we now have. We will make the decision process inclusive for all the family, because if families can be engaged in supporting breastfeeding, and can be guided in how they influence the client, then they may be more likely to encourage and support the client in the long term. In turn, the client will face less opposition to breastfeeding from within her own support network and in particular her own mother (a particular issue in Blackpool, as the culture in the town is deep rooted and firmly fixed in bottle-feeding as the absolute norm). This will contribute to the client feeling better able to make the decision to breastfeed and to continue to do so, as she will have the support of her extended family network.

11. SMART CHOICES are already used within the programme to help the client consider conversations she may have with others that may be uncomfortable or challenging and to help her develop her skills using tools such as role play to be able to manage them with more confidence. Developing a SMART CHOICE with a focus on a challenging conversation around breastfeeding will allow the client to be mindful that these are possible conversations she may have and allow for a degree of preparation on her part. Working together with her nurse she will be supported to identify what those conversations may look like, who they may be with and how she can best steer her way through them without antagonising those who will be supporting her in the future. The use of role play allows her to practise the conversations, identifying what words and strategies she could use; this will allow her to identify the best approach for her before the conversation happens. Being prepared in this way will build the client's confidence and self-efficacy and skills to challenge anti-breastfeeding views held by her family, partner or friends, thereby maximising her potential for achieving the best outcome from her conversations that she can.

12. *The amount of material for partners focusing explicitly on breastfeeding in pregnancy will be increased in two ways:*
Moving existing materials – There are materials in Infancy visits which could be brought forward to Pregnancy – for example, bringing the partner-focused facilitator "How can I help with breastfeeding?" forward from I1 to perhaps P6 so that the partner is better prepared to understand their role in supporting the client when she is exclusively breastfeeding.

Developing new materials – This is to give the client's partner the information he needs on infant feeding choices so that he might support the client to make the healthiest choices. Including a partner in a more focused way to build their understanding of what is important for their baby, including not only the health benefits of breastfeeding, but also how he can support it practically and the chance to have a positive influence on his baby's long-term outcomes, may increase his ability to be supportive of a client's choice to breastfeed. We know from comments fed back to the Blackpool FNP team in previous engagement activities that partners, in particular young men, often feel excluded from the pregnancy, and although FNP is proactive in encouraging young men to be involved in the programme, there is more that can be done. Building his knowledge and understanding and showing him how vital he is for his baby's wellbeing may be key to addressing this. If some work is directly targeted at the partner around infant feeding, then he will be more likely to take on board the benefits and how he can help practically and therefore be more likely to support his partner to make the healthiest choice. Partners will also benefit from understanding the ways in which clients can breastfeed without exposing their bodies to others.

13. Clients can take advantage of the currently available breastfeeding peer support but it is not always a true peer offering to young women in Blackpool. Developing a peer support network may take some time and involve training for the peer supporters, and although this was initially considered to be a future adaption, as it may take longer to design and implement the adaption, the overwhelming majority (90%) of clients recently asked identified that peer support from someone who had had a Family Nurse would be helpful. In this case, this becomes an important adaption to focus on. There is the potential for taking a more staged approach to developing this kind of support with the opportunity to use text or telephone support initially, then face-to-face support (the latter is arguably the most important). If we can offer genuine peer support, where young women feel better able to connect with the issues faced by young breastfeeding mums and be supported to use that experience to manage the particular challenges faced in Blackpool, we can hopefully offer them the opportunity to extend the length of time clients breastfeed for.

The supports that facilitate the delivery of these adaptation elements are

14. The National Unit, in collaboration with the Family Nurse team in Blackpool will develop new materials to support the nurses to deliver this adaptation. This will include the new SMART CHOICES to allow the client to practice challenging conversations about breastfeeding with her Family Nurse before she has to have them with her family. There will also be new facilitators to increase the explicit breastfeeding content during Pregnancy and Infancy, and some aimed at the partner and wider family , to introduce the subject to partners during Pregnancy and highlight the importance of practical support.

15. Family Nurses will receive additional training to use the new materials and SMART CHOICES; this will include training in advanced communication skills to enable tricky and challenging conversations to take place.

16. To develop peer mentoring, either a peer mentoring service needs to be initiated by the FNP team, or more likely and more feasibly, potential FNP peer mentors will receive Baby Friendly accredited training and work with the existing Breastfeeding Network, which will give them the skills, confidence and support to be an effective peer supporter.

BLACKPOOL

DARK LOGIC

POSSIBLE ADVERSE EFFECTS	LIKELIHOOD	MITIGATING ACTIONS
The amount of materials on breastfeeding will increase		
There may need to be something that is left out of visits in order to fit this in, and as visits are carefully designed to meet outcomes this could lead to important sections of the programme being missed	Moderate	Nurses should agenda-match visit content and it could be negotiated that some elements are left with client to complete before the following visit or moved backwards or forwards in the programme. The development of tools to support flexibility within the programme to personalise it for individual clients will help with this. Peer supporters could also offer emotional/practical support if trained, thereby freeing up time of the nurses.
Client may feel overloaded with breastfeeding information and zone out of the visit or disengage from the programme	Low	Family Nurses should be able to read subtle non-verbal cues of disengagement and address the reasons for this with the client. Negotiation and agenda-matching will help. (NB. Clients who were consulted felt that nurses already use their skills to identify how much of the programme materials were used for them and did not feel this would be a problem.)

POSSIBLE ADVERSE EFFECTS	LIKELIHOOD	MITIGATING ACTIONS
Breastfeeding to be discussed with parents and grandparents of the client during the antenatal period		
Grandmothers in particular may feel guilty if they did not breastfeed and the information we are giving is that breastfeeding is the best choice. They may resist the idea and influence other family members to resist also, potentially contributing to family conflict	Moderate/ High	Family Nurses will use their enhanced communication skills to judge grandmothers' response and be mindful of their delivery of these items, ensuring that grandmothers' own choices are endorsed for being right for them in their time. A team-based or regional learning event on what communication skills are best used to overcome resistance and support behaviour change may be helpful to support nurses to respond to resistance accordingly and so lessen the risk of disengagement. Family Nurses will encourage grandparents to be present and engaged in visits beforehand; this will enable the Family Nurse to develop a positive relationship with them, which will help when challenging views and beliefs.
Other family members may be resistant to considering breastfeeding based on their own history	Moderate/ High	Family Nurses can be prepared for resistance by a team-based learning event and employ those skills in practice to minimise risk of harm.

POSSIBLE ADVERSE EFFECTS	LIKELIHOOD	MITIGATING ACTIONS
New SMART CHOICES on breastfeeding		
Clients may feel patronised at the level/tone of the SMART CHOICES and may disengage from the discussion or dismiss the information as not relevant to them. (Some clients have said that the cartoons in SMART CHOICES are too immature for them)	Low/ Moderate	Care will be required when designing new materials to aim at the right level for all clients. It is easier to explain in more detail to those clients who do not grasp information initially than to re-engage those who find the level too low and therefore patronising; materials will be designed with this in mind.
Additional materials for partners		
Partner may fear exclusion from their baby's care if clients decide to breastfeed and so may be resistant to the idea (and therefore potentially to the client's involvement in the programme per se). Clients also identified that partners were wary of clients breastfeeding outside the home and exposing themselves and so against the idea of breastfeeding (one client stopped breastfeeding outside the home because of this). There could be conflict between partners if they differ over what to do	Moderate	Designing materials which list all the positive ways the partner can still be involved and introducing these early in pregnancy will help, perhaps using some interactive modelling with the dolls to reinforce the message. Working closely with partners to understand their fears and working with both clients together will help to identify areas for potential conflict which can quickly be addressed to minimise the risk of actual conflict escalating. Use of specially designed facilitators and materials will demonstrate how breastfeeding can be done without exposing any body parts, again using interactive modelling with dolls.

POSSIBLE ADVERSE EFFECTS	LIKELIHOOD	MITIGATING ACTIONS
Peer support		
Clients not selected to provide peer support for breastfeeding (i.e. because did not breastfeed themselves) may feel stigmatised and have their confidence knocked. Clients are often in touch with others via social media (if not face to face) and therefore are likely to be aware of their exclusion. (NB. Clients identified that a generic peer supporter rather than an exclusively breastfeeding supporter may be better received)	Moderate/ High	Ensuring clients who wish to be peer supporters are offered the opportunity to be involved in some other area of peer support could be a more inclusive approach, with a general peer support network which hones in on particular skills/ experiences of clients and links them with clients requiring support in that area. Clients identified that peer breastfeeding supporters would need to have at least tried to breastfeed (it did not matter how long for). (NB. Peer supporters will likely be ex-clients, and preferable if they successfully overcame challenges.)
Peer supporters may lack skills or experience to do meaningful work with clients to achieve some positive outcomes in terms of breastfeeding initiation/ duration and may be unable to identify appropriate boundaries in their approach with clients	Moderate/ High	Training in appropriately boundaried work and approach will be essential, including work around confidentiality, safeguarding etc.
Another barrier to peer support is recruiting and retaining enough volunteers for the programme to run	Moderate/ High	This requires good training, management and even incentives for participation. In addition, FNP may need to pay client expenses (e.g. for text messaging, phone calls)

BLACKPOOL

CONTEXT MAP

	Factor and likely influence	Actions to address
POLITICAL	The local context with the local authority (LA) as commissioners is to increase breastfeeding rates in Blackpool as one of their priorities, so this is a positive driver in this work	Communication with and inclusion of LA commissioners and A Better Start colleagues to keep them updated about progress and outcomes
ORGANISATIONAL	Support will be required from the FNP National Unit to help produce facilitators and materials	Work closely with the NU and local co-production team ensuring clear communication and a collaborative approach
	Enhancing nurses' current skills to support behaviour change and the successful implementation of the new materials will be necessary	Work with the NU to identify what training is needed and how it will be delivered
	Enhancing the skills of peer supporters to work safely and within appropriate boundaries using evidence-based information will be required	Work with the NU and partners to develop an appropriate training package for peer supporters
	There is a level of reliance on the co-production team to be engaged in the work required locally – this may at times be dependent on their capacity and ability to attend meetings	FNP Supervisor to use communication skills to support engagement with other professionals and be flexible in the methods of communication used

	Factor and likely influence	Actions to address
CULTURAL	Families in Blackpool are not always accepting of health messages, in particular if it is different from their own health practices when parenting	Ensure Family Nurses are able to challenge in a non-threatening way attitudes and beliefs that are often hard-wired through additional enhanced communication skills training. Ensure that materials are developed in a sensitive and non-threatening manner, acknowledging that we know more now than we did then to ensure clients and co-production team are consulted in the design process
	There is a deep-seated Blackpool culture of bottle-feeding being viewed as the norm and as good as if not better than breastfeeding	Ensure materials are designed to respectfully challenge this view and offer an alternative and credible viewpoint which can be adopted by clients, family and partners
	Clients may have already made up their mind to bottle feed based on their family experience, so it may be difficult to change their mind about how they choose to feed their baby	Enhanced communication skills training and access to expert opinion around complex behaviour change would be beneficial for nurses to have access to
ECONOMIC	Cuts to services may mean there are constraints on the quality of training offered	Dissemination of learning to deliver locally or via Moodle/for the team. Check other funding sources or opportunities for client development and training to be peer supporters

Appendix C
Principles of personalisation

These principles were developed to guide the development of personalisation in ADAPT.

Principles for personalisation - the 4 elements

1) Flex the content of the visits

Visits should be focussed on the particular needs of the client at that time (within the FNP framework), rather than the specified areas in the guide. Nurses should feel greater ability to focus visits on areas of greatest concern to them and clients, and be less guided by fidelity goals connected to visits in particular domains; this would go beyond the existing "agenda matching" that occurs at present. To implement the practice of flexing the content, it will be essential that the family nurse:

a. Considers the needs of the clients
b. Considers 'where the client is at' e.g late pregnancy, early infancy to ensure some anticipatory guidance is given when appropriate
c. Ensures utilisation of programme materials to build a relationship with the client
d. Uses an assessment tool to regularly assess the strength, risks and goals for the client
e. Discusses plans within supervision

2) Dial down, dial up

Based on the understanding that 'dosage', or the intensity of visits, is not necessarily related to strength of outcome, some clients with particularly high levels of need may be perceived to benefit from more visits, while for others with fewer needs, clients and nurses may feel that fewer are necessary. The practice of dial down and dial up the Family Nurse should consider:

a. The strengths and risks of the client and child
b. Safeguarding issues – does the client need more visits?
c. What are the client and child's needs?
d. Is the child achieving all milestones?
e. What is the client's engagement level?
f. Has the client requested a break or less visits?
g. The client's journey- what's been achieved?
h. Discussing dialling options in supervision

3) Early graduation

FNP aspires to increase a client's self-efficacy. For some clients this could mean she will be confident enough to leave FNP before her child turns two. These would be for clients and children who are doing well and can be adequately supported by more universal services. The practice of early graduation should include:

a. A consideration of the strengths and risks of the client and child
b. A consideration of whether the client and child's needs be met by universal services
c. A decision agreed with the client
d. A decision agreed with the supervisor
e. A planned graduation
f. No return to FNP once a client is graduated

4) Targeting at entry to FNP

Targeting FNP from the outset can be made based on eligibility criteria.

Additional criteria could be:

a. Clients with later gestation at booking due to a concealed pregnancy - no greater than 32 weeks
b. That the FN can ensure increased dosage from recruitment in order to establish a therapeutic relationship and undertake a holistic assessment
c. Any client who has never had the opportunity to parent e.g child removed early after birth

Appendix D

ADAPT: Outline plan for data collection and analysis

Appendix D - ADAPT: Outline plan for data collection and analysis

Table of Contents

Analysis plan overview **4**

Personalisation **5**

Cycle points *5*

Analysis procedures *6*

Eligibility criteria *6*

Flexing the content *7*

Dialling up or down *8*

Early graduation *10*

Client flow *10*

Data completeness *11*

Nurse perspective of ADAPT *11*

Client satisfaction *12*

Usefulness of the NMS to nurses' care planning and delivery *13*

Outcomes **14**

Ages and Stages Questionnaire 3 ..... *14*

NMS score *14*

Clinical adaptations **15**

Smoking *16*

Breastfeeding *16*

Attachment *17*

Neglect *17*

Maternal mental health *18*

Intimate Partner Violence (IPV) *18*

Qualitative data collection and analysis **19**

Rapid cycle response **19**

Conclusion **20**

Analysis plan overview

This analysis will be conducted by the Dartington Service Design Lab (the Lab), on behalf of the FNP[1] National Unit (FNPNU), to assess progress against the goals of the FNP ADAPT programme. The plan will be used as a guide and will be adapted should it become apparent that the research questions are not addressing areas of interest for the FNPNU or other programme stakeholders. Changes such as this are fully expected due to the iterative nature of the project and the use of agile and lean project management approaches. This plan covers analysis for personalisation and clinical adaptations within the ADAPT programme.

Personalisation is a change to the specified way in which Family Nurses work, in that it attempts to tailor the programme even more specifically to the client needs and streamline resources accordingly. This plan is split into different sections, each covering a different aspect of personalisation and how it will be assessed: whether it is happening; the extent to which the nurses are clear and confident about what the changes mean for their practice; the overall acceptability of the changes; nurse job satisfaction; client satisfaction; whether ADAPT helps sites to work more efficiently or use resources better; and the effect the changes may have had on outcomes for clients and their children. There are 10 FNP sites implementing personalisation.

Clinical adaptations have been developed with the ADAPT sites to modify current practice in certain topic areas. These areas were chosen by the FNP sites in response to a local commissioning priority and/or where the FNP randomised controlled trial (RCT) reported worryingly high levels of a problem with no additional effect of the programme[2]. There are eight sites implementing a clinical adaptation in addition to personalisation, covering six different topic areas: smoking cessation, breastfeeding, attachment, neglect, maternal mental health and intimate partner violence (IPV).

For both personalisation and clinical adaptations, quantitative data will be drawn from the existing data collection structures within the FNP information system (FNPIS) and new supplementary questions added through the FNP ADAPT data system (FADS). Qualitative data collection, analysis and reporting will be conducted after the quantitative data have been analysed, in line with a sequential exploratory mixed methods research approach.

In this document, the research questions are indicated by a whole number, and the indicators that will address each question are indicated by a sub-group (i.e. 1 and 1.1 etc.). An analysis guide for the qualitative data will be presented subsequently.

[1] FNP is the Family Nurse Partnership, which is delivered by family nurses (FN).

[2] Michael Robling et al., 'Effectiveness of a Nurse-Led Intensive Home-Visitation Programme for First-Time Teenage Mothers (Building Blocks): A Pragmatic Randomised Controlled Trial', *The Lancet* 387, no. 10014 (2016): 146–55.

Personalisation

Increasing personalisation of the FNP programme reflects the shift in health and social care towards providing more person-centred care that addresses identified clients' needs more closely and reduces waste (including resources targeted at clients who may not benefit), thereby freeing up resources for other potential clients.

Personalisation in FNP ADAPT has four streams.

The first stream is tighter targeting of the programme through changing the eligibility criteria. This aims to target more vulnerable mothers, with the assumption that this will result in a greater benefit to a needier client group.

The second stream is flexing the content, which again builds an aspect of response to need into the programme, this time permitting nurses to deviate from the previously quite prescriptive programme schedule where doing so helps to meet clients' identified needs.

The third stream permits the family nurse to change the frequency with which she visits the client, again deviating from the previous schedule. This could result in a decrease or increase of visits or contact time, although we have encouraged nurses to 'dial down' where possible and only 'dial up' where necessary.

The fourth stream is a change to the point at which clients can be graduated from the programme. Previously all clients received contact from a family nurse until their child was aged two years. This change enables clients to graduate from the time their child is aged one, potentially freeing up resource for other clients to be recruited into their places.

Cycle points

There will be four cycle or decision points for personalisation across all ADAPT sites. These are opportunities on reflect of the progress this far and make decisions and changes to the clinical practice for personalisation across all sites, drawing on the findings of the analysis of data at that time. The first cycle point for personalisation will come on 15th June 2017 at the ADAPT workshop for all ADAPT site stakeholders. The second cycle point will be on 15th September 2017, with the third (November 2017) and fourth (February 2018) following – all at the ADAPT workshops.

The Lab will present the findings of the analysed data at each point, either through presentations on the day or in in reports to be read and digested before the day.

In line with the rapid cycle innovation methodology, changes to practice will continue to be made in response to data collected throughout the process. For example, there are routine data streams set up so the ADAPT team can revise practice as understanding develops and new challenges are understood. Currently these streams include monthly qualitative interviews with all supervisors to check progress and monthly data completeness reports to identify problems with quantitative data recording. Although they play an essential part in the rapid cycle innovation methodology, these mini cycle point changes are largely in response to problems identified at sites. Also, the process through

which these decisions are taken is not as collaborative as those taken at the four major cycle-points due to timing and logistical constraints.

Analysis procedures

Analysis for personalisation will be conducted at programme level as site level numbers will be too small to produce meaningful findings. The reporting will cover three sections: (i) the four personalisation streams (eligibility criteria, flexing the content, dialling down (or up) and early graduation); (ii) acceptability (to nurses and clients) and job satisfaction; and (iii) outcomes (child development or other key maternal outcomes).

Qualitative data collection, analysis and reporting is planned subsequent to analysis of the quantitative data. The approaches used and the questions asked will be dependent on these findings. If, for example, nurses report in the surveys that they do not find the NMS useful, this will be probed in detail through the focus groups. Qualitative data collection will involve nurse and client focus groups, and key informant interviews if necessary.

Against each stream for personalisation, indicators have been chosen to identify where the changes have been implemented in practice. Data drawn from the nurse feedback survey will also describe the extent to which nurses are clear about what they are free to do within personalisation of the programme, and whether they are confident to implement the changes outlined in the personalisation guidance. For example, if personalisation is not taking place but nurses report clarity and confidence, then the challenges are probably elsewhere and will be explored qualitatively using focus groups or key informant interviews.

Eligibility criteria

As described above, eligibility criteria have been changed to target a more vulnerable client group. Sites have focused on recruiting older first-time mothers, many of whom are care leavers or who present with other additional vulnerabilities (such as special educational needs or a previous history of abuse). A review of the literature conducted by the Lab for the FNPNU, identified that mother's history of abuse and neglect, mental health problems, educational attainment and substance misuse are strong and consistent risk factors for poorer child outcomes.[3] Therefore, mothers with these risk factors could be deemed more vulnerable and potentially could benefit more from having a family nurse.

This stream of personalisation will be deemed effective if the characteristics of recruited clients indicate that they are more vulnerable (based on these criteria). These data will be drawn from the FNPIS, and compared with the all clients recruited in 2016, before personalisation began. The analysis will also compare vulnerability data for ADAPT sites with other FNP sites who are not participating in the ADAPT programme (to adjust for changes in social trends).

---

[3] Dartington Social Research Unit (2016*) Family Nurse Partnership Vulnerabilities Review: Maternal Risk and Protective Factors that are Predictive of Child Outcomes.* Report for Family Nurse Partnership National Unit (May).

The second set of indicators will explore the extent to which the family nurses feel confident and competent to implement the changes. These indicators will be drawn from the FADS.

Questions and indicators

1. Does changing the eligibility criteria mean that the programme is targeting younger and/or more vulnerable clients?
   1.1. Age at recruitment: <=16; >17-20; >=21
   1.2. Gestation at recruitment: <16 wks; 17-32 wks; >33 wks
   1.3. Mean count of vulnerabilities for clients recruited, with one point for each of the following:
      - mental health problems (depression and anxiety according to Hospital Anxiety and Depression Scale (HADS));
      - previously looked after (Y/N);
      - history of any substance misuse (any in pregnancy);
      - recruited with less than <=5 GCSEs at grade A*-C.
2. Are nurses clear and confident about implementing eligibility criteria (FADS survey)
   2.1. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are clear about the guidelines for eligibility criteria.
   2.2. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are confident to implement the guidelines for eligibility criteria.

Flexing the content

Flexing the content is the newly-established nurse ability to tailor the materials covered in an FNP visit according to client need rather than following the content schedule set by the FNP programme. Although agenda matching (where nurses tailored programme content to the expressed needs of the client) was already a core aspect of the FNP programme before ADAPT began, the changes implemented by ADAPT gave all nurses much more freedom to deliver a more bespoke programme, using the New Mum Star (NMS) assessment and the themed index of FNP materials to ensure quality and consistency across sites.

Previously in FNP, Family Nurses would adapt the programme according to client needs and wishes based on their clinical judgement and other assessments they carried out. This would occur during the visit and planning was relatively short term, in comparison with flexing the content. However, due to this practice, no client ever received an identical programme to any other client, and therefore we have no clear base from which to assess variation in programme content delivered, which we could attribute to introducing the option of flexing the content. It is possible, however, to assess whether the content was delivered according to the need identified through the NMS assessment.

Questions and indicators

Does flexing the content enable nurses to deliver a programme that meets client need?

3. Are the nurses flexing the content based on client needs according the NMS assessment?
    3.1. % of clients who received care that mapped significantly onto their most recent NMS assessment on NMS content mapping or themed index.

Questions 4 and 5 relate to the nurse's clarity and confidence regarding the implementation of changes to the programme, and their perception of whether the changes have made any discernible difference to their practice. All indicators for this question are ratings on a five-point scale ranging from 'strongly agree' to 'strongly disagree'.

4. Are nurses clear and confident about implementing flexing the content (FADS survey)
    4.1. Proportion of nurses who respond that they strongly agree or agree that they are clear about the guidelines for flexing the content
    4.2. Proportion of nurses who respond that they strongly agree or agree that they are confident to implement the guidelines for flexing the content
5. Do nurses think that being able to flex the content is changing their practice?
    5.1. Proportion of nurses who respond that they strongly agree or agree that personalisation means they are spending more time than before addressing the most important or pressing needs of their clients

Dialling up or down

Nurses are able to change the frequency of visits as part of the ADAPT programme, whereas previously there were fidelity goals which needed to be reached as an indicator of implementation quality. It is hypothesised that reducing the frequency of visits for clients with increased self-efficacy will enable those clients to remain on the programme in a 'light touch' way, thereby freeing up nurse time for other more vulnerable clients. For example, it will enable nurses to offer other clients increased frequency of visits in short bursts in order to achieve clinical goals such as establishing breastfeeding.

Questions and indicators

6. To what extent are Family nurses dialling down and up clients?

The extent to which nurses are dialling the programme visits down and up must first be established. All active clients in the programme in the past three months will be included in this analysis. The data will be disaggregated by programme phase: pregnancy, infancy and toddlerhood. This will enable like-for-like comparison as the prescribed number of hours of visit time for each phase is different.

6.1. Proportion of clients in each phase who have received a version of the programme that includes
    - Any dialled down visits
    - Any dialled up visits
    - only standard visit schedule (as set out in the FNPIS)

6.2. Mean number of hours delivered for clients across programme phases
    - For clients who received any dialled down visits
    - For clients who received any dialled up visits
    - For standard visit schedule clients

If it is determined that vulnerability has increased during the implementation of ADAPT, there remains the option of ascertaining whether clients with increased vulnerability receive comparatively increased contact time. If the client group remains at a consistent level or all clients are vulnerable then this analysis would contribute less to the understanding of dialling down or up.

7. Do clients who have fewer vulnerability risk factors receive fewer hours of FNP contact time (data disaggregated by programme phase)?
    7.1. Breakdown of percentage of clients who receive standard schedule, a period of dialled down visits (at all) or a period of dialled up visits (at all) by category of vulnerability count
    7.2. Mean dosage in programme hours for each category of vulnerability
    7.3. Mean standard deviation in dosage from ADAPT mean for each category of vulnerability
8. What are the reasons for dialling down or up?
    8.1. Of all clients who received a period of dialled down visits: % clients doing well; % to promote engagement for those clients for whom a standard schedule is overwhelming
    8.2. Of all the clients who receive a period of dialled up visits: % with safeguarding concerns; % to achieve particular clinical outcome (i.e. establishing breastfeeding)

As previously, analysis will be performed to explore the extent to which the nurses feel they are clear on the guidelines for dialling down or up and how confident they are to implement the guidelines.

9. Are nurses clear and confident about implementing dialling down or up (FADS survey)?
    9.1. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are clear about the guidelines for dialling down or up
    9.2. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are confident about implementing the guidelines for dialling down or up

Early graduation

Early graduation relates to nurses having the option to graduate their clients before the end of the previously prescribed visit schedule. These clients might have achieved their goals prior to the two year point, or may be coping sufficiently with their life that they have no further need for a Family Nurse. As previously stated, the first research question relates to the extent to which this is being implemented and is evidenced in the data, and the second is to ascertain whether nurses have clarity on the guidelines and are confident about implementing them.

Questions and indicators

10. Are clients being graduated before the scheduled end of the programme (child turning 2 years old)?

This will include all clients in one quarter from the FNPIS

    10.1. Percentage of clients graduating before completion date as a proportion of potential graduates (defined as number of clients recruited who are in Toddlerhood).
    10.2. For all graduated clients, mean number of received contact hours from all of the programme (to gain an impression of "banked" hours saved by comparing with FNPIS historical data on mean hours received by clients during Toddlerhood).

11. Are nurses clear and confident about implementing early graduation (FADS survey)?
    11.1. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are clear about the guidelines for early graduation
    11.2. Proportion of nurses who respond that they 'strongly agree' or 'agree' that they are confident about implementing the guidelines for early graduation

Client flow

As a key goal of personalisation is to increase the cost-effectiveness of FNP, part of which arguably entails increasing the number of clients receiving care from family nurses, we have made increasing the number of clients going through FNP a key indicator of success. We will report on both the total number of clients served as an indicator of throughput, and also the mean caseload per nurse (to compensate for reductions in nurse numbers).

Questions and indicators

12. Has the number of clients who are receiving FNP increased?
    - 12.1. Total number of clients receiving any visits over past quarter, compared with previous quarter
    - 12.2. Mean caseload per nurse over past quarter, compared with previous quarter

Data completeness

We will report data completeness to sites on a monthly basis. This will serve as a prompt and a support for supervisors to make sure that their nurses are completing the data entry on the FADS, without which we will be unable to assess whether personalisation is effective in making any changes to the programme.

13. Is the data completeness of an adequate quality, such that we can have confidence in the findings?
    - 13.1. % home visit forms in the FNP information system that have a corresponding entry on the FADS system – how complete is the content mapping data?
    - 13.2. % clients who have at least one NMS on the system (by October 2017 this will be at least two).

Acceptability/job satisfaction

Job satisfaction and self-reported acceptability of the adaptations are important indicators that the nurses continue to be happy to work as Family Nurses. Both can be taken as a proxy for how supportive the Family Nurses perceive the changes to be in helping them to be more effective in their work.

Nurse perspective of ADAPT

Understanding the nurse's perspective of ADAPT – the experience of personalisation and using the NMS, and the effect that these changes have had on their job satisfaction and life work balance – will be crucial to understanding how these changes might be being implemented by nurses in ADAPT sites.

Questions and indicators

14. Do nurses perceive that personalisation has affected the work they do?

Proportion who report 'strongly agree' or 'agree' for:

14.1. Personalisation means that I need more support from my supervisor than before
- % 'Agree' or 'strongly agree' = increased support needed

14.2. Personalisation hasn't changed my actual practice because I was doing most of the elements already.
- % 'Agree' or 'strongly agree' = qualitative exploration of implementation experience to understand relevance of changes for these nurses

15. How satisfied are nurses with their work, after the implementation of these changes?

15.1. Personalisation means that I need to work longer hours than before
- % 'Agree' or 'strongly agree' = increase in working

15.2. Personalisation means that I feel more anxious or stressed in my work than before
- % 'Agree' or 'strongly agree' = increase in anxiety/stress

16. Is it feasible to complete the NMS collaboratively with clients?

16.1. What proportion of the NMS were completed by:
- Client only
- Nurse and client
- Nurse only

Client satisfaction

There are two ways we can quantitatively explore this topic: through the nurses' perception of the client satisfaction and through the client online survey.

Questions and indicators

17. Is the new way of working with their family nurse a positive experience for clients?

17.1. My clients like the flexibility afforded by personalisation (% 'Agree' or 'strongly agree')

17.2. Clients' experience of NMS from online survey

1. (% Strongly agree, Agree, Unsure, Disagree, Strongly disagree)
   - I enjoyed completing the NMS with my family nurse
   - I found the process of completing the Star too long
   - The scales helped me to describe how life is for me, at the moment
   - The scales helped me to understand what I need in the way of support
   - The NMS helps me track my progress

For the final round of quantitative data collection we will add the following indicator to the client survey

17.3. Have you shared what you have learnt from your Family Nurse with the people you know? (% Never, seldom, sometimes, often)

- Partner
- Family
- Friends
- Other

Usefulness of the NMS to nurses' care planning and delivery

The NMS is a collaborative assessment tool designed for family nurses to use with FNP clients to assess all the dimensions of care delivered during the programme. Clients score themselves in collaboration with their nurse on 10 prongs: looking after your baby; your baby's development, connecting with your baby; relationship; support networks; health; emotional well-being; home and money; keeping your baby safe; and goals and aspirations. The scoring is recorded visually on a star diagram, and is repeated in 4-6 months time to permit the client to assess her progress.

Questions and indicators

17.4. How well do you feel the NMS describes the situation, strengths and needs of the clients you work with?

- %very well, % fairly well, %not well

18. How useful is the NMS in understanding client situation and planning care?

18.1. Nurse feedback on NMS

(%Strongly agree, %Agree, %Unsure, %Disagree, %Strongly disagree)

- Using the NMS helps me to get an overall picture of clients' situations and needs
- I find the process of completing the NMS with clients too long.
- The scale descriptions help me to understand where to focus next with the clients I work with.
- Using the NMS helps me to discuss challenging issues with my clients.
- Using the NMS helps me to decide about what content to cover in home visits (flexing).
- Using the NMS helps me to decide whether visits should be according to the standard schedule, dialled down or dialled up.
- Using the NMS helps me to decide whether or not to pursue early graduation.
- Overall, using the NMS helps me to decide how to personalise FNP for clients.

Outcomes

Ages and Stages Questionnaire 3

Whilst it will be impossible to attribute any change in outcomes to adaptations because we are changing multiple possible contributing factors, we will be able to monitor data from the Ages and Stages Questionnaire 3 (ASQ) – a widely-used standardised measure of child development – to check that outcomes are not slipping and to see whether there is any general improvement, or whether rates of children reporting good development remained the same. The choice of this indicator is based on the findings from the FNP UK RCT, which suggested that Family Nurses were finding some improvement in cognitive and language development by the time the child reached 2 years.

Questions and indicators

19. Monitoring the ASQ3 will serve as a check that, in changing many aspects of the programme, we have not compromised the benefit previously seen in FNP.
    19.1. ASQ3: % of children on track across all five domains at ages 10 and 24 months (no problems in subscales of language and communication, fine motor skills, gross motor skills, problem solving and personal-social).

NMS score

Another option of assessing change in outcomes for clients and their babies is to use scores from the NMS as inputted after an assessment with the client. While this will not give us any indication of actual outcome (for example, having a healthier relationship), it will suggest the levels of self-efficacy that clients feel in each area or prong (for example, whether the client feels better able to manage a healthy relationship). Therefore, these data could be useful in documenting progress, but should not be taken as clear evidence of impact on outcomes.

Questions and indicators

20. Have clients reported change in their situation according to the NMS score between the first and second assessments?
    - 20.1. Mean first and last (most recent) scores for each prong
    - 20.2. Changes score (i.e. difference between them) [for each prong]
    - 20.3. Percentage of clients reporting (for each NMS prong):
        - increase
        - no change
        - decrease

Clinical adaptations

Clinical adaptions will be analysed at a site level, although numbers will be relatively small because most adaptations are only being implemented in one site. This will be exacerbated where adaptations are designed to be implemented only with new clients (smoking in pregnancy and breastfeeding). It is not realistic to expect large numbers to be recruited and eligible over the monitoring time-period. The number of clients receiving the new clinical adaptation will also depend on where sites are in the recruitment/graduation cycle, as graduations and recruitments come in waves. Also, the number of clients receiving the adaptation in full will, by definition, depend in part on the child's age – some adaptations pertain only to a developmental phase or part of a phase – and how long the adaptation takes to implement in full (they range from 6 months to a year).

The analysis of clinical adaptations will follow roughly the same procedure as personalisation, but will have fewer cycle points and will follow a timeline to be developed in close collaboration with the site co-production team. This will be based on the nature of each clinical adaptation and according to the implementation start date. The analysis will summarise outcomes so far, data on acceptability (of the adaptation to nurses and clients), descriptions of content delivered and any relevant themes from focus groups at each site. We will produce a summary report for each site, that will also include thematic qualitative findings from recent focus groups in each area and learning points gathered in the interim time between cycle points from the monthly supervisor calls.

The intention is to have an absolute minimum of one opportunity, as needed, to make further, comprehensive revisions to each clinical adaptation throughout the duration of ADAPT on the basis of findings from the data analysis. This will be in addition to the smaller scale changes to implementation that can be made in response to the monthly supervisor calls.

Smoking

Smoking adaptations are being implemented in two sites: Dudley and Cheshire East. As this outcome is straightforward, outcomes should be apparent relatively soon (prevalence of smoking cessation in pregnancy, for example).

Indicator 21.1 will draw on data from the FNPIS and 21.2 will draw on the FADS system data.

21. Have clients stopped smoking as a result of the clinical adaptation?
    - 21.1. The following question will be used to create a dichotomous variable (Smoke in last 48 hours or not) and compared with programme mean at 36 weeks gestation, 6 weeks and 12 months (also at 6 months, only in Dudley and Cheshire East):
        - In the last 48 hours HOW MANY cigarettes, roll-ups or small cigars have you smoked? And by 48 hours means from (TIME and DAY of week) to (TODAY and TIME).
    - 21.2. 'Smoke free home' is reported at 36 weeks, 6 weeks, 4 months, 6 months, 10 months 12 months in Dudley and Cheshire East, based on this question: Which of the following statements best describes the rules about smoking inside your home now?
        - No one is allowed to smoke anywhere inside my home
        - Smoking is allowed in some rooms or at some times
        - Smoking is permitted anywhere inside my home

Breastfeeding

The breastfeeding adaptation is being implemented in one site (Blackpool). The data collection on the FNPIS is comprehensive and therefore will be used to assess the change in outcomes for this adaptation. Data on breastfeeding are collected by all sites, so easily available comparison data exists against which to compare data in this ADAPT site.

22. Have clients breastfed longer and more exclusively in Blackpool?

The following two indicators are asked in the FNPIS at 6 weeks and 6, 12, 18 and 24 months: the mean age they stopped exclusively breastfeeding and the mean age they stopped getting any breastmilk. (The analysis is limited to those clients who have stopped breastfeeding by this time point.) We will report and compare these data with historic Blackpool data from one year previous, and with the programme average (minus the ADAPT sites).

- 22.1. Number (%) of clients breastfeeding at 6 weeks
- 22.2. Number (%) of clients who have never breastfed
- 22.3. Until what age was your baby fed only breastfed (weeks)?
- 22.4. Mean number of weeks that a baby was breastfed
- 22.5. Number of clients breastfeeding by 6 months
- 22.6. Number of weeks the baby was breastfed by 6 months

Attachment

The attachment adaptation is being implemented in one site only (Bradford), and it is anticipated that changes in outcomes may take some time to be apparent in the data due to the complexity of attachment and the time it will take to effect change. Due to the length of the measures for attachment and the lack of any measurement of this outcome on the FNPIS, we will have no data against which to compare any changes for this outcome. We will report the findings of this analysis at six monthly intervals.

23. Does the clinical adaptation for attachment increase attachment?

We will analyse scores, compared change over time at the different time points for individuals. We would expect attachment to change from the Maternal Antenatal Assessment Scale (MAAS) to the first Maternal Postnatal Assessment Score (MPAS) and then stabilise if there is no improvement in attachment, because the validation papers for this measure suggest a stable trajectory[4]. The validation papers for the MPAS suggest a mean score in a normal population of 84 points and a standard deviation of approximately 7 points[5]. We will use this as a reference against which to compare the data from Bradford.

- 23.1. MAAS score at 36 weeks
- 23.2. MPAS scores at 4, 12, 18 and 24 months.
- 23.3. Mean scores on the Ainsworth sensitivity and availability scales at 6, 12, 18 and 24 months

Neglect

This adaptation is also being implemented at one site only (Portsmouth). We anticipate that reducing neglectful parenting will take longer than other outcomes, therefore the site has planned to repeat the assessments on a six-monthly basis.

24. Does the clinical adaptation for neglect affect sensitive and responsive (non-neglectful) parenting?

The revised Graded Care Profile (GCP2) will be used to assess neglect in this adaptation. It is triggered by the suspicion of neglect and repeated 6 months after to verify change or not. Outcomes will be coded as neglectful or not neglectful based on the GCP2 score: 0-3 on GCP2 – not neglectful; 4 or 5 – neglectful.

---

[4] J. T. Condon, 'The Assessment of Antenatal Emotional Attachment: Development of a Questionnaire Instrument', *The British Journal of Medical Psychology* 66 (Pt 2) (June 1993): 167–83; John T. Condon and Carolyn J. Corkindale, 'The Assessment of Parent-to-Infant Attachment: Development of a Self-Report Questionnaire Instrument', *Journal of Reproductive and Infant Psychology* 16, no. 1 (1 February 1998): 57–76, https://doi.org/10.1080/02646839808404558.

[5] Condon and Corkindale, 'The Assessment of Parent-to-Infant Attachment'.

24.1. The proportion of (all) clients who have been found to be neglectful, and within this the proportion who were found to score 4 or 5 across one of the 5 domains of neglect (Physical, Safety, Emotional, Development).

24.2. The proportion of clients who are scoring 0-3 of those who scored 4 or 5 at the previous time point.

Maternal mental health

This adaptation is also being implemented in one site only (Nottingham), focusing on maternal mental health in the perinatal period.

25. Do levels of maternal mental health problems change over time during ADAPT?

This will be measured at client recruitment, 2 months postnatally and at 4-6 months postnatally. At recruitment and when the child is approximately 4-6 months old it will be possible to compare data with the proportions identified as having anxiety or depression using the Hospital Anxiety and Depression scale in other sites. Nottingham have chosen to use the General Anxiety Scale (GAD-7)[6] and the Edinburgh Postnatal Depression Scale (EPDS)[7], so any comparison will be imperfect in this respect.

25.1. Proportion of clients with depression at recruitment and in infancy, compared with programme averages across FNP who are not involved in ADAPT

25.2. Proportion of clients with anxiety at recruitment and in infancy, compared with programme averages

Intimate Partner Violence (IPV)

This adaptation is being implemented by two sites (Lambeth and Lewisham), using broadly the same approach. The data will be reported at an aggregate level for each site in addition to a summary for both, to indicate what changes in outcomes are apparent.

[6] Bernd Löwe et al., 'Validation and Standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the General Population', *Medical Care 46*, no. 3 (2008): 7.

[7] John L. Cox, Jeni M. Holden, and Ruth Sagovsky, 'Detection of Postnatal Depression: Development of the 10-Item Edinburgh Postnatal Depression Scale', *The British Journal of Psychiatry* 150, no. 6 (1987): 782–86.

26. Are levels of IPV lower at one year compared with recruitment?

The data for this on the FNPIS will produce comparative data for physical abuse and forced sexual relations, enabling comparison between these two sites and all other FNP sites. The Conflict in Adolescent Dating Relationships Inventory short form (CADRI-SF) will be used to indicate incidents of victimhood and perpetration of violence in the past 6 months, at recruitment, 6 weeks and a year after birth[8].

26.1. CADRI-SF victim: perpetrator at recruitment, 6 weeks and 1 year

26.2. FNPIS Relationship form data where perpetrator information also collected for all sites – recruitment and 1 year.

Qualitative data collection and analysis

Focus groups with family nurses are being scheduled to occur after the preliminary findings from the quantitative data collection, and will be used to further explore the issues raised by analysis of the quantitative data on both personalisation and the clinical adaptations. Whenever possible we will conduct focus groups that cover both personalisation and the clinical adaptations. Where feasible, we will also try to conduct focus groups with clients and in as many sites as possible. Qualitative data collection will follow quantitative data analysis so that we can explore fully any trends or anomalies reported through the focus groups.

For the clinical adaptations nurses will be asked to specifically comment on the content they have delivered. Quantitative data on which components of their adaptation have been used most frequently will enable us to identify components that are not being used, whether it is because the nurses don't like them or because they are potentially unacceptable to clients. It will be possible to explore and act upon these findings. In this way, the quantitative and qualitative data will facilitate the rapid cycle testing approach, creating actions at each cycle point that can be tested at the next opportunity.

All discussions in the groups will be recorded using a digital recorder, transcribed using a professional transcription service and analysed using software by two experienced analysts. Themes will be both deductive (taken from the research questions) and inductive to permit free and honest reporting from the nurses who are implementing the adaptations.

Rapid cycle response

The findings from qualitative data analysis of personalisation will be presented to the supervisors alongside the quantitative data analysis findings at the regular ADAPT workshops, which will serve as cycle points for personalisation. Following these workshops, drawing on the discussions and suggestions from site supervisors, action plans will be drawn up, detailing the changes to be made at each cycle point.

[8] Liria Fernández-González, Christine Wekerle, and Abby L. Goldstein, 'Measuring Adolescent Dating Violence: Development of "conflict in Adolescent Dating Relationships Inventory"short Form', *Advances in Mental Health 11*, no. 1 (2012): 35–54.

These changes will then be tested during the next cycle and any effects reported at the next cycle point workshop.

Conclusion

This analysis plan is subject to revision as the project develops. Changes will be made in collaboration with the ADAPT project team at the National Unit and the Lab, and in collaboration with site supervisors.